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NEUROMARKETING MEETS THE ART OF LABELING

How paper and finishes influence
the purchase of wine

UPMRAFLATAC

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the purchase of wine

The eye starts the decision-making process and the brain concludes it.

— Jesper Clement

Jesper Clement is an associate professor in the Department of Marketing at the Copenhagen Business School and the Director of SenseLab, based in the Decision Neuroscience Research Cluster (DNRC) research centre. His projects explore the boundaries between behavioural research and the study of the human brain. The research centre was founded to combine different disciplines of emerging scientific research: classical and behavioural economics, psychology and neuroscience. Jesper Clement worked previously as a designer, which strengthened his interest in understanding the relationship between the process of creating objects and the processes that people implicitly implement to assess them. He has published several articles on the relationship between brands and the visual attention of consumers during his academic career.

Most on-shelf product choices are determined by what is communicated by the packaging. Up to 95% of purchases in supermarkets are made up of products chosen solely because they are within a consumer's reach and line of sight. The purchase is made by quickly assessing the products, focusing only on the immediately visible images and information and without considering the back of the packaging. On average, a consumer spends between 8 and 12 seconds looking at the products on a shelf. This is why visual attention to individual products is truly limited and only focuses on a few elements.

The variety in the assortment of goods is therefore far greater than what can actually be considered when making purchase decisions. Shelves are overcrowded with products that are very often similar to each other. If all the available choices were to be evaluated, the decision would become excessively complex. Therefore, "cognitive shortcuts" are automatically, and often unconsciously, activated. They simplify the choice, reducing the amount of time needed to make it.

This is why consumers do not analyse all the information. They quickly and automatically select a limited number of elements and information initially presented on the front of the packaging to make their final decision. The decision-making process is therefore mainly based on the visual aspect, which is still not fully understood. Given its significance, it is the subject of continuous research.

To understand the visual decision-making process, it is therefore important to consider the structure of our eye and the processes that underlie attention. To give some context to this, we could say that our eyes are designed for a life on the savannah. Our vision has developed to identify threats from the outside environment, thus ensuring our survival. This is why we are extremely sensitive to contrasts and movement within our peripheral vision, while we perceive what we observe in front of us more distinctly.

During this process, the brain collects information from the eyes and then assigns sense and meaning to it. It is important to remember that this continuous process of converting the visual signal into cognitive information is characterised by an attempt to save cognitive energy. Our brain is, in fact, a resource saver. That is why, as soon as we have sufficient information, we interrupt the visual decision-making process. The continuous process of selecting some elements and excluding others is called "selective attention".

If you want to consider the visual process in a real-life context such as choosing a product in a supermarket, attention can be divided into three distinct stages.

The first stage begins when the consumer's visual attention is "captured"; the second is when it is "held"; and the third is when the eye is "convinced", i.e. when it has collected all the information needed for the final choice. Research has shown that, during the initial stage of this process, it is the shape and contrast of the packaging that immediately captures the attention. Products that are capable of effectively exploiting these elements have greater visibility and are therefore more likely to be noticed on the shelf by the customer, in turn starting the decision-making process. This becomes particularly important in the wine sector. How many times have you found yourself in front of a shelf, feeling that you didn't know which bottle to choose because the product labels were too similar to each other or featured information that was difficult to understand? Don't you think that, in a similar situation, your eyes would have been drawn to an innovative and unexpected design? The answer is obvious.

After capturing your attention, the label must then be able to hold it. Original labels capable of conveying a pleasant feeling are the ones that are most successful in this aim. In order to keep the consumer's attention, the label must be easily understood — it must therefore use simple and immediate design elements. We must always keep in mind that the human brain is a cognitive energy saver, and for this reason, it prefers stimuli and information that are easy to process. This is why there should not be too much visual and textual information displayed. The key word at this stage is "simplicity," as a large number of elements requires greater cerebral activity to be analysed.

In the third and final stage, the packaging design must "convince the eyes" of the consumer that the product will be able to meet all expectations. In this final stage of the decision-making process, words, symbols and feelings play a fundamental role: they must convince consumers that the bottle in their hand is exactly what they are looking for. It is during this stage that the tactile dimension comes into play. If it is able to arouse positive feelings in line with the expectations created by the visual interaction, it can translate into a sale, making the consumer opt for that particular bottle.

Future study into the consumer decision-making process

Today, new tools are available to measure the automatic and subconscious aspects of this process, such as human attention, experience, feelings and emotions that derive from it. One such tool is eye-tracking technology which traces eye movement to offer detailed, objective information on visual attention processes. This allows the elements that succeed or fail in attracting people's attention to be objectively identified. Having the ability to objectively analyse visual behaviour is extremely important and useful, since there is a close link between visual attention and cognitive processes such as decision-making, memorisation and preference. Electroencephalograms, on the other hand, provide direct access to the cognitive and emotional experience of a consumer while looking at a label or interacting with a bottle of wine. If properly processed and interpreted, this data is also extremely important, as it gives direct access to cognitive processes, with particular reference to enjoyment.

This book will show you the latest developments and discoveries in the field of neuroscience applied to wine marketing. It will give you a detailed picture of what can be analysed nowadays in a particularly complicated, experience-linked decision-making process as is the case in the wine sector. Neuromarketing techniques will continue to evolve and companies will discover the benefits of using neuromarketing as a valuable research and testing method. Unlike classic pen-and-paper-based techniques, neuromarketing offers companies a much higher level of detail and objectivity on the subconscious processes behind a decision. Having access to such important information about the decision-making process in wine purchases could prove to be a trump card for wine producers and, more generally, for key players in the field, such as graphic design studios and communications agencies. Happy reading!

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1. Key players



UPM **BIOFORE** BEYOND FOSSILS

The study we commissioned SenseCatch to conduct – which you are now reading – originated from a desire rooted in UPM Raflatac's dedication to bringing innovative labeling solutions to market.

We are one of the leading global manufacturers of self-adhesive materials and we are leading sustainable labeling because of our sourcing, manufacturing processes and product design. We are highly specialised in labelling solutions for the wine sector. However, we know that this segment is particularly demanding due to a particular need for quality and functionality, so we must aim higher to gain the winemakers' trust. We are aware that we must support the supply chain to help and facilitate value creation in the labelling industry. Our expertise can enable printers, designers and wine producers to create more attractive and effective labels. More effective labels contain eye-catching designs and incorporate advanced printing techniques that attract the attention of consumers.

Self-adhesive wine labels play a crucial role in engaging consumers. Those few square centimetres must condense the essence of the brand and tell the story of the product – they are the main element of the packaging that characterises the product on the shelf. It's those few centimetres that often determine the success or failure of a wine. And those few centimetres deserve all the care and attention of the players involved in their creation.

The process that gives life to a label is a journey made up of many choices along the way, from the colours used to the message conveyed, to the choice of characters and the printing processes. Many of these decisions take a long time to make, depending on the timeframe of the

project. Often, those who make these choices turn to our experts to remove doubts they may have and find solace in what we advise.

As you may already know, in the end, only the market will tell if those choices made were right or wrong. The idea for this study was born from a desire to try and alleviate this state of uncertainty and to provide a more solid starting point for those who routinely design or produce labels. The research results presented in this book are intended to be a tool for professionals working in this wonderful industry.

We are aware that neuroscience does not provide us with absolute certainty. We are at the start of a long and complex journey, but courage is needed to push boundaries, and we think this will be for everyone's benefit.

We are aware that neuroscience does not provide us with absolute certainty. We are at the start of a long and complex journey, but courage is needed to push boundaries, and we think this will be for everyone's benefit. At UPM Raflatac, we aim higher every day to label a smarter future beyond fossils. Happy reading!



**Sense
Catch**

SenseCatch is a research and consulting firm specialising in the application of neuroscience and human behaviour to marketing. With the aim of bringing innovation into marketing, SenseCatch has developed its own unique method based on the latest findings in neuroscience. The SenseCatch method integrates classical research techniques (such as questionnaires and in-depth interviews) with the measurement of attention and psychophysiological parameters. This gives us objective, re-

The advantages of the SenseCatch method are the objectivity of the data and the ability to measure people's experiences, emotions and subconscious decision-making processes in real time.

al-time access to the emotions and implicit experiences of consumers, even at a subconscious level, while they look at marketing communications, browse a website, look at and interact with a product or go shopping. This approach allows the real behaviours, desires and attitudes of consumers to be understood, which provides useful indications that can be used to optimise company marketing and communication strategies, enabling them

to communicate the brand's values in an exciting and therefore more effective way.

By integrating the information inherent to the emotional and more spontaneous dimension of the selection processes with the more rational side, a complete overview of the consumer's experience can be obtained.

The multidisciplinary SenseCatch team is composed of industry professionals and researchers with academic backgrounds, united through their use of research as a starting point to develop optimised and more effective communications and marketing strategies. They collaborate with renowned universities and international research centres to monitor cross-cultural research projects and publications in leading scientific journals.

SenseCatch offers companies tailor-made consulting services, built around their specific needs. With strong expertise in the food and wine sector, SenseCatch has enthusiastically supported this totally unique and innovative project promoted by UPM Raflatac. The project was conceived with the aim of scientifically exploring the yet-to-be-examined aspects of the communication conveyed by wine labels, focusing in particular on two aspects, the type of paper used and the finishing, evaluating their role in the decision-making process of this product, in which emotional communication plays a fundamental role.



"I often wonder what the Vintners buy, one half so precious as the Goods they sell." We started making self-adhesive labels for wine in the mid-1980s. Before that, all bottles were labelled with water-and-glue labels, both in Europe and the rest of the world. But a new industry was emerging, unexplored and ready to be developed. How could we not get excited?

**For "Is" and "Is-not" though with Rule
and Line / And "Up" and "Down" by
Logic I define / Of all that one should
care to fathom / Was never deep in
anything but – Wine.**

**– Omar-Khayyam
Persian mathematician, astronomer and philosopher
(1048–1131)**

Using self-adhesive labels involved enormous difficulties. Initially, they were applied by hand (we had to design the first labelling machines ourselves and give the drawings to unruly equipment manufacturers!) and the labels were also much more expensive. However, in return, they provided more freedom in terms of shapes and colours and were easy to change.

The possibility of change, as well as being able to easily update shapes and images, was the real driving force behind self-adhesive in the wine sector. How can we not take up this exciting challenge? Give value to wine with its labels. Of course, no one knew about them, so we gave the first labels away to wine producers to try for free.

Now, looking at a display of bottles, after 40 years, we understand the variety of stimuli that can be created and the reason for so much success. For us passionate pioneers, wine has always been a magical product.

Add sparkle, print the lava of a volcano, print with the red wine itself, digitise the image, turn it into "augmented reality" and make it an integral feature, involving the sense of touch as well. The label as a spectacle of colour and music leads to dizzying innovations, giving communicative force to such an intriguing product – in short, striking all our senses.

The label must be as light as a feather caressing the hand that picks up its bottle, so that once the thought of wine reaches the brain, the brain is already thinking about the first delicious sip. How could we not devote all our interest to it?

And why did we take an interest in neuromarketing? The name itself gives rise to doubt and confusion. I would like to mention Heisenberg's Uncertainty Principle: a pillar concept of new quantum physics. That is, observation itself modifies the values observed. Can we also apply this to wine marketing? Is it worth studying its effects with such uncertain situations? It is the brave curiosity of a few that created the incentive to progress in science.

Purchase choices are strongly influenced by many unpredictable factors, but they can be guided, even directed, and observed scientifically. Art, and beauty in general, brings happiness and even conveying beautiful messages brings happiness. And we are attracted to beauty and happiness. Our brain is our most complex feature; our mind still has unknown and largely unexplored potential. Our brain is also neoplastic: it changes, repairs itself and continuously evolves. How important is it to choose the material, colour and shape for a label? What is more disappointing than presenting a boring label that makes no impression? The label is a message and, as such, assumes issuer – content – recipient. All three, essential elements. But that is certainly not enough to attract consumers and encourage them to buy it. If the product does not arouse interest, it isn't purchased. And if it isn't sold, it creates disappointment and a sense of precariousness. Once manufacturing was enough; now we need to sell. Once markets were local and tight knit; now they are limitless and far away. Once customers were loyal and devoted; now they are continually exposed to other temptations and are easily lost.

Research is therefore needed to understand what brings happiness on sight, or gaze as we call it, as I will try to explain in a paper entitled *"Lo sguardo e le passioni comunicative"* (The gaze and communicative passions) – the result of much research, which will be available in bookstores in a few months: *"Because seeing is not looking: saying 'I saw a bottle' is not the same thing as 'I looked at a bottle'."* Certain wavelengths travel through the brain, resulting from or determined by certain stimuli; depending on the frequencies, they indicate pleasure or sorrow or their intermediate values. This is neurology, and if we combine it with control and motivation to sell, we have neuromarketing. Labels, that is, messages to be interpreted, are intended for millions of different brains, which are subject to increasingly effective and rapid stimuli. Creating labels as "widespread works of art" which enhance the value of the wine is the difficult task of creative graphic designers. We help them to pare down their limits and increase their tools. *"What's beauty if not view'd? Or if view'd, not purfuid? Or if purfuid, purfuid by one alone?"* This saying applies even more to emotional products such as wine. It is a beautiful, exciting challenge.



Luxoro is the exclusive Italian distributor of foils, stereotypes and finishing technologies of the Kurz group, a world leader and international benchmark in the production of hot and cold stamping equipment and solutions. Luxoro provides support and ideas to create exclusive objects capable of conveying a unique and prestigious brand image to companies in industrial sectors such as fashion, luxury, packaging, labels, publishing, safety, cosmetics, automotive, electronics, food & wine, etc.

“The time has come to start conveying gold in a different way. We are living in a historical time in which beauty is asking to be unveiled, but for this to happen, we need a stereotype.”

Luxoro's objective, as a leader in the finishing sector, is to raise awareness of the importance of packaging which fully expresses the identity and prestige of the product it represents. Through the use of finishing materials and technologies, even simple labels and business cards become works of art.

Foils and stereotypes are the cornerstones of the hot press, and together, can transform a packaging idea into a unique and original work. Historically a symbol of prestige and beauty, gold has always been an element that

immediately catches the eye. Through the hot stamping of precious, structured metallic effects, provided by stereotypes, the label can stand out and make a difference, evoking feelings and broadening perceptions.

The stereotype is the protagonist of the story: through its use, the label takes on shapes and nuances, restoring light and depth to the product while stimulating all the senses.

For Luxoro, participating in this project, alongside other leading industry players, has been natural and engaging. We are strongly convinced that the combination of design and finishing is a solid advantage when making a purchase decision. The human mind automatically associates the product with its packaging, and therefore a carefully designed label can certainly make a difference. We need to be aware that the label must not only be an informative tool, but also a means to reveal the heart and soul of a product.

According to Jana Kokrhanek, CEO of Luxoro, “The time has come to start conveying gold in a different way; a foil alone is no longer enough. We are living in a historical time in which beauty is asking to be unveiled, but for this to happen, for a label to be transformed into a tactile surface, we need a stereotype.”

It is important to stimulate the senses. When sight and touch evoke memories and emotions, they can encourage the imagination, and if gold indulges the pleasure of the eyes, the stereotype delights the sense of touch; if gold is the storyline, the stereotype is the narrator.



Stefano Torregrossa (1978) is a freelance art director and teacher. For over 15 years, with the name O,nice! Design, he has worked obsessively with *things that are printed*, acquiring over time exceptional skills with materials, techniques and finishings.

He won the top three awards at the Vinitaly International Packaging Competition in 2014 – a success he repeated with a gold medal in 2016. He created the branding of the new Garda DOC, winning a prestigious contest between agencies. He is the art director of the Italian design and packaging magazine *Print*. Alongside his work as a designer, he also teaches at certain prestigious universities and is a speaker with a long repertoire of talks at events, workshops and companies in northern Italy.

Wine is not an easy theatre for a designer: concentrating stories, regions, people, history, man, nature, magic, taste and prestige into a few square centimetres of paper is a challenge that not many are able to pull off successfully. A profound knowledge of the product, its processes, the people who create it and the region where it is made, are required – alongside, of course, top-notch skills in materials and finishings, in order to skilfully translate them to the label.

Stefano Torregrossa's humanistic education (he graduated in Philosophy) gave him a particular *academic passion* for things: he loves research, real, deeply rooted answers, the rigour of mathematics and the emotion of words and images.

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This is why he enthusiastically took part in the research proposed by UPM and SenseCatch: it is a unique opportunity to probe human emotion – and how it plays a role in the process of buying wine – with scientific instruments. The results may not be surprising, but they are objectively measurable, replicable and not dictated by personal assumptions or beliefs. Not only that – they are valuable, guiding consumer choices with the clever use of materials and finishes, even before the design stage.

2. Background



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The term neuromarketing was first coined in 2002 by marketing professor Ale Smidts and it refers to a discipline of neuroeconomics which aims to analyse the reasons behind decision-making processes and consumer behaviour objectively and scientifically.

Consumers don't think how they feel. They don't say what they think and they don't do what they say.
– David Ogilvy

2.1 Neuromarketing applied to research

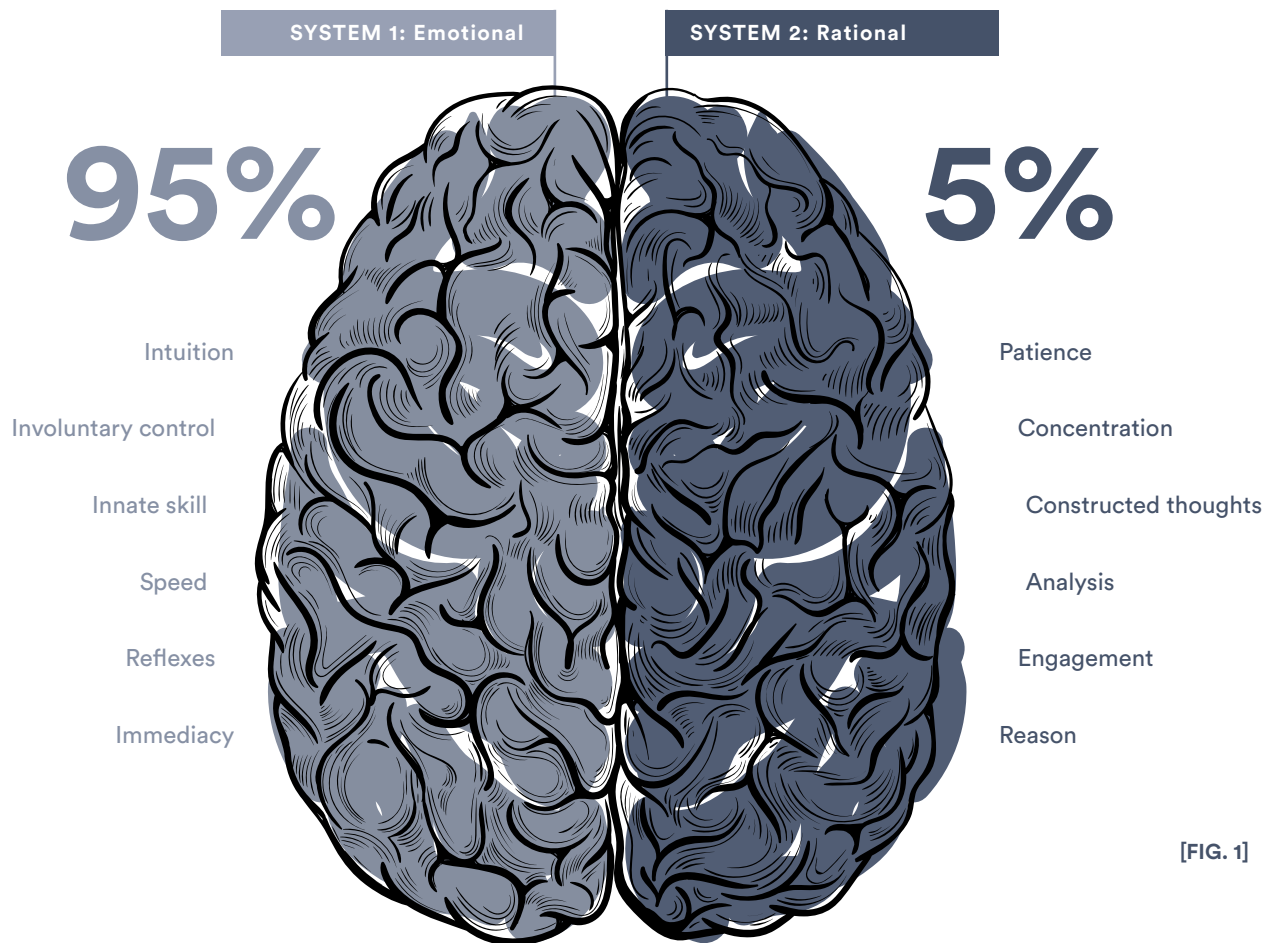
Neuromarketing combines neuroscience and psychophysiology with economics, marketing and behavioural psychology. The great innovation that neuromarketing brings to the method of conducting research and formulating marketing strategies is derived from the use of specific technologies, some of which have a neuroscientific matrix, such as electroencephalography, which give direct access to cognitive and emotional dimensions. Since these dimensions are subconscious, they cannot be investigated using techniques based on verbalisation, such as those used by traditional market research which has always used focus groups, interviews or questionnaires. When we ask consumers for their opinion on a product or service, the answers we get come with typical distortions, due to our limited awareness and ability to express emotions, attitudes and experiences. Moreover, there is a tendency to provide “socially desirable” responses, i.e. tailored to what people feel the interviewer wants to hear or what they think will give a better impression of them.

One of the main advantages of neuromarketing, therefore, relates to the possibility of accessing information which is difficult to obtain with traditional research methods. It is precisely because of this typical market research problem that products which are highly regarded in the interview phase have proved to be a flop once placed on the market, and vice versa.

The reason is that “consumers don't think how they feel. They don't say what they think and they don't do what they say.” This quotation by the famous publicist David Ogilvy immediately explains the reasons.

Through questionnaires, questions or focus groups, market research has always tried to rationalise the emotional dimension, which by its very nature is difficult to rationalise and put into words. Neuromarketing can therefore be considered a valid method of supporting and integrating traditional research. By doing so, the vision obtained is more articulate and complete, providing information about both the most rational dimension and, thanks to neuromarketing, to the emotional dimension, which can contribute up to 95% of a decision. Traditional market research, as well as the economic models on which they are based, have, therefore, always implicitly considered the consumer as a totally rational person. In fact, first behavioural economics studies and then neuroscience showed that people believe they are rational, even if they are not. They are “rational to a point”.

It was Herbert Simon, winner of the Nobel Prize in Economics in 1978, who proposed the theory of bounded rationality, as an alternative to the classical economic theory of absolute rationality, which considered the decision-maker to be a perfectly rational “Olympic decision-maker”. According to Simon, rationality is limited during decision-making processes by various factors: the incompleteness of the information in one's possession, the cognitive limitations of the mind, the amount of time available and the emotional processes that are unknowingly triggered without realising it. Daniel Kahneman, Israeli psychologist who, together with Vernon Smith, won the



[FIG. 1]

Nobel Prize in Economics in 2002, after 40 years of empirical research on the cognitive mechanisms on which our actions are based, says that up to 95% of daily decisions are determined by emotional mechanisms that occur at the subconscious level.

The psychologist [FIG. 1] calls the decision-making path based on emotions “System 1”, i.e. the one characterised by dimensions such as intuition, impulsiveness, associativity (to reach conclusions directly), automatism, the unconscious (not being aware of the real motivation underlying actions carried out), speed and economy (limited commitment). The other player in decision-making processes is “System 2” – the reflective, slow and conscious aspect, which accounts for only 5% and which is activated mainly when people are highly motivated and have enough time and cognitive resources to make a decision by rationally considering the different solutions.

What Simon and Kahneman did was to overturn the benchmark paradigm on which the economy had always been based. The new paradigm, that of bounded rationality, in fact describes a new conception of human rationality, less idealised, schematised and absolute, but more realistic and faithful to actual human behaviour. Thanks to neuroscience, what these researchers were

claiming has been proved and validated further, providing a neuroscientific explanation. Through magnetic resonance imaging, a device that carries out an in-depth scan of the brain, the neuroscientist LeDoux observed, for example, that regardless of the stimulation received (visual, tactile, olfactory, gustatory or auditory), the stimulus first reaches the deepest and oldest structures of our brain, such as the amygdala, whose fundamental role is to participate in the development of emotions such as anger, sadness, pleasure or fear. It is only subsequently that the stimulus is processed with greater attention by the cerebral cortex, the most recent and superficial cortex, where it is then “rationalised”.

Neuroscience therefore demonstrates that the first development put into effect by our brain is emotional. Only then is there a more rational and objective development of the experience encountered. This way of processing experiences on the one hand simplifies our decisions, but on the other hand, it generates, without us realising it, distortions – cognitive bias – that divert us from the optimal decision-making path. This is why we favour one product over another in a supermarket, for example, simply because for the same price, it is more original or pleasant, or because it is a familiar brand, even though it may be of inferior quality. Marketing has always sought to develop emotional and pleasant



[FIG. 2]

Eye-tracker glasses, worn as normal glasses, accurately record a person's visual behaviour while looking at a product, interacting with a shelf or using a smartphone application. In the centre, a fixed eye tracker, for use on a monitor. On the right, micro skin-sweat sensors to analyse emotional involvement.

communication. Today, thanks to the availability of very sophisticated methods and technologies, it is possible to evaluate, for example, the enjoyment of packaging, the potential for storing information or a brand, and the attitudes that the communication was able to generate. These dimensions are evidently unconscious and therefore require specific methodologies. Neuromarketing meets this requirement. In order to do this, it uses very sophisticated technologies capable of directly accessing very important information such as visual attention, emotional involvement and implicit attitudes.

The main tool used by neuromarketing is the eye tracker [FIG. 2] which, as a fixed version (a sensor placed under a display screen or integrated into an interactive kiosk) or mobile version (worn like glasses), allows the visual attention of a person surfing a web page, looking at a label, interacting with a product or interface, looking at an advertisement or moving around a shop, to be analysed with absolute precision. In order to decipher a consumer's emotional experience, a high-resolution EEG (electroencephalogram) headset and a psychophysiological activation sensor are then used. The first device provides an indication of what we might call 'emotional valence' or, in other words, the "direction" of emotion, whether positive or negative. The second gives information about the emotional force, that is the "quantity" or intensity of the emotion. There are then further technologies and software, such as the face reader which maps the micro-expressions of the face and automatically determines the type of emotion experienced. Tests based on reaction times are also used which measure attitudes, value associations and implicit preferences towards a brand, product graphics or testimonials. All this data is measured continuously and can be synchronised together, allowing a minute-by-minute analysis of the experience in order to determine "what the consumer is feeling" and what the specific element that caused that emotional reaction is. As well as allowing direct access to information that is difficult to rationalise, neuromarketing, unlike traditional research, requires smaller samples. The smaller number of people is explained by the absolute objectivity of the data collected during the test phase. This makes neuromarketing tests faster, allowing companies to obtain useful information in a short period of time.

2.2 The importance of the label when buying a bottle of wine

In recent years, the consumption of wine in Italy and the world has experienced a substantial increase, supported in part by the wider offering and by messages promoting wine as a product that also has health benefits. With reference to Italian wine production, the sector helped create income and employment within the country because it was able to focus on quality, distinctiveness and the link with the region, creating conditions for a boost in value on national and foreign markets where it has become a symbol of 'Made in Italy'. Despite the increase in wine consumption, this product is still little known by consumers today. In the eyes of the average consumer, understanding the quality of a product before tasting it, just from evaluating the information on the label, is a complex matter.

The characteristics of colour, taste and aroma cannot in fact be appreciated without having first bought and tasted the wine (Barber and Almanza, 2006). The choice is not facilitated by the market characteristics of the product. In the wine market, there are in fact very many wines that are very similar to each other both in terms of organoleptic characteristics and the communication strategies adopted. Labels are often not very distinctive and contain similar information about aspects that the average consumer is not able to decipher given his or her limited technical knowledge. Many consumers, for example, do not know how to make a qualitative distinction between one grape variety and another. Moreover, wine is characterised by a high symbolic value that makes it even more problematic to buy. It is drunk in many different situations, such as at home, with friends, on formal occasions or offered as a gift for a special occasion.

The choice of a bottle of wine is not dictated exclusively by nutritional requirements, but rather mainly by symbolic meanings that transcend the organoleptic dimension. The choice of wine falls into one of those consumption processes characterised by the strong psychological value of portraying one's own identity and the world to which one wants to belong or is believed to belong. It is easy then to understand the assumed value that the label can have in communicating narrative and symbolic elements beyond the sensory and nutritional dimension of the wine. It is important to understand and adopt this logic in order to face the ever-growing number of high-level competitors with regard to both production and communication of the product. It is also important to recognise that the social and personal gratification dimension makes buying a bottle of wine an important choice, even when the expense is not that great. For these reasons, wine can be considered a one-of-a-kind product, characterised by a higher risk perception than other food products. Consequently, the wine label plays a fundamental role in the decision-making process, especially when the consumer has little experience of the product.

If we want to categorise the main drivers of the decision-making process in the wine sector, we find extrinsic ones on one hand and intrinsic ones on the other. The intrinsic factors refer to the organoleptic characteristics of wine: the grape variety, the winemaking process or the vintage. The extrinsic factors, on the other hand, are to do with the "container" (bottle, closure and label). It is important to recognise that between the two, if we take an average consumer and similar price, extrinsic factors play a predominant role in the decision-making process. The aesthetic dimension communicated through a carefully designed and original label has greater weight in the decision-making process than the information it carries. After price, external factors such as the label and packaging are in fact the most decisive predictors of wine choice (Boudreaux and Palmer, 2007; De Mello and Pires, 2009) as consumers form an impression and judgement on the wine based specifically on the aesthetic evaluation and distinctiveness of the packaging and label (Bloch, 2003; Reidick, 2003).

We can think of dividing wine consumers into two macro categories: those well informed, that is, endowed with technical competence about wine, and those who have very little knowledge about wine. Of the two categories, the second is certainly the biggest category; it represents the target population for whom the label is of great importance and so it must be able to carry out its persuasive function in full. Buyers with limited knowledge of wine lack the relevant skills to help them in their evaluation and choice, and so they rely almost exclusively on the perception that the image of the label, a fundamental communication tool, is able to convey.

The choice of wine falls into one of those consumption processes characterised by the strong psychological value of portraying one's own identity and the world to which one wants to belong or is believed to belong. It is easy then to understand the assumed value that the label can have in communicating narrative and symbolic elements beyond the sensory and nutritional dimension of the wine.



The label sells the first bottle of wine; the producer sells the rest.

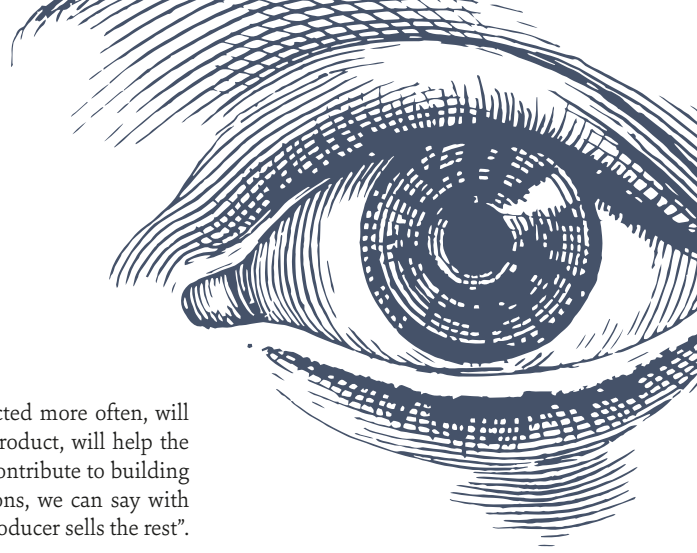
Together with packaging, the wine label must therefore be able to attract, communicate, persuade and reassure the consumer, thus facilitating the purchase of the product and, at the same time, differentiating it from competitors. The shelf is a crowded environment and having a label that can stand out above the others, immediately capturing the attention of the consumer, increases the chance that the bottle will be spotted first and consequently purchased or at least considered (Chandon, Hutchinson, Bradlow and Young, 2007).

The label, once seen, must be able to communicate the values of the wine producer and predict the experience when it comes to tasting the wine. External factors, such as label and packaging, besides guiding choice, are able to influence the perception and hedonic evaluation of the quality of the product itself, before but, above all, after tasting it (Ares, 2010; Mizutani, 2012). The label must be able to finalise the purchase, reassuring the consumer that the chosen bottle contains a quality wine which is pleasant or suitable for the situation for which it was bought. For these reasons and considering the characteristics of this specific market, which is becoming ever more crowded and confused, the role that wine packaging plays has become even more important in recent years (Merrill, 2014).

Whereas for a long time, wine labels were simply intended to inform consumers about characteristics such as denomination, volume of alcohol or year, in recent years, graphics and design have taken on a significant role. Wine producers are increasingly aware of the importance of relying on the creativity and expertise of designers and communications specialists to relaunch their image with a communications and promotional strategy of the product itself.

The results weren't long in arriving. Italian wines have reached and at times overtaken their main competitors in both saturated and emerging markets. However, still too little has been done in terms of communication and marketing to highlight the narrative strength that comes with Italian wine. Today more than ever, wine marketing must pay close attention to the way it communicates with the market, a market that is continuously evolving and which requires ever greater consideration, so that it can compete, not only by referring to the quality of the product itself, but also by narrating the best story. In this sense, the label plays a fundamental role and must be able to convey the distinctive values of the brand and product. For many years, wine production has been entrenched in the eternal struggle to achieve the highest quality of wine, neglecting the communication aspect and leaving the burden of telling its story to the wine itself and those involved. Today, this is no longer enough and we need to support the product with targeted communication, remembering that packaging is a fundamental element in the consumer buying process.

Its crucial role can be traced back to several factors, such as fragmentation of production, increasingly aggressive international competition, changes in distribution, changes in purchasing and consumption attitudes and the spread of large-scale distribution with self-service outlets. This means that consumers no longer have direct knowledge of the producer or seller which used to create a relationship of trust – all that was needed to make a choice. The keyword is therefore “presentation”, i.e. “any information conveyed to consumers by virtue of the packaging of the product concerned, including the form and type of bottles” (Article 118w, Council Regulation (EC) No 1234/2007), as well as the label. If prices are the



same, aesthetically pleasing and original labels will mean the wine is selected more often, will be more successful in communicating the quality and uniqueness of the product, will help the consumer to justify paying a premium price, higher than average, and will contribute to building or strengthening the wine producer's brand personality. For all these reasons, we can say with conviction that "a wine bottle's label and packaging sell the first bottle; the producer sells the rest".

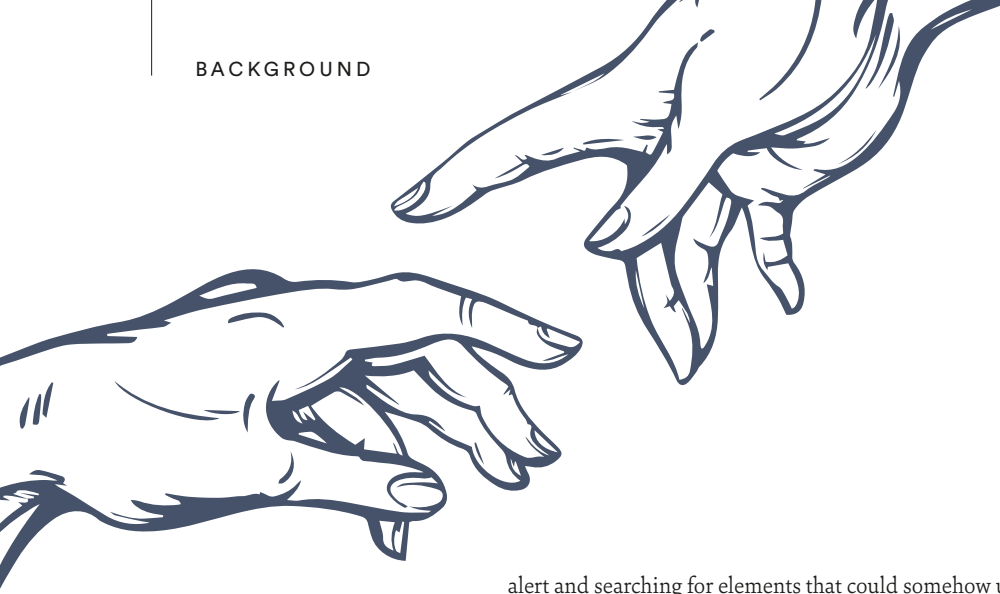
2.3 The role of the senses when buying wine

Wine, as we have illustrated, is a product where the decision-making process follows different psychological logic than for other products. The experiential dimension in the interaction with this product is fundamental. We must remember that, although we tend to consider ourselves as rational beings, in reality the emotional dimension intervenes strongly in our choices, influencing us without us being fully aware. It is no coincidence that, in view of the strong attractive valence of packaging and labelling in food purchasing behaviour, in recent years there has been an increase in attention and research, also using neuromarketing, into the role of communication via packaging and labelling in influencing taste perception, implicit attitudes and decision-making processes. It is essential to communicate with the consumer in a holistic manner, exploiting all the sensations that a label can generate.

The first sense that must be engaged is undoubtedly sight. Visual attention has an enormous importance for humans; in fact, a quarter of the volume of our brain is dedicated to processes that originate from sight. Compared to other senses, vision occupies a greater portion of the brain than that used for touch, hearing, taste and smell put together. As people, we can define ourselves as "visually oriented". In fact, we know that up to 90% of the stimuli coming into our brain have sight as their origin. A label's ability to communicate with the consumer through sight is therefore fundamental. In particular, once the textual information has been properly conveyed, the graphic part of the "outline" plays a very important role. A graphic element is decoded by our visual system in a tenth of a second and compared to textual information, the graphic elements are subject to fewer interpretative errors, in addition to having a greater dimension of universality. It is for these reasons that the label must, first and foremost, stimulate this sense through the design it adopts, the creativity of which can also be expressed by making equally creative and attentive use of finishes or the multitude of paper types. Visual attention can be defined as the anteroom of decision-making processes. There is in fact a close link between what we observe and what we are thinking about. This relationship, called the "mind-eye" link, reminds us that visual attention is directly related to choice. We look more at what we are oriented towards or what we like. In addition to enjoyment and choice, visual attention is positively correlated to memory, so we will have a better memory of what we see for longer. In the wine decision-making process, sight therefore plays a predominant role and is even able to modify the hedonic perception of the tasted product. There is a lot of research that shows how simply changing the colour or other aesthetic dimensions of the packaging can influence the perceived taste and aroma. Some researchers say that the perceived quality of wine can be changed without modifying the organoleptic characteristics of the product itself, by acting directly on extrinsic characteristics such as the label (Lockshin and Rhodus, 2003).

We are "visually oriented" people – up to 90% of the stimuli coming into our brain have sight as their origin.

If we also think about the typical environment in which a bottle of wine is sold – the shelf – it is easy to understand that the label must be considered a very important element in all respects. The label must first be clearly visible. It must be noticeable, that is, capable of capturing the consumer's attention first, compared to the other labels on the shelf. It must therefore adopt original graphics, different in terms of the layout, colours, paper or finishing used, perhaps able to create a certain semantic inconsistency compared to the consumer's expectations. Something unexpected and "outside the box" will certainly capture the attention of our eyes more, since it is decoded immediately by our brain as something "different" and unanticipated – something then to pay attention to. Our brain, due to the atavistic survival instinct that still characterises it, is always



Touch is one of the first senses to develop during infancy. Our hands and fingertips are incredibly sensitive to textures and different consistencies.

alert and searching for elements that could somehow undermine a certain equilibrium or survival itself. Seeing the label must therefore provoke positive emotions and attitudes, so as to trigger the interest and curiosity needed to encourage the consumer to interact physically, taking it into his or her hands. It is from this moment on that the interest generated by the sight of the label must transform into desire and then action, i.e. the purchase.

At this second point in the decision-making process, another very important sense comes into play – touch. This sense is one of the first to develop during infancy. Our hands and fingertips are incredibly sensitive to textures and different consistencies. We can easily distinguish coarse sandpaper from smooth glass, but we can also detect more subtle differences, noting differences between the touch of cotton fabric or silk. The information generated by touch is collected by receptors in the skin and conveyed along the nerves to the somatosensory cortex of the brain, which decodes it into what we perceive as information. Some neuroscientific research has shown that neurons in this part of the brain process tactile information, creating a real visual representation of texture in the brain. Other studies, some of them based on neuroscientific data, show that by making a material more pleasant to touch, it is possible to influence satisfaction to a much greater extent than can be obtained by changing aspects linked to other senses. In addition, the tactile experience can create product expectations (Schifferstein, Spence, 2008). The reason is that the skin is specialised in processing emotional responses.

It is therefore important to recognise the role that sight and touch play in the decision-making process in general and in particular for wine. Moreover, these two senses must be stimulated in such a way that they strengthen and enhance each other, confirming, or better still, exceeding the expectations that the wine consumer creates when observing and interacting with a bottle. When a label is pleasing to the eye but not so much to the touch, what is created is a feeling of incoherency, which can result in a missed purchase. It may also happen that when you see a label, it suggests the perception of a certain texture and tactile experience, which is then dispelled on touch. In this case too, the decision-making outcome can be negative. Sheldon and Arens (1976) claim that “if the hand’s judgement is unfavourable, the most attractive object will not gain the popularity it deserves”. Stimulating more senses coherently is not only important to increase interest in the product, but also because it reinforces the memory of it (Lehmann and Murray, 2005).

The experience must therefore involve all the senses, the importance of which depends on the specific moment: sight is predominant when exploring the shelves, while the other senses like touch are fundamental during interaction with the bottle. The visual experience of the label will be even more pleasant and memorable if combined with another sense, such as touch, which is able to create a sense of psychological belonging. The choice of a label with a particular finish or a paper that generates a completely unexpected and pleasant tactile sensation will encourage customers to hold the bottle in their hand for a longer period of time. This, in turn, will extend this feeling of psychological belonging and encourage the customer to buy the bottle.

3. Project

[FIG. 1]



3.1 Moments of truth in the customer journey of the wine consumer

The main objective of the test is to investigate the effects that different types of paper and finishes (the ones most used in the red wine label market) have on vision and perception of the product, on expectations and on consumer purchasing intentions, using for the first time an innovative method to provide objective and reliable data. Paper and finishes are variables that have never been considered in previous studies into labels, but which may, nevertheless, guide the choices of wine consumers. In particular, the combinations of paper and finishes were analysed in terms of:

- Visual saliency and visual equity of the label, i.e. the ability to immediately capture the attention on the shelf and hold it for a longer period of time
- Emotional engagement of the individual combinations of paper and finishes (considering both the visual and tactile aspects), i.e. implicit enjoyment
- Explicit enjoyment of the individual combinations of paper and finishes (considering both the visual and tactile aspects)
- Value placement of the individual combinations of paper and finishes (originality, luxury, quality, etc.)
- Intention to purchase and willingness to pay.

The tactile aspect up to now has been underestimated in marketing and packaging design, and yet it is an extremely important dimension, capable of influencing perception of the product (Tangeland *et al*, 2016). For this reason, the research carried out considered both the visual and the tactile aspect, fundamental at different times in the purchasing process of this product. The visual aspect is in fact central to what is known as the “first moment of truth”, that is, the sight of the product on the shelf. In this first stage, the ability of the label to attract the attention of the consumer and create positive expectations about the product is crucial. During the “second moment of truth”, i.e. product interaction, when a general evaluation is created, the tactile dimension plays a fundamental role [FIG. 1].

3.2 Variables excluded from the study

As the focus of the research concerns the effect of the type of paper and finishes of the label, as well as the combination of the two variables, all external factors that could influence the perception of the wine (for example, price, design and cap) were excluded so as to isolate the elements of interest by eliminating the effect of other intervening variables (already studied in previous research). For this reason, the labels were characterised by the same design to dress bottles identical in shape, colour and cap: a bottle of Bordeaux-type wine was selected, with dark glass and black cap, as is the case for most Italian red wines in distribution. Furthermore, information such as the price of the bottle or year was not indicated on the labels or communicated to the participants.

The information on the labels was always the same, in the same positions. The name of the wine and the producer were invented, so as not to create any expectations or influence.

[FIG. 2]

	Multiprint White	Velmart White	Rough Cotton	Antique Cream	Velmart Black	Wine Coat FSC
Glossy gold hot foil	• A1	• B1	• C1	• D1	• E1	• F1
Matte gold hot foil	• A2	• B2	• C2	• D2	• E2	• F2
Raised varnish	• A3	• B3	• C3	• D3	• E3	• F3
Liquid Gold	• A4	• B4	• C4	• D4	• E4	• F4
Embossing		• B5	• C5	• D5	• E5	• F5
Glossy/matte paint					• E6	

3.3 Variables included in the study

The variables analysed were the type of paper and finish. In particular, six different types of paper provided by UPM Raflatac were considered, differing in colour (shade and degree of opacity) and texture (level of roughness, thickness, tactile characteristics) and six types of finish, differing in colour, thickness, relief (embossing/debossing), glossiness and touch effect.

3.4 Labels tested

By combining the different paper and finishes, 30 labels of the same shape and size (square, 130 x 130 mm) were produced, identical in graphics and textual content. The labels were printed industrially (not as a mock-up), as is the case in the real production process, in order to obtain a label that was identical to those found on the shelf. The labels were then placed on 30 bottles, identical in size, shape and colour, with the same black cap and without decoration [FIG. 2].

3.5 Label design

In order to exclude variables which were not of interest to the study, a name was used which brings to mind red wine, but does not have an actual geographical connotation or belong to specific recognisable specifications, which could have influenced the judgement of the participants. Similarly, the wine producer indicated on the label does not refer to an actual producer. Information such as year and price was not included on the label.

The design was kept minimal, without reference to a particular region, flora, fauna or a specific vineyard, and with no particular stylistic connotations. The graphics were designed to allow the use of different finishes, while at the same time leaving the paper sufficiently visible. [FIG 3].





[FIG. 3]



3.6 Research technologies used

An innovative research method was used, based on the application of neuroscience to marketing, as described in Chapter 3. In particular, a mobile eye tracker was used to detect the position of the gaze in the visual scene and measure the attention, together with an electroencephalographic (EEG) headset to detect the cortical electrical activity of the brain, which allows researchers to measure the level of implicit emotional involvement minute by minute. Processing of visual data allows attention to be analysed and the observed elements and visual exploration paths of the individual elements to be identified.

Data relating to cortical electrical activation allows the level of *emotional engagement to be measured* minute by minute and information on the preferences and spontaneous emotional response, even unconscious, of participants to be obtained. Finally, an in-depth interview was carried out to investigate the perception of the wine and the expectations created by the label.



Eye tracker

- Visual attention
- Items visualised
- Focus of attention
- Path of exploration



Electroencephalographic (EEG) headset

- Emotional engagement*
- Spontaneous emotional response



Interview

- Opinions
- Intention to purchase
- Price positioning

3.7 The sample

The test involved 30 participants, a sufficient number to ensure reliable results in a study using neuroscientific methodology. In fact, neuromarketing studies do not require a particularly high number of people (Calvert, 2013) because the data collected is absolutely objective and not subject to the sources of error typical of traditional market research. There are scientific studies published in literature with samples of participants from 10 (Vecchiato *et al*, 2010) to 15 people (Groepel-Klein and Baun, 2001). Considering that there may be artefacts to be removed, a sample of 15–20 participants ensures sound internal validity (Bercea, 2013).

The sample was chosen as representative of Italian wine consumers. In particular, people were not wine experts, although they were consumers (at least weekly consumption) with an average level of involvement and interest with regards to wine. The sample had an age range of 25 to 65 years and consisted of 60% women.

3.8 Test procedure

Each participant conducted the test individually, in a quiet room where the same ambient temperature and lighting conditions were maintained. On arrival, after a brief explanation of the test, the participants started the first task, a free 20-second exploration of the wine shelf, wearing a pair of eye-tracker glasses to record their eye movements.

A second task was then given, with the participants being asked to choose a bottle of wine from the same shelf. In this case, the participants were given 40 seconds to make the choice, so as to simulate a real choice, not based on a particularly articulated rational reasoning, but guided above all by the perception of the product and by the emotions aroused by the labels. This second phase was aimed at exploring the characteristics of the label that guide the decision during the purchase of a wine.



[FIG. 4]
Three bottle
arrangements
to avoid
deviations of
result caused by
the positioning
effect.



Four phases of the research:
exploration of the shelf (1);
choice and interaction with
a bottle (2); visual and tactile
experience with all bottles (3);
final interview (4)



2



3



*The participants observed
the bottles one at a time,
then indicated their
intention to purchase the
wine. After viewing them,
they could then handle each
bottle and touch the label,
to evaluate their intention to
purchase again.*



4



The bottles were arranged in a square (3 rows of 10 bottles) to ensure that all the products remained inside the visual scene. A total of three different bottle arrangement layouts were devised so as to avoid the effect that the position of individual bottles could have on results. In order to keep under control all variables not related to paper and embellishments, the shelf was kept as neutral as possible. In particular, it was made of wood with a light grey background, as each colour could have influenced the visual attention, creating a different contrast depending on the colour of the labels [FIG. 4].

After exploring the shelf, participants were accompanied to another room, where they put on the electroencephalographic headset to record neurophysiological signals (EEG headset). Visual attention and cortical brain activity were recorded while participants observed visual stimuli and touched pleasant and negative tactile stimuli to create a benchmark for each subject. The participants were then exposed to the same bottles of wine previously seen on the shelf. They observed the bottles one at a time, each one for 10 seconds. They then indicated whether they would buy the wine or not. After viewing them, they could then handle each bottle and touch the label, to evaluate their intention to purchase again, explaining any changes of opinion.

Finally, an in-depth interview was carried out in order to investigate the participants' perceptions and expectations about each label and price positioning. Some research papers were taken as reference theoretical models (Guens *et al*, 2002, Karpinski and Steinman, 2006; Hassenzahl, Burmester and Koller, 2003 and Spears and Singh, 2004).

4. Results



[FIG. 1] Eye-tracker glasses

4.1 Free exploration of the shelf

During the first phase of the test, participants were asked to explore the wine display freely, as they would normally do in a supermarket. They were left for 20 seconds in order to understand what had caught their attention from the first few seconds (visual saliency of the label). When exploring the shelf, participants wore glasses to track their attention [FIG. 1].

The aim of the first phase was to analyse the visual impact of the labels and, in particular, what kind of paper, finish and combination of the two would immediately attract attention (visual saliency) and manage to hold it for longer, thereby increasing the probability of choosing the bottle (visual equity). In addition, the elements and characteristics of the paper and finish that explained shelf performance were identified. Bottles were positioned on the shelf so that all of them were visible. Position was varied for different participants so that it did not influence results.

To evaluate visual saliency, the first five seconds of viewing the shelf were considered [FIG. 2]. During this short interval, the paper that attracted most attention was Velmart Black and the finish most able to capture the gaze was the glossy hot foil finish, followed by Liquid Gold [FIG. 3]. As for “reading” the label, we observed how the Velmart Black label was able to hold the attention on the paper, while the golden finishes captured the gaze, bringing the focus onto the enhanced elements (design and name of the wine producer). The combination of the two led to a complete exploration of the label.

[FIG. 2]
Example of bottle arrangement. Red areas are the most observed during the first five seconds.





[FIG. 3]

From left: examples of Velmart Black paper; Liquid Gold finish; glossy gold hot foil finish.

The performance of the labels during the entire exposure (20 seconds) was then analysed to check the ability of the various elements in holding attention and allowing visual exploration of the label. The paper that was most able to hold attention on the label was Velmart Black. In terms of finishes, the best performances were obtained by the hot foil (glossy and matte), followed by raised varnish [FIG. 4]. An overview of the results can be seen in the diagram on the next page. On the basis of the results, the specific characteristics that capture and hold consumer attention on labels were identified.

[FIG. 4]

From left: examples of Velmart Black paper; glossy gold, matte gold and raised varnish finishes.



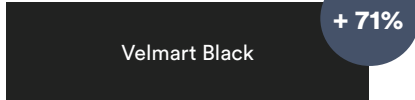
5 seconds



Visual saliency

The ability to capture attention from the very first moment

PAPER



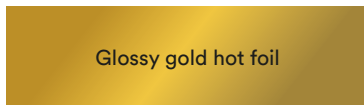
CONSIDERATION OF PAPER AND FINISHES

Dark, matte and textured paper immediately attracts the attention of the consumer.

CONSIDERATION OF THE COMBINATION OF PAPER AND FINISHES

The contrast between dark and matte material and the brightness of glossy gold immediately attracts the consumer.

FINISHES



Gold attracts attention.



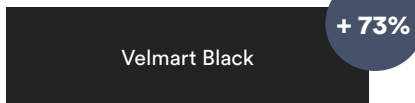
20 seconds



Visual equity

The ability to hold attention on the label

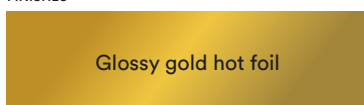
PAPER



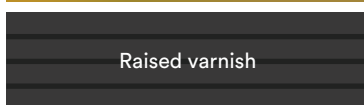
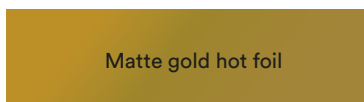
Dark, matte and textured paper is able to hold attention during the entire exposure.

The contrast between dark and matte material and gold or relief finishes holds the focus of attention during prolonged exposure.

FINISHES

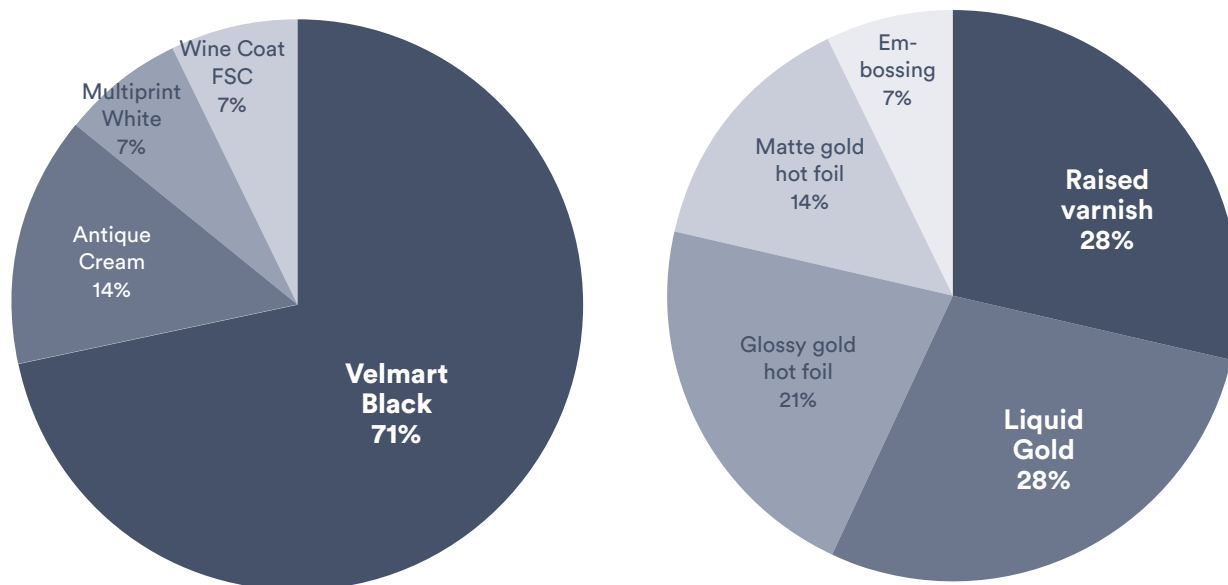


Gold in general attracts attention, as well as the three-dimensional appearance of raised varnish.



[FIG. 5]

Paper and finishes that guided the choice of consumers towards specific bottles.



4.2 The choice of wine

In order to evaluate which elements and characteristics linked to the label were able to guide the choice of a wine on the shelf, participants were asked to choose a bottle that they could take away with them; this was to encourage them to make an honest choice, recreating the natural situation of buying in a real context (Lockshin and Corsi, 2012). In this case, 40 seconds were given to make a decision, so that participants had time to observe the entire shelf, but so that the choice was spontaneous and not excessively thought out.

Forty seconds to choose a bottle so that participants had time to observe the entire shelf, but so that the choice was spontaneous and not excessively thought out.

As regards materials, the most chosen bottles were those with labels characterised by Velmart Black paper, as the dark and matte colour and textured material created the expectation of a refined wine. Moreover, this paper is particularly good at highlighting finish, suggesting even more the idea of a carefully designed label and consequently of a luxury product. The finishes most able to direct the choices of the consumers were the gold, glossy and embossed ones, which created a perception of distinctiveness, elegance, attention to detail and, consequently, a fine wine [FIG. 5].

In particular, Velmart Black paper was able to attract attention and hold it thanks to the eye-catching colour. Moreover, the fact that it is matte makes it easier to read the name of the wine and wine producer (giving greater

confidence in the product), especially when the finishes are glossy and contrasting. The texture of the Velmart Black paper suggests a feeling of naturalness, even before touching the product and makes the label seem refined and well designed, creating positive expectations about the wine, which is considered suitable for an elegant dinner or purchased as a gift. The gold and glossy finishes attract attention while choosing the wine and favour visual exploration of the label, increasing the chances of selection. Contrasting combinations of dark matte paper and glossy or embossed finishes increase visual equity and interest in the bottle of wine.

The choice made highlights a direct relationship between visual attention and decision-making. The data confirms that the most observed labels, that is, those with black paper and gold finishing, regardless of the way they are displayed, are also the most chosen ones (chosen on average by 71% of people) and more able to involve people emotionally. It is important to remember that there is a close link between visual attention and higher cognitive processes; we are programmed to look more at what we like and what gratifies us more, or what we are oriented towards (the so-called mind-eye hypothesis).



[FIG. 6] Interaction with individual bottles. Tools: eye-tracker glasses and EEG headset.

4.3 Interaction with the bottles

After the bottle of wine was selected, the participants were made to sit in another room where they had the opportunity to examine the bottles again individually. The order of viewing was changed for each participant so as not to influence the results collected. Each was given 10 seconds to observe and evaluate the label and then 10 seconds to look at it and touch it to judge the label and the product. In this case, in addition to visual attention, brain activity was also recorded to measure the level of emotional engagement [FIG. 6].

The aim of the second phase was to analyse the perception of the labels and expectations of the wine due to its visual and tactile appearance and the combination of sight and touch. The combination of non-embossed glossy finishes on smooth paper (especially if glossy) creates a reflection that does not facilitate reading, causing the information to be read in an unordered manner, without focusing on specific elements [FIG. 7]. This causes less confidence in the product due to poor visibility of the name of the wine and wine producer.

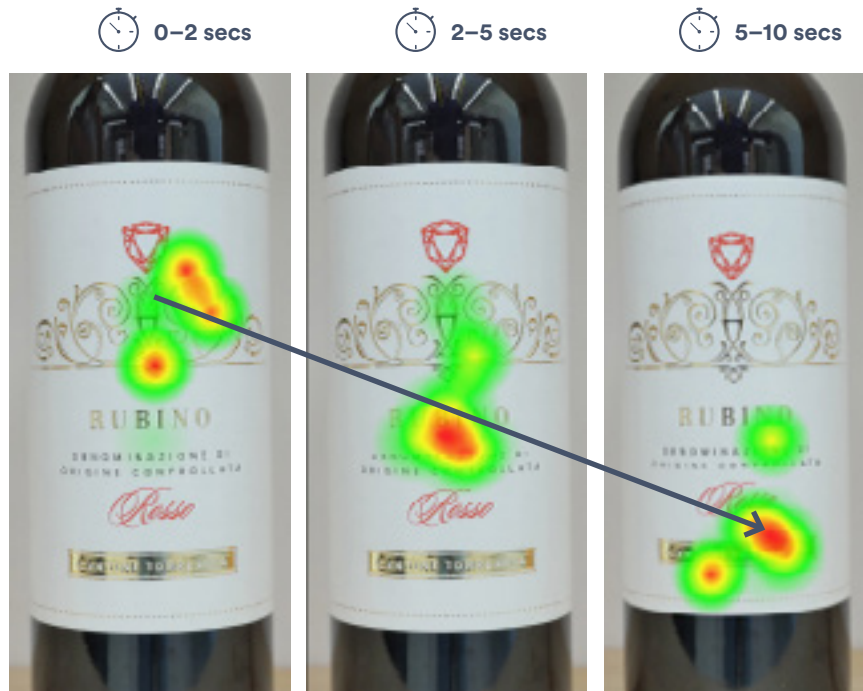
However, the embossing highlights the finishes, inviting exploration. If the glossy finish combined with a smooth paper is embossed, reading is in fact more ordered and follows the finishes [FIG. 8].

Even if the paper is matte, the glossy finishes favour an ordered reading sequence and a focus on all the enhanced elements [FIG. 9].

[FIG. 7]
Visual attention on labels with smooth paper and non-embossed glossy finish (name of the wine and wine producer are hardly noticed).

From left to right:
Glossy gold hot foil on Multiprint White;
Matte gold hot foil on Multiprint White;
Glossy gold hot foil on Wine Coat FSC.





[FIG. 8]
Visual attention on labels
with smooth paper and
glossy embossed finishing
(ordered reading that follows
the finishes).

In the photos:
Liquid Gold on Wine Coat
FSC (F4).

However, the same effect is not found if there is a lack of colour contrast. In this case, in fact, reading is difficult and not very ordered [FIG. 10]. As the finishes are not very visible or appreciated, they do not contribute to suggesting the image of a high-quality wine.



[FIG. 9]
Visual attention on labels
with matte paper and
glossy finishing (attention
spread over the enhanced
elements).

From left to right:
Glossy gold hot foil on
Velmart White;
Glossy gold hot foil on
Antique Cream;
Raised varnish on Velmart
Black.

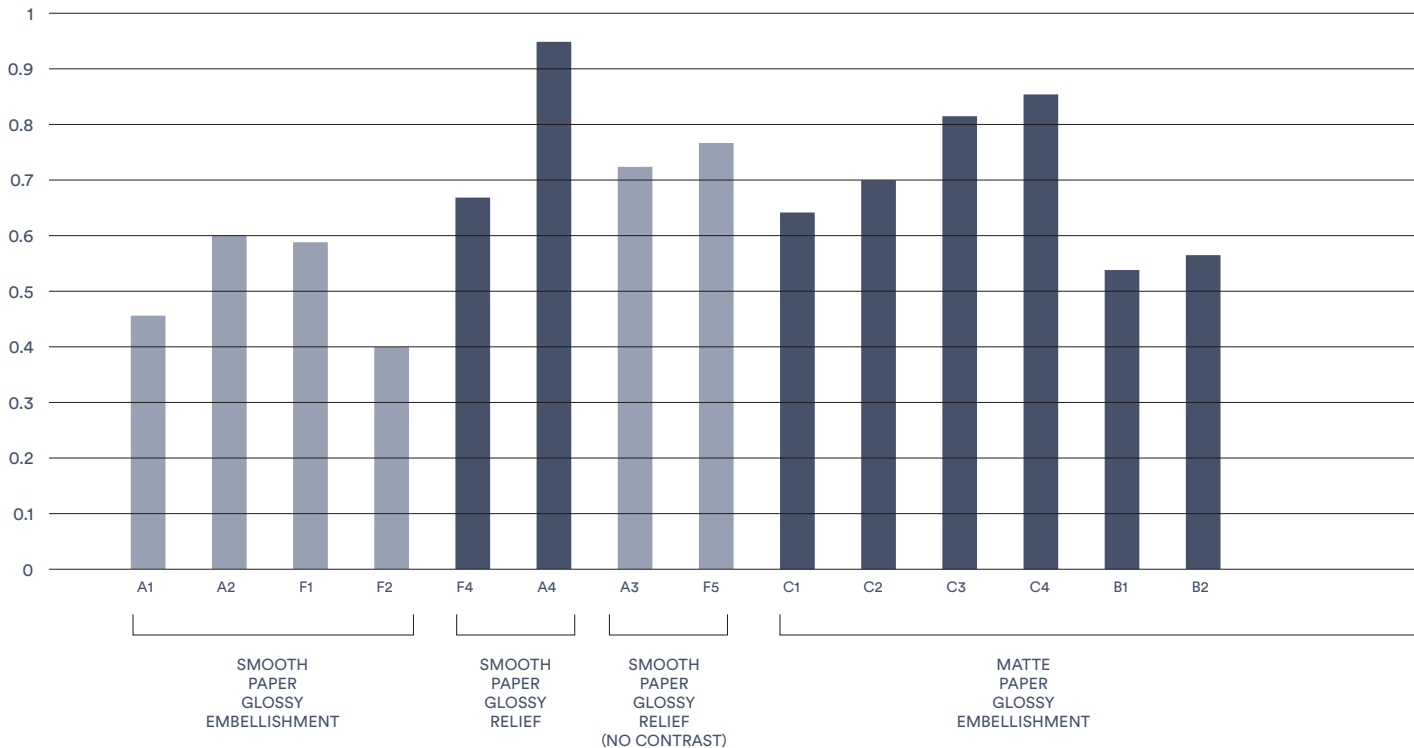
[FIG. 10]
Visual attention on labels without colour
contrast (finishes hardly noticed).

In the photos:
Raised varnish on Antique Cream (D3);
Raised varnish on Wine Coat FSC (F3).



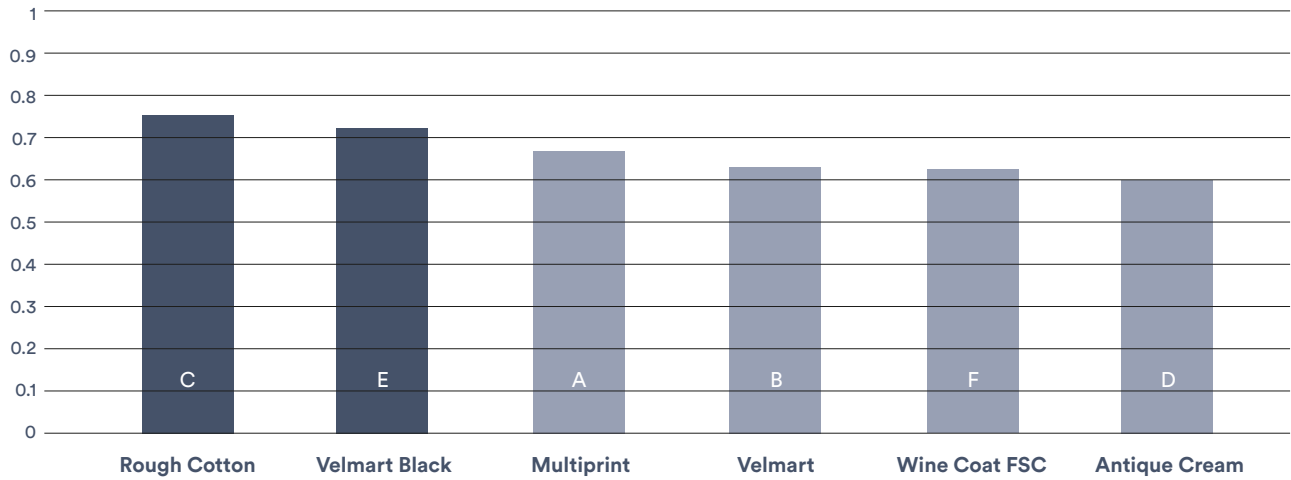
[FIG. 11]
Emotional involvement
during interaction with
individual bottles. Higher
values indicate a more
pleasing experience.

4.4 Emotional involvement
While viewing and interacting with the bottles, brain activity was measured, according to which an emotional involvement index was calculated. For each participant, visual (labels liked and disliked aesthetically) and tactile (Velcro and silk) benchmarks were used in order to precisely measure the quality of the label experience.
Table [FIG. 11] shows the values for the individual labels, grouped by type. During visual and

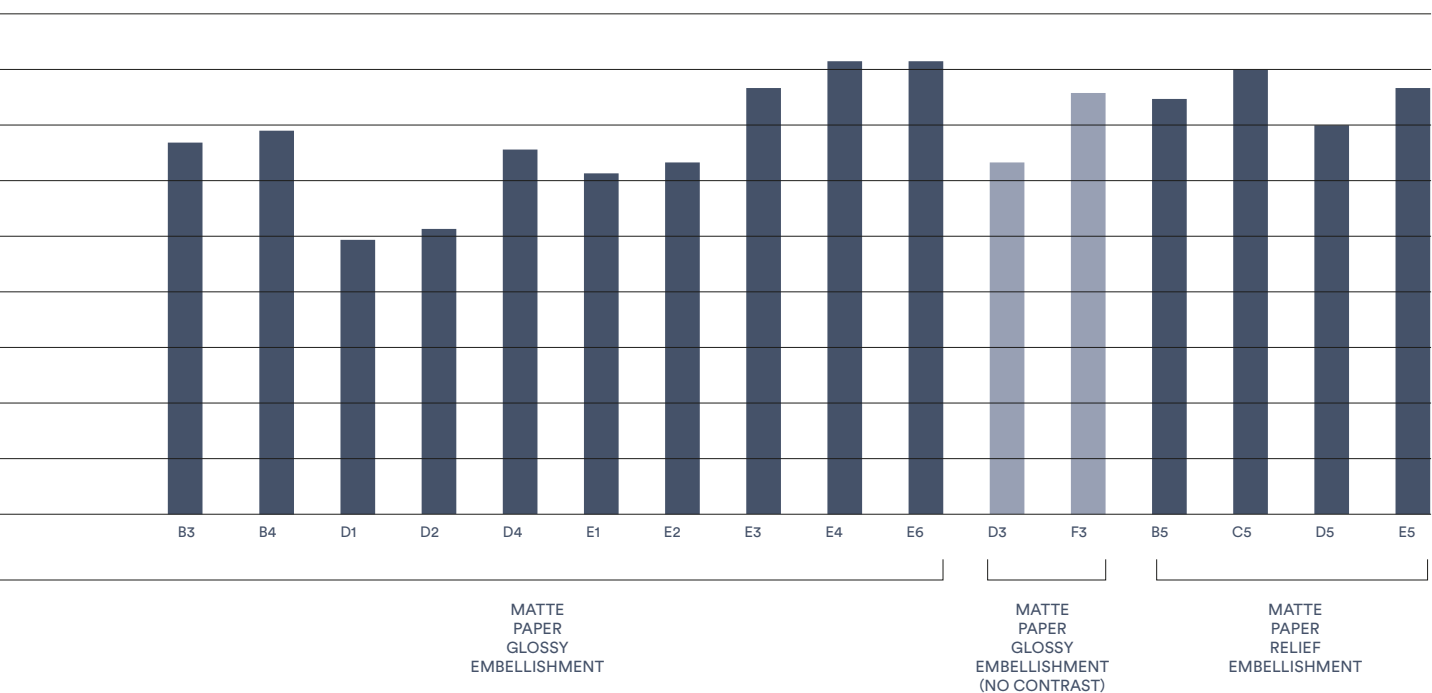


[FIG. 12]

The response to emotional involvement for paper alone, without finishes. Rough Cotton and Velmart Black achieved the best results, thanks to their tactile experience.



tactile interaction with the labels, the combinations that generated a more involved experience from an emotional point of view were those with a clear contrast between paper and finish, especially with the use of embossing [FIG. 13]. The tactile aspect is therefore extremely important [FIG. 12]. The less pleasing combinations in terms of the implicit emotional response were those with no colour or tactile contrast.



[FIG. 13]
Emotional involvement
during interaction with
individual bottles. Higher
values indicate a more
pleasing experience.

The best performing paper:
ROUGH COTTON
VELMART BLACK

The best performing finishes:
LIQUID GOLD
RAISED VARNISH



4.5 Intention to purchase

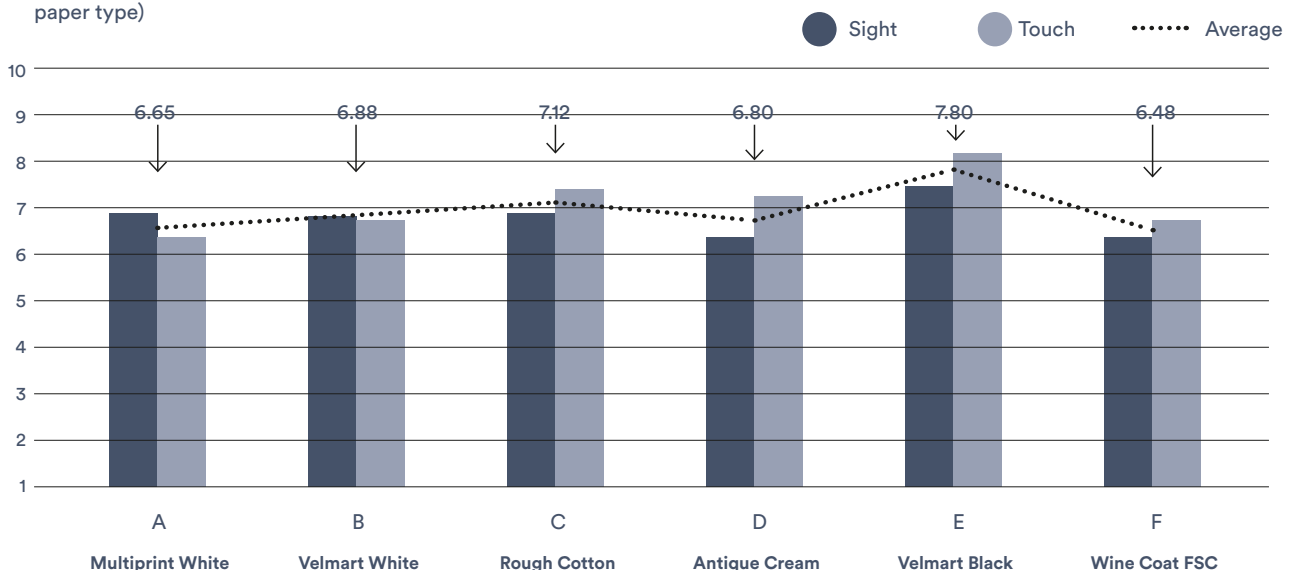
Velmart Black matte and textured paper is the favourite both in terms of sight and touch. In particular, when participants have the opportunity to touch the label, the intention to purchase increases by an additional 8%. The second paper in terms of ability to encourage consumers to purchase is Rough Cotton. The paper least likely to encourage purchase are the smooth ones. In this case, the tactile experience makes consumers less willing to purchase the wine, which is perceived as lower quality. Table [FIG. 14] shows the ability to encourage purchase for each type of paper.

Matte and textured paper has several advantages. First of all, by not reflecting the light in a brightly lit environment, such as a supermarket, it makes it easier to read the information on the label. In addition, the visual appearance also influences the tactile experience, as you perceive the presence of a texture even before touching the label (glossy paper instead creates the expectation of greater smoothness). A matte and textured paper leads to the perception of a greater naturalness and this attribute is transferred to the product. Finally, there is a “nostalgic” appeal for consumers, who remember the paper bags used in shops in the past (A. Streeter, CPS International) and this aspect also contributes to the perception of something genuine and a positive, familiar sensation associated with the product.

A matte and textured paper leads to the perception of a greater naturalness and this attribute is transferred to the product.

[FIG. 14]

Intention to purchase the bottle (categorisation by paper type)



With regard to the finishes, Liquid Gold, characterised by its brightness and embossing, is the one that is most likely to encourage purchase, with a score of 15.7% higher than the average. Gold, bright hot foil finishes are very pleasing from an aesthetic point of view; however, to the touch, they suggest the idea of a less well-designed label because of the absence of embossing. This leads to a reduction in intention to purchase of 14% compared to just looking at the label. The Tactile Varnish, Liquid Gold and Relief (embossing) finishes lead consumers to increase their intention to purchase after the tactile experience with the label (+17% on average). The use of embossing gives an image of greater attention to detail and therefore the wine is perceived as more valuable. Table [FIG. 15] shows the ability to encourage purchase for each type of finish.

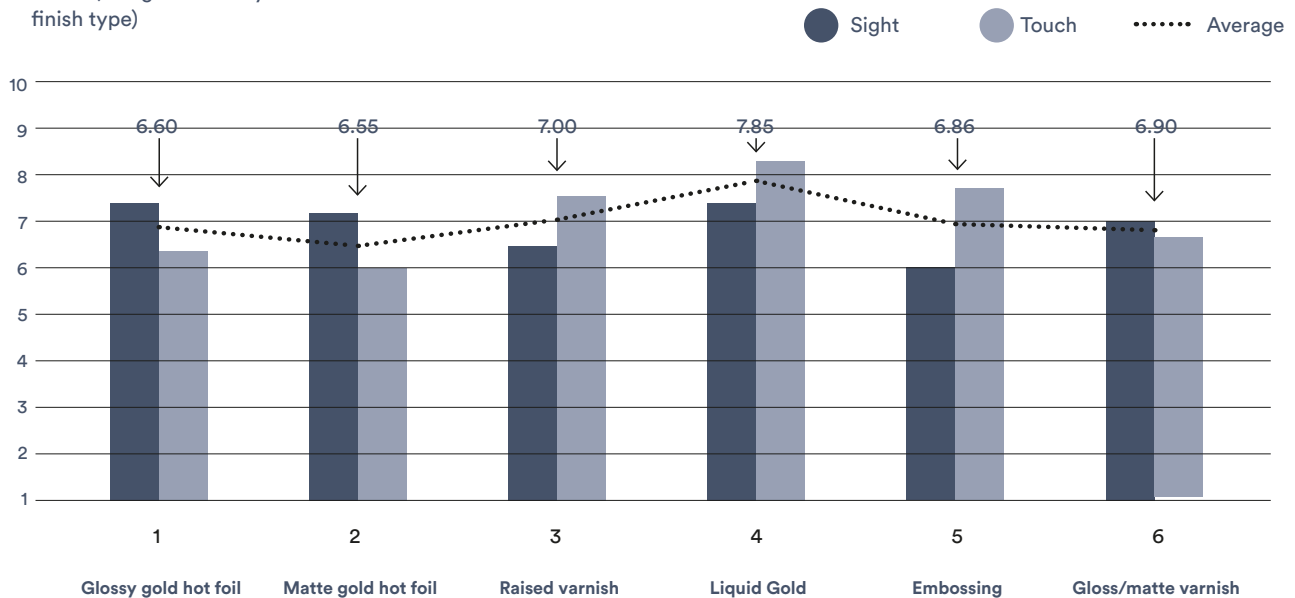
Touch plays a fundamental role in human experience, including that of purchasing. In fact, touch is the second sense, after sight, on which the approval of a product by the consumer depends. If the judgement on the tactile dimension is not positive, even the most pleasing products at the aesthetic level do not achieve the popularity they could have (Sheldon and Arens, 1976).

The combinations for which the tactile experience significantly improves the perception of the label, increasing the intention to purchase, are those which have a positive “surprise” effect. In terms of sight, the contrast between paper and finish is hardly noticed, but in terms of touch, it is perceived to a greater extent, suggesting the idea of greater finish and care and giving the idea of a finer wine [FIG. 17].

If the judgement on the tactile dimension is not positive, even the most pleasing products at the aesthetic level do not achieve the popularity they could have

[FIG. 15]

Intention to purchase the bottle (categorisation by finish type)



In general, in terms of touch, all non-embossed finishes negatively influence the intention to purchase compared to just looking at the label. Smooth unstructured paper, especially if glossy, leads to the perception of a less refined, not so carefully designed label and conveys little confidence, especially if the finishing does not create a clear contrast (relief and colour contrast) and also because the name of the wine and wine producer cannot be immediately read.

In general, in terms of touch, all non-embossed finishes negatively influence the intention to purchase compared to just looking at the label.

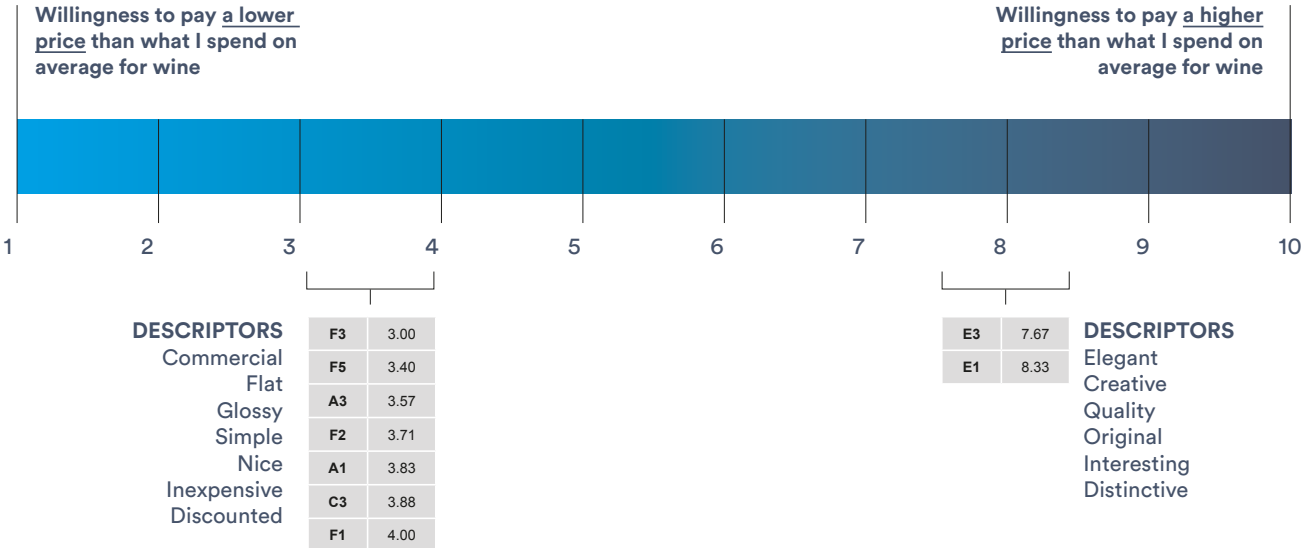
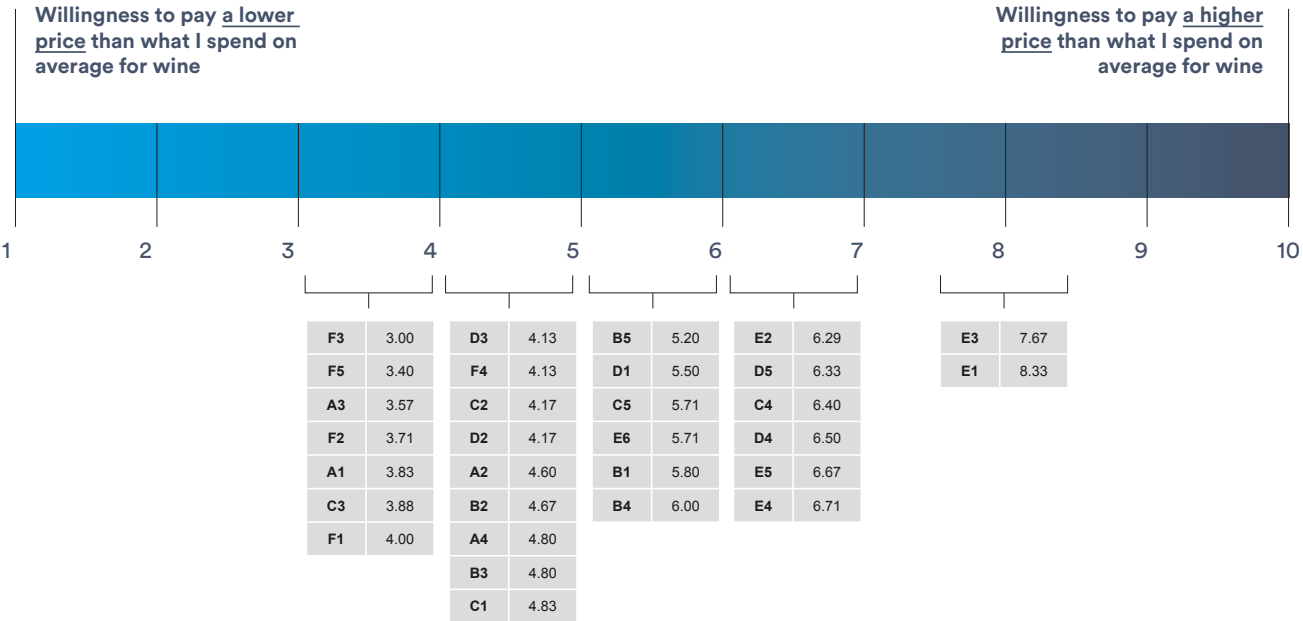
[FIG. 17]
The first three photos show labels where the tactile experience increases the intention to purchase. The finishes are embossed, but the colour contrast is poor.

The wine is therefore perceived as cheap and low quality, suitable for daily consumption. A structured paper with a matte finish and texture gives the perception of a carefully designed label and a fine wine, both to the sight and especially to the touch. If combined with a glossy contrast finishing, it gives the perception of attention to detail, refinement and elegance associated with a refined, high-quality wine, allowing it to command a higher price than the average market price, with the purchase intended for special occasions and gifts [FIG. 17].

The last photo shows an example of a label with matte and textured paper and embossed glossy finishing



The two tables show the performance of individual labels according to the declared willingness to buy. The second table notes the descriptors used by the sample for labels with the worse (left) and best (right) performance.



5. Conclusions

VELMART BLACK

+73%
visual equity

+71%
selection on the shelf

ROUGH COTTON

7.6
emotional involvement

7.3
ability to encourage purchase

5.1 Types of paper compared

Velmart Black paper was the best in terms of visual equity on the shelf. In fact, it was able to immediately capture the attention (in the first five seconds, it held 73% of the attention focus), then leading to a visual exploration of the whole label. Moreover, it was the paper most able to favour selection of the bottle on the shelf (71%) and intention to purchase during interaction with the individual bottles (8.1/10), in which it aroused an excellent level of emotional involvement (7.3/10).

Rough Cotton paper was the one most able to emotionally involve participants during interaction (7.6/10), especially when they were given the opportunity to touch the label. This paper was second in terms of the ability to encourage purchase (7.3/10). The table below summarises the results.

5.2 Types of finish compared

The table on the following page illustrates the strengths and weaknesses of the different finishes.

METRICS	BEST PERFORMING PAPER	CHARACTERISTICS
Visual equity	Velmart Black	Black, uncoated, textured
Selection on the shelf	Velmart Black	Black, uncoated, textured
Emotional engagement	Rough Cotton	Cotton, textured
	Velmart Black	Black, uncoated, textured
Intention to purchase	Velmart Black	Black, uncoated, textured
	Rough Cotton	Cotton, textured

FINISHES

STRENGTHS

WEAKNESSES

Glossy/matte gold hot foil

First in terms of visual equity when selecting **+44%**

Enhances the paper:
Velmart Black and Rough Cotton

On smooth paper (especially if glossy), the paper/finish combination makes the label hard to read, giving little confidence as the producer's name is barely visible. Moreover, the absence of colour and, above all, tactile contrast leads to the perception of the label being unrefined and carelessly designed and the wine being cheap and low quality.

Raised varnish

The tactile experience is pleasant: in visual and tactile interaction with the labels, such finishes lead to a high emotional engagement (regardless of the paper it is matched with) and an increase in the intention to purchase the bottle, as by touching the label, it is perceived as carefully designed, refined and original.

It cannot be seen very well on light labels. The absence of colour contrast leads to the perception of the label as carelessly designed.

Gloss/matte varnish

Combined with Velmart Black paper during interaction with the bottle (possibility of touching it and moving it so that it reflects the light), the finish enhances the label, the emotional engagement response is high and the label is perceived as "mysterious", original and elegant.

Poor shelf visibility during the first few seconds of exposure.

Embossing

The tactile experience is positive and leads to a high emotional engagement during tactile interaction (combined with all paper types). Moreover, there is a positive "surprise effect": on sight, participants expect little sensory contrast between the paper and the finish, but on touch, they are positively affected and their intention to purchase the wine increases by **+16%**.

There is little visual contrast, the central part of the label (with enhanced design and wine name) is perceived as "empty" and the label is hard to read.

Liquid Gold

Second in terms of visual equity during selection **+27%**. It provokes a strong emotional engagement and a consequent intention to purchase in combination with all types of paper; glossy finish and embossing appeal both to the sight and touch.

Not suitable for more "classical" paper (for example, Antique Cream) because an inconsistency is perceived between classical paper and modern finishes.



[FIG. 18]

Examples of bottles selected on the shelf, excluding those on Velmart Black paper

5.3 Paper and finishes

In addition to the effect of the individual types of paper and finishes, the results of the test showed that there are specific combinations that perform particularly well. As for selecting a bottle on the shelf, the golden, glossy, embossed Liquid Gold finishes enhanced the labels, thereby guiding the decisions. In fact, the most selected bottles that had labels of paper other than Velmart Black were characterised by a Liquid Gold finish [FIG. 18].

Moreover, finishes that are embossed and pleasing to the touch (raised varnish, Liquid Gold, embossed) positively influence the intention to purchase, with a particularly important effect on labels where there is no colour contrast, when participants had the opportunity to touch the bottles [FIG. 19]. In fact, people do not particularly like the sight of very smooth labels and those with little colour contrast, as they make it difficult to see the details and read the writing and they are perceived as carelessly designed. When they have the opportunity of touching the bottles, embossed finishes and those pleasing to the touch greatly improve the experience and enhance the label, leading to a perception that the wine it contains is of superior quality.

[FIG. 19]

Examples of labels where a pleasing tactile finish leads to an increase in the intention to purchase during interaction with the bottle. From left: raised varnish on light paper (a) and light and glossy paper (b); embossing on dark paper without colour contrast (c).





[FIG. 20]
Examples of gold embossed
and non-embossed finishes on
dark paper

The gold finishes, even those not embossed (glossy and matte gold hot foil), particularly enhance the dark paper, giving further visual saliency on the shelf and increasing the price that people are willing to pay for the product [FIG. 20]. Moreover, the combination of the glossy and matte gold hot finishes with Rough Cotton paper gives rise to a high emotional involvement towards the label and consequently towards the product [FIG. 21]. However, this type of finish is less suitable for smooth paper, especially if glossy, as this combination makes the label difficult to read, giving the perception of a poorly finished label and a cheap, low-quality wine.

Finally, a coherent combination of paper and finish is appreciated; however, participants think that combinations of “classical” paper (such as Antique Cream) and modern finishes (in particular, Liquid Gold) are less pleasing.



[FIG. 21]
Rough Cotton paper
combined with gold finishes
aroused a strong emotional
involvement.



Multisensory involvement helps us to remember the product much better. Sight and touch have a reciprocal influence.

5.4 Final considerations

During the “first moment of truth”, i.e. when seeing the labels on the shelf, the first moment of contact with it, in which the ability of the label to be noticed is fundamental, the element most able to influence the visual attention (in terms of visual equity and visual saliency) is the type of paper. Matte, dark and textured paper captures the attention immediately and holds it for a long time. As far as selection of a bottle from the shelf is concerned, there is a relevant effect both from the type of paper, in favour of dark, matte and textured paper, and from the finish (in particular, the gold, glossy and embossed finish is the one most able to guide selection).

During the “second moment of truth”, i.e. interaction with the label, the paper has a significant influence on the level of emotional involvement, on the perception of the label and consequently on the intention to purchase. In fact, more textured types of paper lead to a stronger engagement and a higher intention to purchase.

Finishes that are particularly pleasing to the touch improve the overall perception of the product and increase the intention to purchase. There is also an effect of mutual support between combinations of paper and finish, with a positive influence on the emotional involvement of the sensory contrast (especially tactile) conferred by the paper and the finish of the label. Textured labels combined with glossy finishes, especially if embossed, foster the perception of the wine as “luxury” and increase the price that the consumer is willing to pay.

In general, the visual and tactile experience are both important, as there is a holistic effect of all aspects of packaging design on the perception of wine quality (Orth and Malkewitz, 2008). In addition, multisensory involvement helps us to remember the product much better (Lehmann and Murray, 2005). Sight and touch have a reciprocal influence and it is important to work on the aesthetic appearance, crucial during the first seconds of observation on the shelf, in order to favour tactile interaction. In fact, the aesthetic appearance of the label creates expectations about its tactile characteristics, encouraging the consumer to interact with the bottle and touch the label, or not. Textures that are pleasant to the touch encourage consumers to hold the product longer in their hands, creating a sense of psychological “possession”, which leads to a feeling of wanting it more (Williams and Ackerman, 2011). The label must therefore:

- **Be eye-catching.** Using textured matte paper with glossy finishes, especially if embossed, increases the ability to attract the attention of the consumer.
- **Allow quality to be perceived, even at a distance, and convey the feeling of the product.** Colour is of great importance, even changing the perception of the aroma and taste of the product (Spence, 2007). As far as this aspect is concerned, darker colours are better than white at creating the perception of roughness, which is reminiscent of naturalness, generally associated with a good-quality wine. The glossiness of the paper also influences the tactile experience. Matte paper creates the perception of texture even before touching the label and makes the product seem more natural.
- **Create expectations about the tactile sensation of the product, encouraging you to handle it;** it is fundamentally important to create a sense of possessing the product, increasing the impulse to buy it, to an even greater extent than the visual aspect does (Spence and Gallace, 2011)
- **Be pleasant to the touch.** If the tactile experience is pleasing, the entire perception of the product is positively influenced and the intention to purchase is increased. In fact, a pleasing tactile experience activates the orbitofrontal cortex linked with positive emotions (Rolls *et al*, 2003).
- **Convey confidence.** Using a colour or tactile contrast (for example, a glossy or embossed finish) makes the label easier to read. Seeing the name of the wine producer and wine increases confidence in the product. In addition, tactile details serve as cross-cultural communication elements, overcoming language barriers, and are “choice facilitators” directing consumers to purchase.
- **Create expectations consistent with the image of the product you want to convey.** Matte and textured paper and embossed and glossy finishes make the label feel carefully designed and refined, suggesting the idea of a fine wine, suitable for special occasions and gifts, and for which consumers are willing to pay more. Smooth and glossy paper, on the other hand, conveys the image of a cheaper wine, especially if the finishes are not embossed.



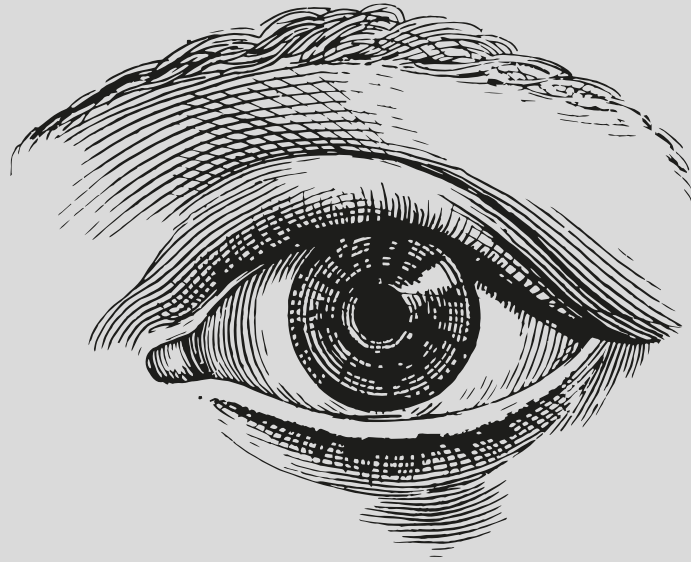
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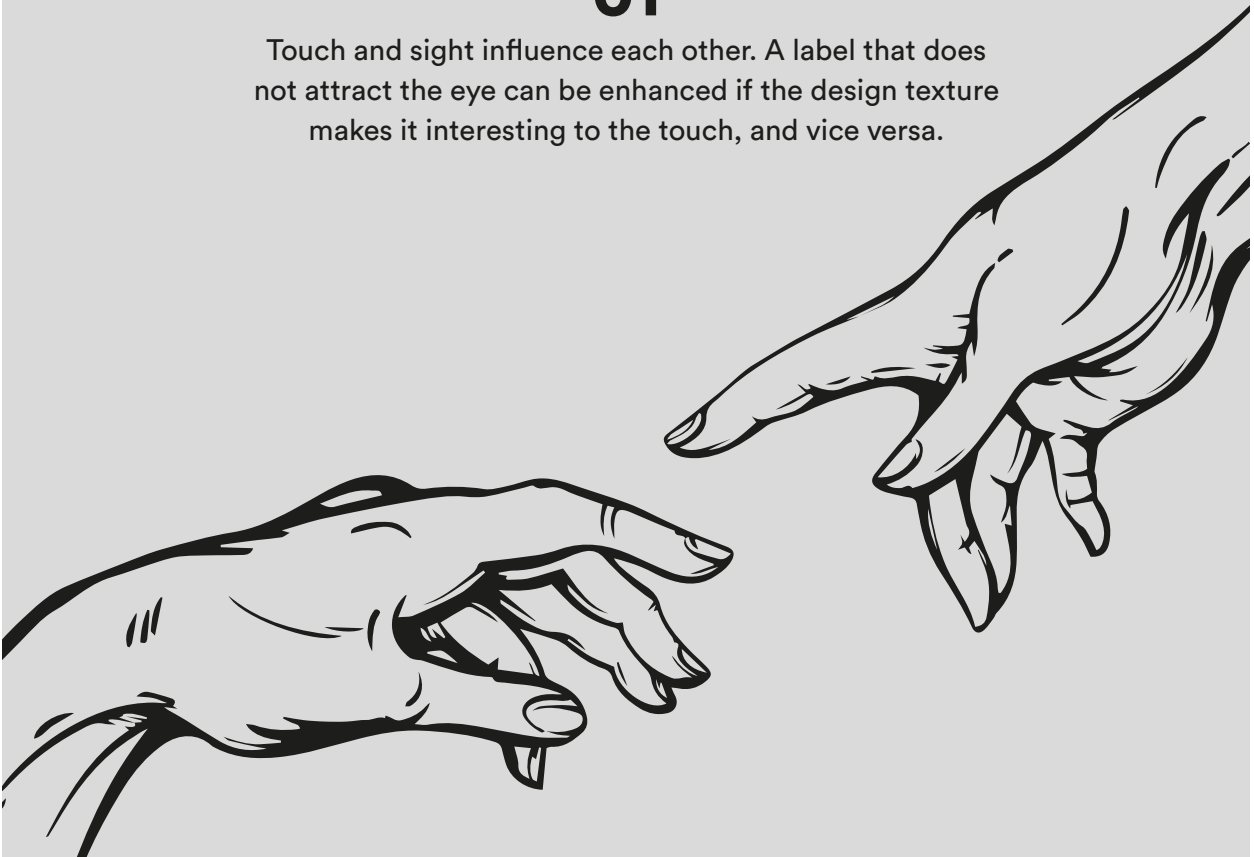
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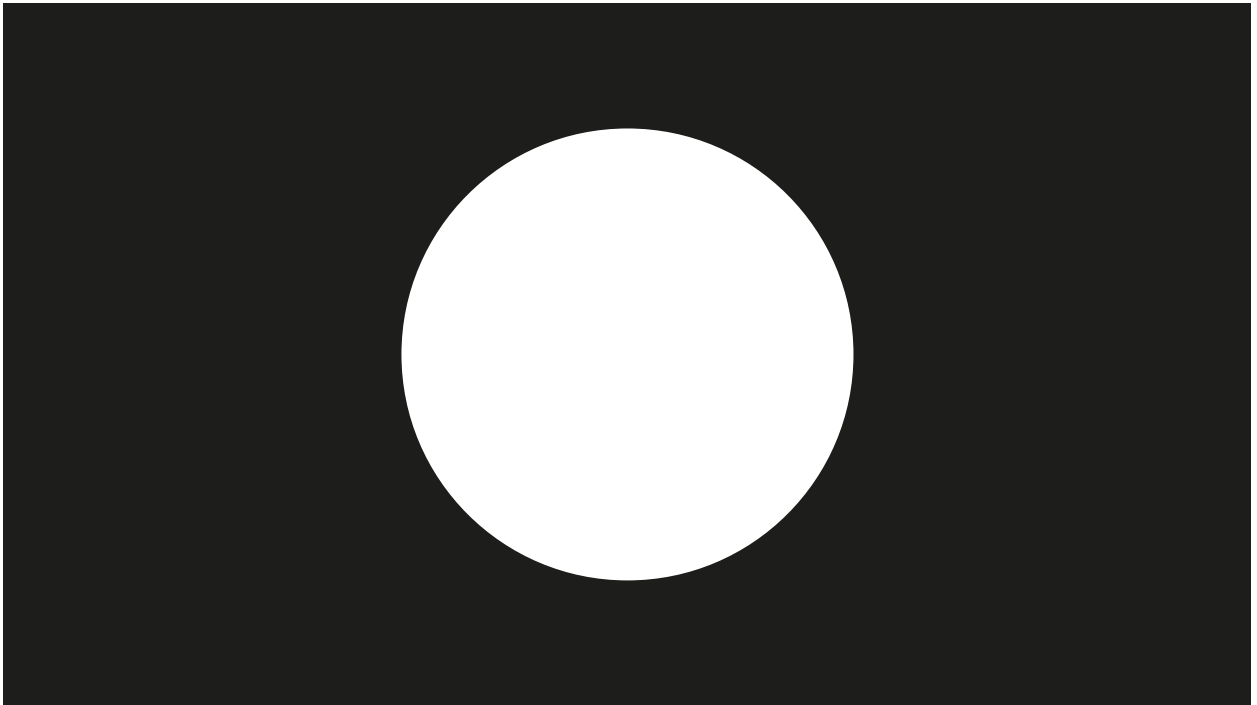
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01

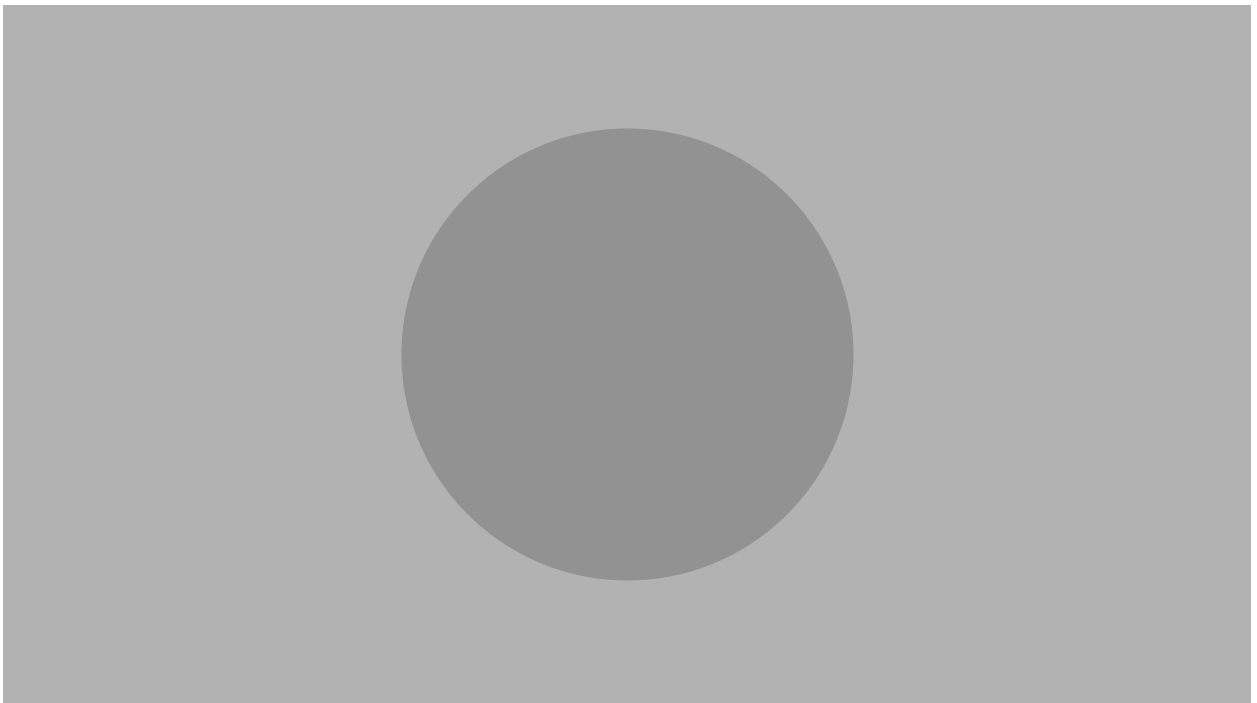
Touch and sight influence each other. A label that does not attract the eye can be enhanced if the design texture makes it interesting to the touch, and vice versa.

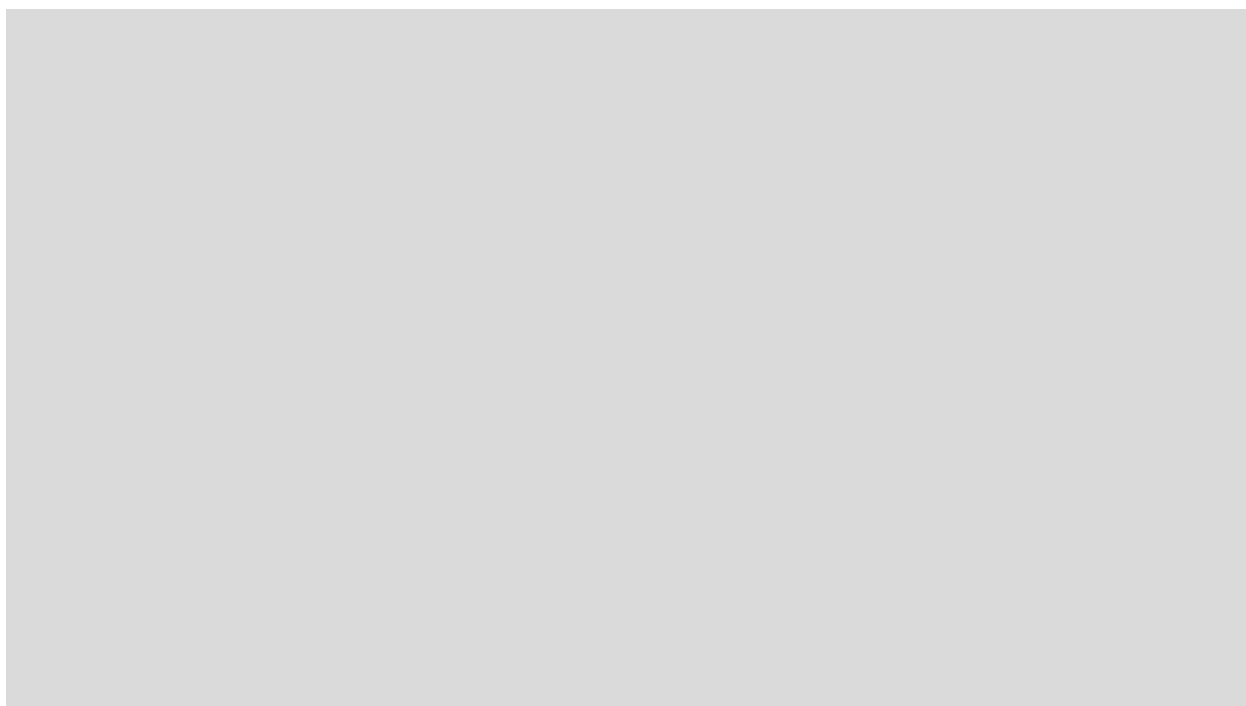




02

Colour contrasts (black/white, black/red), visual contrasts (matte/glossy) and tactile contrasts (smooth/rough) are the clear winners.

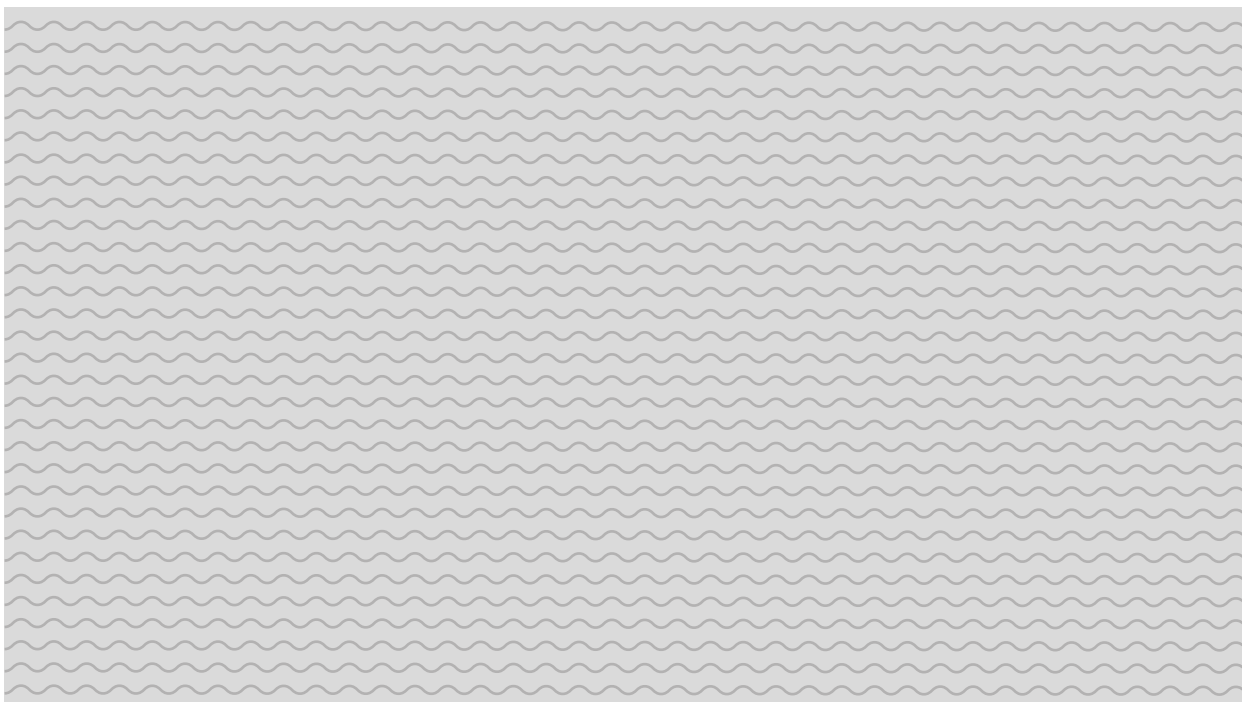




03

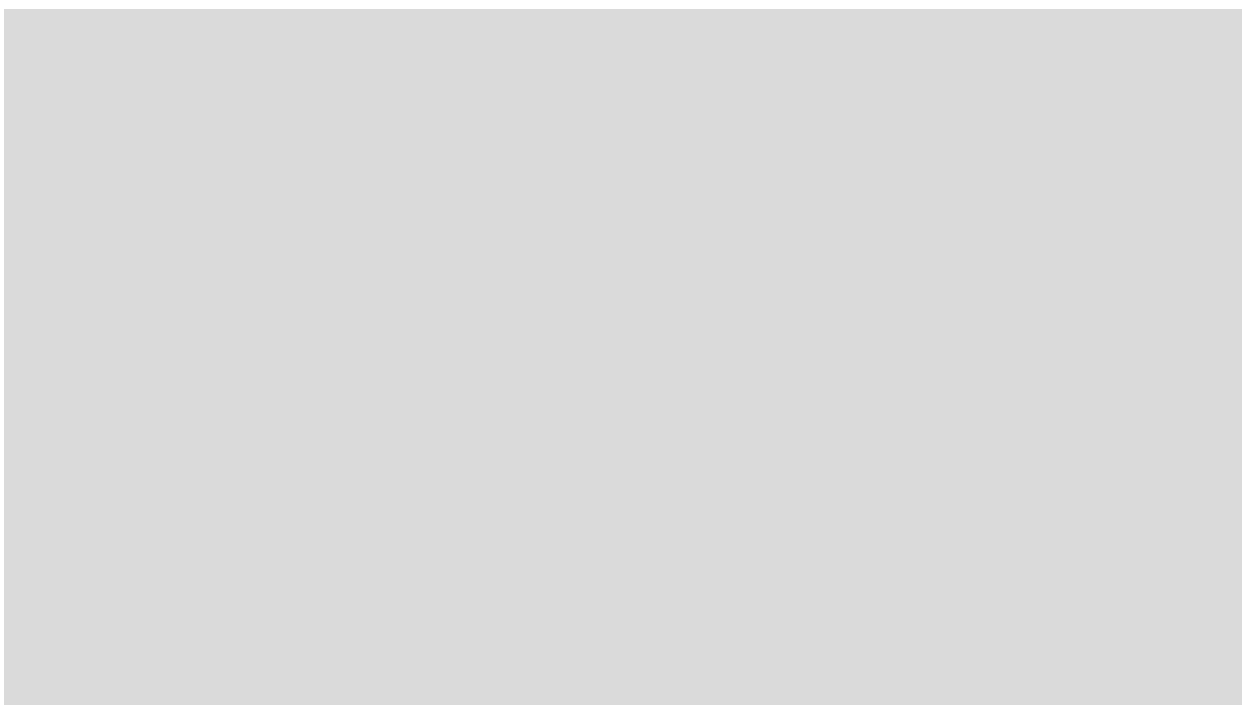
The label performs better when the paper is matte and non-glossy.

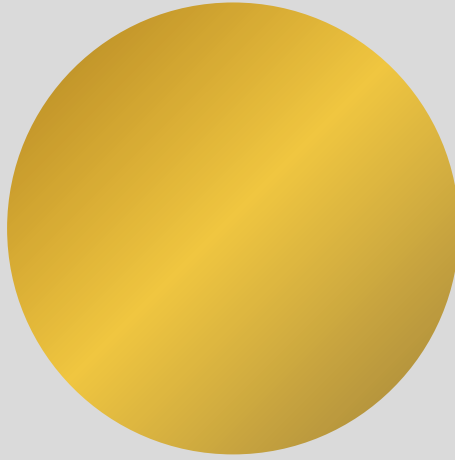




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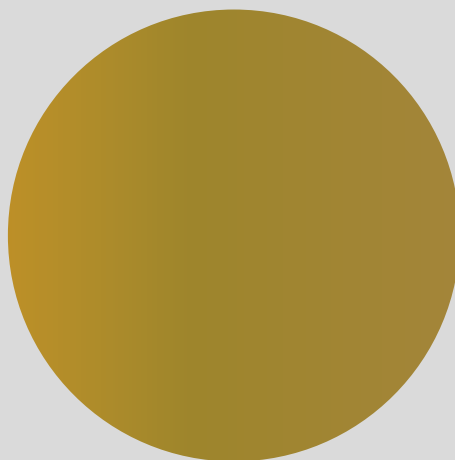
The label performs better when the paper has a rough or raised texture that can be felt when touched.

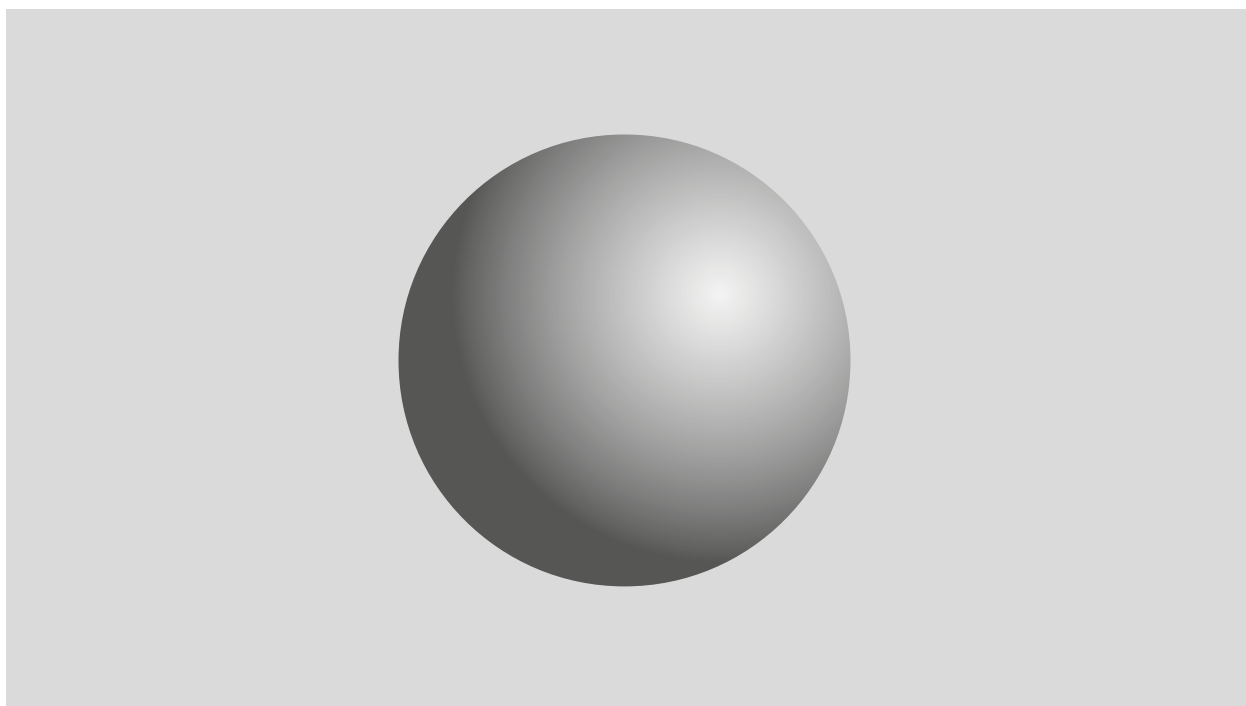




05

The label performs better when the finishes are glossy, especially if in contrast with a matte background.





06

Finishes perform best when they are embossed (stereotype, raised varnish, Liquid Gold) and create a feeling of greater attention to detail.



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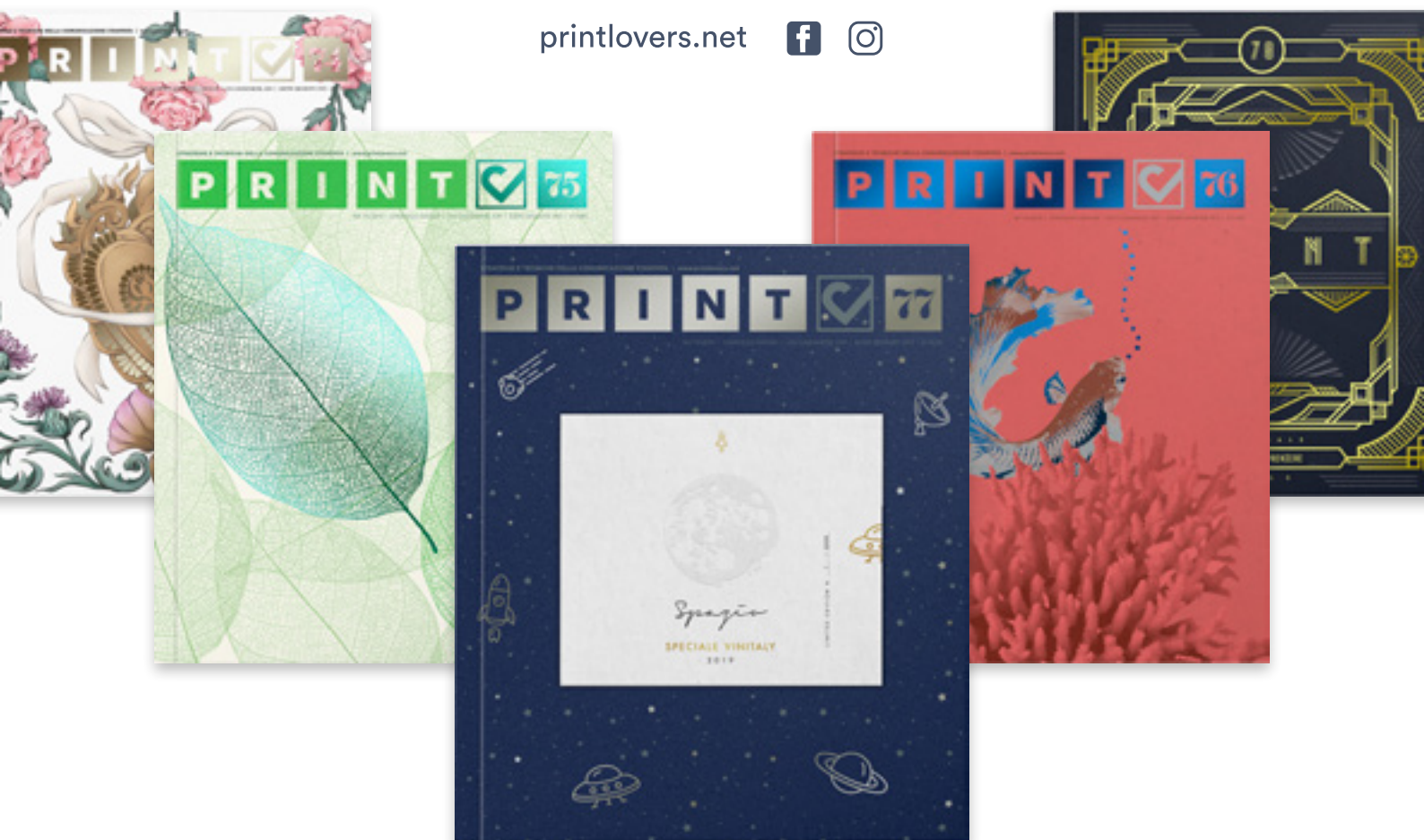
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