

- Food innovation-

Consumer acceptance toward innovative plant-based meat substitutes:
Does copying meat enhance assimilation?

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Abstract

“Creating a better way to feed the world”. That is what the Californian Beyond Meat Inc., states as its mission: developing the future of proteins thanks to plant-based meats, while addressing four global issues: human health, climate change, constraints on natural resources and animal welfare (Beyond Meat, s.d.). As they bring innovative solutions to support the global environmental and health issues that the society encounters today, plant-based meats are also at the center of meat industrials and retailers’ attention for a specific reason: they look and taste like meat, which differentiates them from other classic meat substitutes originally targeting vegetarians or vegan consumers. While imitating meat’s features, plant-based meats disrupt and transform consumers’ minds in the purpose of convincing flexitarians, meat-eaters and even the biggest carnivores. This copying strategy is based on the reality that meat has always been an essential food in societies (Méchin, 1997) and that individuals aren’t ready to give up on meat yet (Van de Pas, 2018). But what is the degree of acceptance of those innovative plant-based substitutes? Does their copying strategy enhance assimilation amongst consumers, or does it actually create the opposite effect?

A qualitative research carried out on eleven individuals has enabled the identification of the most significant consumer behavior factors at stake for the acceptance of new plant-based meat products. Results evidenced that new plant-based meat substitutes do not enhance assimilation amongst all types of consumers, especially because flexitarians and vegetarians do not seek the replication of meat’s features in their diet. However, plant-based meat substitutes constitute relevant food products for meat-eaters and individuals with low knowledge on meat substitutes. They represent transitional foods toward a more sustainable diet and attract the curiosity of many consumers who are especially influenced by their social environment (Lodhi H.K, 2018) and inclined to diverse eating opportunities. The lack of awareness on meat substitutes overall as well as consumers’ growing reluctance for processed foods remain substantial challenges for plant-based meat substitutes’ consumer acceptance. Several consumer behavior-based factors in the research have established new strategic perspectives for the industry, emphasizing among others the importance of taste, of nutritional and formulation information transparency, of branding and of availability.

Key words: meat alternatives; plant-based; plant-based meat; food innovation; consumer acceptance; consumer behavior; sustainability transition; new proteins

Introduction and Objectives

As consumers’ attachment for meat remain quite established in today’s society (Lemesle, 2019), new plant-based meat substitutes built on an imitation strategy could stand for an innovative solution to nudge consumers into reducing or stopping meat consumption. It could indeed modify consumers’ judgments while decreasing the potential perceived contrast between meat and plant-based meat (Dianoux C, 2006). Previous research work has focused on consumers’ acceptance toward classic meat-substitutes such as soy-based veggie patties which are not developed around the resemblance to meat. However, those studies have raised the fact that participants were often more attracted to meat substitutes which had the same sensory attributes than meat (Hoek, Van Boekel, Voordouw, & Luning, 2011), which puts forward the

relevance to deeper focus on the most significant consumer behavior factors at stake for the general acceptance of innovative mimic-meat products.

First, the academic literature will support the understanding of several interrogations: why is meat perceived as essential in today's society and how are consumer behaviors articulated around meat; why is there a market need for meat substitutes and how is it organized; what are the main factors affecting consumer behavior for meat substitutes and how are new plant-based meat substitutes involved in those factors. Second, the empirical study will provide field research answers: does the copying strategy of new plant-based meat substitutes enhance assimilation amongst consumers, or does it actually create more contrast; what are the most important factors affecting consumers' purchase decision. This research has the objective of setting essential problematics and recommendations regarding plant-based meat substitutes acceptance, which will help industrials and retailers within the industry to build strong and sustainable business and marketing strategies.

Conceptual Framework/Literature Review

Throughout History and particularly in Occidental societies, meat has always been linked to strength and power, which has shaped the importance of meat in individuals' diets until today (Méchin, 1997). However, if meat is still perceived as a great, often irreplaceable source of protein and other nutrients, we can notice the development of a meat paradox: a psychological process that consumers have been ignoring (Benningstad, 2020). Indeed, meat is so linked to healthiness, satiety and satisfaction (American Meat Institute) that even if most consumers do feel sensitivity for the animal and environmental causes, most of them ignore them while consuming meat (Font-i-Furnols, 2014). If the sensory features of meat remain the most important factors for meat consumption -such as taste, juiciness and smell- the animal-source product also represents a particular hedonic lifestyle, an experience in itself which consumers feel very attached to (Apostolidis, 2016). There is no doubt that in order for meat substitutes to compete with meat, they have to provide as much as an experience and meal context to consumers than what meat already provides.

This high commitment to meat has been gradually evolving since the beginning of the 21st century and several public health crises, modifying numerous consumers' purchase habits (Euromonitor International, 2011). The awareness of consumers for their health as well as for the environment has raised new challenges for the meat industry, which has enabled the arrival of allegedly healthier and more environmentally friendly food products: meat substitutes. These transition foods represent a way for consumers to adopt a more sustainable diet on the long-term. However, even if consumers are likely to make more efforts than before, they still consider meat in their diet since it constitutes a valuable satisfaction that meat substitutes do not have. It is also notable that some individuals adopt meat substitutes not for health and environment reasons but only to enrich their desire for diet variation and innovative products (Wild F, 2014) - which demonstrates that motivations to consume meat substitutes can vary considerably according to the individuals, their past experiences, values and desires.

The first meat-alike substitutes which have arisen on the market failed at nudging consumers into purchase mainly because of low attractive appearance and taste. At this time, this failure opened new doors to potential innovative brands such as *Beyond Meat* and *Impossible Foods*: they understood how close the sensory attributes of the substitutes had to be

with meat, focusing on transformation to increase familiarity (Gallen, Pantin-Sohier, & Peyrat-Guillard, 2018). Besides the sensory features of meat substitutes, the research demonstrated how consumer acceptance is also articulated around psychological and marketing factors (Font-i-Furnols, 2014). Therefore, the initial beliefs, expectations and product categorizations (Hoek, Van Boekel, Voordouw, & Luning, 2011) of an individual strongly influence the acceptance process of a meat substitute, followed by its availability, branding, labelling and pricing (Lemken D, 2018) in the point of purchase (House, 2016); (Gravelly, 2018). If the factors based on individuals' psychological processes are difficult to modify from an external point of view, innovative industrials can build effective strategies to create attraction and acceptance for their meat substitutes and the environment around them.

Method

In order to provide answers and new perspectives on this research's problematic, it has been decided to ensure a qualitative study, based on 11 individual interviews realized by phone calls of approximately 1 hour and 30 minutes each. Those interviews have been carried out thanks to an interview guide split in 3 different phases. Those phases have been extracted and regrouped as in Rogers' work on the exposition to innovation (Rogers, 2010).

- The first phase has the objective of understanding the knowledge and the attitude (*Persuasion*) of the participant toward the innovation.
- The second phase is to understand if the participant is whether adopting or rejecting the innovation (*Decision*): this will be held by displaying pictures of non-meat alike substitutes (also called veggie patties) versus. meat-alike substitutes (also called plant-based patties).
- The third phase has been developed to understand which meat substitutes could represent an accepted and integrated part of participants' diets on the long-term (House, 2016), which would confirm and/or put limits to innovative plant-based meat substitutes' acceptance.

Findings

First, the empirical research raised how perception, awareness and knowledge influence plant-based meat acceptance. We noticed a significant lack of knowledge amongst participants about meat substitutes overall, but also a vague negative perception and significant stereotypes about them. Vegetarian participants particularly represent a difficult segment of consumers to reach because they do not seek the replacement of meat and do not consider that processed meat substitutes remain a sustainable solution in the long-term; they only imagine consuming meat substitutes during specific social occasions and meal contexts (E.Elzerman, Van Boekel, & Luning, 2013). However, all participants, including vegetarians, agreed on the fact that meat substitutes represent a great transition food to switch to a low meat-based diet. There is a significant interest amongst consumers particularly for meat substitutes' environmental and health missions, as well as for their innovative aspect. Highlighting positive effects on health (Font-i-Furnols, 2014); (Lunardo & Saintives, 2013) would represent the most efficient strategy to nudge consumers into trying the products. If the environmental impact information needs to be more clarified and accessible to the consumers, animal welfare is not the feature which should be the most showcased.

The imitation strategy of plant-based meat substitutes does allow people to categorize meat substitutes as meat more easily (Hoek, Van Boekel, Voordouw, & Luning, 2011), which represent a substantial help for plant-based meats' assimilation. Overall, consumers would be interested by consuming meat-alike substitutes. The most important barriers are a large skepticism about the products' composition and the fact that some consumers are simply not searching to replicate the experience of meat. If innovative plant-based meats industrials can work on enhancing the products' composition and transparency, they cannot please consumers who are not attracted to meat-alike products, which submits that their copying strategy doesn't always allow a better assimilation. However, even if those consumers do not represent a huge market, industrials still need to take them into consideration, especially because they might represent a growing segment of the population in the future (Arroyo, 2018). Therefore, providing a healthy product with a short list of ingredients, a good taste and a unique meat-alike experience can potentially nudge those consumers into getting the habit of purchasing plant-based substitutes occasionally and in specific social contexts.

Second, the influence of sensory attributes was also demonstrated in regard to plant-based meat acceptance. In the research, all participants believed that the plant-based burgers shown were beef-based, which proves how plant-based meats' copying strategy is efficient at tricking consumers. Nevertheless, we can recognize that in the meal context of a burger, the imitating strategy of plant-based substitutes is not always successful at enhancing assimilation: veggie burgers were perceived as more attractive because of tastiness, healthiness and innovativeness, while plant-based burgers were perceived as unhealthy and lower-quality. Furthermore, some participants even felt disgust regarding the appearance of meat-alike textures. Therefore, even though mimicking meat does support into reproducing the valuable experience behind eating meat, the main individuals tempted to meat-alike burgers are usually men who are meat-lovers. Although a meat-alike taste is a valuable advantage to facilitate the incorporation of a meat substitute into a familiar meat-based meal, it doesn't represent the most important factor of consumption for participants. Indeed, as long as the substitute has a strong and unique taste and can easily blend within a dish – through shapes, flavors etc., then consumer acceptance will follow.

Lastly, we can discern that marketing factors such as the location of meat substitutes in store as well as their packagings represent significant indicators for quality and positioning, which can trigger purchases (MarketLine, 2019). For instance, the organic section remains a synonym of health for consumers, while fresh-packed products also reflect high-quality (Gravely, 2018). If a broad availability allows meat substitutes to be widely accepted and consumed, a certain degree of reassurance trough packagings is also a stimulating feature to focus on: as meat substitutes are still perceived as risky innovations to adopt, consumers are highly influenced by information transparency enhancement as well as official health and production labels (Rogers, 2010). Furthermore, similarity of meat substitutes' features with meat allows consumers to easily imagine a similar meat-based experience with the substitute, which increases acceptance.

Contributions for Research

This research introduces and expands the research on innovative plant-based meat substitutes' consumer acceptance and on the circumstances of the efficiency of their copying strategy.

Managerial Implications

From a managerial perspective, this research can enlighten industrials, companies and brands within the plant-based meat industry to strengthen their strategic and operational choices. This research has proven that in order to become the “new norm”, meat substitutes overall should not only be targeting meat-eaters or vegetarians, but rather all individuals. Selling to a “type” of consumer will not bring any sustainable growth, however, selling a great-tasting product will. We have noticed that the number 1 factor of interest for consumers remains taste (Font-i-Furnols, 2014). In addition, besides a unique branding, packagings need to be simple and easy to understand for all consumers, as those ones seek clear information and transparency on nutritional intakes. Moreover, the increase of consumer acceptance for meat substitutes inevitably goes by companies' focusing on their products' availability and accessibility (Gravely, 2018); (Vandebroele, J). Indeed, availability in store usually signals quality, legitimacy and safety for consumers.

Based on the growing interest for meat substitutes but also on the attractivity of low prices for consumers (Lemken D, 2018), some of the key challenges for industrials remains to develop large-scale manufacturing and investments while accessing to always better raw materials such as soy or beans. If our research indicated that the meat industry has been fighting against the plant-based industry –mainly because plant-based meats are often marketed and labeled as “meat” or “burgers”¹– a complete acceptance of meat substitutes should not only reach consumers but also meat industrials themselves. We can imagine that if both meat industrials and meat substitutes' industrials collaborate together, there is a higher chance that key challenges will be fulfilled, and in a shorter amount of time. Meat businesses turning themselves into protein businesses to focus on different opportunities could represent a way to boost overall acceptance and sustainable growth.

Limitations & Further Research

If this research has participated in advancing knowledge on meat substitutes consumer acceptance and on the copying strategy of plant-based meat substitutes, it has primarily focused on consumers' perceptions and current opinions as well as on consumers' reactions to marketing stimuli - such as packagings. With this respect, an alternative research approach would be to focus on an actual visual and tasting exposition of plant-based meat substitutes. This could represent a valuable qualitative research to deeper understand the efficiency of plant-based meat substitutes on a sensory level. Moreover, a research with a greater number of participants would expand data and allow researchers to better understand consumers' profiling, potentially putting forward the influence of other factors such as age or gender on consumer acceptance. Lastly, as the alternative protein space keeps evolving and has already emerged a declination of disruptive and innovative new foods which takes the replication of meat on a deeper level, incoming researches could -in the future- concentrate on the efficiency of cell-based meat's copying strategy on consumer acceptance.

¹ *Fake Meat vs. Real Meat*, Anahad O'Connor, The New York Times, 3/12/2019

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Appendixes

APPENDIX 1. Guide used for individual interviews

Name:

Gender:

Age:

Socio-professional activity:

Food diet (Omnivore, flexitarian, vegetarian, vegan):

PHASE 1: Perception of respondents

Action: Ask the questions below to the participants:

- If I tell you “meat substitute”, what are the words and adjectives which come to your mind? What images and sensations do you imagine?
- On a scale from 0 to 10, to which level do you think knowing what are meat substitutes?
- On a scale from 0 to 10, is your personal opinion on meat substitutes rather negative or positive?
- Could you explain that choice? What do you like and dislike about meat substitutes?

- Do you consume meat substitutes?
 - ⇒ **YES (SECTION 1)**
 - On a scale from 0 to 10, to which level do you care about the environmental cause? (deforestation, pollution, biodiversity...)
 - On a scale from 0 to 10, to which level do you care about the animal cause? (farming condition, slaughtering conditions...)
 - On a scale from 0 to 10, to which level do you care about your own health? (well-being, healthy diet...)
 - On a scale from 0 to 10, to which level do you put your interest in innovation and your capacity to try something new?
 - On a scale from 0 to 10, to which level do you put your capacity to take risks?
 - What kind(s) of meat substitute(s) do you consume? For example, tofu, seitan, tempeh, veggie burger, or something else?
 - To which frequency do you consume meat substitutes?
 - What is the first factor for which you consume meat substitutes? (Health, Animal Care, Environment, Trying new things, Other)
 - Do you consider that a meat substitute is healthier than meat? Why?
 - According to you, who consumes meat substitutes?
 - How do you cook meat substitutes, and with what? Would you have examples of recipes?
 - On a scale from 0 to 10, how do you like the sensory attributes of meat substitutes (appearance, taste, texture, odor...)?
 - Could you explain that choice?
 - Do you consider that a meat substitute or a meat product represent an essential and necessary element in your meal? Or are you able to eat a meal without any meat substitute or meat product? Why?
 - Even if you consume meat substitutes, do you still consume meat (red, white)? If so, to which frequency do you consume meat, and why?
 - On a scale from 0 to 10, do you perceive meat as being an essential element for a good health?
 - According to you, what does consuming meat bring to you and your health?
 - On a scale from 0 to 10, how do you like the sensory attributes of meat (appearance, taste, texture, odor...)?
 - Could you explain that choice?
 - What sensation(s) do you feel when consuming meat? (Energy; Strength; Superiority; Virility; Disgust; Satisfaction; Fulfillment; Other.)

- What type(s) of meat(s) do you consume and in which food context?
- On a scale from 0 to 10, to which level are you attached to meals based on meat (such as burgers, barbecue, boeuf bourguignon, steak-frites...)?
- Would you still consume those plates if you replaced meat by a meat substitute? Why?
- On a scale from 0 to 10, to which level are you attached to the experience of cooking meat (grilling, emanations, cooking...)?
- How do you categorize meat substitutes? (As meat; as legumes; I don't know; Other)
- In a grocery store, where do you search for meat substitutes? (Fresh aisle of meat products; Dry aisle of organic products; Both because it depends of the store; Other)
- According to you, what is the best aisle to search for meat substitutes in a grocery store? (Fresh aisle of meat products; Dry aisle of organic products; Both; Other)
- According to you, what is(are) the criteria(s) which influence(s) you the most before purchasing a meat substitute? (Price; Packaging perceived as natural (colors, material); Attractive picture of the product; Resemblance to meat products; Organic label; "Without gluten"; "Vegan", "Veggie" on the packaging; "Rich in proteins"; "Steak", "Meat", "Burger" on the packaging; Different flavors available; Familiar brand; Easy to prepare; Other)
- Could you explain that choice?
- What would be a "perfect" meat substitute according to you?
- Imagine a meat substitute which has the same appearance, texture, taste and odor than meat. Would you be interested into purchasing and tasting it?

⇒ **NO (SECTION 2)**

- On a scale from 0 to 10, to which level do you care about the environmental cause? (deforestation, pollution, biodiversity...)
- On a scale from 0 to 10, to which level do you care about the animal cause? (farming condition, slaughtering conditions...)
- On a scale from 0 to 10, to which level do you care about your own health? (well-being, healthy diet...)
- On a scale from 0 to 10, to which level do you put your interest in innovation and your capacity to try something new?
- On a scale from 0 to 10, to which level do you put your capacity to take risks?
- Could you explain why you think you don't you consume any meat substitute? What are the main reasons?
- Do you think about consuming meat substitutes one day? If so, what kind(s) and in which food context?
- What is the first factor for which you would consume meat substitutes? (Health, Animal Care, Environment, Trying new things, Other)
- Do you know how you would cook a meat substitute, with what? Could you give us recipes?
- Do you consider that a meat substitute is healthier than meat? Why?
- According to you, who consumes meat substitutes?
- On a scale from 0 to 10, how do you imagine the sensory attributes of meat substitutes (appearance, taste, texture, odor...)?
- Could you explain that choice?
- How do you categorize meat substitutes? (As meat; as legumes; I don't know; Other)
- In a grocery store, where would you search for meat substitutes? (Fresh aisle of meat products; Dry aisle of organic products; Both because it depends of the store; Other)
- Do you consume meat? If so, to which frequency?
- On a scale from 0 to 10, do you perceive meat as being an essential element for a good health?
- According to you, what does consuming meat bring to you and your health?
- On a scale from 0 to 10, how do you like the sensory attributes of meat (appearance, taste, texture, odor...)?

- Could you explain that choice?
- What sensation(s) do you feel when consuming meat? (Energy; Strength; Superiority; Virility; Disgust; Satisfaction; Fulfillment; Other.)
- What type(s) of meat(s) do you consume and in which food context?
- On a scale from 0 to 10, to which level are you attached to meals based on meat (such as burgers, barbecue, boeuf bourguignon, steak-frites...)?
- Would you still consume those plates if you replaced meat by a meat substitute? Why?
- On a scale from 0 to 10, to which level are you attached to the experience of cooking meat (grilling, emanations, cooking...)?
- According to you, what is(are) the criteria(s) which influence(s) you the most before purchasing a meat product? (Price; Packaging; Attractive picture of the product; Organic labels; “Rich in proteins”; “Steak”, “Meat”, “Burger”; Familiar brand; Quality labels; Low fat %; Color of meat; Apparent texture of meat; Easy to prepare; Other
- Could you explain that choice?
- Could you resume in a couple of words what represent a “perfect” meat to you?
- Imagine a meat substitute which has the same appearance, texture, taste and odor than meat. Would you be interested into purchasing it and tasting it? Why?

PHASE 2: Attitude of respondents

Action: Present pictures of pictures below (Images 1, 2, 3) and ask the questions below:

- What are the words and adjectives that come to your mind? What images and sensations do you imagine?
- On a scale from 0 to 10, to which level do you desire to taste those products?
- Could you explain that choice?
- Have you already eaten a product such as one of these? If so, what did you think about it? If not, what would you imagine that can be like?
- On a scale from 0 to 10, to which level this product is healthy? Why?
- According to you, who consumes these types of products?

Action: Present pictures of pictures below (Images 4, 5) and ask the questions below:

- On a scale from 0 to 10, to which level do you desire to purchase one of these products? Why?
- What do you like about these products?
- What do you dislike about these products?
- How do you imagine cooking these products? In which food contexts, recipes?
- On a scale from 0 to 10, to which level do you consider those products to be healthy? Why?
- On a scale from 0 to 10, how different do you consider those products to be with meat? Why?
- In a grocery store, where would you search for those products? (Fresh aisle of meat products; Dry aisle of organic products; Other)
- How would you categorize those products? (Equivalent to meat; equivalent to legumes; I don't know; Other)

Action: Present pictures of pictures below (Images 6,7,8) and ask the questions below:

- What are the words and adjectives that come to your mind? What images and sensations do you imagine?
- On a scale from 0 to 10, to which level do you desire to taste those products?
- Could you explain that choice?
- Have you already eaten a product such as one of these? If so, what did you think about it? If not, what would you imagine that can be like?
- On a scale from 0 to 10, to which level this product is healthy? Why?
- According to you, who consumes these types of products?
- Between the first products (Images 1,2,3) and those ones (Images 6,7,8), which ones would you prefer consuming? Why?

Action: Present pictures of pictures below (Images 9,10). Products 6,7,8 are actually plant-based meat substitutes and not real meat.

- On a scale from 0 to 10, to which level do you desire to purchase one of these products? Why?
- What do you like about these products?
- What do you dislike about these products?
- How do you imagine cooking these products? In which food contexts, recipes?
- On a scale from 0 to 10, to which level do you consider those products to be healthy? Why?
- On a scale from 0 to 10, how different do you consider those products to be with meat? Why?
- In a grocery store, where would you search for those products? (Fresh aisle of meat products; Dry aisle of organic products; Other)
- How would you categorize those products? (Equivalent to meat; equivalent to legumes; I don't know; Other)
- Have you already consumed products such as those ones? If so, in which context? What did you like and dislike about those products?

PHASE 3: Decision of respondents

Action: Ask the questions below to participants:

- If I tell you “meat substitute”, what are the words and adjectives which come to your mind? What images and sensations do you imagine?
- Between the two types of plant-based substitutes shown, which one would you be more inclined to purchase? (Substitutes not looking like meat; Substitutes looking like meat; Both; None; Other)
- Could you explain that choice?
- On a scale from 0 to 10, to which level do you consider that the resemblance between the substitutes and meat can encourage you to consume those substitutes? Why?
- Do you think you could include or include more meat substitutes in your diet? Why and in which food context?
- In 2050, there won't be enough land on Earth to produce the quantity of meat population will desire to consume. According to you and in general, do you think meat substitutes are part of the solution to encourage people to eat less meat? Do you think about other solutions?

APPENDIX 2. Profile of participants (5 men, 6 women, average age: 31 years old)

#	Name	Activity	Gender	Age	Nationality	Diet
1	Jacques	Retired	M	66	FR	Meat-eater
2	Francine	Retired	F	66	FR	Flexitarian
3	Alice	Employee	F	23	FR	Flexitarian
4	Jules	Student	M	23	FR	Vegetarian
5	Salim	Employee	M	25	FR	Flexitarian
6	Lianne	Intermediate position	F	24	NL	Vegetarian
7	Quentin	Employee	M	24	US	Meat-eater
8	Alexandre	Intermediate position	M	25	FR	Meat-eater
9	Romane	Student	F	23	FR	Vegetarian

10	Lou	Student	F	24	FR	Flexitarian
11	Melissa	Employee	F	23	FR	Flexitarian

APPENDIX 3. STIMULI

Image 1



Image 2



Image 3



Image 4



Image 5



Image 6



Image 7



Image 8



Image 9



Image 10



APPENDIX 4. Consumer acceptance typology for meat substitutes and their behavior factors

	High acceptance of meat substitutes (T2)		Low acceptance of meat substitutes (T1)	
<i>Consumer behavior factor</i>	No attraction for meat-alike substitutes (vegetarians, flexitarians) (2.A)	Attraction for meat-alike substitutes (vegetarians, flexitarians) (2.B)	Disfavor for replacing meat in the diet (meat-eaters) (1.A)	No need to replace meat in the diet (vegetarians, vegans) (1.B)
<i>Psychological factors</i>	Low or medium perception of meat as an essential need for protein and health	Medium or high perception of meat as an essential need for protein and health	High perception of meat as an essential need for protein and health	Low perception of meat as an essential need for protein and health
	Meat doesn't bring sensation of power, strength, superiority	Meat brings sensation of power, strength, superiority	Meat brings sensation of power, strength, superiority	Meat doesn't bring sensation of power, strength, superiority
	Medium knowledge about meat-alike substitutes	High knowledge about meat-alike substitutes	Low knowledge about meat substitutes	Medium knowledge about meat substitutes
	Meat-alike substitute perceived as "fake meat"	Meat-alike perceived as great alternative	Substitute perceived as "fake meat"	Substitute perceived as too processed
	Low cognitive dissonance	Low or medium cognitive dissonance	High cognitive dissonance	Low cognitive dissonance
	Medium interest in innovation	High interest in innovation	Low interest in innovation	Medium interest in innovation
	High propensity to risk	High propensity to risk	Low propensity to risk	Low or medium propensity to risk
	Medium difficulty to categorize meat-alike substitutes	Low difficulty to categorize meat-alike substitutes	High difficulty to categorize meat substitutes	Medium or high difficulty to categorize meat substitutes
	High health conscious self-identity	High health conscious self-identity	Low health conscious self-identity	High health conscious self-identity
<i>Sensory factors</i>	Meat is not the centerpiece of meals	Meat is the centerpiece of meals	Meat is the centerpiece of meals	Legume, vegetable and grain-based diet
	Sensory attributes for meat alike substitutes perceived as low	Sensory attributes for non-meat alike substitutes perceived as low	Sensory attributes for substitutes perceived as low	Sensory attributes for substitutes perceived as low
	Sensory attributes for meat perceived as low	Sensory attributes for meat perceived as high	Sensory attributes for meat perceived as high	Sensory attributes for meat perceived as low, disgust for meat
	Low attachment to meat cooking experience	High attachment to meat cooking experience	High attachment to meat cooking experience	Low attachment to meat cooking experience
	Low or medium attachment to particular meals (burgers, barbecue)	High attachment to particular meals (burgers, barbecue)	High attachment to particular meals (burgers, barbecue)	Low attachment to particular meals (burgers, barbecue)

<i>Marketing factors</i>	High sensitivity to packaging and naturalness labels	High sensitivity to packaging and naturalness labels	Medium or high sensitivity to packaging and quality labels	High sensitivity to packaging and naturalness labels
	Medium or high sensitivity to low price	Medium sensitivity to low price	High sensitivity to low price	Medium sensitivity to low price
	Meat-alike substitute perceived as too processed	Meat-alike substitute perceived as great alternative	Meat substitute perceived as "fake meat"	Meat substitute perceived as too processed
	Medium support of meat-alike substitutes' appellations as "steaks", "meat", "burger", "beef"	High support of meat-alike substitutes' appellations as "steaks", "meat", "burger", "beef"	Low support of meat-alike substitutes' appellations as "steaks", "meat", "burger", "beef"	Low support of meat-alike substitutes' appellations as "steaks", "meat", "burger", "beef"
	Availability of plant-based substitute in vegetarian store department	Availability of plant-based substitute in meat store department	Availability of meat in store department	Availability of legumes, vegetables, grains in the store department