

Framing Effects in Marketing Messages

Irene Stazi

Student Number: 070912

Thesis Supervisor: Massimo Egidi

21st June 2015

To my University friends,
who have always supported and believed in me.

A special thanks to Vanessa,
without whom I never could have done it.

Abstract

Despite the fact that cognitive biases normally are examined considering their negative effects, since they direct judgments in an illogical way, this paper aims to analyse the positive effects they produce and the ways in which they might be exploited.

After a presentation of all theories and the findings within the field of cognitive judgment, the thesis focuses on the creation of messages in marketing and advertising. Doubtlessly, the framing effect is a theory that explains how the manipulation of information can influence and alter individuals' decision-making and judgments concerning the information in question. Through the use of images, words, and by presenting a general context for the given information, it is possible to influence what people think about that particular data. Consequently, people, or more specifically marketers, can manipulate this framing effect in order to influence buyers in making one particular decision rather than another.

In conclusion, through the description of a case study, this dissertation will show how a message can influence the consumers' wish to purchase a given product. This message may be constructed on the basis of one out of the three framing effect types (risky-choice frame, attributive frame and goal frame) or by combining two or more of them.

TABLE OF CONTENTS

Chapter 1: Behavioural economics and related graphic models.....	7
1.1 Defining behavioural economics.....	7
1.2. Expected Utility Theory	11
1.3. Prospect Theory	14
Chapter 2: The Cognitive Process and its Biases.....	21
2.1. Kahneman’s two systems.....	21
2.2 Heuristics and Bias.....	27
2.3. Framing	31
Chapter 3: 360° Analysis of Framing	34
3.1. Different types of Framing	34
3.2. Risky choice frame in marketing	37
3.3. Attributive Frame in digital marketing	41
3.4. Goal frame in advertising.....	45
3.5. Case Study: Dell’s failure in marketing communication.....	48
Conclusion.....	51

Introduction

Marketers and advertisers have numerous strategies for constructing persuasive messages. Among these, the usage of cognitive biases is one of the most relevant, as it leads to the most efficient results.

This paper analyses the various configuration types of cognitive biases, with particular attention to their effects in the fields of marketing and advertising. Currently, this topic is central in the behavioural economics discussion, because it leads to a complete understanding of advertising, and also it explains why some messages are more efficient than others in influencing buyers' purchase behaviour. The research work could also be an important contribution to the psychology and its study of how individuals relate to different inputs in various situations. Moreover, a combined analysis of economics and psychology might help foreseeing how individuals will behave when exposed to a given context. However, due to space reasons, this argument will not be proposed in the present paper.

The structure of this dissertation is as follows: a first part, which is dedicated to defining behavioural economics as a concept, investigates the theories of this topic and presents how they have evolved throughout the years. Obviously, the two most relevant graphic models, namely Expected Theory and Prospect Theory, are illustrated with the help of several examples and experiments. The second chapter of the paper contains an analysis of the dual process theory proposed by Kahneman and Tversky, and also a description of heuristics and bias, and their effects on decision-making. Particularly attention has been paid to the framing effect and its importance in this context. Indeed, the last section is dedicated to this effect and how it may be employed in the fields of marketing and advertising. A case study that analyses the use of the framing effect in constructing an effective and persuasive message to convince consumers to buy a product will also be presented. Finally, the paper will focus on the ethical question of whether it is right or wrong to exploit human cognitive biases, in particular through the framing effect, to create a successful message able to convince consumers to buy a product.

Hence, this paper intends to relate the theoretical field of behavioural economics to the practical one of marketing. In this context, marketing and advertising are considered in their simplest aspects: creating effective messages to describe products in order to sell the highest number of items. Without doubt, the study of framing has lead to great advantages in this respect. However, this process should not be considered as an intention to trick the consumers, but rather as a way for marketers to succeed in their purpose by taking advantage of all available resources. Indeed, this paper proposes an investigation of the marketers' perspective only, without taking the consumers' view into consideration.

Chapter 1: Behavioural economics and related graphic models

1.1 Defining behavioural economics

Behavioural economics is defined as the combination of both psychology and economics, the aim of which is to explore what happens in markets where individuals experience human limitations and complications. It is usually considered as a subfield of economics, but they actually differ in some important aspects. Economics conventionally theorizes a world postulated by calculating, unemotional maximizers that have been resumed in the figure of *Homo Economicus*. It is not by chance that neo-classical economics has defined itself as explicitly “anti-behavioural”. Moreover, standard economic approaches in general do not take behaviour studied by cognitive and social psychologists into account. This because some economists believed that a non-behavioural approach was the best alternative, whereas others claimed that this model was easier to formalize and thus more relevant (Mullainathan & Thaler, 2000). However, the arrival of behavioural economics proved that neither point of view was correct. Empirical and experimental evidence gave credit to the importance of formalizing psychological ideas and translating them into testable predictions. The behavioural economics research program is based on two pillars: identifying how behaviour differs from the standard model and demonstrating how this behaviour plays a central role in economic contexts. Thus, the task of behavioural economic research is not to ignore theoretical research but to question and test the assumptions formulated by economic models, in order to identify contradictions to actual observations and construe alternative models to capture apparent defects in the models or in human behaviour.

Clear examples of these defects are loss aversion and non-exponential discounting. The first one refers to many experiments which prove that people value possible losses stronger than they value possible gains, while the second one indicates that people encounter many difficulties in properly evaluating future gains and losses. Both experiments are found to be irrational from a theoretical perspective, but contemporarily they constitute prevailing themes in human behaviour, which is due to the significance

of social preferences when people interact and also depends on social norms that put constraints on individuals' behaviour. Furthermore, when facing complex problems, individuals often encounter difficulties and, therefore, they try to solve them by breaking them up into simpler issues that are solved individually. However, this can lead to many flawed results.

Hence, behavioural economics tries to clarify that which classical economic theory cannot explain for the comprehension of decision-making and market theories. It attempts to predict people's irrationality and consequently investigate why individuals do things that may have negative effects, consciously, using psychology and reasoning as tools. (Loewenstein & Rabin 2004).

Most ideas in behavioural economics are far from new. When economics came to be recognized as a separate field of study, psychology did not exist as a discipline and many economists may now be considered as psychologists of their time. For example, the theorist of the "invisible hand", Adam Smith, arranged some psychological principles of individual behaviour in his book "The Theory of Moral Sentiments", which foreshadow current progresses in behavioural economics. One of this principle is undoubtedly the loss aversion as he wrote, "*we suffer more... when we fall from a better to a worse situation, than we ever enjoy when we rise from a worse to a better.*" (Smith 1759/1892, 311). Another predecessor of said theories is Jeremy Bentham: not only did he lay the basis of neoclassical economics with his utility theory, but he also wrote widely about the psychological underpinnings of utility.

With the neoclassical revolution, an account of economic behaviour began to emerge, based on the assumptions about the nature, intended as psychology, of *homo economicus*. At the turn of the 20th century, psychology appeared for the first time and it was not really scientific at that time; economists considered it be too unstable to constitute the basis for economics. During this period, there was a general aversion for psychology and the separation between psychology and economics progressed slowly.

During the second half of the century, many scholars criticised the positivistic perspective underlining the importance of psychological measures and bounds to rationality; but these commentators did not modify the fundamental direction of economics. Only the coincidence of many developments brought the appearance of

behavioural economics as it is seen nowadays. One development was that economists quickly had to accept the expected utility as a normative and descriptive model of decision-making under uncertainty, which is explained in the next section. Whereas the assumptions and implications of utility analysis are rather flexible, and therefore tricky to refute, the expected utility model presents several accurate and testable implications. As a result, they provide some anomalies in the expected outcomes. Consequently, as economists began to admit anomalies as counterexamples that could not be permanently ignored, developments in psychology provided new ways in order to propose different theories.

At the beginning of the 1960s, the metaphor of the brain as an information-processing device replaced the behaviourist idea of the brain as a stimulus-response machine and started to dominate the cognitive psychology field. This led to new studies of ignored subjects such as memory, problem solving and decision-making. These innovative topics were more evidently pertinent to the neoclassical conception of utility maximization than behaviourism had seemed to be. Many psychologists, including Amos Tversky and Daniel Kahneman, commenced to utilize economic models as a benchmark against which to contrast their psychological models. Additionally, Tversky and Kahneman's Prospect Theory underlined violations of Expected Utility and offered an axiomatic theory based on psychophysical principles to explain these violations, as will be explained in detail in the following sections.

In the 1986 conference at the University of Chicago, an astonishing range of social scientists presented papers where many principles of research in behavioural economics were laid down. First of all, it is essential to identify normative assumptions or models that are universally used by economists – for example the Expected Utility Theory. Secondly, one must recognize anomalies and so demonstrate obvious violations of the assumption or model. Successively, these anomalies should be used as inspiration to build new theories generalizing existing models. Finally, it is necessary to create economic models of behaviour starting from the behavioural assumptions of the precedent step, deriving new implications and testing them (Camerer & Loewenstein 2004).

The methods used in behavioural economics are equal to those used in other areas of economics. At the beginning, behavioural economics relied greatly on evidence produced by experiments. Only lately, behavioural economists went beyond experiments and extended their tools to all the methods employed by economists such as field data, computer simulation, brain scans and field experiments. Experiments occupied a central role in the first period because experimental control is remarkably helpful in differentiating standard explanations from behavioural ones.

For example, players in anonymous one-shot take-it-or-leave-it ultimatum bargaining experiments, usually refuse considerable monetary offers, concluding the game with nothing. Indeed, offers of 20% or less of a sum are refused about half the time, even if the amount being divided is several weeks' wages or \$400 in the US. If this phenomenon is examined in the form of failures of legal cases to settle before trial, costly divorce proceedings and labour strikes, it would be complicated to establish whether the refusal of offers was due to reputation-building, agency problems (between layers and clients), confusion or an expression of revulsion for being treated unfairly. In an ultimatum game the first three explanations (reputation-building, agency problems and confusion) are discarded since the experiments are performed anonymously, there are no agents, and they are simple enough to produce confusion. Accordingly, experimental data undoubtedly established that subjects are expressing concern for fairness.

Many additional experiments have been useful for verifying whether evaluation errors that individuals normally make in psychology experiments influence prices and quantities on the market. In this case, the lab has proven to be particularly useful because both individual and market level data can be observed at the same time. As shown, behavioural economists are methodological eclectics. They used to define themselves not based on the research methods that they make use of, but on their contribution in leading the psychological dimension towards economics (Camerer Loewenstein 2004).

1.2. Expected Utility Theory

One of the most relevant and important theories trying to understand economic behaviour was the Expected Utility Theory, which refers to a process concerning people's preferences regarding to choices with uncertain outcomes or gambles. In particular, it states that when a decision-maker faces a choice he must choose between risky or uncertain prospects by comparing their expected utility values, assumed as the weighted sums obtained by adding the utility values of outcomes multiplied by their respective probabilities. Corresponding to what he chooses, there are two versions of the theory: Subjective Expected Utility Theory in the case of uncertainty, and von Neumann-Morgenstern Theory in the case of risk (Mongin, 1998).

To understand the Expected Utility Theory and also the two following strands better, it is necessary to start from Bernoulli's resolution of the St. Petersburg paradox and Allais paradox. In the St. Petersburg experiment, Bernoulli was interested in how much money people would pay for the following prospect: if tails comes out of the first toss of a fair coin, to receive nothing and stop the game, and in the complementary case, to receive two guilders and stay in the game; if tails comes out of the second toss of the coin, to receive nothing and stop the game, and in the complementary case, to receive four guilders and stay in the game; and so on ad infinitum. The expected monetary value of this prospect is $\sum_n (2^n \times 1/2^n) = \text{infinite}$. So, the question is why people are unwilling to pay more than a few dollars to play a game with an infinite expected return? Twenty-five years after the formulation of this paradox, Nicolas Bernoulli's cousin Daniel Bernoulli arrived at a solution that is considered the first systematic occurrence of Expected Utility Theory. Since the people always set a definite, possibly quite small upper value on the St. Petersburg prospect, it follows that they do not price it in terms of its expected monetary value. Thus, Daniel Bernoulli reasoned that the value or utility of money declines with the amount won or already possessed. Two centuries later, Maurice Allais (1953) underlined an inconsistency between actual observed choices and the predictions of Expected Utility Theory when comparing participants' choices in two different experiments. In each experiment individuals must choose between two gambles, A and B which payoffs are illustrated as follow:

Experiment 1				Experiment 2			
Gamble 1A		Gamble 1B		Gamble 2A		Gamble 2B	
Winnings	Chance	Winnings	Chance	Winnings	Chance	Winnings	Chance
\$1 million	100%	\$1 million	89%	Nothing	89%	Nothing	90%
		Nothing	1%	\$1 million	11%		
		\$5 million	10%			\$5 million	10%

Explaining the graph, in the first experiment, if participants choose 1A, they will receive \$ 1 million for sure. On the other hand, if they choose 1B, they stand a 10% chance of getting \$ 5 million, an 89% chance of getting \$1 million, and a 1% chance of getting nothing at all. Several studies have demonstrated that most people would choose the sure outcome in Gamble 1A even though Gamble 1B has an expected value greater than \$1 million. In the second experiment, Gamble 2A is an 89% chance of getting nothing and an 11% of getting \$1 million, whereas Gamble 2B is a 90% chance of getting nothing and a 10% chance of getting \$5 million. Most people would choose Gamble 2B as they usually reason that there is not much difference between a 10% chance of winning and 11% of winning, but there is a huge difference between \$1 million and \$5 million. The same person who chose Gamble 1A alone or Gamble 2B alone, would choose both Gamble 1A and Gamble 2B together and this outcome would

be inconsistent with Expected Utility Theory. In fact, according to the Expected Utility Theory, the person should choose either Gamble 1A and Gamble 1A or Gamble 1B and Gamble 2B. Therefore, the inconsistency arises from the fact that in the Expected Utility Theory, equal outcomes added to each of the two choices should have no effect on the relative desirability of one gamble over the other; equal outcomes should cancel out. Each experiment gives the same outcome 89% of the time and if this 89% 'common consequence' is disregarded, then the gambles will be left offering the same choice (Mongin, 1998).

By the way, it is worth noting that the St. Petersburg Paradox and the Allais Paradox are considered more problems or anomalies of the theory rather than proper paradoxes. And exactly from the Allais Paradox, the von Neumann-Morgenstern Theory could be explained inasmuch the experiment violates one of the fundamental principles of the theory. John von Neumann and Oskar Morgenstern attempted to propose a normative theory of behaviour (1947) trying not to explain how people actually behave, but how people would behave if they followed certain requirements of rational decision-making facing a situation of risk. Like Bernoulli, this model is concerned with the case in which the probabilities are part of a decision problem. So, one of the main purpose of such a theory was to provide an explicit set of assumptions, or axioms, that underlie rational decision-making and determine the utility value of a randomized strategy in a mathematically convenient way. These main axioms are four: *completeness*, which assumes that an individual has well defined preferences; *transitivity*, which assumes that the preference is consistent across any three options; *continuity*, which assumes that there is a "tipping point" between being better than and worse than a given middle option; and *independence*, which assumes that a preference holds independently of the possibility of another outcome and which falls before the Allais Paradox. Moreover, when decision makers violate this assumptions, expected utility is not maximised (Mongin, 1998).

Nonetheless, in the late 1920s and 1930s, Ramsey and de Finetti delineated the concept of choice-based subjective probability, assuming that individuals seek to maximize the expected utility when betting on the truth of propositions. They analysed the possibility of inferring the degree of confidence a decision maker has in the truth of a proposition

from his betting behaviour and quantifying the degree of confidence, or belief, by probability. Starting from the von Neumann-Morgenstern axiomatic approach and taking the existence of utilities as given, Ramsey demonstrated the existence of subjective probabilities. At the same time, de Finetti advanced a definition of subjective probabilities assuming no linear utility and no arbitrage opportunities (Karni,2005).

All these developments came to a climax in the work of Savage, who incorporating the ideas of de Finetti, von Neumann and Morgenstern, proposed: new analytical frameworks, conditions necessary and sufficient for the existence and joint uniqueness of utility and probability, and the characterization of individual choice as expected as expected utility maximizing behaviour. In other words, Savage generalized the theory to introduce individuals' subjective probabilities that an outcome would occur. And this generalization is particularly important when an objective probability cannot be determined in advance or when the outcome will only occur once (Karni,2005).

1.3. Prospect Theory

The Expected Utility Theory has dominated the analysis of decision-making under conditions of risk and uncertainty for a long period. As already expounded, it has been generally accepted the normative theory of rational choice and it has been widely applied as a descriptive model of decision-making. For example, it was taken for granted that all reasonable people would wish to obey the axioms of the theory, and that most people actually do – most of the time. However, in 1992 there was a turning point: indeed, Kahneman and Tversky, starting from a detailed and systematic criticism of the Expected Utility Theory, introduced an alternative account of choice called Prospect Theory. (Wakker, 2010)

Kahneman and Tversky demonstrated how several empirical effects invalidate the Expected Utility Theory as a descriptive model. The theory proposed was developed for simple prospects with monetary outcomes and stated probabilities, but it can be extended to more involved process. Firstly, the Prospect Theory is composed by two

phases with regards to the choice process: an early editing phase and a subsequent phase of evaluation. The former consists of a preliminary analysis of the offered prospects, which often turn out to be a simpler representation of these prospects. In the latter, the edited prospects are evaluated and the prospect with the highest values is chosen. The aim of the editing phase is to organize and reformulate the options in a way to simplify the subsequent evaluation and hence the choice itself. Editing is the application of a set of operations through which outcomes and probabilities associated with the offered prospects are transformed. The major operations are:

- Coding. People normally experience outcomes as gains and losses, rather than as final circumstances of wealth or welfare. Surely, gains and losses are defined as relating to some neutral reference point, which usually corresponds to the current asset position. In this current asset position, gains and losses coincide with the actual amounts that are received or paid. Nevertheless, the formulation of the offered prospects and the expectations of the decision-maker could affect the location of the reference point, and the following coding of outcomes as gains or losses.
- Combination. Prospects can sometimes be facilitated by associating the probabilities combined with identical outcome
- Segregation. Some prospects comprehend a riskless component that is cut off from the risky component in the editing phase.

The described operations are applied to each prospect separately, while the following operation is applied to a set of two or more prospects.

- Cancellation. One form of cancellation is the isolation effect described above, the main aim of which is the elimination of components that are shared by the offered prospects. Cancellation basically involves discarding common outcome-probability pairs between choices
- Simplification. Prospects are simplified by rounding probabilities or outcomes.
- Detection of Dominance. Offered prospects are scanned in order to identify dominated alternatives, which are discarded without other evaluation.

The editing operations are considered to make the task of decision easier, so consequently they are applied whenever possible. However, some editing operations either permit or prevent the application of others. Obviously, the final edited prospect depends on the sequence of the editing operations, which change with the structure of the offered set and with the display format. Nonetheless, many preference unconformities arise from the editing of prospects. In fact, modifying the preference order between prospects across contexts can affect how the same offered prospect are edited depending on the context in which it appears.

The editing phase is followed by the evaluation phase, where the decision-maker evaluates all the edited prospects and chooses the prospect with the highest value. The overall value of an edited prospect, denoted V , is expressed in terms of two scales, π and v . The first scale, π , joins with each probability p a decision weight $\pi(p)$, which reflects the impact of p on the overall value of the prospect. However, it is worth to say, that π is not a probability measure and Kahneman and Tversky prove that $\pi(p) + \pi(1-p)$ is frequently less than unity. The second scale, v , gives to each outcome x a number $v(x)$, which reflects the subjective value of that outcome. As already mentioned, outcomes are defined relative to a reference point, which is considered as the zero point of the value scale. Therefore, v measures the value of deviations from that reference point and so in terms of gains and losses.

In a simple prospect of the form $(x, p; y, q)$ with at most two non-zero outcomes, an individual receives x with probability p , y with probability q , and nothing with probability $1 - p - q$, where $p + q \leq 1$. It follows that an offered prospect is strictly positive if its outcome are all positive, in the sense that if $x, y > 0$ and $p + q = 1$; it is strictly negative if its outcomes are all negative. A prospect is defined regular if it is neither strictly positive nor strictly negative, and the basic equation of the Prospect Theory describes how π and v are combined to determine the overall value of regular prospects. So it would be $V(x, p; y, q) = \pi(p)v(x) + \pi(q)v(y)$, where $v(0)=0$, $\pi(0)=0$, and $\pi(1)=1$. V is defined on prospects, while v is defined on outcomes. The two scales match for sure prospects, where $V(x, 1.0)=V(x)=v(x)$.

The above equation generalizes the Expected Utility Theory by reposing the expectation principle. By the way, the evaluation of strictly positive and strictly negative prospects follows a set of different rules. During the editing phase, prospects are divided into two components: the riskless component, which is the minimum gain or loss certain to be obtained or paid; the risky component, which is the additional gain or loss which is actually at stake. The evaluation of these prospects would be described as the following equation:

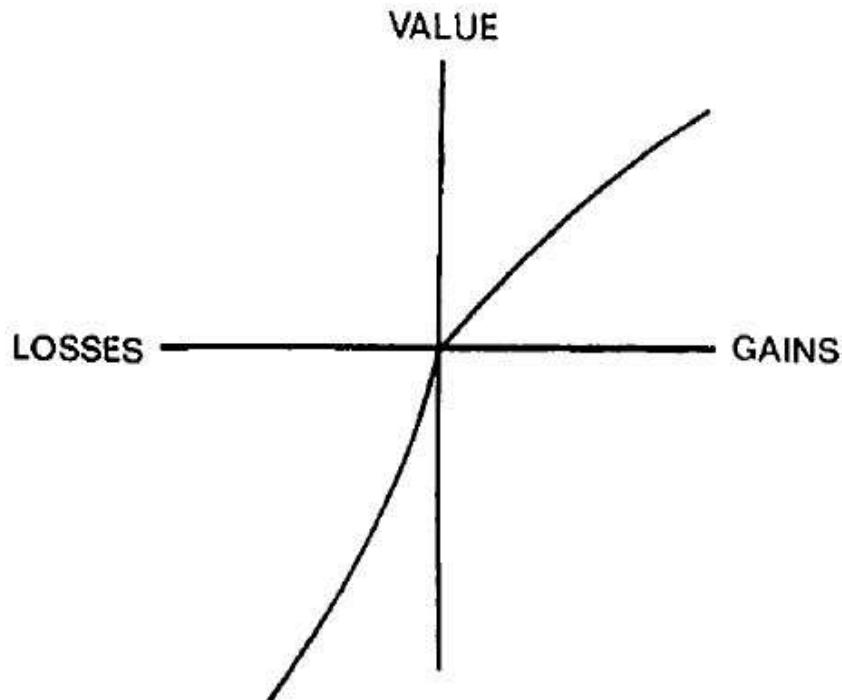
If $p+q=1$ and either $x > y > 0$ or $x < y < 0$, then $V(x,p; y,q)=v(y)+\pi(p)[v(x)-v(y)]$.

Accordingly, the value of a strictly positive or strictly negative prospect equals the value of the riskless component plus the differences between the values of the two outcomes, multiplied by the weight associated with the more extreme outcome. A decision weight is applied only to the risky component, not to the riskless one so they do not coincide with stated probabilities.

As already mentioned, an essential feature of the Prospect Theory is that the changes in wealth or welfare are the carriers of value. This characteristic does not imply that the value of a particular change is independent of the initial position. Kahneman and Tversky treated value as a function according to two reasons: the asset position, which is the reference point, and the magnitude of the change, either positive or negative, from the reference point. This value functions do not remain identical but become more linear with increase in assets and vice versa, but the preference order of prospects is not deeply altered by small or moderate modification in asset position. Clearly, the psychological response has been demonstrated to be a concave function of the magnitude of physical change. Starting from the idea that an individual perceives a change from \$100 to \$200 with a much higher value than a change from 1100\$ to \$1200 the two authors proposed that the value function is concave for gains and convex for losses. In particular, it is concave above the reference point ($v''(x) < 0$, for $x > 0$), and convex below it ($v''(x) > 0$, for $x < 0$) and so the marginal value of both gains and losses generally decreases with their magnitude.

Important to mention in the discussion of the utility function for money is the significance of special circumstances on preferences. For this reason, the derived value or utility function of an individual does not always reflect pure attitudes to money, since it could be influenced by other consequences associated with specific amounts. These perturbations can cause convex regions in the value function for gains and concave regions in the value function for losses. The second one may be more frequent since large losses often need changes in lifestyle. Moreover losses appear larger than gains since the frustration that one experiences in losing money appears to be greater than the enjoyment associated with gaining the same amount. Consequently, the value function for losses is sharper than the value function for gains.

To sum up, the value function presented by Kahneman and Tversky and displayed in the following figure is defined on deviations from the reference point; generally concave for gains and commonly convex for losses, sharper for losses than for gains.

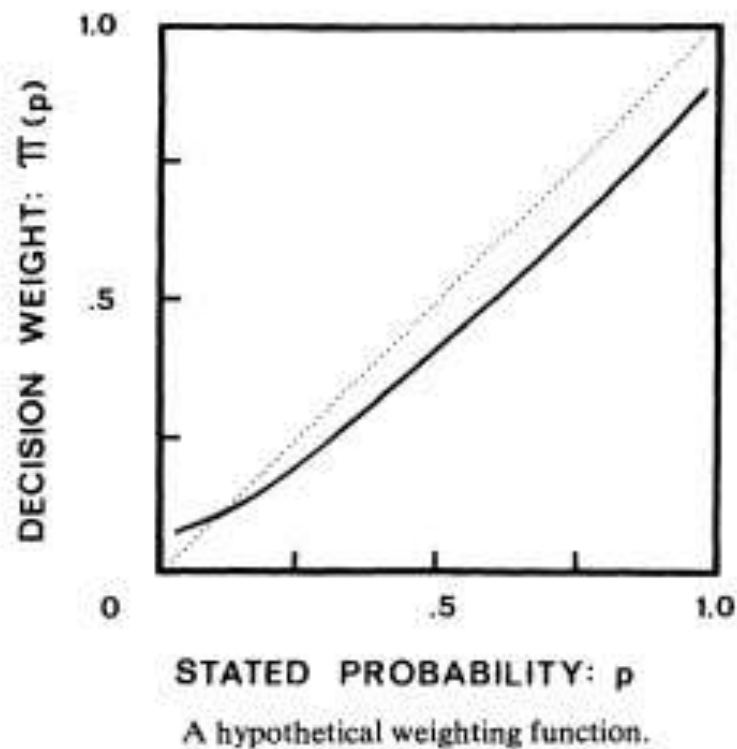


A hypothetical value function

In Prospect Theory, the value of each outcome is multiplied by a decision weight. Decision weights are implicit in choices between prospects as subjective probabilities are implicit into preferences in Ramsey-Savage model. Nonetheless, decision weights are not probabilities by the fact that they do not follow the probability axioms and they should not be taken as measures of degree or belief. However, when the events are described only by their stated probabilities, decision weights can be expressed as a function of stated probability. Still, the decision weight attached to an event could generally be influenced by other factors, such as ambiguity.

Consequently, the weighted function π relates decision weights to stated probabilities. Assuming $\pi(0)=0$ and $\pi(1)=1$, π would obviously be an increasing function, which implies that outcomes contingent on an impossible event are ignored and the scale is normalized so that $\pi(p)$ is the ratio of the weight associated with the probability p to the weight associated with the certain event.

It has been noted that when people face small probabilities they tend to overweight them, that causes $\pi(p) > p$ for small p . Obviously, overweighting (property of decision weights) and overestimation (common in the assessment of the probability of atypical events) must be distinguished on the basis that overestimation does not arise when the subjects are assumed to adopt the stated value of p as occur in this context. On the other hand, in many real-life situations, overestimations and overweighting may both work to increase the impact of unusual events. Even though $\pi(p) > p$ for low probabilities, there is evidence to imply that, for all $0 < p < 1$, $\pi(p) + \pi(1-p) < 1$. This property is called sub-certainty and it is crucial in illustrating that the sum of the weights associated with complementary events is usually minor than the weight associated with certain event. This is explained by the fact that sub-certainty entails that π is regressive with respect to p and so that preferences are typically less sensitive to variations of probability.



In this hypothetical weighting function both overweighting and sub-certainty are satisfied for small value of p . These properties cause that π is relatively slight in the open interval and changes suddenly close to the end-points where $\pi(0)=0$ and $\pi(1)=1$. The sharp discontinuities of π at the endpoints are consistent with the fact that there is a limit to how small a decision weight can be attached to an event, if it is given any weight at all. A comparable quantum of uncertainty could impose a higher limit to any decision weight that is less than one. This effect could mirror the categorical distinction between certainty and uncertainty. Additionally, the simplification of prospects in the editing phase can bring the individual to remove events of extremely low probability and to treat events of extremely high probability as if they were certain. Since individuals are limited in their ability to understand and estimate extreme probabilities, highly unlikely events are either ignored or overweighted, and the difference between high probability and certainty is either neglected or exaggerated. Because of these reasons, π is not well behaved close to the endpoints (Kahnman & Tversky, 1979).

Chapter 2: The Cognitive Process and its Biases

2.1. Kahneman's two systems

The ancient idea that a cognitive process can be divided into two main groups, which are known as *intuition* and *reason*, has now extensively been replaced by the general label of *dual process theories*. The dual process theory came in different variants, but it all starts from the distinction between cognitive operations quick and associative and cognitive operations slow and rule-governed. As mentioned before, psychologists have been intensely focused for many years on the two modes of thinking and they have proposed many labels for them.

In the end, the generic terms System 1 and System 2 proposed by Keith Stanovich and Richard West are generally adopted to label the collections of process that are distinguished by their speed, their controllability and the contents on which they operate. To better explain this distinction, Kahneman started in his book “*Thinking fast, Thinking slow*” with two experimental examples.



When people look at the expression of the woman, they automatically experience what is called “seeing” and “intuitive thinking”. As quickly as people realise that the woman has brown hair, they immediately recognize that she is angry. Moreover, their analysis is extended to the future: they feel that the woman is going to shout and in doing so she will not use kind words. They experience a premonition of what she is going to do in a completely spontaneous and intuitive way. While looking at this photo, people do not mean to evaluate the woman’s mood or to predict what actions she could perform, and they do not feel the need to do anything in reaction to the image. Simply, the reaction occurred and it is an example of fast thinking. On the other hand, when people face the following problem for instance: 17×24 , they immediately identify it as a multiplication problem, and probably they are aware that they can solve it with the help of paper and pencil, if not without it. They also have a vague knowledge of the range of possible results. It is easy to recognize that both 12,609 and 123 are implausible. Without spending some time on the problem people are sure that the answer could not be 568. The exact solution did not come to mind, and they asked whether or not to engage in the computation. In this case, people experienced slow thinking as they proceeded through a sequence of steps. First of all, they retrieved from memory the cognitive program for multiplication learned in school and they implemented it. Carrying out the computation was a strain; people felt the burden of holding much material in memory, as they needed to keep track of where they were and of where they are going, while holding on to the intermediate result. The process was surely a mental work: deliberate, effortful and orderly; in other words a prototype of slow thinking. However, the computation was not only an event affecting people’s minds, as people’s bodies were also involved. Muscles tensed up, blood pressure rose, and the heart rate increased. Also eye pupils became more dilated in someone trying to solve the problem. His pupils contracted back to normal size as soon as the solution was found or when he gave up. (By the way, the solution is 408).

Obviously, the example of the angry woman is an example of how System 1 works. It operates automatically and quickly, with little or no effort and no sense of voluntary control. On the other hand, System 2 allocates the attention to the effortful mental activities that demand it, including complex computations, as in the example. The

operations of System 2 are often associated with the subjective experience of agency, choice, and concentration.

All these mental events take place automatically and require little or no effort. The capabilities of System 1 include innate skills that humans share with other animals. Humans are born prepared to perceive the world around them, recognize objects, orient attention, avoid losses, and fear spiders. Other mental activities become automatic through prolonged practice. System 1 has learned associations between ideas and also skills as reading and understanding nuances of social situations. Finding strong chess moves and this sort of skills are acquired only by specialized experts. Others are widely shared, for example detecting the similarity of a personality sketch to an occupational stereotype requires broad knowledge of the language and the culture, which most of us possess. The knowledge is stored in the memory and it is accessed without intention and without effort.

However, the control of attention is shared by the two systems. Orienting to a loud sound is normally a spontaneous operation of System 1, which immediately activates the voluntary attention of System 2. It can be possible to resist turning toward the source of a loud and offensive comment at a crowded party, but even if the head does not move, attention is initially directed to it, at least for a moment. Nevertheless, attention can be moved away from an unwanted focus, primarily by focusing intently on another target. The highly diverse operations of System 2 have one feature in common: they require attention and they are interrupted when attention is drawn away.

In these situations, attention must be paid and people could perform less well or not at all, if they are not ready or attention is directed inappropriately. In a sense, System 2 is able to change how System 1 operates, but only if one programmes the normally automatic functions of attention and memory. For example, when a car is rent at Heathrow Airport in London, the attendant will surely remind to drive on the left side of the road. In this case, it is asked to do something that does not come naturally, and in consequence it will be found that the consistent maintenance of a set requires continuous exertion of at least some effort.

The two systems are not separated at all, but they interact continuously. System 1 constantly produces the subsequent for System 2: suggestions, properly impressions, intuitions, intentions, and feelings. If endorsed by System 2, impressions and intuitions turn into beliefs, and impulses turn into voluntary actions. When all goes smoothly, System 2 adopts the suggestion of System 1 without modification. Moreover, when System 1 encounters some difficulties, it relies on System 2 to initiate a more detailed and specific processing that could solve the problems of the moment. The relationship could be summarised as follows: most of what System 2 thinks and does originates in System 1, but System 2 takes over when things get difficult, and it normally has the last word. Obviously, the division of labour between the two Systems is extremely efficient: it minimizes effort and optimizes performance. The coordination works well most of the time because System 1 is in general very good at what it does: its models of known situations are precise, its short-term predictions are usually accurate as well, and its initial reactions to challenges are rapid and appropriate. As it will be explained in the next section, System 1 presents systematic errors that it is inclined to make in specified circumstances. For example, it occasionally answers easier questions than the one that was asked and it has little understanding of logic and statistics. One more limitation of System 1 is that it cannot be turned off: that means that if an individual is shown a word on the screen in a language he knows, he will read it; unless his attention is totally focused elsewhere.

The following experiment produces what Kahneman calls “a situation of conflict”¹ between the two systems.

¹ Kahneman. *Thinking Fast, Thinking slow*. Pp. 22

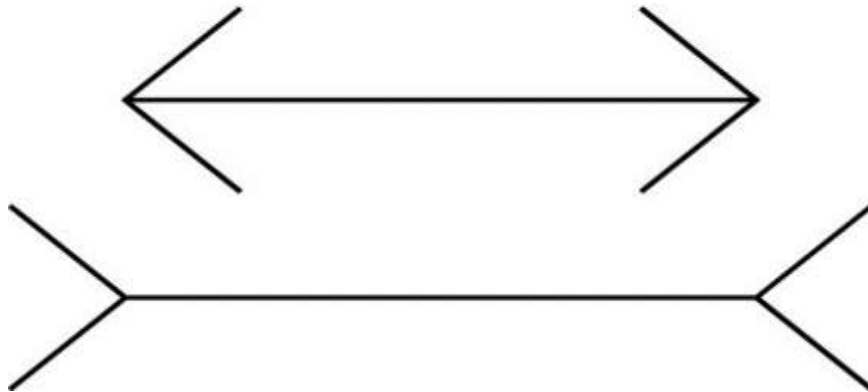
Your first task is to go down both columns, calling out whether each word is printed in lowercase or in uppercase. When you are done with the first task, go down both columns again, saying whether each word is printed to the left or to the right of center by saying (or whispering to yourself) "LEFT" or "RIGHT."

LEFT		upper	
	left	lower	
right			LOWER
RIGHT		upper	
	RIGHT	UPPER	
	left		lower
LEFT			LOWER
	right		upper

Whoever finds himself in front of this experiment is almost surely successful in saying the correct words in both tasks, and identifies some parts of each task much easier than others. When he analysed the upper and lowercase letters, the left-hand column was easy and the right-hand column made him slow down and maybe stammer or stumble. When he named the position of words, the left-hand column was difficult and the right-hand column was much easier. This operation imply the support of System 2 because saying "upper/lower" or "right/left" is not what individuals habitually do when looking down a column of words. Moreover, to comply the task was essential to program memory so that the relevant words, for the first task upper and lower, were "on the tip of your tongue". The prioritizing of the chosen words is effective and the soft temptation to read other words was quite easy to resist when individuals went through the first column. On the other hand, the second column contained words for which individuals were set and they could not ignore them. They were mostly able to respond correctly, but overcoming the competing response was a strain, and it slowed them down. They experienced a conflict between a task that they meant to accomplish and an automatic response that interfered with it. Moreover, conflicts between an automatic reaction and an aim to control it, are common in everyday life. Everyone is familiar with the experience of trying not to stare at the strangely dressed couple at the neighbouring table in a restaurant or with trying not to tell someone to go to hell. Thus,

one of the tasks of System 2 is to prevail over the impulse of System 1. In other terms, System 2 is in charge of self-control.

Additionally, the author provides the sequent experiment to clarify the autonomy of System 1 and the distinction between impressions and beliefs.



The picture shows two horizontal lines of different lengths, with fins appended, pointing in different directions. The bottom line is obviously longer than the one above it. That is what everyone sees and everyone logically believes in what they see. However, this image is the famous Müller-Lyer illusion, where the horizontal lines are actually identical in length. Now, System 2 acquires a new belief: the lines are equally long. But System 1 still sees the bottom line as longer and it cannot be prevented from doing this. To resist the illusion the only thing possible is to learn to mistrust impressions of the length of lines when fins are attached to them. Surely, to implement this rule, individuals must be able to recognize the illusory pattern and recall what they know about it. In this way, they will never again fall in Müller-Lyer illusion even if they will still see one line longer than the other one.

In conclusion, errors of intuitive thought are often difficult to prevent because of the spontaneity with which System 1 operates. Mistakes cannot always be avoided, because System 2 may have no sign of the error. Even when signs of probable errors are present, errors can be prevented only by the enhanced monitoring and effortful activity of System 2. As a way to live, however, incessant vigilance is not necessarily good and it is impractical because System 2 is much too slow and inefficient to serve as a substitute for System 1 in making routine decisions. The best that it could be done is a

compromise: learn to recognise situations in which errors are probable and try harder to avoid considerable errors when stakes are high (Kahneman, pp. 21-33, 2011).

2.2 Heuristics and Bias

In the late 1960s and early 1970s, Amos Tversky and Daniel Kahneman revolutionised academic research on human judgment by publishing a series of papers whose focus was the “heuristic and bias”² program. The central idea was that judgement under uncertainty often rests on a limited number of simplifying heuristics rather than extensive algorithmic processing and it was so revolutionary that it questioned the descriptive adequacy of ideal models of judgment and offered a cognitive alternative that explained human error without invoking motivated irrationality. Kahneman and Tversky believed that the processes of intuitive judgment were not merely simpler than the rational models demanded, but that they were categorically different in kind. They described three general-purpose heuristics that underlie many intuitive judgments under uncertainty. In the early experiments of this effort, each heuristics was associated with a set of biases: departures from the normative rational theory used as markers or signatures of heuristics. These three general-purpose heuristics are representativeness, availability, anchoring and adjustment (Kahneman & Tversky, 1982).

In the representativeness heuristics, probabilities are evaluated by the degree to which A is representative of B, that is, by the degree to which A resembles B. So, when A is highly representative of B, the probability that A originates from B is judged to be high. Further, if A is not similar to B, the probability that A originates from B is judged to be low. For example, consider an individual who has been depicted by a past neighbour in this way: “Steve is very shy and withdrawn, invariably helpful, but with little interest in people or in the world of reality. A timid and tidy soul who has a need for order and structure and a passion for detail.”(Griffin & Kahneman, 2002). People will begin to assess the probability that Steve is employed in a particular occupation from a list of

² Kahneman & Tversky. *Judgment under uncertainty*. Pp. 1982

possibilities and they order these occupations from most to least likely. In the representativeness heuristic the probability that Steve is a librarian is assessed by the degree to which he is representative of, or similar to, the stereotype of a librarian. Indeed, people are willing to order the occupations by probability and by similarity in the same way. However, this approach to the judgement of probability causes serious errors because representativeness is not influenced by many factors that should affect judgment of probability. In particular, these factors are:

- *Insensitivity to prior probability of outcomes.* A phenomenon where people ignore prior probabilities when they evaluate probability by representativeness. However, people do use prior probabilities correctly when they have no other information to go on.
- *Insensitivity to sample size.* People assume that characteristics of a population will hold no matter what the sample size is, whereas this is not a safe assumption in small sample sizes.
- *Misconceptions of chance.* One consequence of this is the gambler's fallacy, where chance is viewed as a self-correcting process, which is not true in a series of independent events.
- *Insensitivity to predictability.* This describes the bias in which people feel comfortable making intuitive predictions based on insufficient information.
- *Illusion of validity.* The confidence a person has in their ability to predict something is based primarily on its degree of representativeness of what it is being compared to without considering factors that may limit predictability.
- *Misconceptions of regression.* People look at individual instances of performance independently, without considering the effects of regression toward the mean.

Availability is a judgmental heuristic that it is verified when people assess the frequency of a class or the probability of an event by the simplicity with which instances or occurrences can be brought to mind. For example, one may assess the risk of heart attack among middle-aged people by recalling such occurrences among one's connections. Availability is a useful evidence for assessing frequency or probability,

because instances of large classes are usually recalled better and faster than instances of less frequent classes. However, also availability is affected by factors other than frequency and probability:

- *Biases due to the retrievability of instances.* When the size of a class is judged by the availability of its instances, a class whose instances are easily retrieved will appear more numerous than a class of equal frequency whose instances are less retrievable.
- *Biases due to the effectiveness of a search set.* When people are asked to solve a problem that requires them to elicit a search set, they will decide on the answer to the problem based on ease of search due to information that is available, rather than the effectiveness of the search.
- *Biases of imaginability.* When trying to judge the frequency of an event in which instances need to be imagined to try to decide on the frequency, the frequency will be based on how easy it is to imagine various instances of the event.
- *Illusory correlation.* If two events are strongly associated, they are judged to occur together more frequently.

Lifelong experience has taught people that, generally, instances of large classes are recalled better and faster than instances of less frequent classes; that likely occurrences are easier to imagine than unlikely ones; and that the associative connections between events are strengthened when the events frequently co-occur. Consequently, people have at their disposal a procedure, namely the availability heuristic, for estimating the numerosity of a class, the likelihood of an event, or the ease with which the relevant mental operations of retrieval, construction, or association can be performed. However, this valuable estimation procedure results in systematic errors.

The phenomenon defined as *anchoring* occurs when people make estimates by starting from an initial value that is adjusted to yield the final answer; the initial value may be suggested by the formulation of the problem or it may be the result of a partial computation. In either case, adjustments are typically insufficient, that means, different starting points yield different estimates, which are biased toward the initial values. The anchoring effect can occur in different ways.

- *Insufficient adjustment.* In an experiment proving the anchoring effect, subjects were asked to estimate different quantities, stated in percentages. For each quantity, a number between 0 and 100 was determined by spinning the wheel of fortune in the subjects' presence. The subjects must indicate first whether that number was higher or lower than the value of the quantity, and then to estimate the value of the quantity by moving upward or downward from the given number. Different groups were given different numbers for each quantity, and these arbitrary numbers had a market effect on estimates. For example, the median estimates of the percentage of African countries in the United Nations were 25 and 45 for groups that received 10 and 65, respectively, as starting points. Payoff for accuracy did not reduce the anchoring effect. So, in general when starting from an initial value and adjusting, the adjustment is often much smaller than what it should be.
- *Biases in the evaluation of conjunctive and disjunctive events.* In an experiment conducted by Bar-Hillel subjects were given the opportunity to bet on one of two events. Three types of events were used: simple events (as drawing a red marble from a bag containing 50% red marbles and 50% white marbles), conjunctive events (as drawing a red marble seven times in succession, with replacement, from a bag containing 90% red marbles and 10% white marbles) and disjunctive events (as drawing a red marble at least once in seven successive tries, with replacement, from a bag containing 10% red marbles and 90% white marbles). A majority of subjects preferred to bet on the conjunctive event (the probability of which is .48) rather than on the simple event (the probability of which is .50). The rest of the subjects also preferred to bet on the simple event than on the disjunctive event (the probability of which is .52). Hence, the general result from the experiment is that people tend to overestimate the probability of conjunctive events and to underestimate the probability of disjunctive events.
- *Anchoring in the assessment of subjective probability distributions.* Because of anchoring, when people are forming subjective probability distributions, many times the distributions are too tight in relation to the actual probability distributions.

All of the above-reported biases and heuristics stem from the reliance on judgmental heuristics. These biases are not attributable to motivational effects such as wishful thinking or the distortions of judgment. In fact, many of the errors of judgment occurred regardless of the fact that subjects were encouraged to be accurate and were rewarded for the correct answers. These heuristics and biases do not only affected naïve people, but also researchers who are aware of this theory, when they think intuitively. Moreover, the lack of an appropriate code is the reason why people do not detect their own biases when they make decisions. A person could conceivably learn whether his judgment are externally regulated by keeping a register of the proportion of events that actually occur among those to which he assigns the same probability. But it is not natural to organise events by their probability and in the absence of such grouping it is impossible for an individual to discover, for example, that only 50% of the predictions to which he has assigned a probability of .9 or higher actually came true. (Griffin & Kahneman, 2002) (Bottom & Gilovich & Griffin & Kahneman, 2004) (Gonzalez & Thomas & Vanyukov, 2005).

2.3. Framing

The “framing effect” is observed when the description of options in terms of gains (positive frame) rather than losses (negative frame) draws out systematically different choices. In particular, people’s choices when faced with consequentially identical decision problems framed positively in terms of gains versus negatively in terms of losses, are often contradictory. Tversky and Kahneman used as a classic example of the framing effect the “Asian disease problem”³, where decision makers must choose between a sure or a risky option to save life (positive frame) or minimize deaths (negative frame) from an unusual disease:

Imagine that the United States is preparing for an outbreak of an unusual Asian disease that is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Scientific estimates of the consequences of the programs are as follows:

³ Tversky & Kahneman. *Framing of decisions and the psychology of choice*. Pp. 453-4558

Positive frame: If Program A is adopted, exactly 200 people will be saved. If Program B is adopted, there is a 1 in 3 probability that all 600 people will be saved and a 2 in 3 probability that no people will be saved.

Negative frame: If Program C is adopted, exactly 400 people will die. If Program D is adopted, there is a 1 in 3 probability that nobody will die and a 2 in 3 probability that all 600 will die.

Researchers find that negatively framed problems primarily draw out risky responses, while positively framed problems primarily draw out sure responses. In the experiment, most people chose options A and D, despite the fact that in terms of consequences, these choices are contradictory; in fact A is equivalent to C, as B is equal to D. People appear to exhibit a general tendency to be risk seeking when presented with positively framed problems. (Tverky & Kahneman, 1981)

Many theories have been planned to explain the framing effect. These theories are mainly divided into formal, cognitive and motivational theories. The most well known formal cognitive theory is the prospect theory, which is broadly described in the above chapter. As already explained, in this theory, people will tend to opt and exhibit for sure alternative perceived as a gain rather than for a risky alternative of equal expected value, while the converse will hold true for perceived losses. Cognitive theories are designed to determine the cognitive processing involved in weighting gains and losses. As example is the fuzzy-trace theory, which proposes that the framing effect is the result of superficial and simplified processing of information. In this theory, researchers suggested and tested mechanism by which decision makers simplify framing problems by reasoning in qualitative patterns rather than in probabilistic and numerical patterns. The results suggest that decision makers follow the path of greatest simplicity by using simplification mechanisms to reduce cognitive demands. Particularly, cognitive cost benefit trade-off theory describes choice as a result of a compromise between the desire to make a correct decision and the desire to minimize effort. This theory holds that individuals initially check the available alternatives to determine if they can make a good decision and use minimal cognitive effort. They commit to a more complicated cognitive effort only if they cannot fulfil their desire to arrive at a good decision by embracing a simpler alternative. Although this is an appealing explanation of the

framing effect, this model ignores affective processes that should play an important role in determining what constitutes a good decision. In the end, motivational theories explain the framing effect as a consequence of hedonic forces, as the fears and wishes of an individual. According to these models, decision makers give stronger value to feeling of displeasure than to feelings of pleasure and this disparity increases proportionately with the amount of gain or loss involved in a decision. In other words, following Prospect Theory's assumption that losses loom larger than equivalent gains, motivational models are based on the claim that emotions provoked by losses generally are greater than those provoked by gains (Kahneman & Tversky, 2000).

In much of the framing effect literature, the frame effect could be eliminated when individuals carefully examined their options. Obviously, this careful examination can be extremely taxing of cognitive resources. As these resources have been hypothesized to decline with age it is important for researchers to determine the situations in which older adults maintain some ability to engage, ways in which older adults can be encouraged to engage, as well as situations in which these process may not be necessary for successful decision-making. Moreover, in the next section the framing effect is analysed from a new point of view: construing messages in marketing and advertising field (Thomas & Millar, 2011).

Chapter 3: 360° Analysis of Framing

3.1. Different types of Framing

The previous chapter contained a deep and detailed description of the framing effect, with particular attention dedicated to risky choice framing and its manipulation. However, during the years, other types of framing have been studied and used in the marketing field to influence consumers' decisions. Two significant framing effects to take into consideration are *attribute framing* and *goal framing*. These framing effects are different from one another in three aspects: what is framed, what the frame presumably affects and how the phenomenon is typically measured. To understand these framing effects better and how to manipulate them, an experiment (or example) in the advertising domain for each of the effects will follow in the successive parts of this paper (Buda & Zhang, 2000).

As already broadly exposed, the *risky choice frames* was introduced by Tversky and Kahneman and explained through the famous and widely cited "Asian disease problem". To briefly summarise its contents, the risky choice frame occurs when individuals, facing choices between a risky and a riskless option of equal expected value, are influenced by the different description of the options, namely whether these are presented in a positive or in a negative way. In the first case, the individuals selected the option with a certain outcome, while in the latter they preferred the risky options. In the next section, the risky choice frame effects are analysed in the field of marketing. More specifically, a description of how an effective advertising message could be created through an experiment on the use of credit cards, formulated by Yoav Ganzach and Nili Karsahi, will be presented (Ganzach & Karsahi, 1995) (Gonzalez & Dana & Koshino & Just, 2005).

Attribute framing is considered the simplest case of framing. Indeed, in this case, the subject of the framing manipulation is only a single attribute within any given context and the dependent measure of interest is a basic process of evaluation, rather than a choice between independent options. Because attribute framing is restricted to the simple case, it allows the most straightforward test of the influence of positive and negative framing. Evaluations can take the form of ratings of favourability or as yes/no judgments, the latter meaning that individuals choose either to accept or reject a given option.

The most known example of attribute framing was conducted by Levin and Gaeth: they demonstrated how attributes or characteristics of a product influence consumers' judgments. In their experiment, consumers' perception of the quality of ground beef was shown to depend on whether the beef was labelled as "75% lean" or "25% fat". Levin and Gaeth found that a sample of ground beef was rated as better tasting and less greasy when it was labelled as "75% lean", i.e. a positive labelling is preferable to a negative one as "25% fat". Thus, the authors concluded that there is evidence of valence-consistent shifts in hamburger evaluation, not only with respect to the manipulated dimension of fat/lean, but also due to associated dimensions, such as taste, greasiness, and quality. From this experiment, they deduced that attributive framing effects occur because information is encoded in the descriptive valence and the positive labelling, which leads to the fact that information tends to evoke favourable memory associations, while on the other hand the negative labelling of the same attribute is likely to cause an encoding that evokes unfavourable associations. Moreover, these encoding differences, based on positive or negative cognitive representations of an attribute, lead subjects to be differently inclined towards the positive or negative aspects of the required evaluation criteria, thus efficiently changing the subjective scale values. Hence, attributive framing is able to influence the encoding and representation of information in associative memory, and this representational difference is viewed as the cause of valence-consistent shifts in responses. To draw a conclusion, it has been demonstrated that the mere presence of positive memory associations for one item in a choice set, can lead to substantial positive distortions of that item's attributes as regards comparison options.

To sum up, attribute framing differs from risky choice framing in two aspects: first of all, a single attribute of some object or event is framed, rather than each of the options in an independent choice set is framed; secondly, attribute framing does not involve a manipulation of riskiness. Consequently, also the effects are qualitatively different from those seen for risky choice framing. Attributive framing effects could be observed in various fields such as gambling, situations described in terms of success versus failure rates, or when someone else's performance is described in terms of percentage correct versus percentage wrong. More importantly, this phenomenon is also present and it is currently being manipulated in the field of marketing, as will be presented in the following section, through the concept of the Shu-Fei Yang and Hsin-Hui Lin's study (Lin & Yang, 2014).

Goal framing is related to persuasive communication since it is designed to influence the implicit goals that an individual adopts. Particularly, the issue is framed to put the attention on its potential to provide a benefit or gain (positive frame), or on its potential to prevent or avoid a loss (negative frame); moreover, it is used comprehend which type of goal is the most powerful. Indeed, the impact of a persuasive message depend on whether the message stresses either the positive consequences of performing an act, or the negative consequences of not performing it. Both positive framing (in this case, the goal of obtaining the positive consequence) and negative framing (namely avoiding the negative consequence) conditions, promote the same act. The question in this case is which frame will have a greater persuasive impact on achieving the same end result.

Meyerowitz and Chaiken provide a clear example of a goal framing effect presenting how women are more willing to engage in breast self-examination (BSE) when faced with messages stressing the negative consequences of not engaging in BSE, rather than stressing the positive consequences of engaging in the examination. Thus, to clarify, a negatively-framed message as “*Research shows that women who do not do BSE have a decreased chance of finding a tumour in the early, more treatable stages of disease*”, is

more effective than its positive complement “*Research shows that women who do BSE have an increased chance of finding a tumour in the early, more treatable stages of disease*”⁴. Consequently, considering the persuasive efficiency, they deduced that the negatively framed encoding of the good consequences was more powerful than the positively worded encoding; i.e. women were more motivated to avoid a loss by doing BSE, than they were to obtain a gain by engaging in the examination.

In explaining goal-framing effects, researchers unsuccessfully tried to apply prospect theory, redefining the situation as unstated risks that subjects tried to seek or avoid. As reported by Levin (Levin & Schneider & Gaeth,1998), Meyerowitz and Chaiken proposed an alternative and plausible explanation, where a negative bias in processing information has a stronger impact on judgment than objectively equivalent positive information.

In fact, risky-choice frame and goal frame are substantially different: in the former case, loss aversion occurs in the presence of risk, while in the latter it regularly occurs in the absence of risk. In conclusion, goal-framing effects have revealed a negativity bias in the valence-based processing, similar to biases that have been demonstrated repeatedly across the entire psychology spectrum.

However, a study conducted by Simon Pervan and Andrea Vocino reported below, demonstrated the presence of a lack of consistency between marketing practice and academic findings. Hence, in this experiment, advertisers use positive framing in almost all advertising messages, as opposed to academic recommendations (Pervan & Vocino, 2008) (Levin & Schneider & Gaeth,1998).

3.2. Risky choice frame in marketing

As mentioned above, this section is dedicated to the experiment of Yoav Ganzach and Nili Karsahian and it relates the risky choice framing to the marketing and advertising fields.

⁴ Levin & Schneider & Gaeth. *All Frames Are Not Created Equal: A Typology and Critical Analysis of Framing Effect*. Pp. 149-188

In consumer behaviour, there are numerous studies examining the risky choice framing effect and prior to the work of these two scholars, framing was not studied outside the laboratory environment for a long time.

In the experiment, Yoav Ganzach and Nili Karsahi tried to convince people to adopt a specific behaviour instead of convincing them to refrain from performing that behaviour. Their work is characterised by two important differences with respect to the existing work in this field: firstly, they examined the effect of framing in the natural environment and in its effect on behaviour, which is considered extremely interesting for marketers (for example, product usage); secondly, this effect was studied in relation to the persuasiveness of a message in the financial field, rather than in other areas. Accordingly, as the difference in the perception of gains and losses may be domain-specific, so is the perception of risk.

The scholars Ganzach and Karsahi commenced by questioning whether to frame the message to current or potential customers in terms of the gains they can obtain from using the product, or in terms of the losses they would suffer from for not using it. In their experiment, credit card owners who did not use the card for a period of three months received a message regarding the benefits of the card, either in terms of gain or in terms of loss. The message was delivered through two main channels: the participants were contacted by phone and then they received a direct mail communication. In the telephone call, they were phoned by regular telemarketing agents of the company, who interchanged gain-framing and loss-framing messages, with each rotation consisting of 10 to 15 calls. At the beginning of the call, the agent stated that the customer was using the card very infrequently and asked what alternative mode of payment he was using. The agent continued according to the customer's answer – that is, choosing either the "cash" script or the "checks" script. Each of these scripts had two versions, a loss version and a gain version. What was said in the telephone conversation was later summarized and elaborated in the mail communication. Four versions of the mail communication were used: two versions, one framed in gain terms and one in loss

terms, for the customers who answered cash at the phone; the other two versions, one framed in gain terms and one in loss terms, for the customers who answered checks. The difference in the emails lied in the conclusion: in the gain framed (loss framed) version for the check users it ended with the sentence “finally, it is obvious that by using checks you can only lose (gain). I am sure I have given you good reasons to use our card at every opportunity.” Logically, in the case of cash users, the word *cash* was used instead of the word *checks*. After these procedures, card usage was monitored for two months in order to assess the effectiveness of each of the framing manipulations.

Six months following the receipt of the message, some of the customers were interviewed by phone to assess the impact of the manipulation on cognitive and attitudinal variables. At the beginning of the call, they were asked if they remembered the message. In case of a positive answer, they were asked to recall specific arguments used in the message; later, they were asked about issue involvement (how important the method of payment is) and about the persuasiveness of the message (how convincing the information reported in the call and in the message was). Results showed that loss framing had a much stronger effect on the behaviour of credit card owners than gain framing. The percentage of customers who started to use the card in the loss condition was more than double the percentage in the gain condition, and the charges made by former customers were more than twice as much as the charges of the latter customers. Moreover, the effect of framing is not short-term, as it remained strong in the second month after the message and it was still present in the post-experimental questionnaire 6 months later.

It is worth mentioning the contrast between the effect of risky choice framing and the effect of the payment method. The message is stronger for check users than for cash users because there is an additional argument relevant only for the first class, which is the checks' transaction cost. Nonetheless, when comparing the effect of the payment method and the effect of risky choice framing, the first one appears to be very small. In

other words, the psychological effect of risky choice framing is much stronger than the economic effect of saving.

In the cognitive and attitudinal fields, loss framing resulted in both better recall and in stronger persuasiveness of the message, as well as in higher involvement with the payment method. Marketers should thus orient the attention on the effect framing has on involvement, and on the relationship between this effect and buying behaviour, since involvement may be an important factor in bringing a long-term behavioural change. For example, in the above-mentioned experiment, the loss-framed message was found to be more persuasive than the gain-framed message, which increased the value subjects attributed to the payment method, and consequently increased their usage of the card. On the other hand, it is also possible that the involvement in the payment method is the result – and not the cause – of the increased usage.

Currently, most marketing messages met by consumers are positively framed. Ganzach and Karsahi's experiment does not invite marketers to abandon positive framing in order to utilize negative framing, but rather requests them to question whether the differences in the effectiveness of gain and loss framing extend to comparative advertising. Finally, the explanation of why the loss-framed message is more persuasive than the gain-framed message is well described in the already exposed Prospect Theory, which argues that loss-framing is more effective than gain-framing, as the subjective utility function is sharper for losses than for gains, resulting in a larger gap between the utility associated with cash/check usage and that associated with credit card usage, in a loss frame than in a gain frame (Ganzach & Karsahi, 1995).

3.3. Attributive Frame in digital marketing

Shu-Fei Yang and Hsin-Hui Lin explored the attribute framing effect by means of eye tracking and Elaboration Likelihood Model (abbreviated ELM), and their work led to important findings for e-sellers for the identification of characteristics of consumers' line of thought through the surveillance of their eye movements, which could then be used to deliver various framing messages and product information. Before explaining the experiment, it is important to make a brief definition of the Elaboration Likelihood Model, and to outline the previous notions on the relation between eye movement and cognitive processing.

The Elaboration Likelihood Model is a multi-process theory of persuasion about the process underlying changes in attitudes; the elaboration continuum based on a person's motivation and ability to consider and assess qualities of the issue-relevant information in the persuasion context, is the core of the theory. The processing ability refers to the fact that individuals are able to understand, interpret, and scrutinise available information, which can determine the capability of elaborating the message. When motivation and ability to think are high, the high elaboration (called central route) is taken and people supervise carefully all the relevant information in order to gain confidence in the correctness of one's view; while when motivation and/or ability to think are low, the low elaboration (peripheral route) is followed and people might obtain sufficient confidence by some simple cues (also known as peripheral cues). In other words, it is a variant of Kahneman's two systems model.

The eye-mind hypothesis assumes that what a person is looking at, indicates that a person is currently thinking about or tending towards that item. Indeed, eyes remain quite immobile during fixation, because a contiguous area of the scene is projected into the fovea for detailed visual processing. Fixation duration is considered as the main measurement, as a longer fixation presupposes more time spent interpreting or connecting the component representation in the interface to the internalised

representations. Moreover, information extracted during fixation leads to consumers' memory, preference, and choice.

Shu-Fei Yang and Hsin-Hui Lin commenced from three basic arguments about the influence of elaboration on framing messages that respectively affect the participants' purchase intention, eye movement and the influence of eye movement on the participants' purchase intention. The first two questions are obviously formulated on the base of ELM principles. The participants of the experiment, 130 students, filled in the questionnaire of processing ability and their eye movements were tracked and recorded by a special analysing device for the eye tracking metrics and total fixation. Each participant was randomly assigned to high and low motivation conditions with positively or negatively framed messages for two out of six utilitarian products, which emphasise functions or performances (a body fat analyser, a desk lamp, a semi-automatic espresso machine, an earphone, an air purifier, a digital camera). Each product was accompanied on one screen page by five blocks of information with a product name, a product picture, non-functionality attributes, function attributed and one framing message. The participants had the possibility to look at the webpage for as long as they needed to and then they had to click the mouse and rate their intention to buy the product. At this point the eye tracker stopped recording. In the end, they had to fill in the involvement scale of Revised Personal Involvement Inventory.

Looking at the differences in the six utilitarian products, the results indicated no significant shifts in the dependent variables of the intention of buying straight away and the total duration of the eye fixation. In checking if the processing motivation was manipulated with success, a check index was created by dividing the samples into the high motivation group and the low motivation one, according to the participants' Revised Personal Involvement Inventory scores. The fact that the first group had significantly higher scores than the second one, proved that the manipulation of processing motivation was successful. Moreover, to answer the first and second questions a 2 (attribute framing: positive vs. negative) x 2 (elaboration: high vs. low)

analysis of variance was used. Considering intention, elaboration significantly influenced the dependent variable of the intention to buy instantly: indeed, participants showed higher intention to purchase the products straight away in the high elaboration condition than in the low elaboration condition. Similarly, they noticed that participants' intention to buy directly revealed a significant framing effect under the high elaboration condition; i.e. who received a positively framed message showed higher intention to immediately purchase than those who received a negatively framed message.

Regarding the eye movement, the results showed a significant framing through the elaboration of the eye movement interaction effect for the duration of the fixation, visible on the whole page and in all areas of interests (five information sets provided for each product) that are related to the picture and function attributes. These results suggested that the elaboration on fixation duration of the whole page and each area of interest moderated the framing effect. Additionally, by examining response differences between positive and negative framing for high and low elaboration, the participants revealed longer fixation duration on the whole page and the area of interest of function attributed, when receiving a positively framed message rather than negatively framed one under high elaboration. On the other hand, the participants revealed longer fixation duration on the whole page and on three out of four areas of interest when receiving a negatively framed message rather than a positively framed message under low elaboration. Only the area of interest of the non-functionality attributes had no difference.

In answering the third question, two independent multiple regression analysis were used. The dependent variable of intention to buy instantly was reverted on fixation duration of four areas of interests. Data showed that the conditions of high elaboration and low elaboration accounted for 20.2% and 19.5% of the variance in the intention to buy immediately, respectively and the predictions were statistically meaningful. Additionally, under the high elaboration, the information blocks of the non-functionality attributes and framed-messages were significant positive predictors of the intention to

buy straight away. In contrast, the condition of negative framing accounted for 39.3% of the variance in intention to buy directly, where the areas of interests of the non-functionality attributes and framed-messages were positive predictors; moreover, the condition of positive framing accounted for 28.5% of the variance in the intention to buy where the area of interest of function attributes and that of framed-messages respectively worked as negative and positive predictors.

Under low elaboration, only one area of interest of the non-functionality attributes was an important negative predictor of intention to buy instantly; additionally, only the condition of positive framing accounted for 34.8% of the variance in the intention to buy immediately where the area of interest of non-functionality attributes and that of framed-message respectively served as negative and positive predictors. The findings of this experiment could be exploited in marketing, particularly in the digital marketing sector. Indeed, e-sellers could use different framing messages for consumers with different levels of elaboration. Regarding the low elaboration customers, they could engage in positively framed messages to predict the purchase intention; whereas for the high elaboration customers, they could apply positively framed messages to stimulate higher purchase intention. In alternative, e-sellers could apply both negatively or positively framed messages to predict purchase intention.

Furthermore, e-sellers could purpose different presentations of product information to ensemble different levels of elaboration. For example, customers with high elaboration are prone to meet more definite purchase goals and possess higher knowledge of products than those with low elaboration; consequently they would focus more on processing the information of non-functionality attributes rather than that of function attributes. Thus, a protracted look at non-functionality attributes is related to higher purchase intention, but a prolonged look at the attributed function is associated with lower purchase intention under the high elaboration condition. Aware of that, e-sellers could emphasise more information linked to non-functionality attributes (for example longer warranty programs, more bundle items or gifts, etc.) to catch customers'

attention, and condensing the information of function attributes, they could reduce consumers' cognitive effort under the condition of high elaboration.

To conclude, high cognitive efforts occurred under the low elaboration condition, especially when exposed to negatively framed messages. This means that consumers spend more time to extract or interpret product information in order to decrease the uncertainty or risk when they are in low purchase motivation, due to the unfamiliarity with the product, or the exposure to negatively framed messages. Quite the opposite, e-sellers can employ positively framed messages to reduce consumers' cognitive efforts, and the improvement of the prediction of eye movement for purchase intention (Lin & Yang, 2014).

3.4. Goal frame in advertising

In this study, Simon J. Pervan and Andrea Vocino explored how magazine advertisers commonly use message framing; in particular, the attention has been focused on goal framing and its difference from attribute framing. They investigated the frequency and the nature of message framing in magazine advertising, analysing 2,864 advertisements in a sample of popular US magazine.

In conducting their research, they questioned how often message framing appeared and which type of message framing was the most common in the sampled magazine advertisements. Then, focusing the attention on goal framing, they considered firstly if positive frames were more commonly used in the sampled magazine advertisements which contain attribute framing only; secondly, if negative frames were more commonly used in the sample magazine advertisements which contain goal framing only for low involvement products; and finally, in advertisements with multiple framing approaches, to what extent the framing valence was congruent (i.e. positive attribute

framing and positive goal framing in the same advertisement) or incongruent (positive attribute framing and negative goal framing in the sampled magazine advertisements).

Whereas considering that goal framing has been found to be less effective when using simple negation rather than an alternative terminology approach, and given the suggested aversion of advertisers towards using negative language, one can easily notice that advertisers would prefer using a negative goal frame, mentioning the foregone benefits rather than the sustained losses. Consequently, they questioned which types of advertisement copy manipulations are most common for positive and negative frames respectively studying advertisements containing goal framing.

The sample of magazines captured a wide range of ad types for a variety of products and services: both general and speciality topic areas allowed insights into a cross-section of different advertising, which consumers were exposed to. For each magazine title, topics were selected for three months: April, August and December. In case of monthly magazines, one issue per month was selected, while for weekly magazines, the second and fourth issues per month were chosen. Message framing was classified into the three types of framing, with the first variable measuring the type of message framing (if it was goal framing, attribute framing, risky choice framing or combined). A second variable pondered the valence of the framing for what concerned goal framing, attribute framing and risky choice framing. There were also three more variables considering respectively the type of advertising organisation (profit or no-profit organisation), the product type and the product involvement. Two independent judges of different gender and ethnicity were engaged in this experiment, in order to allow for enhanced reliability. They independently coded a random selection of ten magazines and then performed data collection.

The results allowed for an explanation of the first question (i.e. how often message framing appeared in the sampled magazine adverts), and they provided that 92.1% of the adverts used framing. Moreover, 100% of those for not-for profit organizations, and

91.9% of those for profit-oriented organizations, used framing. The participants with no framing tended to have no advertising copy, often showing only a picture of the product and a brand logo. Therefore, from these results, one could logically conclude that advertisers widely use framing messages.

In answering the second question (i.e. what type of framing is used by advertisers in adverts containing framing), data revealed that the three most popular framing approaches with advertisers were single attribute framing, a combined approach of both goal and attribute framing in the same advert, and single goal framing. Moreover, positive frames were found to dominate adverts containing attribute framing only, which answers one of the main proposed arguments. In particular, among adverts using only attribute framing, 99.9 % used positive framing. A similar result was found for the following enquiry, which examined framing valence by the product involvement level for those adverts containing goal framing only. In particular, 100 % of the goal framing adverts promoting low involvement products, used positive framing. Indeed, positive frames were used in 99.3 % of adverts for high involvement products, with only one negatively framed advert present in the data. When examining if those adverts using a combination of framing approaches within a single advert were either valence congruent or valence incongruent, it was proved that the first approach included 40.8% of adverts. Of these combined adverts, 98.8% were composed by goal and attribute framing. It was also clear that advertisers tend to employ positive congruency when using adverts which combine attribute framing with goal framing.

The last issue of this research (i.e. how advertisers operationalize goal framing in terms of linguistic variations), led to the discovery that the most common copy manipulation for goal framing adverts using positive frames was positive framing-obtain gain rather than positive framing-avoid loss. Hence, this analysis reveals the preference to emphasise gains obtained through purchase, rather than the avoidance of losses, in adverts using pure goal framing, combined goal and attribute framing, and other combinations of goal framing,

To conclude, this research outlines the lack of consistency with which academic findings are translated into marketing communication practice. This aspect is emphasized by the prevalence of attribute framing, combined attribute and goal framing techniques, and the lack of negative framing techniques in the advertisements examined.

Indeed, while it has been suggested that goal framing predominated in advertising, the results of this study demonstrate that attribute framing is the most popular framing approach used by magazine advertisers. This suggests that advertisers often seek to frame how the features and characteristics of their products are presented to consumers. Additionally, as opposed to what suggested by academic literature, adverts using a combination of framing types was prevalent.

Furthermore, this study also provides an understanding of how goal framing is operated. More specifically, for positive goal frames, advertisers clearly focused on obtaining gains in advertising copy, rather than avoiding some form of loss by consuming the product or service. This result was valid for pure goal framing adverts, combined goal and attribute framing adverts (Pervan & Vocino, 2008).

3.5. Case Study: Dell's failure in marketing communication

When considering the framing effect and how it influences consumer decision-making, a relevant example is provided by Dell's entering in the market with a new product. Indeed, even if it is quite unknown, already in 1997 the renowned computer company Dell launched an MP3 player on the market. However, the low sale of the device led to the cancelling of production and to the retiring from the market: this was caused not only by the inefficient marketing and advertising campaigns, but also by the competition with Apple's iPod, that appeared in the market in 2001.⁵ The very fact that

⁵ As commented by Simon Sinek at the TedxPuget Sound Conference, 2009

the product is basically unknown represents a great failure in the marketing process. What was wrong with Dell's product campaign, and what were instead the successful characteristics of Apple's strategy?

A plausible answer to the question is that the message that Dell used to present the music player to the consumers was ill formulated and thus ineffective in stimulating their will to buy. Indeed, as they did not include in the construction of their campaigns the cognitive biases and their impacts on consumers' decision making, their message resulted in a mere description of the product, rather than in an effective slogan that exploited framing effects. Moreover, they could have focused the attention on this area of production, rather than basing the advertisement on their specialization in computer making. Thus, the sort of message they used would probably result in the following way: "We make great computers that are beautifully designed, simple and user friendly. We are now launching an MP3 player, do you want to buy one?" Logically, this kind of message did not push consumers to buy the product.

On the other hand, Apple based its marketing strategy on the formulation of an effective message such as "Everything we do, we believe in challenging the status quo. We believe in thinking differently. The way we challenge the status quo is by making our products beautifully designed, simple to use and user friendly. We just happen to make great devices. Would you buy our new iPod?"

The efficacy of the communication lied in the fact that this campaign included the goal framing effect; more specifically, they considered the positive goal framing impact on decision-making. Indeed, in a few words their persuasive message not only succeeded in communicating all the characteristics of the product and in revealing the positive effects of buying it, but it also made the consumer feel as a pivotal component of their company. Indeed, the strength of their strategy is to do business with people who believe in what they believe rather than selling products to people who simply need them (Simon Sinek, 2009).

Considering these factors, Dell could have improved its message-developing strategy through two main adjustments: on the one hand, they should have highlighted that the majority of PC owners in the 1990s used their devices; on the other, they could have focused on the benefits of using their products. In this way, they could have exploited the attributive and goal framing effects and thus they would have influenced consumers to buy their products (and in this case their MP3 player).

Conclusively, their message could have probably been more effective if presented for instance like this: “Our products are used by 90% of technological appliance consumers. All of them are satisfied thanks to devices’ capability to improve productivity, decrease costs and ease management of complex environments. Don’t be dull, be Dell!”

Given this example one can notice how the exploitation of cognitive biases leads to a more effective communication when talking about sales; however, this process could be considered unethical as marketers and advertisers take advantage of consumers’ decision-making weaknesses. It would be natural to associate this “marketing trick” to subliminal messages. The latter are signals designed to circumvent the normal limits of perception and they were outlawed for the obvious reason that the receivers of the messages were influenced, without the possibility to realize that they were being exposed to such messages. This very possibility is the main difference between cognitive biases and subliminal messages: indeed, the former case allows for an awareness of being influenced by messages’ creators; yet, this can only occur if the receiver is particularly attentive in the process of decision-making. It could be argued that, given the possibility of awareness of the cognitive biases and assuming that consumers should know that they could engage in these fallacies during their decision-making process, the exploitation of these biases by marketers could be justified.

Conclusion

As has been discussed, the main finding of this research is that cognitive biases unconsciously influence consumers' behaviour, and thus they can be manipulated by marketers and advertisers to accomplish their goals. Indeed, the present paper has investigated how persuasive messages could be, and, most of the time, are, constructed by basing them on the effectiveness of the framing effects on consumers' decision-making.

Surely, this practice could be considered wrong or even unethical, as it would mean exploiting human misjudgements for one's own interest. However, in a capitalistic and utilitarian society, where people's main purpose is to reach their own satisfaction, these marketing and advertising tricks could be justified. Indeed, they could be considered as traps that consumers could avoid with accurate and reflexive studies of all the inputs received in the moment of making a judgment (in Kahneman and Tversky's terms, shifting from System 1 to System 2).

Additionally, protecting consumers from biases (or more specifically from the framing effect) would not only be complicated but it would also limit their freedom, as it would prevent human's instinctive reaction in front of different settings (that are in this case messages).

In the end, this paper is oriented towards opening the debate on the flipside of the research question: given the evidence that these cognitive biases are used by marketers, it should be more deeply analysed how consumers can defended themselves form this manipulation.

Bibliography

- Bottom, W., Gilovich, T., Griffin, D. and Kahneman, D. (2004). Heuristics and Biases: The Psychology of Intuitive Judgment. *The Academy of Management Review*, 29(4), p.695.
- Buda, R. and Zhang, Y. (2000). Consumer product evaluation: the interactive effect of message framing, presentation order, and source credibility. *Jnl of Product & Brand Mgt*, 9(4), pp.229-242.
- Camerer, C., Loewenstein, G. and Rabin, M. (2004). *Advances in behavioral economics*. New York: Russell Sage Foundation.
- Ganzach, Y. and Karsahi, N. (1995). Message framing and buying behavior: A field experiment. *Journal of Business Research*, 32(1), pp.11-17.
- Gilovich, T., Griffin, D. and Kahneman, D. (2002). *Heuristics and biases*. Cambridge, U.K.: Cambridge University Press.
- Gonzalez, C., Dana, J., Koshino, H. and Just, M. (2005). The framing effect and risky decisions: Examining cognitive functions with fMRI. *Journal of Economic Psychology*, 26(1), pp.1-20.
- Gonzalez, C., Thomas, R. and Vanyukov, P. (2005). The relationships between cognitive ability and dynamic decision making. *Intelligence*, 33(2), pp.169-186.
- Kahneman, D. (2011). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.
- Kahneman, D. and Tversky, A. (1977). *Prospect theory*. Eugene, Ore.: Decision Research, Perceptronics.
- Kahneman, D. and Tversky, A. (2000). *Choices, values, and frames*. New York: Russell sage Foundation.
- Kahneman, D., Slovic, P. and Tversky, A. (1982). *Judgment under uncertainty*. Cambridge: Cambridge University Press.
- Karni, E. (1985). *Decision making under uncertainty*. Cambridge, Mass.: Harvard University Press.
- Levin, I. and Gaeth, G. (1988). How Consumers are Affected by the Framing of Attribute Information Before and After Consuming the Product. *Journal of Consumer Research*, 15(3), p.374.
- Levin, I., Schneider, S. and Gaeth, G. (1998). All Frames Are Not Created Equal: A Typology and Critical Analysis of Framing Effects. *Organizational Behavior and Human Decision Processes*, 76(2), pp.149-188.
- Lin, H. and Yang, S. (2014). An eye movement study of attribute framing in online shopping. *J Market Anal*, 2(2), pp.72-80.

- Mongin, P. and Aspremont, C. (1996). *Utility theory and ethics*. Louvain-la-Neuve, Belgium: Center for Operations Research & Econometrics.
- Pervan, S. and Vocino, A. (2008). Message framing: keeping practitioners in the picture. *Marketing Intelligence & Plan*, 26(6), pp.634-648.
- Sinek, S. (2009). *Start with why*. New York: Portfolio.
- Thomas, A. and Millar, P. (2011). Reducing the Framing Effect in Older and Younger Adults by Encouraging Analytic Processing. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 67B(2), pp.139-149.
- Tversky, A. and Kahneman, D. (n.d.). *The framing of decisions and the psychology of choice*. [S.l.]: [s.n.].
- Wakker, P. (n.d.). *Prospect theory*.

Sommario

Nel marketing e nella pubblicità esistono numerose strategie per costruire messaggi persuasivi ed efficaci. L'uso di distorsioni cognitive è uno dei più rilevanti perché offre la possibilità di manipolare il processo decisionale degli individui. Il mio lavoro analizza le varie configurazioni di distorsioni cognitive con particolare attenzione ai loro effetti nel campo del marketing e della pubblicità. Questo tema è dunque di fondamentale importanza nella discussione a proposito dell'economia comportamentale, spiega perché alcuni messaggi pubblicitari siano più efficaci di altri nell'influenzare il comportamento d'acquisto. La ricerca può estendersi al settore della psicologia per analizzare il comportamento degli individui in situazioni differenti. Inoltre, l'analisi che connette economia e psicologia potrebbe essere utile nel prevedere il comportamento degli individui al momento della scelta del prodotto. Ho ritenuto opportuno strutturare la tesi in tre parti fondamentali analizzando rispettivamente l'economia comportamentale come materia di studio, le euristiche e i bias e la loro relazione nel campo del marketing. Lo scopo finale è quello di riportare il campo teorico dell'economia comportamentale con le strategie applicate nel marketing. In questo contesto, il marketing e la pubblicità sono considerati nel loro aspetto più semplice: la creazione di messaggi efficaci per descrivere i prodotti al fine di venderne il maggior numero possibile. In conclusione è molto importante puntualizzare che la mia ricerca esamina la prospettiva del venditore, piuttosto che quella dei consumatori.

Il primo capitolo definisce l'economia comportamentale nel suo complesso e indaga le teorie che più hanno influito negli anni. In particolar modo l'attenzione si concentra nella descrizione dei modelli grafici più importanti, quali la Teoria dell'*Expected Utility* e la *Prospect Theory*.

Per molti anni l'economia comportamentale è stata ritenuta una branca dell'economia quando in realtà differisce da essa in molti aspetti importanti; propone soprattutto di restituire un quadro più "umano" all'*Homo Economicus*. In particolare, il compito della ricerca economica del comportamento non è quello di ignorare la ricerca teorica, ma mettere in discussione e testare le ipotesi formulate da modelli economici. Si propone inoltre di individuare le contraddizioni nelle osservazioni reali e costruire modelli alternativi per evidenziare difetti evidenti nei modelli o nel comportamento umano. Ne è esempio il *loss aversion* and il *non-exponential discounting*. Il primo si riferisce a tanti esperimenti che dimostrano come le persone interiorizzano eventuali perdite più intensamente di quanto non apprezzino i possibili guadagni; il secondo indica che le persone incontrano molte difficoltà nel valutare correttamente gli utili e le perdite future. Entrambi gli esperimenti sono irrazionali dal punto di vista teorico, quindi l'economia comportamentale cerca di spiegare ciò che sfugge alla teoria classica per comprendere il processo decisionale e le teorie di mercato. La maggior parte delle teorie in economia comportamentale non sono nuove: si sono già cimentati su esse Adam Smith, Jeremy Bentham fino a giungere a Amos Tversky e Daniel Kahneman. Proprio i due ultimi hanno sottolineato le violazioni di utilità attesa e hanno offerto una teoria assiomatica basata su principi psicofisici per spiegare queste violazioni. Gli economisti comportamentali hanno superato i semplici esperimenti ed esteso i loro strumenti a tutti i metodi classici impiegati dagli economisti quali simulazione al computer, scansioni cerebrali ed esperimenti sul campo. Inoltre altri esperimenti supplementari hanno verificato come gli errori di valutazione possano influenzare i prezzi e le quantità sul mercato.

Il secondo capitolo indaga i fenomeni cognitivi conosciuti come euristiche e bias. Alla fine degli anni 1960 e primi anni 1970, Amos Tversky e Daniel Kahneman hanno rivoluzionato la ricerca accademica sul giudizio umano pubblicando diversi articoli a proposito delle euristiche commesse dagli individui. Gli autori pensavano che i processi di giudizio intuitivo, non erano solo più semplici dei modelli razionali, ma erano categoricamente di natura diversa. In seguito hanno suggerito le principali tre euristiche alla base di molti giudizi intuitivi che si verificano in condizioni di incertezza. Esse sono: rappresentatività, disponibilità e ancoraggio.

Nell'euristica della rappresentatività le probabilità vengono valutate a seconda del grado in cui A è rappresentativo di B, cioè, dal grado in cui A assomiglia B. Infatti, gli individui attribuiscono caratteristiche simili a oggetti simili, non tenendo conto delle informazioni che potrebbero portare a comportamenti diversi. Questi pregiudizi e stereotipi sono la conseguenza dell'insensibilità alle probabilità a priori di risultati, dell'insensibilità alle dimensioni del campione, di un'errata percezione delle probabilità, dell'insensibilità alle prevedibilità, e di una scorretta percezione della regressione verso la media.

Nell'euristica della disponibilità il giudizio si formula secondo la semplicità con cui un evento viene elaborato nella mente a causa della valutazione che le persone danno alla frequenza di una classe o alla probabilità di un evento. Ad esempio, si può valutare il rischio di attacco di cuore tra le persone di mezza età, richiamando tali eventi alla propria esperienza. Anche la disponibilità, come la rappresentatività, è influenzata da fattori diversi come frequenza e probabilità. Inoltre questi pregiudizi possono essere influenzati da: - recuperabilità di istanze. Avviene quando una classe di giudizio è facilmente recuperabile ed appare più numerosa di un'altra. - efficacia di un insieme di ricerca. Avviene quando le decisioni sono prese sulla facilità di recupero delle informazioni, piuttosto che sull'efficacia della ricerca. - immaginabilità. Avviene quando determinando la frequenza di un evento, questo viene valutato sulla facilità di immaginare varie istanze. - correlazioni illusorie. Avviene quando due eventi fortemente associati sono giudicati come se si verificassero insieme con maggiore frequenza.

Nell'euristica dell'ancoraggio la risposta finale viene aggiustata secondo le stime di valore iniziale che può essere suggerito dalla formulazione del problema o può essere il risultato di un calcolo parziale. In entrambi i casi gli aggiustamenti sono tipicamente insufficienti, ciò significa che diversi punti di partenza producono stime differenti e dipendenti dai valori iniziali.

L'effetto di ancoraggio può avvenire in modi diversi: aggiustamento insufficiente, pregiudizi nella valutazione di eventi congiuntivi e disgiuntivi e ancoraggio nella valutazione di distribuzioni di probabilità soggettive.

L'ultima parte del capitolo tratta dell'effetto *framing* quando la scelta dell'individuo è orientata dalla descrizione di opzioni in termini di guadagni (*framing* positivo), piuttosto che di perdite (*framing* negativo). Il noto esperimento "Asian Disease" condotto da Kahneman e Tversky dimostra come gli individui tendono a dare più importanza alle perdite (*framing* negativo) piuttosto che ai guadagni (*framing* positivo). Le teorie del *framing* vengono divise in teorie formali, cognitive e motivazionali.

La teoria formale più conosciuta è la *Prospect Theory*, che spiega come le persone tendono a scegliere l'alternativa percepita come un guadagno sicuro, piuttosto che una rischiosa alternativa di pari (o superiore) valore atteso.

Le teorie cognitive sono progettate per determinare l'elaborazione mentale coinvolta in guadagni e perdite. Ad esempio la “*Fuzzy Theory*” propone che l'effetto *frame* sia il risultato della elaborazione superficiale e semplificata delle informazioni. In questa teoria, i ricercatori hanno suggerito un meccanismo con cui i *decision-makers* semplificano i problemi di *frame* ragionando nei modelli qualitativi piuttosto che nei modelli probabilistici e numerici testati. I risultati suggeriscono che i *decision-makers* seguano un percorso di massima semplicità utilizzando meccanismi di semplificazione per ridurre esigenze cognitive. I *decision-makers*, infatti, si impegnano a uno sforzo cognitivo più complicato solo quando non riescono a realizzare il loro desiderio di prendere una buona decisione.

Le teorie motivazionali propongono che i *decision-makers* diano forte valore al dispiacere più che al piacere che provano; questa disparità aumenta in proporzione alla quantità di guadagno o di perdita coinvolti in una decisione. In gran parte della letteratura del settore, l'effetto *framing* potrebbe essere eliminato quando gli individui esaminano attentamente le loro opzioni. Ovviamente questo attento esame richiede un grosso numero di risorse cognitive.

L'ultimo capitolo indaga l'effetto *framing* in relazione al marketing e alla pubblicità. In particolare, si analizza come realizzare un messaggio persuasivo ed efficace per influenzare il consumatore in fase decisionale. L'effetto *framing* può essere suddiviso in tre tipi: *risky-choice framing*, *attribute framing* and *goal framing*. Ogni categoria viene descritta dettagliatamente nel capitolo con un'analisi correlata da esempi su come i venditori possano manipolare tali effetti per raggiungere un maggior grado di vendita del prodotto.

La prima tipologia di *framing* è il *risky-choice framing*, introdotta nella Prospect Theory di Kahneman e Tversky e raffigura il differente grado di percezione di effetti positivi e negativi in presenza di un *framing* definito. L'esperimento preso in considerazione e svolto da Ganzach and Karsahi esaminava l'impatto di un messaggio costruito sul *risky-choice framing* a proposito del comportamento degli acquirenti; in particolare il test prevedeva di contattare i possessori di carte di credito che non utilizzavano questo metodo di pagamento per un periodo superiore ai tre mesi. Venivano creati due tipologie di messaggi basati sul *framing*, uno enfatizzava le caratteristiche positive nell'utilizzo del prodotto, mentre il secondo descriveva gli aspetti negativi del “non uso”. Il messaggio *loss-framed* prevedeva l'elenco degli svantaggi portati all'attenzione dell'utente, ad esempio le commissioni pagate per ogni ritiro dai bancomat e l'assicurazione offerta dalla carta di credito in caso di furto o perdita; evidenziava anche l'impossibilità di tenere una contabilità aggiornata. Il messaggio *gain-framed* al contrario, evidenziava il risparmio rispetto all'uso degli assegni e la possibilità di tenere una contabilità aggiornata. I risultati mostravano che l'impatto dei messaggi *loss-framed* non era solamente più significativo, ma determinava anche un massiccio ritorno all'utilizzo della carta di credito.

La seconda tipologia di *framing* è l'*attribute framing*, che consiste nell'elaborare una strategia che enfatizza una determinata caratteristica del prodotto. Secondo come questa caratteristica è descritta, il consumatore viene influenzato nell'elaborare il suo giudizio e di conseguenza l'orientamento al proprio acquisto. Questo *framing* trova applicazione ad esempio, nel labelling dei prodotti dove una parola specifica convince il consumatore. L'esperimento condotto da Shu-Fei Yang e Hsin-Hui Lin, richiedeva ad un campione di potenziali acquirenti di compilare un questionario e contemporaneamente registrare la persistenza dello sguardo. Successivamente, venivano divisi casualmente in 2 gruppi, *high motivation e low motivation group*, il primo aveva

a disposizione più informazioni del secondo gruppo sui prodotti descritti con una serie di valutazioni positive e negative immediatamente riconducibili a percentuali (es. 75% di caratteristiche positive e 25% di negative). Gli studiosi accertarono che i potenziali acquirenti del primo gruppo con più informazioni ed un grado di descrizione positivo mostravano una attenzione ed una propensione all'acquisto superiore agli altri; così conclusero che i consumatori in condizioni di *low motivation*, specialmente quelli esposti a *frame* negativi, necessitavano di sforzi cognitivi supplementari. Il marketing, di conseguenza, doveva provvedere a fornire maggiori dettagli per diminuire la percentuale di incertezza o di rischi insiti nel prodotto a causa della scarsa familiarità o per un troppo aggressivo *negative frame* proposto. Infine, l'*attribute frame* si differenzia dal *risky-choice frame* per due aspetti fondamentali: una sola caratteristica del prodotto è presa in considerazione nel costruire il messaggio (invece che trattarsi di un insieme di opzioni di scelta come nel *risky-choice framing*) e la manipolazione di rischiosità non è presente.

La terza tipologia di *framing* è il *goal framing*, trova maggiore espressione nella comunicazione persuasiva perché in grado di influenzare lo scopo implicito prefissato da un consumatore. In particolare, il *frame* può avvenire in due casi: positivo, quando vengono evidenziati i benefici, negativo nel caso di potenziali perdite. Sta nella bravura di chi ha intenzione di manipolare questo *frame*, capire quale dei due è più persuasivo nel raggiungere lo stesso scopo in ogni situazione. Gli studiosi hanno generalmente supposto che il *frame* negativo (il quale enfatizza le conseguenze negative che l'individuo eviterebbe) ha più impatto sull'individuo rispetto al porre l'attenzione sulle conseguenze positive (*frame* positivo). Nonostante questo, Simon Pervan e Andrea Vocino hanno dimostrato in un esperimento come questa regola generale non sia rispettata nel campo del marketing e della pubblicità. Infatti i pubblicitari hanno utilizzato il *frame* positivo per raggiungere il loro scopo. Nel loro esperimento hanno analizzato 2864 pubblicità di riviste americane e hanno risposto a differenti quesiti: quanto spesso sono presenti i *message frame*? Di che natura sono e quali i più utilizzati? Nel caso del *goal frame* è utilizzato più il *frame* positivo o negativo? Nel caso di utilizzo di più *framing* c'è congruenza tra questi (*attribute framing* positivo e *goal framing* positivo nella stessa pubblicità) o meno (*attribute framing* negativo e *goal framing* negativo nella stessa pubblicità)? Nel rispondere a queste domande, i due studiosi hanno scoperto che la maggior parte delle pubblicità faceva uso del *framing* e, in particolare, univa il *goal frame* e l'*attribute frame*. I due *frame* venivano combinati accentuando gli aspetti positivi piuttosto che quelli negativi a differenza di quanto dimostrassero le ricerche teoriche passate. Questo esperimento constata che i pubblicitari sono più propensi a impiegare l'*attribute frame* piuttosto che il *goal frame*.

Dopo quest'analisi teorica e pratica, ho ritenuto opportuno analizzare un *case study*. L'azienda di computer "Dell" nel 1997 lancia sul mercato un MP3 player, ottenendo però scarso successo e conseguente bassissimo numero di vendite. Quattro anni dopo "Apple" propone lo stesso prodotto, un "iPod", e raggiunge nel giro di poco tempo un successo straordinario. Cos'è stato determinante per questi due risultati opposti? Il messaggio pubblicitario e la strategia di mercato vengono analizzati a fondo e viene proposto un nuovo messaggio e slogan che avrebbero probabilmente cambiato l'esito delle vendite della "Dell". Infatti, viene ipotizzato un messaggio basato sull'*attribute framing* e *goal framing* con un impatto più efficace e persuasivo di quello che doveva essere l'originale.

Infine, dopo aver analizzato come queste scorciatoie cognitive vengano sfruttate da parte di chi lavora nel marketing e nella pubblicità per conseguire i loro interessi, pongo una domanda su cui credo sia giusto riflettere: è **giusto**? E' **etico** che gli esperti del settore usufruiscano dei nostri errori cognitivi per i loro tornaconti? Inoltre, sorge naturale associare questi procedimenti con la pratica dei messaggi subliminali (vietati dagli anni '50). C'è però da dire che esiste una differenza sostanziale tra le due forme di manipolare la capacità decisionale dei consumatori: mentre i messaggi subliminali sono sottoposti agli individui senza che questi se ne rendano conto e siano in grado di evitarli, i trucchi utilizzati dai pubblicitari basati sui bias possono essere evitati solo grazie ad un'attenta analisi da parte dell'individuo durante il processo decisionale. Quest'ultima possibilità potrebbe a mio avviso giustificare quindi la manipolazione delle scorciatoie cognitive.