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The influence of verbal elements displayed on packaging: a study on chocolate bars.

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"Chocolate is the French kiss of food. It is the best-tasting food that there is around. And if you want to enjoy that, then you have to make sure that you can be proud of where it comes from."

Henk Jan Beltamn, COO Tony's Chocolonely (Rotten, 2020).

Preface

Writing a thesis about marketing in the chocolate industry is the perfect combination of my passion, my academic and professional skills. Chocolate is probably one of the finest products in the world, to which I pay a lot of attention since I am a pastry passionate. After my experience at Valrhona, a French chocolate company, it was obvious to include chocolate in my master's thesis.

Chocolate is an interesting product because it is very controversial. On the one hand, chocolate is one of the most consumed treats in France, i.e., 97% of French people eat chocolate at least once a week (Syndicat du Chocolat, n.d.). On the other hand, chocolate raises environmental issues as well as discussions on working conditions involving children, slavery, and corruption. Is not this contradictory?
"You may not taste it in the delectable end product, but the journey chocolate must male from the bean to the bar is rife with corruption, violence, and exploitation." (Narrator, Rotten, 2019). Many companies display a brand's speech on their website (Rotten, 2019) or even on their packaging to highlight their commitment to those causes, but without really mentioning what they do since they do not put in place real actions to source cocoa responsively. Do people really pay attention to those issues when buying a chocolate bar? Especially supermarket chocolate bars?

Working at Valrhona, I realized how important these issues are consuming a chocolate bar and how important it is to buy this product in the most responsible way possible. As a chocolate consumer, I pay attention to verbal elements such as production country, cocoa origin, cocoa percentage, and brand's speech. I buy my chocolate bars in chocolate shops (made by chocolatiers) or committed high-end brands like Valrhona. I think that it is essential to consume chocolate responsively, paying attention to the verbal elements displayed on the packaging.

During my experience at Valrhona, I participated in many strategic, marketing, Corporate Social Responsibility (CSR) discussions. The problem of "how to differentiate the brand from the competition" (in certain circumstances – which won't be mentioned because of strategic issues) came up one day during lunchtime

with my colleagues. That is precisely when I started to look very carefully at how brands create their packaging. Since this idea never left my mind.

Hence, the topic “How do verbal elements displayed on chocolate bars packaging influence consumers’ intentions to choose?” was not chosen at random. I was curious and wanted to know more about how people choose their chocolate bars and how much verbal elements can influence consumers’ intentions to choose or not.

Acknowledgments

Throughout the writing of this master's thesis, I have received a great deal of support and assistance.

First, I wish to express my sincere appreciation to my supervisor, Professor Nina Veflen, whose expertise was invaluable in formulating the research questions and methodology. Your insightful feedback pushed me to sharpen my thinking and brought my work to a higher level.

My gratitude extends to BI Business School and EDHEC Business School for the funding opportunity to undertake my double master's degree in Strategic Marketing at BI Norwegian Business School.

I would like to acknowledge and dedicate my thesis to my managers from my internships at Valrhona, Candice, Colleen, Julia, and my colleagues from Tain l'Hermitage and Brooklyn. This thesis would not have been possible without the insightful input they gave me during my experiences.

I wish to acknowledge the support and great love of my family, my mother, Nathalie; my father, Sylvain; my brother, Thomas; and my stepfather, Philippe; my grandparents, Christianne, and Albin, and Lucienne, and all the members of my family and my friends from every part of the world. They kept me going on, and this work would not have been possible without their support.

I would like to thank Lise, who has supported me since the beginning of my academic program and has always pushed me to give the best of myself.

I wish to thank Laëtitia, with whom I conducted research about chocolate bars consumption on the French market and wrote a research paper for the Understanding the Consumer topic at BI Norwegian Business School during the fall semester of 2020.

Abstract

Problem: Packaging plays an important role in consumers' purchase decisions. Brands use packaging as a marketing and communication tool, to differentiate themselves from the competition. In this way, consumers choose their product, and as a consequence, it increases sales. Two types of elements displayed on packaging have been identified and investigated in previous research: visual and verbal. This research paper focuses on how the verbal elements of chocolate bar packages (i.e., brand's speech, production country, cocoa origin, and cocoa percentage) influence consumers' intentions to choose.

Purpose: This study aims to analyze the influence of the verbal elements displayed on the chocolate bar packaging on consumers' intentions to choose.

Research and design: An online questionnaire was chosen to answer the research problem and questions. The study is conducted on the French market and will demonstrate how the verbal elements (i.e., brand's speech, production country, cocoa origin, and cocoa percentage) influence consumers' intentions to choose.

Findings: The survey results (n = 27) will help better understand how supermarket chocolate bars consumers' choice of products. Findings will benefit marketing teams in the food industry, especially regarding Fast Moving Consumption Goods (FMCG).

Keywords: packaging, verbal elements, consumers' purchase decisions, food industry, fast-moving consumer goods.

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1. INTRODUCTION

"The packaging becomes a powerful weapon in the food industry" (Küster et al., 2019). Kuvykaite, Dovaliene, and Navickiene (2009) stated that the packaging's primary function is the product's protection. The authors added that packaging plays an essential role in marketing and communication at the same time, and that is "the most important factors influencing consumer's purchase decision" (Kuvykaite et al., 2009). The packaging is then critical in the consumer's choice as it acts as an interface between the consumer and the product (Olsson & Larsson, 2009). Silayoi & Speece (2004, 2007) pointed out that packaging and purchase decisions are strongly linked.

On the packaging, two types of elements are featured: visual elements and verbal elements (Kuvykaite et al., 2009; Rettie & Brewer, 2000; Figure 1). On the one hand, the visual elements include colors, graphics, shape, size, and packaging material. On the other hand, verbal elements are the product information, the producer, the country of origin, and the brand. Keller & Swaminathan (2020, Chapter 4) identified the packaging factors that influence buying decisions: colors and design related to packaging innovations. Gunaratne et al. (2019) also found other factors that include tastes and "packaging material, information and brand name".

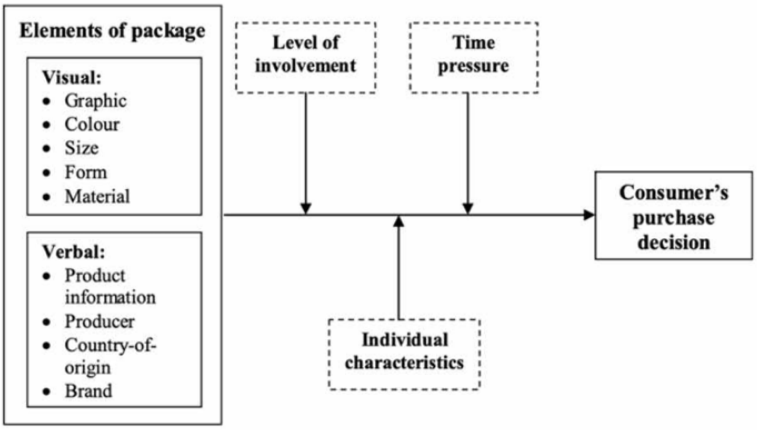

Figure 1 – Elements of the packaging - Impact of package elements on consumers' purchase decisions (Kuvykaite et al., 2009).

The authors Silayoi & Speece (2004, p. 624) found that colors and graphics have the most influence on buying decisions, "informational elements [product

information and packaging technology] are becoming increasingly important and influence choice". Suppose there is no time pressure and a high level of involvement with the food product. In that case, customers pay attention to informational elements, which becomes even more critical for their buying decisions (Silayoi & Speece, 2004). The authors added that the impact is even stronger when the information is appropriately used.

Regarding the level of involvement, Drossos et al. (2014) considered a chocolate bar as a “low cognitive involvement [and] high affective involvement” product. Cognitive involvement has been linked with functional and practical performances, according to Zaichkowsky (1994). The author added that affective involvement is combined with emotions and feelings connected to the product (Zaichkowsky, 1994). That means that chocolate bars are considered as a middle involvement product.

Packaging becomes a real competitive asset, as it influences consumers’ buying decisions. This is especially true for daily products, including Fast Moving Consumer Good (i.e., FMCG). Chocolate bars sold in supermarkets are part of this product category. In France, they are displayed in supermarkets, as depicted in figure 2. As there are three different chocolate types (i.e., dark, milk and white) and many different tastes (e.g., nuts, raspberry, etc.), chocolate bars’ range is large.

Figure 2 – Chocolate bars shelf in a French supermarket – Picture by Eva Stepak Heritier – Carrefour Market in Villeneuve lez Avignon, France.

The significant number of different chocolate bars can be explained since 97% of French people eat chocolate at least once a week (Syndicat du Chocolat, n.d.).

Additionally, they consume 7.3 kg per year (Syndicat du Chocolat, n.d.), equivalent to 4 million chocolate bars consumed per day in France. Also, the chocolate bars market is profitable in France since the turnover in supermarkets was about €3,035 million in 2019 (Syndicat du Chocolat, n.d.), hence fierce competition between the brands.

In this perceptive, some elements are essential to differentiate from the competition, i.e., the taste, the colors of the packaging, or its information (Porlouis & Stepak Heritier, 2020). Brands are always looking for something new to attract the consumer. The packaging is then essential, especially in this display of choice, to attract consumers' attention and catch their eyes. This is especially true when it is the first purchase. As the consumer did not taste the chocolate bar previously, he/she will choose the product by looking at the packaging.

Looking at chocolate bar packagings (Figure 2), they share common attributes across the competitors. First, the material is the same: aluminum foil that wraps the chocolate bar and a cardboard shell or glossy paper above. Second, all the chocolate bars sold in French supermarkets have the same rectangle shape. Thirdly, the colors are similar across the brands (brown, red, blue, and white), except for Milka (purple). Fourthly, the picture/visual used on the packaging is most of the time the same: a piece of the chocolate bar. Customers' buying decisions are then influenced by information displayed on the packaging.

As rival chocolate brands cannot rely only on visual elements, since they mostly share the same attributes, verbal elements will play an important role, so the brand should emphasize them. The verbal elements displayed on chocolate bar packagings are the following: the brand, the chocolate's type, the taste (e.g., nuts, raspberry, caramel), the cocoa origin(s), the production country, the cocoa percentage, the brand's speech, the nutritional facts, the labels, the list of ingredients and the weight (in grams) (Figure 3).

Figure 3 – Details of the verbal elements displayed on chocolate bars packaging.

In this regard, verbal elements play an important role in differentiating from competitors. Brands must look at the influence of the verbal elements displayed on their packaging and effectively use them to impact consumers' intentions to choose.

2. PACKAGING REQUIREMENTS

2.1. Legal elements displayed on packaging

Regarding the regulation about chocolate, the so-called name "chocolate" is a controlled name in France. More precisely, the Decree n°76-692 of July 13th, 1976, says “the sales names "chocolate", "milk chocolate" and "couverture chocolate" […] may be supplemented by terms or qualifiers relating to quality criteria, provided that the products contain:

(1) In the case of chocolate: at least 43% total dry cocoa solids, of which at least 26% is cocoa butter;

(2) In the case of milk chocolate: at least 30% of total dry cocoa solids and at least 18% of dry milk solids […];

(3) In the case of couverture chocolate: at least 16% dry defatted cocoa.” (Décret n°76-692 du 13 juillet 1976, Légifrance, n.d.).

In 2011, the European Parliament published Regulation (EU) No 1169/2011, named INCO (Consumer Information), on October 25th, 2011, in the Official Journal of the European Union (*The European Banking Union*, 2011). This regulation defines the information that must be provided on food packagings in all European countries to inform consumers better and harmonize the labels. More precisely, regulation is about pre-packaged food labels.

The mandatory mentions are the following:

“(a) the name of the food;

(b) the list of ingredients;

(c) any ingredient or processing aid listed in Annex II or derived from a substance or product listed in Annex II causing allergies or intolerances used in the manufacture or preparation of a food and still present in the finished product, even if in an altered form;

(d) the quantity of certain ingredients or categories of ingredients;

(e) the net quantity of the food;

(f) the date of minimum durability or the ‘use by’ date;

(g) any special storage conditions and/or conditions of use;

(h) the name or business name and address of the food business operator […];

(i) the country of origin or place of provenance […];

(j) instructions for use where it would be difficult to make appropriate use of the food in the absence of such instructions;
(k) with respect to beverages containing more than 1,2 % by volume of alcohol, the actual alcoholic strength by volume;
(l) a nutrition declaration."(*The European Banking Union*, 2011).
Those information should be easily readable and accessible "mandatory food information shall be marked in a conspicuous place in such a way as to be easily visible, clearly legible and, where appropriate, indelible. It shall not in any way be hidden, obscured, detracted from, or interrupted by any other written or pictorial matter or any other intervening material." (*The European Banking Union*, Article 13, 2011).

In France the date of minimum durability named "before date" in this thesis, is designated by the following acronyms: DDM (Date de Durabilité Minimale), DLC (Date Limite de Consommation), and DLUO (Date Limite d'Utilisation Optimale).

Removing all the legal elements that must be displayed on the packagings, cocoa origin, production country, brand's speech and cocoa percentage are considered as marketing arguments.

2.2. Shape and packaging material

In French supermarkets, chocolate bars are rectangular in shape, and there are two different types of packaging. The first one is a plastic envelope like Milka's chocolate bars. The second one is composed of two different components: the chocolate bar is first wrapped in aluminum foil and then packaged in a cardboard box.

The usage of aluminum for packaging can be explained since it protects from light and humidity. Those reasons are mentioned by Ferrat (1986). The author also added additional benefits such as "ecological and energy-saving", "lightweight," and "attractive natural color". The author distinguished three different aluminum packaging rigid and flexible (Ferrat, 1986). Applied to chocolate bars sold in French supermarkets, the flexible aluminum foil maintains a glossy appearance and

prevents the chocolate from turning white and protecting the taste from deteriorating.

The cardboard box is then used to display information and visuals about the products. It will be used as a marketing tool.

About the shape of the chocolate bars, there are two of them: square and rectangle. Square chocolate bars were created in 1932 by Alfred and Clara Ritter, founders of Ritter Sport, in 1982. The shape was designed to "[fit] in everyone's jacket pocket without breaking and weighs the same as a normal long bar" ("*Germany's Ritter Sport Wins Square Chocolate Battle against Milka*,", BBC, n.d., 2020). Ritter Sport has a monopoly on the square shape for chocolate bars. It is even considered as a powerful brand element, as Milka's purple. The later brand tried to move from rectangle shape to square one but lost in court after being perused by Ritter Sport ("*Germany's Ritter Sport Wins Square Chocolate Battle against Milka*,", BBC, n.d., 2020). Therefore, no brand can compete on the square's chocolate bars market.

A chocolate bar is defined as "the common form in which chocolate is packaged for sale to individuals. It is a rectangular parallelepiped of variable size and weight […], made up of a variable number of molded squares that facilitate cutting." (Wikipédia, n.d., 2018). The rectangle shape is not really justified but has been adopted and thus has become the marketed shape.
Looking at the supermarkets' shelves, the rectangular shape makes sense. In fact, in order to be able to present as many products as possible, the rectangular shape makes it possible to have a more significant number of references than if the shelves had been circular, for example. It is mathematical in this case because in terms of surface, for a 200g chocolate bar, the circular shape would take more space than the rectangular one. This is related to the implementation strategy of products in the supermarkets.

3. LITERATURE REVIEW

This section highlights the previous research that has been done about the influence of the packaging on the consumer. The literature review is divided into three parts,

following three topics that have been identified: the packaging relevance, the elements that influence buying decisions, and the verbal elements of the packaging.

3.1. The packaging relevance

Keller & Swaminathan (2020, Chapter 4) have identified various packaging functions for both the company and the consumer. First, the packaging allows consumers to identify the brand. It is a way to convey descriptive and persuasive information and transport the product and protect it. Furthermore, the packaging is made to help the at-home storage and aid product consumption (Keller & Swaminathan, 2020, Chapter 4).

Packaging has been defined as a “pervasive element of modern consumption that provides a wide range of functionalities and consumer benefits” (Steenis et al., 2017). That means that packaging is made to answer consumers’ needs. One of the most important aspects is that packaging has a strong influence on consumers since it is "one of the most important factors influencing consumer's purchase decision"(Kuvykaite et al., 2009, p. 441).

Rettie & Brewer (2000) had demonstrated that brands use packaging as a communication tool. Silayoi & Speece (2007) supported that, mentioning in their research that packaging is seen as the communication interface between the product and the consumer. Another support comes from Connolly & Davidson (1996) and Silayoi & Speece (2007), who stated that 73% of purchase decisions are made at the point of sale.

Speece (2004) found in a survey that the packaging esthetic aspect is also essential in the buying decision process. 84% of the respondents are willing to pay more (reasonably higher price) (i.e., 10% more) for superior packaging if the food quality is still the same.

In this way, the packaging is one of the most critical factors for the purchase decision. Marketing teams must consider the elements that influence consumers to create packaging that answers their needs and increases product sales.

3.2. The packaging elements that influence buying decisions

Consumers make buying decisions according to the verbal and visual elements displayed on the packaging (Kuvykaite et al., 2009; Figure 1). Both of the elements

are important (Kuvykaite et al., 2009). The visual elements include the color, the size, the material, and the graphic. The verbal elements mentioned by the authors are the brand, the producer, the country of origin, and the product information.

However, "product information" includes many different verbal elements, especially regarding food products, such as the brand's speech, list of ingredients, description, etc. So, the study is not precise enough to better understand how these elements independently influence consumers' buying decisions. Furthermore, Silayoi & Speece (2004) defined the packaging elements as being visual and informational. The visual elements, colors, and graphics are the most influential factors for consumers' buying decisions. Nevertheless, the authors (Silayoi & Speece, 2004) have studied verbal elements as a whole, so they did not get into details about each of the verbal elements' influence.

3.3. The verbal elements

On the chocolate bar packaging, the verbal elements that are displayed are the following: brand, product description, chocolate type, taste, list of ingredients, labels, production country, cocoa origin, cocoa percentage, weight (Figure 3).

Droulers et al. (2013) conducted a psychological experiment, where the participants were exposed to two different types of packaging (one including a lot of information and a lighter one) for two different products, orange juice, and chocolate bars. They were exposed to visuals, "a first slide composed of the facings of the four brands of the same product category aligned next to each other in order to approximate the conditions of exposure to the products in a store shelf, then a second slide composed of the facings of the four brands belonging to the second product category." (Droulers et al., 2013). The authors used a Tobii X1207 eye-tracker to record "the eye movements of each participant" (Droulers et al., 2013). They found that the packaging which has the most information is the one that is watched the most attentively and the longest. Findings showed that the brand is "the area of interest that received significantly more eye fixations" (Droulers et al., 2013). The authors focused on the brand as the primary verbal information and did not investigate the other verbal elements. In this way, the study's results show that consumers look at information but do not consider the other verbal elements and their influence on buying decisions (Droulers et al., 2013).

In a survey conducted to understand better the French chocolate bars consumption (Porlouis & Stepak Heritier, 2020), respondents (n=160) were asked to answer their favorite brand and the one they purchase the most. Lindt and Côte d'Or appeared to be the two favorite ones and also the two most purchased ones. Those results are relevant to cross with the Droulers et al. (2013)'s ones.

Droulers et al. (2013) found that the packaging which displays more information "are more eye-catching and are treated more thoroughly than their purer counterparts" (Droulers et al., 2013). The authors added that "Lindt, Côte d'Or, Alter Eco, and Dardenne brands contain 8, 9, 11 and 14 information units respectively" (Droulers et al., 2013). All those results and findings show that consumers pay attention to the information on the packaging.

Droulers et al. (2013) found that the brand is the verbal information that consumers pay the most attention to "in terms of the number of bindings or in a temporal dimension expressed in terms of binding time" (Droulers et al., 2013). Additionally, the authors demonstrated that the complexity of packaging positively impacts consumer behavior since it "helps to focus the consumer's attention" (Droulers et al., 2013). Nevertheless, this study did not investigate the information in detail, so there are no findings about other verbal elements.

Silayoi & Speece (2004) demonstrated the influence and importance of information on packaging. Verbal elements are then becoming more and more essential and crucial for customers' buying decisions. The quality study's findings (Silayoi & Speece, 2004) show that information raises credibility and reduces confusion.

Kuvykaite et al. (2009) found, in a quantitative study, that product information has the most decisive influence on consumers' buying decisions for both men and women. But authors did not get into details about what production information, taking it as a whole.

Paying attention to information and level of involvement are correlated. Consumers' involvement level has been defined by Hughes et al. (1998, p.342) as "a state of motivation, arousal or interest. This state exists in a process. It is driven by current external variables (the situation; the product; the communications) and past internal variables (enduring; ego; central values). Its consequences are types of searching, processing and decision-making.". The higher consumers' level of

involvement is, the more influence verbal elements have on consumers' behavior (Kuvykaite et al., 2009; Silayoi & Speece, 2004, 2007; Vakratsas & Ambler, 1999). That means that the consumers will construct their buying decisions based on the verbal elements displayed on the packaging. Kuvykaite et al. (2009) found that verbal elements have the most influence when consumers are highly educated and full-time workers.

Existing literature also mentioned that information must be "appropriately delivered" (Silayoi & Speece, 2004, p. 624) to effectively impact consumers' buying decisions. But the research does not explain what "appropriately delivered" means and how this type of verbal elements influence consumers' buying decisions.

4. RESEARCH QUESTION

Previous research focused on the influence of both visual and informational elements. There is much research about the visual elements, which demonstrate the effect on the buying decisions of the graphics, the colors, and the layout (Adam & Ali, 2014; Clement, 2007; Kovač et al., 2019; Underwood et al., 2001; Wang & Chou, 2010). Kovač, Kovačević, Bota, and Brozović (2019) found a few visual elements that are relevant to investigate: the colors, the patterns, the typeface, and the graphics. The authors concluded that consumers pay more attention to concrete patterns, vivid colors, and photography on a chocolate bar packaging rather than abstract patterns, dull colors, and illustrations.

About the verbal elements, they have been investigated as a whole (Abdullah et al., 2013; Gunaratne et al., 2019; Kuvykaite et al., 2009; Silayoi & Speece, 2004, 2007), but any research had considered the influence of each verbal element independently.

In this way, and to fulfill the literature gap, the research question of the thesis is: How do verbal elements displayed on chocolate bar packaging influence consumers' intentions to choose? The study will focus on the influence of the following verbal elements: brand's speech, production country, cocoa origin, and cocoa percentage.

The overall study will be conducted in France since France is the 6th biggest chocolate consumer (in kg/inhabitant) (Syndicat du Chocolat, n.d.).

As previous research investigated visual elements, this research paper aims to better understand the influence of the verbal elements on chocolate bar packaging on consumers' intentions to choose (i.e., brand's speech, production country, cocoa origin, and cocoa percentage). The investigation will help better understand consumers' behaviors and how they react and behave in front of such elements.

Findings will provide insights about how the verbal elements influence the intentions to choose. In this perspective, supermarket chocolate bar manufacturers will benefit from the study's results. The latter will help marketing teams within the industry to improve their packaging and increase their sales.

5. HYPOTHESES

Previous researches showed that verbal elements influence consumers' buying decisions, but as authors did not get into details about which verbal elements consumers pay attention to, hypotheses are based on competition analysis, combined with the results of the survey run by Porlouis and Stepak Heritier (2020) and the Droulers et al. (2013)'s study.

Droulers et al. (2013) found that packagings which feature more information are "more eye-catching and are treated more thoroughly than their purer counterparts" (Droulers et al., 2013). So, according to their results, the combination of all the verbal elements, i.e., cocoa origin, cocoa percentage, brand's speech and production country, must influence intentions to choose. But, since they did not investigate each verbal element independently, it is more relevant to combine their findings with the survey results and competition analysis to elaborate the hypotheses.

Regarding the results of the survey (n=160) conducted by Porlouis and Stepak Heritier (2020), the chocolate bar brands which consumers buy the most in the supermarkets are 1) Lindt (28.75%), 2) Côte d'Or (21.25%), 3) Nestlé (14.37%), 4) Milka (13.75%), 5) Ethiquable (8.75%).

Taking into consideration those results, the packaging designs of the brands mentioned were investigated and analyzed to understand which elements are displayed on them. Milka and Nestlé packagings were removed from the analysis.

The competition analysis was run on the French market, about the chocolate bars displayed in the supermarket (Appendix, Exhibit 1). To run the analysis, six brands have been picked up: Lindt, Ethiquable, Côte d'Or, the three brands from the results of the survey (Porlouis and Stepak Heritier, 2020). Three additional brands were investigated Poulain, Villars, and Cémoi for the following reasons: 1) Poulain launched new chocolate bars ranges named "Inspiration" and "Végétal", 2) Villars has a significant number of chocolate bars on shelves, 3) Cémoi which launched new product ranges, i.e., Grand Crus and BIO. For each of the brands, specific product ranges were investigated.

The legal verbal elements (i.e., list of ingredients, batch/before date, nutritional facts, and weight) were put in the analysis but won't be investigated. As well as the brand, since a fictive brand was created to "avoid preferences of a particular brand" (Kovač et al., 2019).

Brands usually display cocoa percentage on the packaging when it comes to dark and milk chocolates. It is the case for Côte d'Or, Villars, Lindt and Ethiquable (Figure 4). It is probably the most displayed element on the packaging if removing the legal one and the brand.

> H1: *The verbal element "cocoa percentage" influences consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers will be more likely to choose it.*

Figure 4 – Front packaging.

Source: https://www.cotedor-chocolat.fr
https://www.villars.com/FR/fr.html
https://www.ethiquable.coop/
https://www.lindt.fr/
https://www.ethiquable.coop/
https://www.cemoi.fr/

Another verbal element displayed on packaging is the brand's speech. First, according to Droulers et al. (2013), the results showed that the more elements, the better consumers pay attention to. But it does not say if the consumers has the intention to choose this product or not.

Ethiquable's speech is very committed. It says "The cocoa trees in Haiti are old varieties typical of the Caribbean. Their beans, if they are well worked after harvest, are capable of giving a great cocoa. The FECCANO cooperative has been working on the fermentation of the beans. It also exports them directly, a first in Haiti, and obtains a price 70% higher than the local price.". (Original text in French: "Les cacaoyers en Haïti sont des variétés anciennes typiques de la Caraïbe. Leurs fèves, si elles sont bien travaillées après la récolte, sont capables de donner un cacao grand cru. La coopérative FECCANO s'est ainsi formée à la fermentation des fèves. Elle les exporte également directement, une première en Haïti, et obtient un prix supérieur de 70% au cours local."). Nevertheless, most of the brands just provide very general brand's speech about the brand and short sentence about the product. Hence the hypothesis will be the following:

H2: *The verbal element "brand's speech" does not influence consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers won't be more likely to choose it.*

The production country is displayed on the packaging, especially when it is from Switzerland or France. First, Switzerland is known for high-quality chocolate. When they are Made in France, brands display the information since French consumers pay more and more attention to where the food comes from, and they want local products, even more after the crisis (*63% des Français se disent prêts à consommer le plus de produits locaux possibles pour soutenir l'économie*, Ipsos, n.d.). Additionally, 52% of French people said that they are interested in local products since it enhances transparency about the origin (Statista Research Department, n.d., 2020). In that way, the hypothesis regarding the production is the following:

H3: *The verbal element "production country" influences consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers will be more likely to choose it.*

The last verbal element which needs to be tested is the cocoa origin. Cémoi, Côte d'Or, and Ethiquable (Figure 4) display cocoa origin on their packaging. Regarding the results from IPSOS, which found that consumers pay more and more attention to where the product comes from (*63% des Français se disent prêts à consommer le plus de produits locaux possibles pour soutenir l'économie*, Ipsos, n.d.), mention cocoa origin might be a guarantee of quality.

H4: *The verbal element "cocoa origin" influences consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers will be more likely to choose it.*

6. METHODOLOGY

The following part depicts the methodology that will be used to answer the research question, "How do verbal elements displayed on chocolate bars packaging influence consumers' intention to choose?". The verbal elements that will be

investigated are the following: brand's speech, production country, cocoa origin, and cocoa percentage.

6.1. Overall study design

The research was a quantitative one. The quantitative study is defined as "the numerical representation and manipulation of observations to describe and explain the phenomena that those observations reflect" (Sukamolson, 2007). The study conducted was an online questionnaire posted on LinkedIn and included three parts that will be described in the procedure.

6.2. Samples

As Kovač, Kovačević, Bota, and Brozović (2019) did in their study, a fictive chocolate brand (logo and name) was created using Adobe Photoshop 2021 and Procreate. Designing fictive products allow to "avoid preferences of a particular brand" (Kovač et al., 2019), as this verbal element is not tested in this research paper.

The study will be conducted on 48 different packaging designs, including or not verbal elements. Packagings were created for the three chocolate types (i.e., dark, milk, and white). The fictive packaging included the common attributes mentioned in the introduction (i.e., the material, the shape, the colors, and the visual displayed). One packaging was created and then adapted to each chocolate type (i.e., dark, milk, and white). The packaging was declined in several versions by removing information to test the influence of the elements independently.

Those are the following pairs that will be tested:

a. Combination 1 – One packaging displaying all the verbal elements (i.e., brand's speech, production country, cocoa origin, and cocoa percentage).
b. Combination 2 – One packaging removing the brand's speech.
c. Combination 3 – One packaging removing the cocoa origin and the cocoa percentage.
d. Combination 4 – One packaging including only the production country.
e. Combination 5 – One packaging including only the brand's speech.
f. Combination 6 – One packaging removing all verbal elements.
g. Combination 7 – One packaging removing the cocoa percentage and the production country.

h. Combination 8 – One packaging including only the cocoa origin.
i. Combination 9 – One packaging removing the cocoa origin.
j. Combination 10 – One packaging removing the cocoa origin and the brand's speech.
k. Combination 11 – One packaging removing the cocoa percentage.
l. Combination 12 – One packaging removing the cocoa percentage and the brand's speech.
m. Combination 13 – One packaging removing the production country.
n. Combination 14 – One packaging removing the production country and the brand's speech.
o. Combination 15 – One packaging removing the cocoa origin and the production country.
p. Combination 16 – One packaging including only the cocoa percentage.

All the packaging designs are provided in the appendix, in the questionnaire section (Exhibit 2). In total, they were 16 different combinations, multiplied by the three chocolate types (48 in total).
To identify the packaging in the easiest way in this thesis, they are called: Combination 1.1., Combination 1.2., etc. The first number corresponds to the chocolate type, i.e., 1 for dark chocolate, 2 for milk chocolate, and 3 for white chocolate. The second number corresponds to the combination, referring to the list mentioned above.

6.2.1. Competition analysis

To create the fictive brand, a competition analysis was run on the French market, in supermarkets. Both visual and verbal elements were analyzed to better understand the market and provide a product that fits the existing offer. The analysis was run on the front and the back packaging (Appendix, Exhibit1).

The competition analysis (Appendix, Exhibit 1) includes brands that consumers find in French supermarkets (e.g., Leclerc, Carrefour, Auchan), i.e., Cémoi, Lindt, Etiquable, Villars, Côte d'Or, and Poulain.
Those brands are interesting brands to have a look at (See section 5. Hypotheses), especially about the verbal elements. They are all designed differently, have a

strong brand image. For example, Lindt is highly recognizable because of its white and black packaging. This is the same for Ethiquable, a committed brand that has a recognizable design (Figure 6).

It was also interesting to see how some brands are trying to switch their brand images, providing new verbal elements. Lindt launched "Cacao Pur" (Figure 5) in order to provide a more "bean to bar" brand image. Cémoi also tried to turn into a more organic brand, launching two different organic chocolate ranges (Figure 6).

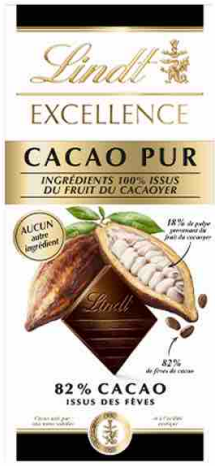

Figure 5 – Cacao Pur, Lindt packaging,

https://www.lindt.fr/

6.2.2. Front packaging

6.2.2.1. Visual elements

6.2.2.1.1. Graphics

The same visual elements are often displayed on the packaging. They are seen across different brands, i.e., cocoa nibs and cocoa pods, ingredients (or inclusions, e.g., almonds, nuts, orange, etc.), and chocolate square (Appendix, Exhibit 1).

6.2.2.1.2. Colors

The most used colors are black, browns, reds, oranges, blues, and greens. Brands choose different colors to associate them with different references within the product range. This analysis leads to the conclusion that the brands do not follow specific guidelines about the colors. It means that blue shades can be used as much for milk as dark chocolate. As a concrete example, Ethiquable uses blue for 98% chocolate bar while Cémoi uses blue for milk chocolate (Figure 6).

Figure 6 – Chocolate bars from Ethiquable and Cémoi, sold in French supermarkets.

https://www.ethiquable.coop/
https://www.cemoi.fr/

6.2.2.2. Verbal elements

The common verbal elements displayed on the front chocolate bar packaging are chocolate type, cocoa origins, cocoa percentage, labels, name of the range (e.g., Grands Crus), inclusions, and production country.

6.2.3. Back packaging

6.2.3.1. Visual elements

6.2.3.1.1. Graphics

About the graphics, the back of the packaging usually includes not so many elements. Some brands provide the graphic representation of the cocoa origin; others have pictures of the producers or plantations, as does Ethiqubale (Figure 7). Cémoi provides pictograms as brand's speech (Figure 7).

Figure 7 – Back Packaging (Cémoi on the left – Ethiquable on the right).

https://www.ethiquable.coop/
https://www.cemoi.fr/

6.2.3.1.2. Colors

The colors used on the back of the packaging are not different from the front packaging ones.

6.2.3.2. Verbal elements

On the back of the chocolate bar packaging, brands display the following verbal elements: brand's speech, ingredients, weight, nutritional facts, recycling logos, batch number, and best before date.

6.3. Fictive brand creation

Based on the different elements determined through the competition analysis, three different designs for the three chocolate types were created, Adobe Photoshop 2021 and Pro Create 2021 (design Eva Stepak Heritier). Some visual and verbal elements displayed on the packaging may be familiar to some consumers because the existing offer inspired the packaging.

6.3.1. Brand name and brand logo

A brand is a "name, term, design, symbol or any other feature that identifies one seller's goods or service as distinct from those of other sellers." ("Branding," AMA American Marketing Association, n.d.). Different brand components names as "brand elements" (Keller & Swaminathan, 2020, Chapter 1) are needed to create a brand, including brand name.

Brand's names can come from 1) people's names, 2) places, 3) animals or birds, or 4) others (Keller & Swaminathan, 2020, Chapter 1). In the case of creating a fictive brand, the brand's name was created after running the competition analysis. Seeing some brands switching their brand's images to be more committed and bean-to-bar oriented, it was essential to follow the trend.

ORIGINE (which means Origin in French) was chosen since it is a common word, and it is part of the cocoa vocabulary. This is also a common word, neutral, which might not influence the consumers' answers since they do not know the brand. The latter is important since many studies have already shown the impact of the brand on consumers' behavior, i.e., Droulers et al. (2013).

The brand's logo has been created on Adobe Photoshop 2021. The font used is LEMON MILK (*Lemon Milk Font | Dafont.Com*, n.d.). The brand logo (Figure 8)

includes the brand's name and a frame. Using a frame is justified to fit competitors' designs since most of the brands displayed in French supermarkets are surrounded or framed (e.g., Cémoi, Etiquable).

Figure 8 – ORIGINE logo, created by Eva Stepak Heritier.

6.3.2. Common attributes

The fictive packaging included the common attributes mentioned in the introduction section. They are all rectangle shapes. The material used was not mentioned in this study.

6.3.3. Verbal elements

The packaging includes the legal verbal elements, i.e., list of ingredients, nutritional facts, weight, etc. (See section 2.1. Legal elements displayed on the packaging).
They also include the verbal elements which are being tested in the study, i.e., 1) cocoa origin, 2) cocoa percentage or cocoa butter percentage for white chocolate, 3) production country, and 4) brand's speech.

6.3.3.1. Cocoa origin and cocoa percentage

Regarding the cocoa origin and cocoa percentage, they are different according to the chocolate type. For the dark chocolate bars, the cocoa origin is Brazil (original text in French: Brésil), and the cocoa percentage is 70%. The milk chocolate is from Peru (original text in French: Pérou), and it is 46% cocoa. The white chocolate is from Peru too (original text in French: Pérou), and the cocoa butter percentage is 35% (original text in French: 35% beurre de cacao).
It is essential to mention that when it comes to white chocolate is about cocoa butter percentage rather than cocoa percentage since this product does not contain cocoa (Ministère de l'Économie, des Finances et de la Relance, n.d.). White chocolate must contain "Cocoa butter content of more than 20; Milk solids content of more than 14% from the partial or total dehydration of whole milk, partially or totally skimmed milk, cream, partially or totally dehydrated cream, butter or milk fat; Lactic fat content greater than 3.5%." (Ministère de l'Économie, des Finances et de la Relance, n.d.). The percentage of cocoa butter will be featured on the packaging.

6.3.3.1. Production country

About the production country, it is the same for every chocolate type: France. It is displayed on the lower part of the front of the packaging, with the following text "Made in France" with French flag (original text in French: Fabriqué en France).

6.3.3.2. Brand's speech

The brand's speech will be tested on the packaging to see if it influences or not consumers' intentions to choose.

As mentioned previously, commitment is one of the highly highlighted values on the packaging those days. Some brands even created labels to highlight even more their commitment.

Cémoi provided the brand's speech on the back of their packaging with a drawing (Figure 7).

Etiquable provided the brand's speech of their packaging, highlighting the cocoa producers and their partnerships with them. They are acknowledged as "fair trade" (Figure 7).

The brand's speech provided on the ORIGINE chocolate bars is divided into two parts. The first one is a joint brand's speech and the second one is a product speech. The joint brand's speech provided on the three chocolate bars is the following "ORIGINE is committed to responsible chocolate sourced from our partner producers". (Original text in French: ORIGINE s'engage pour un chocolat responsable sourcé auprès de nos producteurs partenaires.). The first part of the speech was made to test the hypothesis H2, which says, "*The verbal element "brand's speech" does not influence consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers won't be more likely to choose it.*". As mentioned previously, many companies display brand's speech on their website (Rotten, 2020) or even on their packaging to highlight their commitment, i.e., sourcing cocoa in a responsive way, but without really mentioning what they do since they do not really put in place real actions to make more sustainable their production or simply commit to their producer.

Additionally, a QR-code is provided on the three packaging and part of the brand joint speech since it provides additional information if the consumer wants to know more about ORIGINE, the product, and benefit from the tasting guide. The speech is the following: "Scan the QR-code to get more information and discover the

tasting guide." (Original text in French: Scanner le QR-code pour obtenir plus d'informations et découvrir le guide de dégustation.).

Additionally, a product's speech for every type of chocolate is provided on the back of the packaging.
The dark chocolate brand's speech will be the following: "Dark 70% pure origin Brazil is part of a quality and sustainability of cocoa. Its fruity and powerful aromas pairs perfectly with blackcurrant and raspberry." (Original text in French: Noir 70% pure origine Brésil s'inscrit dans une démarche de qualité et de durabilité du cacao. Ses arômes fruités et puissants se marient parfaitement avec le cassis et la framboise.).
The additional brand's speech provided on the milk chocolate bar packaging is the following: "Milk 46% pure origin Peru is part of an approach of quality and sustainability of cocoa. Its cocoa taste and its cereals notes pairs perfectly with the banana and the caramel." (Original text in French: Lait 46% pure origine Pérou s'inscrit dans une démarche de qualité et de durabilité du cacao. Son goût cacaoté et ses notes de céréales se marient parfaitement avec la banane et le caramel.).
The additional brand's speech provided on the white chocolate bar packaging is the following: "Blanc 35% pure cocoa butter is part of a quality and sustainability approach to cocoa. Unctuous and vanilla-flavored, Blanc 35% pairs perfectly with red fruits." (Original text in French: Blanc 35% pur beurre de cacao s'inscrit dans une démarche de qualité et de durabilité du cacao. Oncteux et vanillé, Blanc 35% se marie parfaitement avec les fruits rouges.).

A "non-brand's speech" was created to fulfill the space when excluding the brand's speech from the packaging. If nothing was provided, it would have been too much space, and the respondents would have noticed too easily. So it does not include any brand's commitment but is general. The non-brand's speech is the following: "The ORIGINE chocolate bars are part of a quality approach from the selection of the bean to the flavors and textures. Awaken your senses by tasting our range of chocolate bars." (Original text in French: Les tablettes de chocolat ORIGINE s'inscrivent dans une démarche qualité de la sélection de la fève aux saveurs et textures. Réveillez vos sens en dégustant notre gamme de tablettes de chocolat. ").

6.3.1. Visual elements

6.3.1.1. Graphics

To create a brand, it is also necessary to consider the visual elements, although it is not the object of study in this research. According to the competition analysis run in the French supermarkets (Appendix, Exhibit 1) (See sections 6.2.2.1.1. Graphics and 6.2.3.1.1. Graphics) the major visual elements displayed on chocolate bar packaging are cocoa pods, cocoa nibs, and chocolate squares. Those elements will be used on the packaging created.

6.3.1.2. Product range colors

For ORIGINE chocolate bar range, three different colors were chosen. For the dark chocolate bars packaging, red was picked up. Milk chocolate bars are green and white ones will be yellow.

Those three colors are commonly used on the chocolate bars packaging (See section s6.2.2.1.2 Colors and 6.2.3.1.2. Colors) (Appendix, Exhibit 1). ORIGINE packaging can fit the color range in the supermarkets, and colors won't influence consumers' answers in that case.

This aspect won't be tested in the thesis since we focus on verbal elements only. Nevertheless, it is important to justify the color choice of the ORIGINE products to make sense.

6.4. Participants

Of the 73 participants who answered the online questionnaire, 47 were excluded due to the following reasons: 1) 1 respondent did not answer half of the study (his/her answer has been completely removed from the results), 2) 2 respondents refused the GDPR accordance, 2) 1 participant dropped out after the GDPR question, 3) 5 participants were not leaving in France, 4) 13 participants did not buy a chocolate bar in the supermarket during the last two months, 5) 24 participants dropped out after the study introduction. In the end, 27 answers are relevant enough to be analyzed.

The list of occupations were established following the list of INSEE named "Nomenclatures des professions et catégories socioprofessionnelles" (*PCS 2003 - Professions et Catégories Socioprofessionnelles*, INSEE, n.d.). The list is "is used

to code the census and household surveys conducted by INSEE." (*PCS 2003 - Professions et Catégories Socioprofessionnelles*, INSEE, n.d.).

The occupations provided in this list are the following: 1) Farmers, 2) Craftsmen, merchants, and business owners, 3) Executives and higher intellectual professions, 4) Intermediate professions, 5) Employees, 6) Workers, 7) Retirees, 8) Without professional activity.

Student category was added since the questionnaire has been shared among students too.

Table 1 depicts the sample characteristics. 70.37% of the participants were women, and 22.22% were men. One respondent (3.70%) chose to identify himself/herself in his/her way, and another one did not want to answer (3.70%).

The age group of 18-24 years old counted for the most significant part of the participants, representing 44.44% (12 people). This was followed the 25-34 years old age group, including 8 people (29.63%), then the 45-54 years old and 55-64 years old groups with 3 people in each of them (11.11% and 11.11%) and 1 person was older than 75 years old (3.70%). The participants were mostly between 18-34 years old (74.07% of the data sample).

About their occupation, the two larger groups were "Executives and higher intellectual professions" (37.04%) and students (33.33%). The "Artisans, merchants, and business owners" were the third group, representing 14.81% of the sample, followed by employees (7.41%) and retirees and without professional activity (3.70% for each of them).

Exhibit 4 in the appendix highlights the repartition based on gender according to age and occupation. The most important group is the following: women, aged between 18 and 24 years old, who are students.

Table 1 – Sample characteristics

	Frequency	Percentage
Gender		
Man	6	22.22%
Woman	19	70.37%
I identify myself as	1	3.70%
I do not want to answer	1	3.70%
Age		

Less than 18 years old	0	0.00%
18-24 years old	12	44.44%
25-34 years old	8	29.63%
35-44 years old	0	0.00%
45-54 years old	3	11.11%
55-64 years old	3	11.11%
65-74 years old	0	0.00%
75 years old and more	1	3.70%
Occupation		
Farmers	0	0.00%
Artisans, merchants, and business owners	4	14.81%
Executives and higher intellectual professions	10	37.04%
Intermediate professions	0	0.00%
Employees	2	7.41%
Workers	0	0.00%
Retirees	1	3.70%
Without professional activity	1	3.70%
Student	9	33.33%

6.5. Procedure

An online questionnaire was run using Qualtrics BI from June 10th to June 20th, 2021 (link: https://bino.qualtrics.com/jfe/form/SV_5aV3mpPedpuXD14) (Appendix, Exhibit 2). The questionnaire included 57 questions. The questionnaire was shared on social media (i.e., LinkedIn and Facebook) publicly.

The personal data was collected, and respondents had to check the following box to start the study "The answers are collected completely anonymous, and thus, the respondents will not see their personal data collected. Only the answers will be used.".

6.6. Instruments

The study was conducted based on a Likert scale, from 1 to 10, i.e., 1 = strongly unlikely, 10 = strongly likely. This scale was chosen for two reasons. First, "the Likert scale is commonly used in survey research especially from (…) marketing (…) and other disciplines to measure the respondents attitude by asking insofar to

which they agree or disagree with a particular question or statement presented."(Awang et al., 2016). Secondly, using a 10 points Likert scale is more relevant than using the 5 points one (Awang et al., 2016). The authors mentioned "10 points of Likert scale serves a promising scale under parametric based SEM [Structural Equation Modeling]." (Awang et al., 2016). The 10 points scale allows to obtain more accurate results since the data set is greater (5 more units compared to the 5 points scale).

6.7. Design

6.7.1. Introduction

To maximize the study's relevance, the two first questions were made to identify French chocolate consumers who buy chocolate bars in French supermarkets. The first question was, "Do you live in France?". If not, the study ended.
The second question was, "Have you purchased a chocolate bar in a mass retail store in the last two months?". If not, the study ended.

6.7.2. Study

To run the study, 48 different combinations of packagings were created (See section 6.2. Samples) and then tested (Appendix, Exhibit 2). As the number of questions was high, a short introduction was given to the participants to emphasize that their participation is crucial to the study's success. "Thank you for answering the first questions. To realize my study, I created a fictive brand, ORIGINE. Some elements may be familiar to you because they are inspired by existing bars. ORIGINE is a brand of chocolate bars sold in supermarkets. 48 chocolate bar packaging are going to be presented, and you will have to choose if each of them seems attractive to you or not. You must pay attention to the details because they are all different. Thank you for your participation.". (Original text in French: "Je vous remercie d'avoir répondu aux premières questions. Afin de réaliser mon test, j'ai créé une marque fictive, ORIGINE. Certains éléments peuvent vous être familiers car ils sont inspirés des tablettes déjà existantes. ORIGINE est une marque de tablettes de chocolat, vendue en magasins de grande distribution. 48 packaging de tablettes de chocolat vont être présentés, et vous devrez choisir si chacun d'entre eux vous paraît attrayant ou pas. Il est important que vous prêtiez attention aux détails car ils sont tous différents. Je vous remercie pour votre participation. ")

The question for each of the packaging was the following "Are you likely to choose this packaging when you buy a chocolate bar?". Respondents had a scale from 1 to 10 to answer the questions; 1 = very unlikely, 10 = very likely. The choice of this instrument is justified in the Instruments section (See section 6.6. Instruments).

6.7.3. Consumption's habits

6.7.3.1. Chocolate type

This section includes two questions. To answer the two questions, participants had a scale from 1 to 10.

The first question was about the chocolate type respondents use to eat, i.e., dark chocolate, milk chocolate, and white chocolate. "Which chocolate(s) do you consume? (1 strongly unlikely - 10 strongly likely)". They had to scale dark chocolate, milk chocolate, and white chocolate.

The second question was, "What type of chocolate do you prefer? (1 strongly unlikely - 10 strongly likely)". They had to scale inclusions bars (i.e., almonds, nuts, etc.) and raw chocolate bars. But the results of that question won't be investigated.

6.7.3.2. Brand

Since some brands do not provide brand's speech, for instance, or cocoa origin, it will be interesting to cross the results with the study answers. The question was, "Which is your favorite brand?". Respondents were only able to choose one brand, within the following list: Lindt, Milka, Ethiquable, Côte d'Or, Cémoi, Poulain, Nestlé, Villars, or other. All those brands are displayed in French supermarkets. The order was random not to influence the consumers' answers. Choice randomization is "an important research technique used to help overcome the bias that can result from the order items are presented in." (*Choice Randomization*, Qualtrics, n.d.)

6.7.3.3. Verbal elements

It was necessary then to ask how important verbal elements are for consumers to cross the results with the study's results. The question was "How important are the following verbal elements to you? (1 = not at all important, 10 = very important)". The following verbal elements had to be scaled: 1) batch/before date, 2) brand, 3) list of ingredients, 4) nutritional facts, 5) brand's speech, 6) cocoa origin, 7) weight, 8) production country, 9) cocoa percentage, 10) cocoa butter percentage, 11) labels.

All those elements have been displayed randomly, not to influence the consumers' answers (*Choice Randomization*, Qualtrics, n.d.).

7. RESULTS

7.1. Descriptive analysis

The descriptive analytics were run using IBM SPSS Statistics 27.

7.1.1. Packaging descriptive statistics

The three chocolate types are distinguished in the results since they are independent. The results show the averages of the scale from 1 to 10. All the descriptive analytics are reported in the Appendix, Exhibit 5. For the dark chocolate packaging, combination 1.1., which includes all the verbal elements, was the favorite one (mean of 6.1111) (Table 2). The second preferred one was combination 1.2. with a mean of 5.9630, which includes all the verbal elements, excluding the brand's speech. The third one was 1.14. with a mean of 5.2222, which excludes production country and brand's speech. The last packaging is the combination is the 1.5. one, with a mean of 3.2222, which excludes verbal elements but includes the brand's speech.

Regarding the milk chocolate packaging, the combination 2.2. was the favorite one, with a mean of 5.1481 (Table 2). The second preferred one was combination 2.1., which includes all the verbal elements, with a mean of 4.9630. The third preferred one was the combination 2.9. (which does not include the cocoa origin) and 2.10. with a mean of 4.8148 (which does not include cocoa origin and brand's speech). The last packaging is the combination 2.5. with a mean of 3.0370.

The favorite white chocolate packaging was the combination 3.2. with a mean of 4.8148 (Table 2). The second preferred one was combination 3.1. with a mean of 4.7037, and the third one was 3.14. with a mean of 4.6296. The last packaging is the combination is the 3.5. one, with a mean of 3.1111.

Regarding the results, the top three for dark and white chocolates, the same packagings were preferred, i.e., number 1, 2, and 14. For milk chocolate they were

the 2, 1, and 9 and 10. It is also interesting to notice that the least favorite one was the number 5 for all of them.

Table 2 – Descriptive Analysis of the study

	N	Minimum	Maximum	Mean	Std. Deviation
Dark Chocolate					
Combination 1.1.	27	1.00	10.00	6.1111	2.54699
Combination 1.2.	27	1.00	10.00	5.9630	2.72427
Combination 1.5.	27	0.00	8.00	3.2222	2.32600
Combination 1.14.	27	0.00	10.00	5.2222	2.67946
Milk Chocolate					
Combination 2.1.	27	0.00	10.00	4.9630	3.18025
Combination 2.2.	27	0.00	10.00	5.1481	2.83798
Combination 2.5.	27	0.00	8.00	3.0370	2.34490
Combination 2.9.	27	0.00	9.00	4.8148	2.90936
Combination 2.10.	27	0.00	9.00	4.8148	2.86943
White Chocolate					
Combination 3.1.	27	0.00	10.00	4.7037	3.18427
Combination 3.2.	27	0.00	10.00	4.8148	3.08890
Combination 3.5.	27	0.00	10.00	3.1111	2.57702
Combination 3.14.	27	0.00	9.00	4.6296	2.85749

7.1.2. Verbal elements descriptive statistics

To double-check the relevance of the answers, respondents were asked "How important are the following verbal elements to you?", and they had to scale from 1 to 10 (1 = not at all important, 10 = very important) all the verbal elements displayed on packaging, i.e., 1) batch/before date, 2) brand, 3) list of ingredients, 4) nutritional facts, 5) brand's speech, 6), cocoa origin, 7) weight, 8) production country, 9) cocoa percentage, 10) cocoa butter percentage, 11) labels.

Regarding the results, the most important verbal element according to the respondent is the cocoa percentage, with a mean of 7.7407. The second essential verbal element is brand, with a mean of 6.9259. The brand strongly influences their

intentions to choose; creating a fictive brand was relevant to avoid brand's bias. Cocoa origin is the third important verbal element, with a mean of 6.1481. Then, the labels are essential (mean of 5.7778), the list of ingredients (mean of 5.7778), the production country (mean of 5.5926), the cocoa butter percentage (mean of 5.5926), the cocoa butter origin (mean of 5.3333), the brand's speech (mean of 5.1882), the nutritional facts (mean of 4.9630) and the batch/before date (mean of 2.8889).

Table 3 – Descriptive Analysis of verbal elements

	N	Minimum	Maximum	Mean	Std. Deviation
Batch – Before date	27	0.00	9.00	2.8889	2.59190
Brand	27	0.00	10.00	6.9259	2.60068
List of ingredients	27	1.00	10.00	5.7778	3.11736
Nutritional facts	27	0.00	10.00	4.9630	3.69492
Brand's speech	27	0.00	10.00	5.1882	2.71799
Cocoa origin	27	0.00	10.00	6.1481	2.86486
Cocoa butter origin	27	0.00	10.00	5.3333	2.92206
Weight	27	0.00	10.00	4.4074	3.05412
Production country	27	0.00	10.00	5.5926	2.83195
Cocoa percentage	27	2.00	10.00	7.7407	2.47437
Cocoa butter percentage	27	0.00	10.00	5.5926	3.27296
Labels	27	0.00	10.00	5.7778	2.70801

7.2. Study and verbal elements descriptives analysis

The descriptive statistics from the verbal elements and the ones from the study were matching. The favorite packagings were the combinations 1, 2, which include respectively all verbal elements, and including all verbal elements excluding brand's speech. Also, the least liked is combination 5, which excludes verbal elements but includes the brand's speech.

Combination 1 includes the brand's speech, but probably consumers did not even notice that a brand's speech was featured on the back of the packaging.

Respondents preferred packaging, which includes cocoa percentage and cocoa origin, and that is also the case looking at the verbal elements descriptive analytics.

7.3. Brand focus

The respondents were asked, "What brand of chocolate bars do you consume most frequently?". Since all the packaging differ from one brand to another, those results are interesting to cross with the descriptive analytics.

The brand which respondents most consume is Lindt (40.76%), then "other" category (2.22%) and Côte d'Or (14.81%).

Table 4 – Favorite brand results

	Frequency	Percentage
Lindt	11	40.47%
Milka	1	3.70%
Equitable	2	7.41%
Côte d'Or	4	14.81%
Cémoi	0	0.00%
Poulain	1	3.70%
Nestlé	2	7.41%
Villars	0	0.00%
Other	6	22.22%
Total	27	

Regarding the results of "Question 51 – Which chocolate(s) do you consume? (1 strongly unlikely - 10 strongly likely)" (Table 5) (Appendix, Exhibit 2), dark chocolate is the most consumed chocolate type (mean = 6.44), followed by milk chocolate (mean = 4.37) and white chocolate (mean = 2.04).

It is interesting to notice that the minimum for dark chocolate is 2, compared to 0 for milk and white. The maximum for white chocolate is 8, while it is 10 for dark and milk chocolates.

Table 5 – Chocolate type consumption

	Minimum	Maximum	Mean	Std. Dev.	Variance
Dark chocolate	2	10	6.44	2.87	8.25
Milk Chocolate	0	10	4.37	3.02	9.12
White chocolate	0	8	1.89	2.04	4.17

7.4. Type I tests of fixed effects

7.4.1. Normality Test

Before running the ANOVA linear mixed model, it is important to check the normality, using IBM SPSS Statistics, Version 27. The measures used were Skewness and Kurtosis (Verma & Abdel-Salam, 2019). The intention to choose dependent variable were analyzed.

Regarding the skewness (Table 6), the statistic value is equal than two times the standard error (2x0.068). The skew is positive so the bell-shape and concentrates on the right side (but slightly since the absolute value is really close to zero).

The Kurtosis results shows that the bell-shape is flat since the absolute value is lower than zero (-1.047). Then it is named "platykurtic".

Table 6 – Descriptive statistics

		Skewness		**Kurtosis**	
	Mean Statistic	**Statistic**	**Std. error**	**Statistic**	**Std. error**
Intentions to choose	4.19	0.137	0.068	-1.047	0.136

A test of normality Kolmogorov-Smirnov was run though IBM SPSS Statistics, Version 27. The Shapiro-Wilk test is not relevant in that case since n>50 (Verma & Abdel-Salam, 2019).

To test the normality, two hypotheses are taken into consideration:

H0: The sampled population is normally distributed ($p > 0.05$).

H1: The sampled population is not normally distributed.

Regarding the results from the test (Table 7), the distribution is confirmed to be not normal, since the $p < 0.05$ ($p>0.001$).

Table 7 – Test of normality - Kolmogorov-Smirnov

	Statistic	**Df**	**Sig.**
Intentions to choose	0.114	1296	<0.001

Following the results, the population is not normally distributed. The curve is flat, and right oriented (Appendix, Exhibit 3). The null hypothesis is then rejected. H1 is supported.

7.4.2. Parameters

A linear mixed model was run through IBM SPSS Statistics, Version 27. According to IBM, "The Linear Mixed Models procedure expands the general linear model so that the data are permitted to exhibit correlated and nonconstant variability. The mixed linear model, therefore, provides the flexibility of modeling not only the means of the data but their variances and covariances as well."(*IBM Docs*, 2021). Respondents were the subjects, the intention to choose was the dependent variable, and the factors were the following: 1) brand's speech, 2) cocoa origin, 3) production country, 4) cocoa percentage, and 5) chocolate type (i.e., dark, milk, and white). The fixed effects were set up on "build terms" and "factorial". The sum of the squares was set up on type I. Regarding the statistics, the confidence interval is 95% (which means α= 5). About the random effect 1 of 1, the respondents were put in both subjects and combinations. We want to compare the main effects, which allows to "request pairwise comparisons of levels of selected main effects." (*IBM Docs*, 2021). To run the analysis, the confidence interval, which helps to "apply an adjustment to the confidence intervals and significance values to account for multiple comparisons" (*IBM Docs*, 2021), was Bonferroni.

7.4.3. Results

The Type I tests of fixed effects (Table 8) results show that there were main effects of the following verbal elements: cocoa origin, production country, and cocoa percentage. The brand's speech does not influence the intention to choose at all.

F and sig. (level of significance = p) values from Table 8 are analyzed in the next paragraph since they allow to know if the independent variables influence the dependent one (*Regression Analysis | SPSS Annotated Output*, n.d.). The computation to obtain the F-value is mean square regression/mean square residual.

Regarding the cocoa origin, the type of recall F is the highest one, 23.335, and the level of significance is p<0.001, so this independent variable predicts the dependent variable, i.e., the intention to choose. H1 which says, "*The verbal element "cocoa percentage" influences consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers will be more likely to choose it.*" is supported.

The production country also predicts the consumers' intention to choose since F = 13.089, p<0.001. H3 says, "*The verbal element "production country" influences consumers' intentions to choose, in the sense that if it is present on the packaging then consumers will be more likely to choose it.*", so it is supported.

With a F = 18.360 and p<0.001, the cocoa percentage variable also influences the intention to choose. H4 says, "*The verbal element "cocoa origin" influences consumers' intentions to choose, in the sense that if it is present on the packaging then consumers will be more likely to choose it.*", so it is supported.

The only verbal element that does not show a statistically significant relationship with the intention to choose is the brand's speech; F = 0.059 and p = 0.808. H2 says, "*The verbal element "brand's speech" does not influence consumers' intentions to choose, in the sense that if it is present on the packaging, then consumers won't be more likely to choose it.*", so it is supported.

Table 8– ANOVA Table - Type I tests of fixed effects [a]

		Numerator df	Denominator df	F	Sig.	Supported/Not supported
	Intercept	1	1,248.00	3,011.240	0.000	
H1	Cocoa origin	1	1,248.00	23.335	<0.001	Supported
H2	Brand's speech	1	1,248.00	.059	0.808	Supported
H3	Production country	1	1,248.00	13.089	<0.001	Supported
H4	Cocoa percentage	1	1,248.00	18.360	<0.001	Supported

a. Dependent variable: intention to choose.

In table 9, “Estimates of Fixed Effects”, the individual parameter estimates, as well as standard errors, and confidence intervals are listed. If one variable = 0, it means that the verbal element is not displayed. If it is equal to 1, it is featured on the packaging.

To obtain more details for the elements influencing the intentions to choose (i.e., cocoa origin, production country, and cocoa percentage), p-value (sig.) can be compared.

When the p-value is equal or inferior to 0.05, it means that it is statistically significant. Looking at the results, there is a clear difference between when verbal elements are displayed and when they are not. They are statistically significant when cocoa origin, production, and cocoa percentage are displayed.

Table 9 – Parameters - Estimates of fixed effects [a]

						95% confidence interval	
	Estimate	Std. Error	Df	t	sig	Lower bound	Upper bound
Cocoa origin = 0	-0.518519	0.748097	1,248.00	-0.594	0.488	-1.986185	1.023222
Cocoa origin = 1	0[b]	0	.	.	.	.	.
Production country = 0	-0.444444	0.749087	1,248.00	-0.594	0.553	-1.912111	1.023222
Production country = 1	0[b]	0	.	.	.	.	.
Cocoa percentage = 0	-0.481481	0.749087	1,248.00	-0.644	0.520	-1.949148	0.986185
Cocoa percentage = 1	0[b]	0	.	.	.	.	.

a. Dependent variable: intention to choose.

b. This parameter is set to zero because it is redundant.

The estimates of fixed effects double confirmed the results obtained with ANOVA, linear mixed model.

8. DISCUSSIONS

8.1. General discussion

8.1.1. Influence of the verbal elements

Regarding the results (Table 8) of the influence of the verbal elements on intentions to choose, the brand's speech is the only element that does not show a statistically significant relationship with the intention to choose. All the three other ones do (i.e., cocoa percentage, cocoa origin, and production country).

According to the respondents, cocoa origin is considered the most influential verbal element (F = 23.335) (Table 8). This is an interesting finding since many brands do not display this verbal element on their packaging. Crossing this result with the descriptive analytics is even more interesting since participants considered it as the third most important verbal element (mean = 6.0357) (Table 3).

The cocoa percentage is the second most influential verbal element (F = 18.360) and was the most one when participants had to scale (mean = 7.7407) (Table 3).

In the descriptive analysis, the production country is 6th position (mean of 5.5926), but it is still better ranked than the brand's speech (mean = 5.1882) (Table 3) in both analyses.

Findings from descriptives and ANOVA are consistent, and participants' answers are relevant since the results do not vary from one another analysis.

8.1.2. Linear mixed model and brand descriptive analysis

The findings from the linear mixed model are interesting to cross with the brand descriptive analysis.

The two favorite brands are Lindt and Côte d'Or.

Regarding the packaging of Lindt (Lindt Excellence range – it is the majority range on the shelves) (Exhibit 6), the front packaging features the following verbal elements: the percentage of the cocoa, the chocolate type, and the brand (with the

range name). About the visual elements, it is only a chocolate square and a drawing. The colors are white, brown, gold, and black. The back packaging displayed batch, before date, nutritional facts, ingredients, and a brand's speech as verbal elements. A picture of a chocolatier and some symbols about cocoa are featured too.
To get into more details about the Lindt brand's speech, it is not a committed one; it is very general. The Lindt brand's speech says, "Close your eyes and let your senses speak. EXCELLENCE tasting chocolate bars are prepared for you by our Master Chocolatiers with a rare requirement of perfection. Discover the ultimate alliance of strength and finesse through intense, elegant, and racy flavors, subtle textures, and an exceptional length in the mouth." (Original text in French displayed on the packaging: "Fermez les yeux et laissez parler vos sens. Les chocolats de dégustation EXCELLENCE sont préparés pour vous par nos Maîtres Chocolatiers avec une rare exigence de perfection. Découvrez l'alliance ultime de la force et de la finesse, au travers de saveurs intenses, élégantes et racées, de textures subtiles et d'une exceptionnelle longueur en bouche. "). This brand's speech can be compared to the "non-brand's speech" in this study. There is also a short description for the product, e.g., "EXCELLENCE 70% Cocoa: The perfect harmony of a great black chocolate. A perfect balance, an exceptional length in the mouth, which reveal all the intensity of the original flavors of cocoa." (Original text in French displayed on the packaging: "L'harmonie parfaite d'un grand chocolate noir. Un équilibre parfait, une longueur en bouche exceptionnelle, qui révèlent tout l'intensité des saveurs originelles du cacao.").

The Côte d'Or packagings are designed using dark colors, and the packaging displays either a chocolate square or a cocoa pod. It depends on the range, but the cocoa origin country is mentioned on the BIO tasting range. The cocoa percentage is also featured. About the brand's speech, on the BIO range, it says, "Trinitario cocoa beans are prized for their powerful and rich flavors. Our Dark 85% recipe offers a unique tasting experience: powerful cocoa with a subtle bitterness. Côte d'Or, pleasure in its raw state." (Exhibit 6) (Original text in French displayed on the packaging: "Les fèves de cacao Trinitario sont prisées pour leurs arômes puissants et riches. Notre recette Noir 85% propose une expérience de dégustation unique : un cacao puissant libérant une amertume subtile. Côte d'Or, le plaisir à l'état brut."). It is not committed either, but general.

If crossing the results from both analyses mentioned, and both packaging, it is possible to conclude that cocoa percentage influences consumers' intentions to choose and brand's speech does not since the favorite brands do not provide a committed brand's speech; participants' answers are consistent.

8.2. Managerial implications

8.2.1. Marketing

The study's findings are significant and can benefit French supermarket chocolate bar manufacturers. Marketing teams can use the study results to create and/or improve packaging to highlight the relevant verbal elements to influence consumers' intention to choose their product rather than the competition's product. In a broader view, the findings can be applied to other FMCG goods, which are considered as low cognitive involvement, and high affective involvement.

8.2.2. Education

Packaging plays a significant role since it can educate consumers. More and more brands are shifting their product range, their designs to something more commitment-oriented, cleaner and clearer to highlight even more the actions they are taking (e.g., producers). Many brands try to educate consumers through their packaging, such as Ethiquable or Cémoi, for instance (Figure 5). They provide content about the production of a chocolate bar or content about the producer.

8.3. Limitations

The thesis includes some limitations that need to be identified to balance results and for future research.

The major limitation comes from the data set, since the sampled population is not normal distributed, so, results of the study are biased.

The data sample was not representative since 70.37% of the respondents were women. Additionally, it was not representative of the occupation either, since 37.04% of them are part of the executive group and 33.33% are students. The sample should be more diversified in terms of gender and occupation. This will provide more relevant results and avoid any bias.

The study considered only one type of product, i.e., chocolate bars, so probably the results cannot be applied to other food products.

Create a fictive brand can avoid brand preference bias, but respondents might be reluctant since they do not know the brand, and they usually highly pay attention to the brand (Droulers et al., 2013).

The number of respondents needs to be more consistent to obtain a representative sample of the French population. Only 27 answers were relevant enough to be analyzed. This can be explained because of the length of the questionnaire, and many participants were discouraged from reading the introduction of the study.

The study was run through an online questionnaire, and that is a limitation when testing packaging design.

Finally, regarding the results for the white chocolate (Exhibit 5), all the means are significantly lower than the results for dark chocolate and milk chocolate. Since consumers buy less white chocolate (mean = 1.89) compared to dark (mean = 6.44) or even milk (mean = 4.37), the results might be biased by their preferences.

9. SUGGESTION FOR FUTURE RESEARCH

The suggestions for future research come from the limitations previously mentioned.

First, future research methodology should be different and includes an experiment, which will be more representative of the packaging testing. Future research should include different products categories to extend the findings (or not) to a broader product range. Regarding the white chocolate non-preference bias, future research should avoid this aspect to get more relevant results. Moreover, the participants should be more diversified in terms of gender, age, and occupation, since results may vary according to those variables.

As future research, it would be interesting to investigate the influence of the production country displayed on the packaging; that means if it says Switzerland does it have a more substantial influence than France?

Regarding the brand's speech, it would be interesting to investigate if text brand's speech or pictograms brand's speech (like Cémoi packaging) (Figure 7) influence in a different way consumers' intention to choose.

Additionally, the size and the way verbal elements are displayed can be interesting to study. For example, Côte d'Or displays cocoa percentage in smaller size compared to Lindt. Regarding the way to feature, it would be interesting to have a look if putting same the verbal elements (e.g., cocoa percentage) on the front and the back of the packaging increases the intention to choose more than if the element is only displayed on one side.

Appendices

Exhibit 1 – Competition analysis

BRAND NAMES	RANGES	FRONT PACKAGING FEATURES				BACK PACKAGING FEATURES			
		VERBAL ELEMENTS	VISUAL ELEMENTS		COMMENTS	VERBAL ELEMENTS	VISUAL ELEMENTS		COMMENTS
			GRAPHICS	COLORS			GRAPHICS	COLORS	
CEMOI	GRAND CRUS range	Cocoa origins Quality Selected cocoa/plantations Cocoa % Production country Name of the range	Cocoa nibs/cocoa pods Labels Ingredients Neutral colors	Orange Green Dark purple Dark red	Elected "years product" logo added afterwards Logo TRANSPARENCE cocoa (logo created by Cémoi)				
	BIO range	Cocoa % Labels Production country Name of the range	Product = chocolate square Cocoa nibs Cock (French emblem)	Dark red		Ingredients Nutritional facts Labels Weight Brand speech (focusing on production process) Batch number & best before date Recycling logo			
LINDT	EXCELLENCE range	% Cocoa when no inclusion Chocolate type Flavors Inclusions Taste (intense) Name of the range	Inclusions Chocolate square Dark colors	DARK CHOCOLATE Black Brown MILK CHOCOLATE Blue White	Even for milk chocolate > % cocoa is displayed	Brand speech Product speech Ingredients Weight Batch number & best before date Nutritional facts	1 picture of chocolatier Symbols about cocoa	White Black	No committed brand's speech – very general + short description about the product
	CACAO PUR range	% Cacao Ingredients Name of the range	Cocoa pod Cocoa nibs Chocolate square	Gold Brown White	Limited edition				
ETHIQUABLE		Cocoa origin Cocoa % Cocoa notes Brand speech Labels	Product only Green color = Ethiquable color = highly recognizable in supermarkets	Green	Display in the bio shelves	Brand speech Ingredients Labels Weight Batch number & best before date Recycling logos Website Cocoa origin Nutritional facts	Producer picture Map	Green White	Committed brand's speech
VILLARS	COLLECTION PURE range	Cocoa % Ingredients Weight Name of the range	Colorless Product > chocolate square	Brown White		Ingredients Nutritional facts Before date Batch Labels Weight Social media logos	Nothing	White Black	Very short phrase about the product > not really brand's speech
POULAIN	INSPIRATION range	Chocolate type Ingredients Country of production Name of the range	Ingredients Bright colors Logo Inspiration range	Different color for each reference Blue Orange Green					
	VÉGÉTAL range	Name of the range Flavor Weight Production country Name of the range	Product > chocolate square Ingredients	Green Blue					
CÔTE D'OR	BIO TASTING range	Designation "Rare Beans Trinitario" Nutritional Facts Chocolate type Inclusions Flavors Cocoa origins	Inclusions Cocoa pods Cocoa origin country Organic labels	Black Green Red		Brand's speech Labels Nutritional Facts Ingredients Weight Batch Before date Cocoa percentage		Black Red Green	No committed brand's speech – product oriented
	TASTING BAR range	Cocoa % when no inclusions Inclusions Flavor Nutritional facts Slogan Chocolate type Cocoa life labels (Mondelez label)	Product > Chocolate square Cocoa % when no inclusions Inclusions	Black Brown Red Orange		Brand's speech Labels Nutritional Facts Ingredients Weight Batch Before date Cocoa percentage		Black Red	No committed brand's speech – very general

Exhibit 2 – Online questionnaire run using Qualtrics BI from June 10th to June 20th, 2021

(link: https://bino.qualtrics.com/jfe/form/SV_5aV3mpPedpuXD14)

Translated from French

Introduction

Hello,

As part of my double degree in Strategic Marketing at EDHEC Business School (France) and BI Norwegian Business School (Norway), I am writing a thesis. In this thesis, I am studying the behavior of consumers of chocolate bars bought in supermarkets.

Your participation is very important and will allow me to complete my study.

If you have any questions, you can contact me via LinkedIn Eva Stepak-Heritier or by e-mail at eva.stepakheritier@edhec.com.

I thank you for your answers and your precious help.

Eva Stepak-Heritier

GDPR

The answers are collected completely anonymous, and thus, the respondents will not see their personal data collected. Only the answers will be used.

- I accept.
- I do not want to.

Note, not displayed in the questionnaire: if the respondent answers "I do not want to.", the survey ends.

Question 1 – Do you live in France?

- Yes.
- No.

Note, not displayed in the questionnaire: if the respondent answers "No.", the survey ends.

Question 2 – Have you purchased a chocolate bar in a mass retail store in the last two months?

- Yes.
- No. (In that case, the survey ends).

Note, not displayed in the questionnaire: if the respondent answers “No.”, the survey ends.

Introduction of the study

Thank you for answering the first questions. To realize my study, I created a fictive brand, ORIGINE. Some elements may be familiar to you because they are inspired by existing bars. ORIGINE is a brand of chocolate bars sold in supermarkets. 48 chocolate bar packaging are going to be presented, and you will have to choose if each of them seems attractive to you or not. You must pay attention to the details because they are all different. Thank you for your participation.

ORIGINE

I created the logo and the packaging.

Study

Question 3 – Combination 1.1. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 4 – Combination 1.2. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 5 – Combination 1.3. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 6 – Combination 1.4. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 7 – Combination 1.5. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 8 – Combination 1.6. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 9 – Combination 1.7. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 10 – Combination 1.18 – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 11 – Combination 1.9. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 12 – Combination 1.10. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 13 – Combination 1.11. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 14 – Combination 1.12. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 15 – Combination 1.13. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 16 – Combination 1.14. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 17 – Combination 1.15. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 18 – Combination 1.16. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 19 – Combination 2.1. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 20 – Combination 2.2. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 21 – Combination 2.3. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 22 – Combination 2.4. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 23 – Combination 2.5. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 24 – Combination 2.6. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 25 – Combination 2.7. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 26 – Combination 2.8 – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 27 – Combination 2.9. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 28 – Combination 2.10. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 29 – Combination 2.11. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 30 – Combination 2.12. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 31 – Combination 2.13. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 32 – Combination 2.14. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 33 – Combination 2.15. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 34 – Combination 2.16. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 35 – Combination 3.1. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 36 – Combination 3.2. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 37 – Combination 3.3. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 38 – Combination 3.4. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 39 – Combination 3.5. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 40 – Combination 3.6. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 41 – Combination 3.7. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 42 – Combination 3.8 – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 43 – Combination 3.9. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 44 – Combination 3.10. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 45 – Combination 3.11. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 46 – Combination 3.12. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 47 – Combination 3.13. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 48 – Combination 3.14. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 49 – Combination 3.15. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

Question 50 – Combination 3.16. – Are you likely to choose this packaging when you buy a chocolate bar? (1 = strongly unlikely, 10 = strongly likely).

<u>Consumers' consumption habits</u>

The following questions concern your consumption habits.

Question 51 - Which chocolate(s) do you consume? (1 strongly unlikely - 10 strongly likely).

- Dark chocolate
- Milk chocolate
- White chocolate

Question 52 – What type of chocolate do you prefer? (1 strongly unlikely - 10 strongly likely).

- Inclusions bars (i.e., almonds, nuts, etc.).

- Raw chocolate bars.

Question 53 – What brand of chocolate bars do you consume most frequently?

- Lindt
- Milka
- Ethiquable
- Côte d'Or
- Cémoi
- Poulain
- Nestlé
- Villars
- Other

Question 54 – How important are the following verbal elements to you? (1 = not at all important, 10 = very important).

- Batch/Before date
- Brand
- List of ingredients
- Nutritional facts
- Brand's speech,
- Cocoa origin,
- Weight
- Production country
- Cocoa percentage
- Cocoa butter percentage
- Labels

<u>Demographics</u>

Question 55 – Your gender…

- Man
- Woman
- I identify myself as… (specify)
- I do not want to answer

Question 56 – Your age…

- Less than 18 years old,
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years old and more

Question 57 – Your occupation…

- Farmers
- Artisans, merchants, and business owners
- Executives and higher intellectual professions
- Intermediate professions
- Employees
- Workers
- Retirees
- Without professional activity
- Student

Exhibit 3 – Histogram - Intention to choose – Normality Test – IBM SPSS

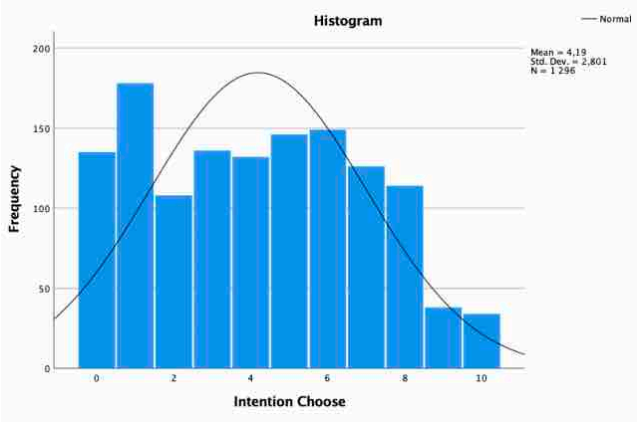

Exhibit 4 – Table repartition gender, occupation, and age.

	<18 years old	18-24 years old	25-34 years old	35-44 years old	45-54 years old	55-64 years old	65-74 years old	>75 years old
Man								
Farmers								
Artisans, merchants, and business owners						1		
Executives and higher intellectual professions				1		1	1	
Intermediate professions								
Employees								
Workers								
Retirees								
Without professional activity								
Student	2							
Total	2			1		1	2	
Women								
Farmers								
Artisans, merchants, and business owners		1		1		1		
Executives and higher intellectual professions		2		3		1		
Intermediate professions								
Employees				2				
Workers								
Retirees								1

Without professional activity				
Student	7			
Total	10	6	2	1

I identify myself as				
Farmers				
Artisans, merchants, and business owners				
Executives and higher intellectual professions				
Intermediate professions				
Employees				
Workers				
Retirees				
Without professional activity			1	
Student				
Total			1	

I do not want to answer				
Farmers				
Artisans, merchants, and business owners				
Executives and higher		1		

intellectual professions	
Intermediate professions	
Employees	
Workers	
Retirees	
Without professional activity	
Student	
Total	1

Exhibit 5 – Descriptive analysis of the study on packaging

	N	Minimum	Maximum	Mean	Std. Deviation
Dark Chocolate					
Combination 1.1.	27	1.00	10.00	6.1111	2.54699
Combination 1.2.	27	1.00	10.00	5.9630	2.72427
Combination 1.3.	27	0.00	9.00	4.1852	2.66078
Combination 1.4.	27	0.00	9.00	3.8889	2.60670
Combination 1.5.	27	0.00	8.00	3.2222	2.32600
Combination 1.6.	27	0.00	9.00	3.7778	2.72218
Combination 1.7.	27	1.00	9.00	4.8889	2.54699
Combination 1.8.	27	0.00	9.00	3.9259	2.65918
Combination 1.9.	27	0.00	9.00	4.1852	2.94876
Combination 1.10.	27	0.00	10.00	5.2963	2.77093
Combination 1.11.	27	0.00	10.00	5.0000	3.13786
Combination 1.12.	27	0.00	10.00	4.5026	3.05412
Combination 1.13.	27	1.00	9.00	5.1852	2.40252
Combination 1.14.	27	0.00	10.00	5.2222	2.67946
Combination 1.15.	27	0.00	10.00	4.5556	2.32600
Combination 1.16.	27	0.00	7.00	3.4444	2.48586
Milk Chocolate					
Combination 2.1.	27	0.00	10.00	4.9630	3.18025
Combination 2.2.	27	0.00	10.00	5.1481	2.83798
Combination 2.3.	27	0.00	8.00	3.8519	2.78324
Combination 2.4.	27	0.00	8.00	3.4707	2.61052
Combination 2.5.	27	0.00	8.00	3.0370	2.34490

Combination 2.6.	27	0.00	10.00	4.1111	2.66506
Combination 2.7.	27	0.00	10.00	4.2222	2.81935
Combination 2.8.	27	0.00	10.00	4.2963	2.78478
Combination 2.9.	27	0.00	9.00	4.8148	2.90936
Combination 2.10.	27	0.00	9.00	4.8148	2.86943
Combination 2.11.	27	0.00	10.00	4.6667	3.01279
Combination 2.12.	27	0.00	9.00	3.7037	2.70064
Combination 2.13.	27	0.00	9.00	4.2963	2.75702
Combination 2.14.	27	0.00	9.00	4.2593	2.80922
Combination 2.15.	27	0.00	8.00	3.8889	2.77812
Combination 2.16.	27	0.00	9.00	3.6296	2.61869
White Chocolate					
Combination 3.1.	27	0.00	10.00	4.7037	3.18427
Combination 3.2.	27	0.00	10.00	4.8148	3.08890
Combination 3.3.	27	0.00	9.00	3.2963	2.71484
Combination 3.4.	27	0.00	10.00	3.3333	2.75960
Combination 3.5.	27	0.00	10.00	3.1111	2.57702
Combination 3.6.	27	0.00	9.00	3.2963	2.50867
Combination 3.7.	27	0.00	8.00	3.1481	2.46051
Combination 3.8.	27	0.00	8.00	3.3333	2.66025
Combination 3.9.	27	0.00	10.00	4.1852	3.22296
Combination 3.10.	27	0.00	9.00	3.8519	2.82440
Combination 3.11.	27	0.00	10.00	4.2222	2.87340
Combination 3.12.	27	0.00	10.00	3.8889	2.91328
Combination 3.13.	27	0.00	10.00	4.2593	2.87687
Combination 3.14.	27	0.00	9.00	4.6296	2.85749
Combination 3.15.	27	0.00	8.00	3.0370	2.47264
Combination 3.16.	27	0.00	7.00	3.1481	2.44483

Exhibit 6 – Lindt (right) and Côte d'Or (left) back packaging. Pictures Eva Stepak Heritier.

References|

Abdullah, Md., Kalam, A., & Akterujjaman, S. M. (2013). Packaging Factors Determining Consumer Buying Decision. *International Journal of Humanities and Management Sciences (IJHMS)*, *1*(5).

Abigail Harper. (2019). Bitter Chocolate. In *Rotten*.

Adam, M. A., & Ali, K. (2014). Impact of Visual Packaging Elements of Packaged Milk on Consumers Buying Behavior. *Interdisciplinary Journal of Contemporary Research in Business*, *5*(11). https://ssrn.com/abstract=2436809

Awang, Z., Afthanorhan, A., & Mamat, M. (2016). *The Likert scale analysis using parametric based Structural Equation Modeling (SEM)*. 10.

BBC News | Germany's Ritter Sport wins square chocolate battle against Milka. (2020, July 23). https://www.bbc.com/news/world-europe-53510219

Branding. (n.d.). *American Marketing Association*. Retrieved June 30, 2021, from https://www.ama.org/topics/branding/

Chocolat au lait, gianduja, chocolat noir... Comment bien choisir son chocolat ? (n.d.). Ministère de l'Économie, des Finances et de la Relance. Retrieved June 30, 2021, from https://www.economie.gouv.fr/particuliers/chocolat-reglementation-etiquetage

Choice Randomization. (n.d.). [Qualtrics]. Retrieved June 30, 2021, from https://www.qualtrics.com/support/survey-platform/survey-module/question-options/choice-randomization/

Clement, J. (2007). Visual influence on in-store buying decisions: An eyetrack experiment on the visual influence of packaging design. *Journal of Marketing Management*, *23*(9–10), 917–928. https://doi.org/10.1362/026725707X250395

Connolly, A., & Davidson, L. (1996). How does design affect decisions at point of sale? *Journal of Brand Management*, *4*(2), 100–107.

dafont.com | Lemon Milk Font (n.d.). Retrieved June 30, 2021, from https://www.dafont.com/lemon-milk.font

Décret n°76-692 du 13 juillet 1976, Pub. L. No. 76–692. Retrieved June 20, 2021, from https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000506358/2021-06-30/

Drossos, D. A., Kokkinaki, F., Giaglis, G. M., & Fouskas, K. G. (2014). The effects of product involvement and impulse buying on purchase intentions in mobile text advertising. *Electronic Commerce Research and Applications*, *13*(6), 423–430.

Droulers, O., Lajante, M., Jamet, E., Lacoste-Badie, S., & Minvielle, M. (2013). Effet de la complexité visuelle du packaging sur l'attention portée à la marque. *La Revue des Sciences de Gestion*, *261–262*(3), 39. https://doi.org/10.3917/rsg.261.0039

Ferrat, J.-M. (1986). *Aluminium in rigid, semi-rigif and flexible packaging. 74*, 259–268.

Gunaratne, N. M., Fuentes, S., Gunaratne, T. M., Torrico, D. D., Francis, C., Ashman, H., Gonzalez Viejo, C., & Dunshea, F. R. (2019). Effects of packaging design on sensory liking and willingness to purchase: A study using novel chocolate packaging. *Heliyon*, *5*(6), e01696. https://doi.org/10.1016/j.heliyon.2019.e01696

Hughes, D., Hutchins, R., & Karathanassi, V. (1998). Purchase involvement methodology and product profiles: The case of cheese products in Greece. *British Food Journal*, *100*(7), 343–350.

IBM Docs. (2021, March 26). https://prod.ibmdocs-production-dal-6099123ce774e592a519d7c33db8265e-0000.us-south.containers.appdomain.cloud/docs/en/spss-statistics/23.0.0?topic=option-linear-mixed-models

INSEE | PCS 2003—Professions et catégories socioprofessionnelles. (n.d.). Retrieved December 15, 2020, from https://www.insee.fr/fr/metadonnees/pcs2003/categorieSocioprofessionnelleAgregee/1?champRecherche=true

Ipsos | 63% des Français se disent prêts à consommer le plus de produits locaux possibles pour soutenir l'économie. (n.d.). Retrieved June 30, 2021, from https://www.ipsos.com/fr-fr/63-des-francais-se-disent-prets-consommer-le-plus-de-produits-locaux-possibles-pour-soutenir

Keller, K. L., & Swaminathan, V. (2020). *Strategic Brand Management. Building, Measuring, and Managing Brand Equity.: Vol. Fifth Edition* (Global Edition). Pearson.

Kovač, A., Kovačević, D., Bota, J., Brozović, M., & University of Zagreb, Faculty of Graphic Arts, Zagreb, Croatia. (2019). Consumers' preferences for visual elements on chocolate packaging. *Journal of Graphic Engineering and Design*, *10*(1), 13–18. https://doi.org/10.24867/JGED-2019-1-013

Küster, I., Vila, N., & Sarabia, F. (2019). Food packaging cues as vehicles of healthy information: Visions of millennials (early adults and adolescents). *Food Research International*, *119*, 170–176. https://doi.org/10.1016/j.foodres.2019.01.051

Kuvykaite, R., Dovaliene, A., & Navickiene, L. (2009). *Impact of package elements on consumer's purchase decision*. *14*, 7.

Olsson, A., & Larsson, A. C. (2009). Value creation in PSS design through product and packaging innovation processes, in Sakao, T. and Lindahl, M. (Eds). In *Introduction to Product/Service-System Design* (Springer, pp. 93–108).

Porlouis, L., & Stepak Heritier, E. (2020). *Influence of verbal elements on packaging: A study on chocolate bars.* BI Norwegian Business School.

Regression Analysis | SPSS Annotated Output. (n.d.). Retrieved June 30, 2021, from https://stats.idre.ucla.edu/spss/output/regression-analysis/

Regulation (EU) No 1169/2011 of the European Parliament and of the Council (Official Journal of the European Union). (2011). https://doi.org/10.5040/9781509909568

Rettie, R., & Brewer, C. (2000). The verbal and visual components of package design. *Journal of Product & Brand Management*, *9*(1), 56–70.

Silayoi, P., & Speece, M. (2004). Packaging and purchase decisions. An exploratory study on the impact of involvement level and time pressure. *British Food Journal*, *106*(8), 607–628.

Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: A conjoint analysis approach. *European Journal of Marketing*, *41*(11/12), 1495–1517. https://doi.org/10.1108/03090560710821279

Speece, M. (2004). *Consumer Marketing in Asia for the New Economy—Paper presented at the Executive Seminar Organized by JKYL (International) Pte Ltd*.

Statista Research Department. (2020, June). *Thème: La consommation locale et responsable en France*. Statista. https://fr.statista.com/themes/2950/la-consommation-locale-et-responsable-en-france/

Steenis, N. D., van Herpen, E., van der Lans, I. A., Ligthart, T. N., & van Trijp, H. C. M. (2017). Consumer response to packaging design: The role of

packaging materials and graphics in sustainability perceptions and product evaluations. *Journal of Cleaner Production*, *162*, 286–298. https://doi.org/10.1016/j.jclepro.2017.06.036

Sukamolson, S. (2007). *Fundamentals of Quantitative Research*. 20.

Syndicat du Chocolat | Les chiffres clés du secteur. (n.d.). *Syndicat du chocolat*. Retrieved December 5, 2020, from https://www.syndicatduchocolat.fr/les-chiffres-cles-du-secteur/

Underwood, R. L., Klein, N. M., & Burke, R. R. (2001). Packaging communication: Attentional effects of product imagery. *Journal of Product & Brand Management*, *10*(7), 403–422.

Vakratsas, D., & Ambler, T. (1999). How Advertising Works: What Do We Really Know? *Journal of Marketing*, *63*(1), 26–43.

Verma, J. P., & Abdel-Salam, A.-S. G. (2019). *Testing Statistical Assumptions in Research*. John Wiley & Sons, Incorporated. http://ebookcentral.proquest.com/lib/bilibrary/detail.action?docID=5724035

Wang, R. W. Y., & Chou, M. (2010). The Comprehension Modes of Visual Elements: How People Know About the Contents by Product Packaging. *International Journal of Business Research and Management*, *1*(1), 1–13.

Wikipédia | Tablette de chocolat. (2018). Retrieved June 10, 2021. https://fr.wikipedia.org/w/index.php?title=Tablette_de_chocolat&oldid=147468616

Zaichkowsky, J. L. (1994). The personal involvement inventory: Reduction, revision, and application to advertising. *Journal of Advertising*, *23*(4), 59–70.