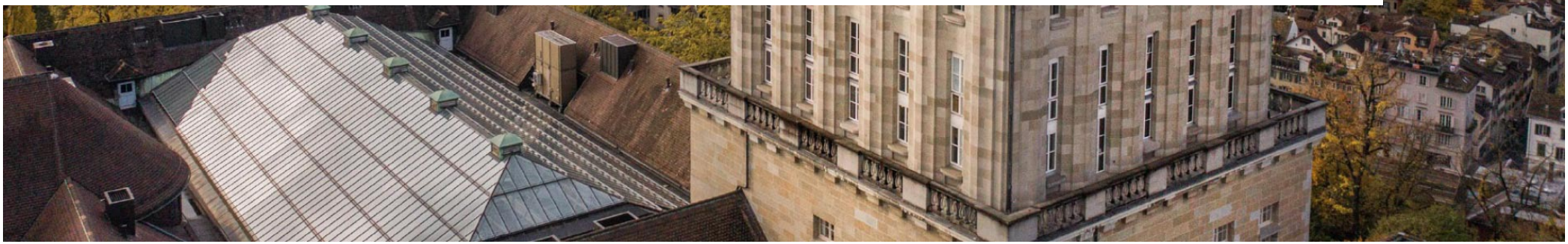
Universität Zürich[UZH]

Chair for Marketing

Guidelines for writing your thesis at the Chair for Marketing

(valid from: March 2026)



Introduction to the Thesis Process
Learning Objectives

This material is intended to help you **familiarize yourself independently** with the thesis process. After reviewing it, you should be able to:

- Understand the **expectations** placed on thesis students and supervisors.
- Understand the **process**, **content requirements**, and **formal requirements** of the thesis.
- Understand the **supervision process**, available **support resources**, and **assessment criteria**.
- Clarify the key **organizational** aspects related to **writing** and **submitting** your thesis.

Thesis Process
Expectations

For Students

Independent work: Familiarize yourself with your topic independently. Develop your competencies by first attempting to devise solution strategies on your own, even when encountering challenges.

Time management: Plan your time from topic selection through submission. Monitor deadlines independently and ensure that milestones are met in a timely manner.

Requesting support: Raise questions that you cannot resolve independently but that are necessary for you to continue working on your own. Such questions may be addressed during interim meetings or compiled and sent by email. In both cases, provide a proposed solution, group related questions together, and maintain a professional tone in all written communication.

For Supervisors

Supervision: The primary objective of supervision is to support the development of your academic research skills. Throughout the thesis process, you will receive feedback on your performance and progress during scheduled interim meetings.

Support in addressing challenges:
During your thesis, support is provided with the aim of fostering your ability to solve problems independently. When challenges arise, you are encouraged to develop your own solution approaches. These will then be discussed together, with a focus on evaluating their respective advantages and disadvantages and refining them where appropriate.

Appendix
Components of the Thesis

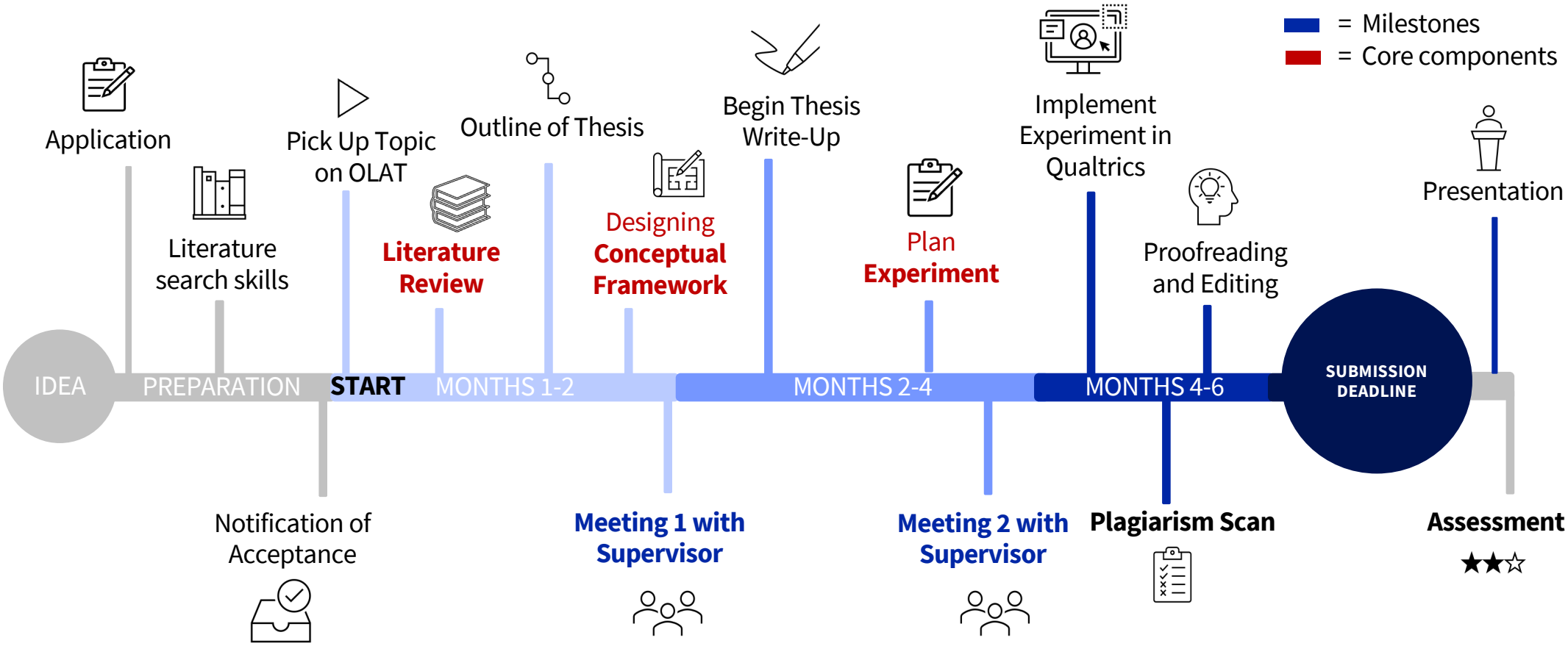
Your thesis should include the following components:

- **Research question**
- **Conceptual framework and hypotheses**
- **Theoretical description of an experiment**
- **Literature table (appendix)**

Important: The components listed above are mandatory for the successful completion of a thesis, but they do not constitute an exhaustive list of the thesis content.

No data collection (e.g., interviews, surveys) may be conducted without the explicit approval of the chair!

Timeline of the Thesis Process



The timeline spans a period of six months and serves as a guideline. Deviations are possible if the supervisor specifies a different format.

How do I complete the core components of my thesis by the first meeting?

Thesis Process
Picking Up the Topic

Picking up the topic on OLAT:
The thesis is registered with the Dean's Office by the Chair for Marketing. Students subsequently receive an email and must officially accept their topic in OLAT as agreed on with the supervisor. The email will contain a URL. After opening the URL, you have 24 hours to accept your topic. For detailed information on the thesis process, please consult the course information and the following website, where you will also find comprehensive instructions:
https://www.oec.uzh.ch/en/studies/theses.html

Work Period:
The official work period begins as soon as the topic has been picked up from OLAT. The deadline is noted on OLAT and must be adhered to.

- **Duration of thesis:**
  - Bachelor: 6 months (18 ECTS = 540 hours → plan for at least **23 hours per week**)
  - Master: 6 months (30 ECTS = 900 hours → plan for at least **38 hours per week**)

Thesis Process
Refresh your Knowledge on Literature Search

The foundation of your thesis is independent research based on **high-quality academic literature**.

Before starting your thesis at the Chair for Marketing, **we strongly recommend** to refresh the knowledge acquired in the mandatory module “Einführung in das wissenschaftliche Arbeiten” (EAW) and inquire the information and videos offered for Economics on the website of the University Library Zurich: https://www.ub.uzh.ch/en/unterstuetzung-erhalten/fachliche-unterstuetzung/wirtschaftswissenschaften.html

In addition, we also recommend to visit the online course of the library with a self-test evaluating your knowledge: https://dlf.uzh.ch/openbooks/studifitkurs/ and the workshop on Literature Research in Business, Finance, and Economics offered twice a year in DE and EN: https://veranstaltungen.ub.uzh.ch/angebot/details/48385?angebotTitel=workshop-literature-research-in-business-finance-and-economics&modulId=6114 .

The library also offers individual coaching on literature research: https://www.ub.uzh.ch/en/unterstuetzung-erhalten/beratung-buchen.html and on writing: https://veranstaltungen.ub.uzh.ch/angebot/details/14544?culture=en

These resources provide valuable guidance and practical tips for conducting your literature review. The purpose is that you know effective search strategies and are able to efficiently identify and evaluate scientifically relevant sources.

Use the initial readings provided in the topic description as a starting point. Beyond this, independently identify and review additional relevant academic literature.

Thesis Process
Literature Review

What counts as high-quality academic literature?
Academic articles should be published in peer-reviewed journals. As an additional quality indicator, you may use the journal's impact factor – top-tier journals typically have an impact factor **greater than 10**. The *Financial Times Ranking* and the *VHB-JOURQUAL* assess the quality of academic journals in the field of marketing.

For sustainability-related topics, you should also search beyond the top marketing journals, for example journals such as *Nature Human Behaviour*. In all cases, ensure that you primarily rely on high-quality journals.

Recommendation: Use a reference management software (e.g., *Zotero*, *Citavi*) including a Word plugin. The Central IT Services at the University offer introductory courses on reference management software.

Thesis Process
Literature Table

The literature table is intended to help you gain an **overview** of the existing academic literature related to your topic. Based on this overview, you should **motivate** your research question and research gap and develop your conceptual framework.

This means that the literature table must include **all academic articles** that are necessary to identify the research gap, justify your research question, and derive the conceptual framework.

Tip: Create the literature table while you are searching for relevant literature for your thesis. As you read the articles, record the variables directly in the literature table. This will also help you generate ideas for variables to include in your conceptual framework.

The literature table must be submitted as an appendix to your thesis and should include the following elements:

Author(s) (Year)	Dependent Variable	Independent Variable	Moderation/Mediation	Results	Etc.

Thesis Process
Outline of the Thesis

Your thesis should include the following components in the specified order:

- **Title page**: Title of the thesis as registered in OLAT; type of thesis (bachelor's or master's thesis); university; chair; professor; supervisor; degree program; author (name, matriculation number, address, telephone number, email address, number of semesters in the bachelor's or master's program); actual submission date
- **Indices** (table of contents; list of abbreviations; list of figures and tables, etc.)
- **Abstract** (summary of the thesis, 250 words maximum, according to the standards for journal articles)
- **Chapters/Main Text**
    1. Introduction
    2. Related literature (including theoretical background)
    3. Hypotheses / conceptual framework
    4. (Hypothetical) experiment / study
    5. Empirical analysis and results (empirical theses only)
    6. Discussion
    7. Conclusion
- **References**
- **Appendix** (literature table and additional documents, e.g., code)
- **Statutory Declaration and Declaration of the Usage of AI** (see appendix)

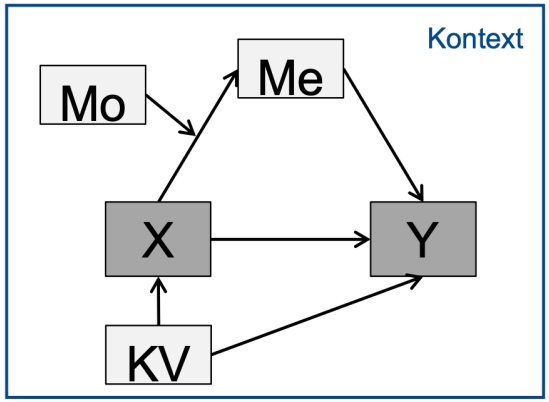
Thesis Process
Research Question and Conceptual Framework

Research Question: Formulate a research question that is appropriate to the topic. The causal relationship hypothesized in the research question will be developed in more detail in your conceptual framework.

Conceptual Framework:

- Read the **appendix** and consult the **book** by Hayes.
- Develop a conceptual framework that elaborates on the causal relationship formulated in your research question, both **visually and in written** form.
- Generate **several ideas** for possible conceptual frameworks. Together with your supervisor, you can then identify the most promising option.
- **Keep it simple!** Greater complexity does not imply higher quality; it is entirely sufficient to focus on a small number of variables.

Note: While the research question summarizes the hypothesized relationships in a few sentences, the conceptual framework presents all relevant variables in a clear and structured manner. The conceptual framework is specified through hypotheses. Further information can be found in the appendix.



Example of a conceptual framework

X = Independent Variable
Y = Dependent Variable
CV = Control Variable
Mo = Moderation
Me = Mediation

Thesis Process
First Meeting with Supervisor (1/2)

First Meeting (after 5-6 weeks)
Before the meeting: Please send the signed PDF form *"Intellectual Property Rights and Publication Agreement"* (see website) to your supervisor by email.

At the first meeting, the outline and initial ideas for possible conceptual frameworks will be discussed. Please prepare your findings and questions in a PowerPoint presentation following the structure below:

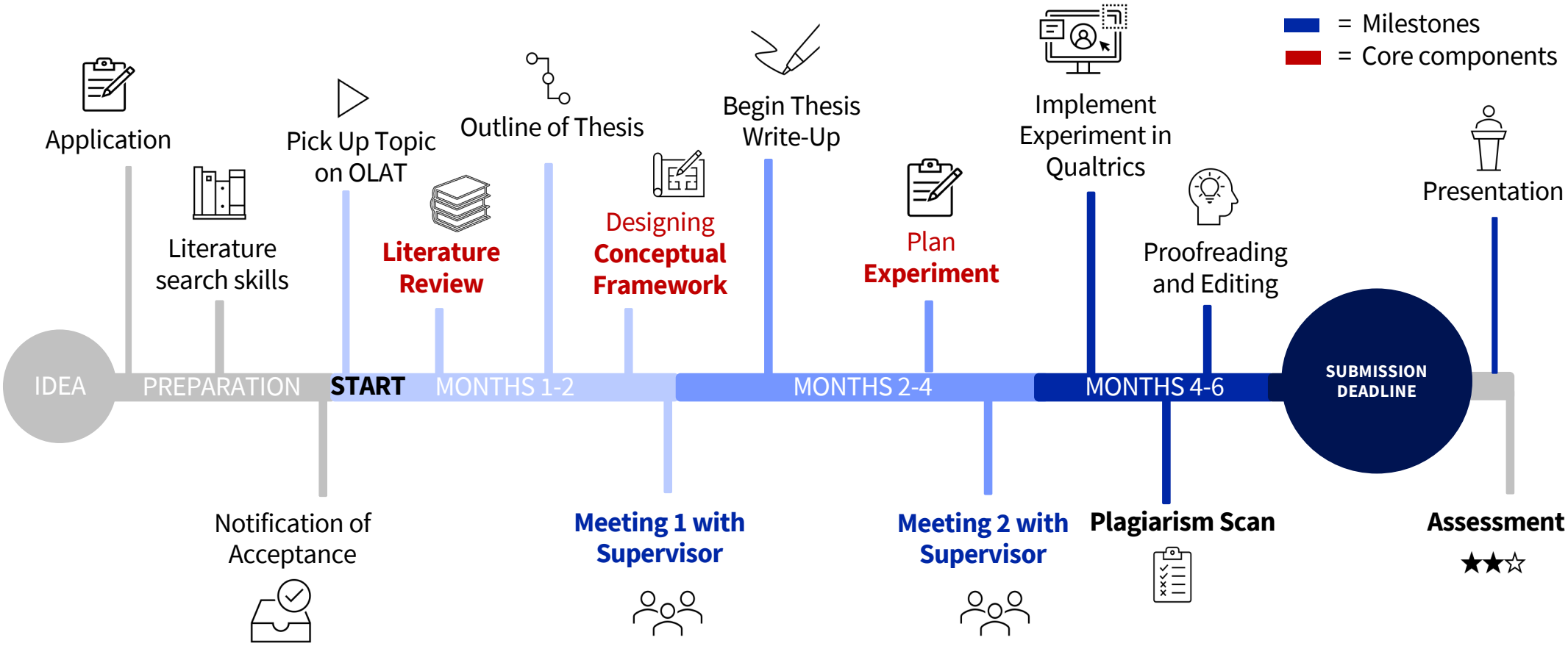
- **Brief introduction to the topic** (including references to the sources of the information):
  - Motivation: Why is the topic relevant?
  - Research gap: What is new about the topic, or what has not yet been studied?
  - Research question(s): What do you intend to investigate in your thesis?
- **Proposed outline** (including 2–3 sentences or bullet points describing the content of each section, the sources that are expected to be used, and the planned number of pages per section)
- **Initial ideas for conceptual frameworks and hypotheses:**
  - What are the dependent and independent variables, and which moderators and/or mediators are considered?
  - How are the variables expected to relate to each other?
  - What are the hypotheses?
- **Plan for data analysis** (empirical theses only): How are the data intended to be analyzed?
- **Literature table:** Which sources are used? You must be able to justify your materials based on academic sources.
- **Further questions.**

Unless otherwise agreed, please send your meeting materials (as a PowerPoint file) to your supervisor by email no later than 24 hours before the scheduled meeting. The supervisor reserves the right to cancel the meeting on short notice if the materials are not submitted on time or are incomplete.

For empirical theses: In addition to the two regular meetings, there is an additional preparatory meeting. During this meeting, the dataset will be discussed. The preparatory meeting takes place at the beginning of the thesis work period.

How do I complete the core components of my thesis by the second meeting?

Timeline of the Thesis Process



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Thesis Process
Writing Phase (1/3)

Timeline for the writing phase:

- **After the first meeting:**
  - Introduction
  - Related general literature
  - Derivation of the hypotheses / conceptual framework based on specific literature

- **After the second meeting:**
  - Finalization of the conceptual framework
  - (Hypothetical) experiment / study
  - Empirical analyses (empirical theses only)
  - Discussion
  - Conclusion

Thesis Process
Writing Phase (2/3)

PAGE COUNT

Bachelor's Thesis: 20 Pages (±2)

Master's Thesis: 30 Pages (±3)

The page number guidelines refer to the main text of your thesis, including tables and figures embedded in the text. Accordingly, the title page, lists, abstract, and appendix are not included in the page count.

FORMAL CRITERIA

Layout: Justified text with hyphenation

Font and font size: Times New Roman, 12 pt

Line spacing: 1.5

Margins: left and right: 3 cm, top: 2.5 cm, bottom: 1.5 cm

CITATIONS

American Psychological Association (**APA**) or American Marketing Association (**AMA**).

The guidelines of the respective citation styles (AMA or APA) specify how to cite your sources (e.g., journal articles, online sources). **They also provide instructions for all other formatting requirements (e.g., tables).**

Thesis Process
Writing Phase (3/3)

Additionally, the following requirements of the Chair for Marketing apply:

- **Each source**, including the use of artificial intelligence (e.g., ChatGPT), must be cited in the text at the relevant point. Author, year, and page number must always be provided. To indicate consecutive pages, the abbreviations “f.” (two pages) and “ff.” (more than two pages) may be used. If the cited pages are not consecutive, they must be listed individually (e.g., Mayer, 1990a, pp. 102, 113). In English, page references are indicated using “p.” (e.g., Mayer, 1990a, p. 102).
- Citations from **secondary** sources should generally be **avoided**.
- **Translating** texts (e.g., from English into German) is considered a **verbatim** quotation.
- **Footnotes** should be **avoided**.
- Use at least **2-3 high-quality academic sources** per page.
- ChatGPT and other AI tools may be used only for **inspiration** or paraphrasing, and not as substantive content sources.
- The **University of Zurich** is committed to language that does not disadvantage or exclude anyone. Please ensure **inclusive language** in your thesis by following the University of Zurich guidelines.

Thesis Process
Planning an Experiment

General Information:

- As part of your thesis, you are required to design an **online experiment** and implement it in the survey software **Qualtrics**.
- The online experiment **tests** the causal relationships specified in your conceptual framework.
- The aim is for the online experiment to be ready for **immediate implementation** after you submit your thesis.
- **Conducting** the online experiment is not part of the thesis.
- In other words: design the experiment, but do not invent or speculate about results.

Tasks to be completed before the second meeting:

- **Read the appendix** and review the **example** experiment.
- **Plan** the experimental design in **as much detail as possible** (e.g., create visual materials for the stimuli; identify established scales for the variables in your framework).
- **Your supervisor will set up a Qualtrics account for you.** It is your responsibility to request the log-in credentials and to **familiarize** yourself with the survey software before the second meeting. In case of questions about Qualtrics, please bring these to the meeting.
- However, **implement** the experiment in Qualtrics only after the second meeting. Further guidance on using Qualtrics can be found in the **appendix**.

Thesis Process
Second Meeting with Supervisor (2/2)

Second Meeting (2-3 months before the submission deadline)

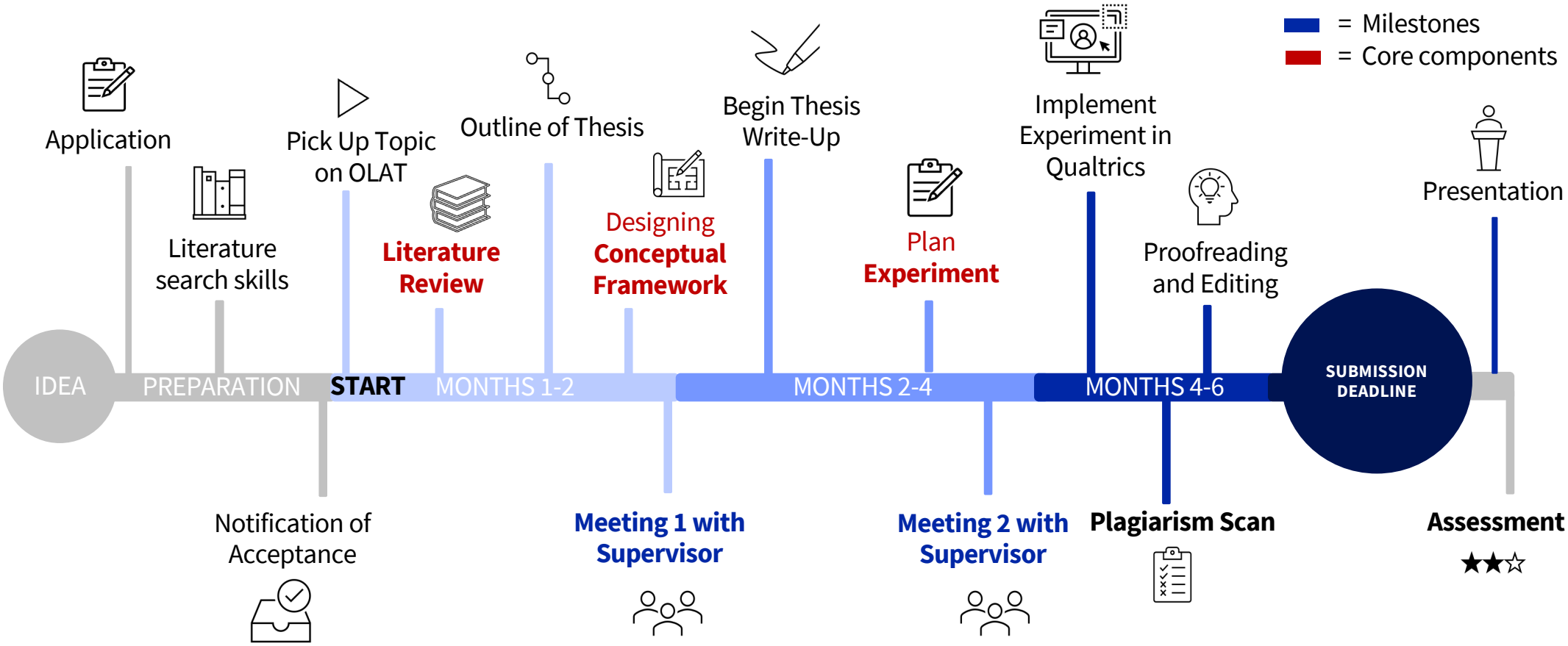
The focus of the second meeting is on finalizing the revised conceptual framework and discussing the hypothetical experiment. The date of the second meeting will be scheduled during the first meeting. Please prepare your insights and questions in a PowerPoint presentation following the structure below:

- **Presentation of the final conceptual framework** (including sources): What is the dependent variable, the independent variable, and the moderators and/or mediators? How are the variables expected to influence one another? What are the hypotheses?
- **Presentation of the (hypothetical) experiment / study** (see appendix; including sources): How is the experiment designed to test the validity of the conceptual framework? What are the control and treatment groups? Which manipulations are implemented? Which variables are measured, and how?
- **Progress on data analysis** (empirical theses only): Which analyses have already been conducted? Are there any questions regarding the data analysis?
- **Literature table:** Which sources are used? You must be able to justify your materials based on academic sources.
- **Further questions.**

Unless otherwise agreed, please send your meeting materials (as a PowerPoint file) to your supervisor by email no later than 24 hours before the scheduled meeting. The supervisor reserves the right to cancel the meeting on short notice if the materials are not submitted on time or are incomplete.

How do I complete the core components of my thesis by the submission deadline?

Timeline of the Thesis Process



The timeline spans a period of six months and serves as a guideline. Deviations are possible if the supervisor specifies a different format.

Thesis Process
Implementing an Experiment

General Information:
- Your supervisor will invite you to a **shared** Qualtrics Project.
- **Implement** your experiment in **Qualtrics.**
- The **appendix** provides **important guidelines** for how to set up an experiment in Qualtrics. Please follow these precisely.

Submission:
The experiment must be submitted along with the thesis document as a:
- **.qsf file**: Survey → Tools → Import/Export → Export Survey
- **.docx file**: Survey → Tools → Import/Export → Export to Word Document

Thesis Process
Plagiarism Scan

Up to **four weeks** before the submission deadline (or as agreed with your supervisor), we will conduct a plagiarism check for you. To this end, please send your thesis (the written text and the reference list) as a Word document to your supervisor.

The Word document **must not** contain any names (neither your own name nor the names of the supervisor or professor), no title page, no table of contents, no list of figures, no list of tables, and no appendix. Please name the file: **Plagiarism_Scan.docx**.

You find more information on what plagiarism is and on how it can be avoided in the factsheet on plagiarism provided by the faculty under the following link: https://www.oec.uzh.ch/en/studies/theses.html

Thesis Process
Proofreading and Editing

Checklist for proofreading your thesis:

- **Formatting:** Does the thesis comply with the formal requirements (e.g., font type and size, line spacing)?
- **Title page:** Does it contain all required information (title from OLAT, name, matriculation number, date)?
- **Table of contents:** Is it complete and accurate?
- **Citation style:** Are all sources cited correctly, including page numbers where required?
- **Reference list:** Are all sources listed and formatted correctly?
- **Argument structure:** Is the argumentation logical and coherent?
- **Relevance to the topic:** Does the thesis stay focused on the topic and address the stated research questions?
- **Grammar and spelling:** Are there any noticeable errors?
- **Sentence structure:** Are sentences clearly and understandably formulated?
- **Transitions:** Are there smooth transitions between sections?
- **Online experiment:** Are all questions and tasks clearly formulated?

Tip: Ask relatives or acquaintances well in advance to proofread your thesis.

Thesis Process
Submission

You must upload your thesis as a PDF file to OLAT no later than the binding submission deadline (visible in your personal OLAT workflow or in the assignment email at the start of the workflow). Please ensure that the title on the title page exactly matches the title specified in OLAT. **Submission is exclusively digital.** Theses submitted after the deadline are considered failed.

Important: Please note that the submission deadline is defined to the exact minute and must be adhered to accordingly.

For detailed information on the process of your thesis, please refer to the course information and the following website, where you will also find a comprehensive set of instructions:
https://www.oec.uzh.ch/de/studies/theses.html

Submit all documents you have. In addition to the thesis and the Qualtrics files, this may include, for example, code/scripts, a preregistration, or other materials. You may submit up to five documents. Name your thesis file as follows: **Thesis_FirstName_LastName.pdf**.

Organizational Notes and Assessment Criteria

Assessment

What is assessed?

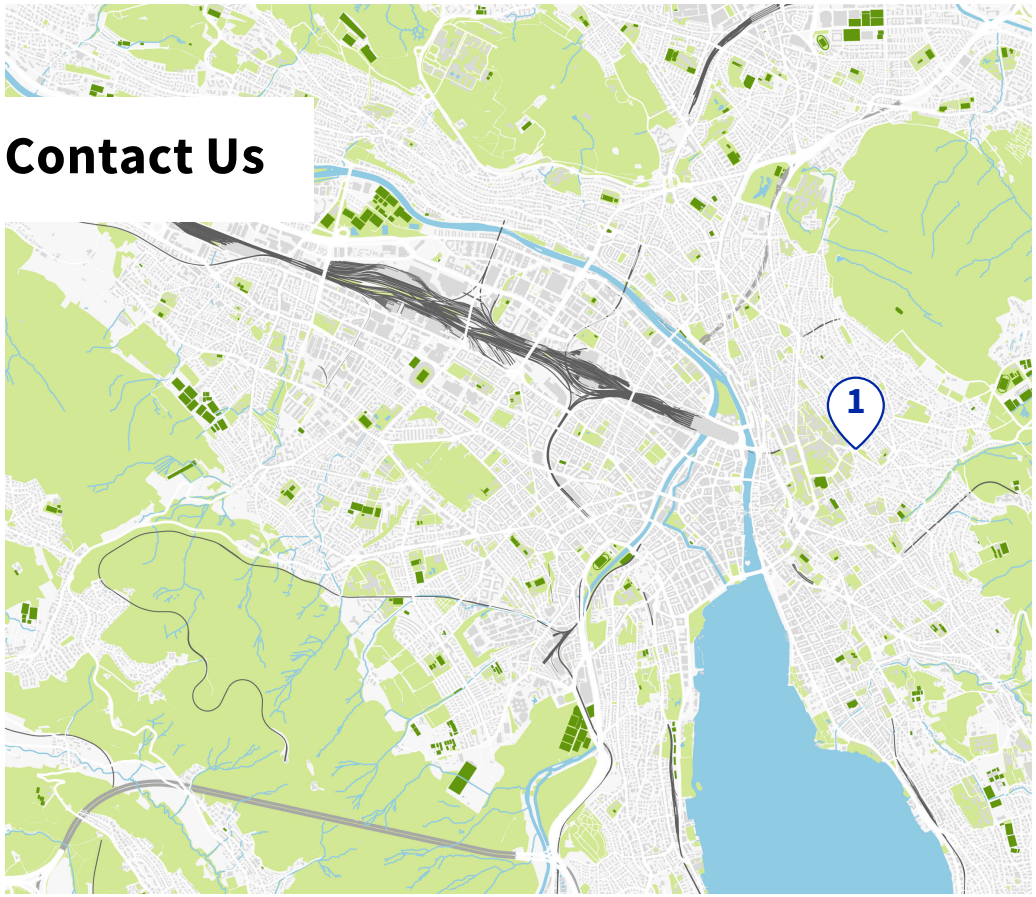
- **Content:** e.g., structure and weighting, formulation of objectives and clarification of relevance, integration of the research problem with theory, critical reflection
- **Form:** e.g., overall presentation and formal requirements, language quality, use of tables and figures
- **Literature:** e.g., quality and completeness, correctness of citation, presentation of relevant information
- **Empirical work / data analysis (optional):** e.g., quality of data collection and analysis, and the conclusions drawn
- **Level of difficulty:** e.g., independence (e.g., use of AI, preparation for meetings, quality of questions), engagement

What happens after submission?

- **Presentation:** An oral presentation may be requested by the supervisor
- **Evaluation:** Assessment based on the criteria listed above
- **Grade notification via OLAT**: The supervisor communicates the grade through OLAT (it will be visible in the student portal a few days later)
- **Duration:** Approximately six weeks

Note: More detailed information about the evaluation process can be obtained from us upon request. Your supervisor will inform you of the final grade via OLAT.

Contact Us



For questions:
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Questions?

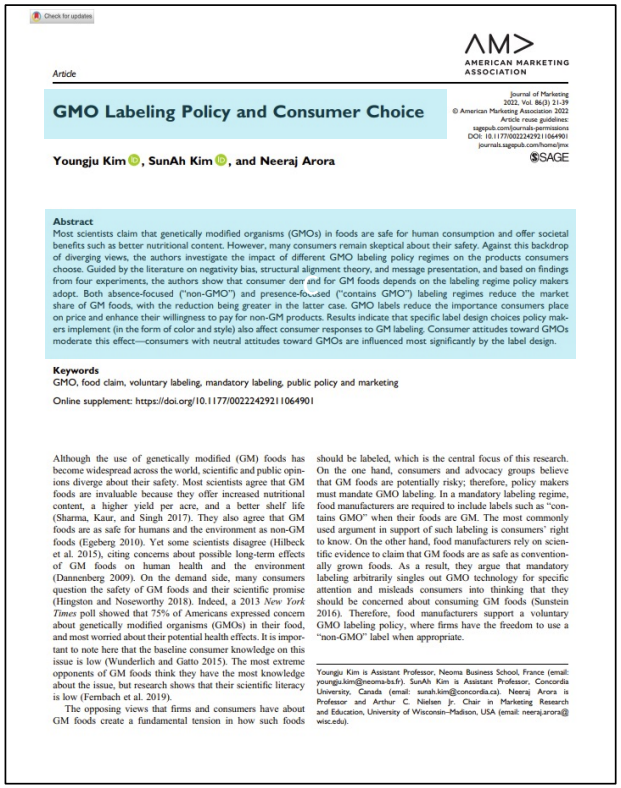

1) Check our website
2) Check the guidelines
3) Ask your supervisor

Good luck on your thesis journey!

How should my thesis be organized and structured?

Appendix
Example of the structure of an academic paper

Title and Abstract



Check for updates

Article

AMA AMERICAN MARKETING ASSOCIATION

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SAGE

GMO Labeling Policy and Consumer Choice

Youngju Kim, SunAh Kim, and Neeraj Arora

Abstract

Most scientists claim that genetically modified organisms (GMOs) in foods are safe for human consumption and offer societal benefits such as better nutritional content. However, many consumers remain skeptical about their safety. Against this backdrop of diverging views, the authors investigate the impact of different GMO labeling policy regimes on the products consumers choose. Guided by the literature on negativity bias, structural alignment theory, and message presentation, and based on findings from four experiments, the authors show that consumer demand for GM foods depends on the labeling regime policy makers adopt. Both absence-focused ("non-GMO") and presence-focused ("contains GMO") labeling regimes reduce the market share of GM foods, with the reduction being greater in the latter case. GMO labels reduce the importance consumers place on price and enhance their willingness to pay for non-GM products. Results indicate that specific label design choices policy makers implement (in the form of color and style) also affect consumer responses to GM labeling. Consumer attitudes toward GMOs moderate this effect—consumers with neutral attitudes toward GMOs are influenced most significantly by the label design.

Keywords
GMO, food claim, voluntary labeling, mandatory labeling, public policy and marketing

Online supplement: https://doi.org/10.1177/00222429211064901

Although the use of genetically modified (GM) foods has become widespread across the world, scientific and public opinions diverge about their safety. Most scientists agree that GM foods are invaluable because they offer increased nutritional content, a higher yield per acre, and a better shelf life (Sharma, Kaur, and Singh 2017). They also agree that GM foods are as safe for humans and the environment as non-GM foods (Egeberg 2010). Yet some scientists disagree (Hilbeck et al. 2015), citing concerns about possible long-term effects of GM foods on human health and the environment (Dannenberg 2009). On the demand side, many consumers question the safety of GM foods and their scientific promise (Hingston and Noseworthy 2018). Indeed, a 2013 *New York Times* poll showed that 75% of Americans expressed concern about genetically modified organisms (GMOs) in their food, and most worried about their potential health effects. It is important to note here that the baseline consumer knowledge on this issue is low (Wunderlich and Gatto 2015). The most extreme opponents of GM foods think they have the most knowledge about the issue, but research shows that their scientific literacy is low (Fernbach et al. 2019).

The opposing views that firms and consumers have about GM foods create a fundamental tension in how such foods should be labeled, which is the central focus of this research. On the one hand, consumers and advocacy groups believe that GM foods are potentially risky; therefore, policy makers must mandate GMO labeling. In a mandatory labeling regime, food manufacturers are required to include labels such as "contains GMO" when their foods are GM. The most commonly used argument in support of such labeling is consumers' right to know. On the other hand, food manufacturers rely on scientific evidence to claim that GM foods are as safe as conventionally grown foods. As a result, they argue that mandatory labeling arbitrarily singles out GMO technology for specific attention and misleads consumers into thinking that they should be concerned about consuming GM foods (Sunstein 2016). Therefore, food manufacturers support a voluntary GMO labeling policy, where firms have the freedom to use a "non-GMO" label when appropriate.

Youngju Kim is Assistant Professor, Neoma Business School, France (email: youngju.kim@neoma-bs.fr). SunAh Kim is Assistant Professor, Concordia University, Canada (email: sunah.kim@concordia.ca). Neeraj Arora is Professor and Arthur C. Nielsen Jr. Chair in Marketing Research and Education, University of Wisconsin–Madison, USA (email: neeraj.arora@wisc.edu).

Tip: Please familiarize yourself with academic articles published in high-quality journals in the field of marketing (e.g., the Journal of Marketing) to develop an understanding of how to structure your thesis.

Includes the **research question** and the **main argument** of the thesis.

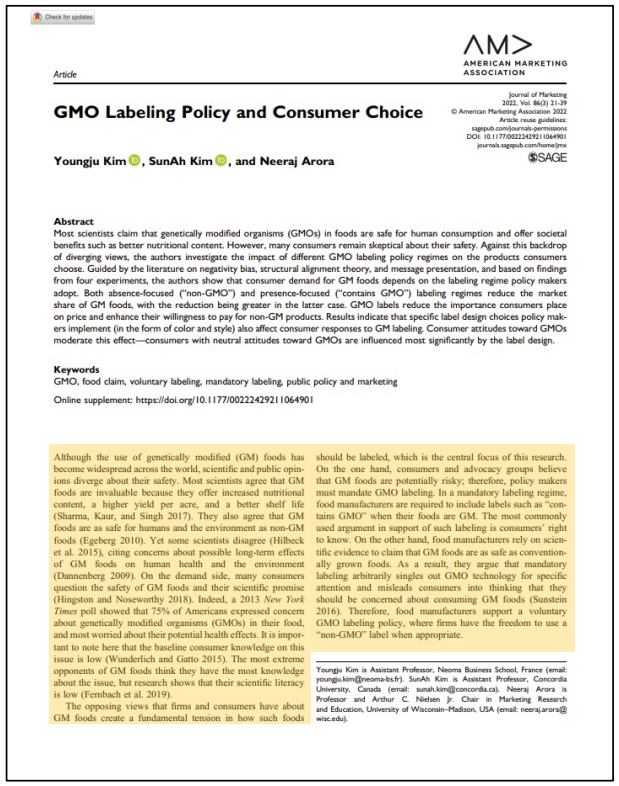
A concise "best of" of all chapters of the thesis. It should summarize the entire work—clearly and very succinctly!

Quelle: https://journals.sagepub.com/doi/full/10.1177/00222429211064901

Appendix

Example of the structure of an academic paper

Introduction



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Although the use of genetically modified (GM) foods has become widespread across the world, scientific and public opinions diverge about their safety. Most scientists agree that GM foods are invaluable because they offer increased nutritional content, a higher yield per acre, and a better shelf life (Sharma, Kaur, and Singh 2017). They also agree that GM foods are as safe for humans and the environment as non-GM foods (Egeberg 2010). Yet some scientists disagree (Hilbeck et al. 2015), citing concerns about possible long-term effects of GM foods on human health and the environment (Dannenberg 2009). On the demand side, many consumers question the safety of GM foods and their scientific promise (Hingston and Noseworthy 2018). Indeed, a 2013 *New York Times* poll showed that 75% of Americans expressed concern about genetically modified organisms (GMOs) in their food, and most worried about their potential health effects. It is important to note here that the baseline consumer knowledge on this issue is low (Wunderlich and Gatto 2015). The most extreme opponents of GM foods think they have the most knowledge about the issue, but research shows that their scientific literacy is low (Fernbach et al. 2019).

The opposing views that firms and consumers have about GM foods create a fundamental tension in how such foods should be labeled, which is the central focus of this research. On the one hand, consumers and advocacy groups believe that GM foods are potentially risky; therefore, policy makers must mandate GMO labeling. In a mandatory labeling regime, food manufacturers are required to include labels such as "contains GMO" when their foods are GM. The most commonly used argument in support of such labeling is consumers' right to know. On the other hand, food manufacturers rely on scientific evidence to claim that GM foods are as safe as conventionally grown foods. As a result, they argue that mandatory labeling arbitrarily singles out GMO technology for specific attention and misleads consumers into thinking that they should be concerned about consuming GM foods (Sunstein 2016). Therefore, food manufacturers support a voluntary GMO labeling policy, where firms have the freedom to use a "non-GMO" label when appropriate.

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The discordant views about the safety of GM foods between firms and consumers, as well as the demands for GMO labeling by consumer advocacy groups (e.g., the Non-GMO Project) create a substantial challenge for policy makers in their efforts to develop a GMO labeling policy. As a result, GMO labels vary a great deal around the world (see Figure 1). For example, the United States allows firms to display non-GMO labels on their products if they wish. Brazil, the world's second-largest GM producer after the United States, adopted a mandatory GM label that features a black T inside a yellow triangle. The letter T stands for the Portuguese word *transgenicos* ("transgenics"), and the symbol resembles a caution sign indicating an upcoming T-junction (Borges et al. 2018). Similar logos have been adopted by South American countries such as Bolivia and Uruguay.

In light of the diverse GMO policy regimes that currently exist, an important prerequisite for carefully constructing a GMO labeling policy is a theory-based understanding of whether and how consumers shift their choices under the different GMO labeling regimes. The intention behind a labeling policy that requires the disclosure of a GMO ingredient as a horizontally differentiated attribute is that it simply allows consumers to make choices that reflect their taste differences. However, an externality of such a policy may be that it leads consumers to treat GMO ingredients as a vertically differentiated attribute, signaling that non-GM foods are of a higher quality than GM foods.

To investigate the product quality–related implications empirically, we examine how the different GMO labeling policy regimes impact consumers' choice and their willingness to pay for non-GM products as well as the market shares of GM and non-GM products. Guided by the policy question of mandatory versus voluntary labeling for GM foods, we investigate the substantial impact of different GMO policy regimes on choices consumers make. More specifically, the purpose of our research is to answer the following research questions that have significant GMO labeling policy implications. Using the theory-driven terminology adopted by André, Chandon, and Haws (2019), in the remainder of the article we refer to the mandatory labeling regime as "presence-focused" (contains GMO) and the voluntary labeling regime as "absence-focused" (non-GMO).

1. Does the labeling policy (absence-focused vs. presence-focused) affect a consumer's choice of GM products?
2. Does the labeling policy (absence-focused vs. presence-focused) affect other aspects of the consumer's choice process, such as their price sensitivity and willingness to shop in a category?
3. Is the consumer's choice impacted according to whether the GMO related information disclosure is complete (presence-focused *and* absence-focused) or partial (presence-focused *or* absence-focused)? Complete GMO information disclosure occurs when policy makers mandate presence-focused labeling and firms that produce non-GM products display an absence-focused label. Partial disclosure occurs when either presence or absence labels are present.
4. Do consumers behave differently depending on the GM label's presentation format (e.g., color, theme)? Which consumers are most likely to alter choices because of the label format?

To answer these key policy-related questions, we combine insights from the social psychology literature with rigorous consumer choice models to make novel predictions about the effect of GMO labeling changes on consumers' demand for GM products. We develop our theory based on the literature on negativity bias (e.g., Ito et al. 1998), structural alignment theory (e.g., Gentner and Markman 1997), and message presentation (e.g., Janiszewski and Wyer 2014). We use choice experiments grounded in microeconomic theory (McFadden 1973) and a hierarchical Bayes model to test our hypotheses.

Across four studies involving 3,913 respondents, we study the impact of different GMO labeling regimes on demand for GM products. Our first between-subjects experiment (Study 1) examines whether consumer choice depends on the GMO labeling regime (i.e., no labeling, absence-focused, presence-focused, or both labeling conditions). Study 2 investigates how the GMO labeling regime may impact the importance consumers place on product price and product category. Study 3 shows how the alignability of GMO information, whether partial information or full information is disclosed, affects consumer choice. Finally, Study 4 investigates how the signal used in a GMO label (e.g., color) can impact consumer demand for GM foods and reveals which market segment is most likely to be affected by the signal used.

Our findings have substantive implications for two key stakeholder groups: policy makers and food manufacturers. By quantifying the effects of various GMO labeling regimes, we offer policy makers guidance on the impact of each labeling system on consumer demand. Absence-focused policies result in the smallest change in demand for GM products compared with a regime with no GM labels. Presence-focused labeling policies can substantially alter demand for GM products, and the signal contained in the GMO logo (e.g., color) also plays a critical role in consumers' perceptions of GM products. Both policy regimes create incentives for firms to expand their offerings to include more non-GM products for the market segment that prefers such products and is willing to pay more for them. The critical question for policy makers here is whether they wish to incentivize such firm behavior.

For food manufacturers, our research reveals that GM labels add an important product feature for consumers to evaluate. Such labels create vertical differentiation for many consumers by signaling that non-GM products are better than GM products. They draw attention away from factors such as price—making it less important—and allow firms to charge a premium for non-GM products. The GM label can also drive some consumers away from a category (e.g., from crackers to another

Introduces the **motivation**, the **relevance** of the topic, the **research question**, and the **research gap** (i.e., what is the purpose of this research?).

For the evaluation of **bachelor's** theses, greater emphasis is placed on the current state of research (including a literature table), which accounts for ca. 2/3 of the assessment. For **master's** theses, the development of the research question, the conceptual framework, and the hypotheses receives greater emphasis (ca. 2/3).
This difference should be reflected in the relative length and weighting of the individual components of your thesis.

Appendix

Example of the structure of an academic paper

Related literature and hypotheses / conceptual framework

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Absence-Focused Labeling (Absence of GMO) | Presence-Focused Labeling (Presence of GMO)

Cereal USA | Orange Juice USA | Diced tomatoes USA | Salad dressing The Netherlands | Sweet corn Brazil

Figure 1. GMO labels.

non-GM snack). All of the aforementioned effects are amplified when moving from an absence-focused to presence-focused regime.

Background

GMOs: What Science Says

The World Health Organization (2014, p. 1) defines GMOs as "organisms (i.e., plants, animals, or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination." Proponents of GM crops argue that they increase yield, lower food prices, reduce damage to crops after the harvest, make crops tolerant of stresses such as cold and heat, help fight malnourishment, and reduce reliance on chemical pesticides (Sharma, Kaur, and Singh 2017). Most scientists claim that there is no substantiated evidence that genetic crop modification makes foods less safe. For example, the National Academies of Sciences and Medicine (2016) reported that food from GM crops is no more dangerous than food produced by conventional agriculture. More than 150 Nobel laureates in areas such as chemistry, physics, and medicine signed an open letter in 2016 to endorse the safety of GM foods, noting that "opposition based on emotion and dogma contradicted by data must be stopped" (Support Precision Agriculture 2016).

Although the dominant view among scientific organizations is that GMOs do not harm human health, this view is not ubiquitous. In one review article, Krimsky (2015) noted that a group of scientists believe that each GM product should be tested over long periods for possible side effects. The author reviewed 26 animal feeding studies that identified adverse effects or animal health uncertainties, leading him to conclude that "putative consensus about the inherent safety of transgenic crops is premature" (p. 909). A joint statement by a group of researchers (Hilbeck et al. 2015) claimed that no consensus on GM food safety exists. They indicated that a conflict of interest exists in many reported studies supporting GM food because biotechnology companies often fund this research (Domingo and Bordonaba 2011). They further noted that no epidemiological studies have examined the effects of GM food consumption on humans. They concluded that it is necessary to test the effect of GM foods on humans and over longer periods.

GMOs: What Consumers Think

Several studies have documented consumers' lack of knowledge about GMOs, as noted by Wunderlich and Gatto (2015) in their review. These studies also document an overall negative attitude toward GMOs among consumers. Such negative attitudes could be driven by negative press associated with occurrences such as GM crops causing a decline in monarch butterflies, which a recent article refutes (Boyle, Dalgleish, and Puzey 2019). The primary concerns are that growing and consuming GM crops may cause health problems and allergic reactions.

Research has shown that the most extreme opponents of GM foods know the least about GMOs but think that they know the most (Fernbach et al. 2019). People's misplaced confidence stemming from the mismatch between what they think they know about science and what they actually know (Motta, Callaghan, and Sylvester 2018) polarizes attitudes even more (Fernbach et al. 2013).

The controversy around GM foods also relates to the growing literature on science denial (Sloman and Fernbach 2018) that identifies social mechanisms as the basis for extreme confidence in beliefs that contradict scientific consensus (Kahan, Jenkins-Smith, and Braman 2011). Specifically, many people have insufficient information to establish their own opinions on new technologies and scientific developments (Fernbach and Light 2020) and instead accept the opinions of

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people they trust (Sloman and Fernbach 2018). Well-known examples of science denial include vaccine safety, global warming and climate change, the rise in antibiotic resistance, and the safety of GM foods.

GMOs: What Policy Makers Do

GMO labeling policy in the United States was absence-focused when GM foods were first released in 1994. Some food companies use third-party verification, such as the Non-GMO Project (https://www.nongmoproject.org), to highlight the non-GMO aspect of their products. However, various consumer groups and nongovernmental organizations have argued for presence-focused labeling based on consumers' right to know what is in their food. They contend that the potential harm of GM foods needs to be made explicit.

Over the years, political pressure to introduce presence-focused GMO labeling in the United States has grown. In July 2016, U.S. Congress passed a bill requiring the U.S. Department of Agriculture to establish a national disclosure standard for GMOs. The new policy has a two-year phase-in period that began in January 2020. The proposed label under this policy has a nature-friendly theme on a green or black-and-white background and uses the term "bioengineered (BE)." Dozens of nations around the world have enacted presence-focused GMO labels based on the percentage of GMOs in ingredients or how the seed was developed. The GMO percentage thresholds vary among countries that have regulations. For example, the European Union (EU) and United Kingdom set this limit at .9%, whereas Australia set it at 1% (International Service for the Acquisition of Agri-Biotech Applications 2004).

Policy makers in many countries are uncertain whether GM foods are safe, and their labeling rules are based on such a perspective. For example, the EU has adopted the precautionary principle (European Commission 2017) for GMO labeling. This principle is often cited in cases of scientific uncertainty and the possibility of irreversible damage. It states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (United Nations General Assembly 1992, Principle 15).

Not surprisingly, GMO labeling policies are controversial. In a compelling counterargument to EU policies, Sunstein (2005) acknowledged the rationality behind the precautionary principle but cautioned that rigid regulatory controls based on the idea of "possible risk" can paralyze progress. He explained that, for GMOs, the precautionary principle results in substitute risks because it interferes with the promise of mitigating hunger and disease in developing countries by using foods such as golden rice, which is bioengineered to be rich in vitamin A.

In the United States, debate over the recently adopted logo is intense because it appears to signal the government's positive attitude toward GM foods. In Brazil, opponents of the current

Figure 2. Overview of predictions.

mandatory presence-focused GM logos accuse the country's policy makers of scaremongering. In Canada, which currently has no GMO labeling legislation, petitions have been circulated supporting mandatory presence-focused GMO labeling; in a survey of adults living in Canada, 90% of the respondents expressed support for mandatory GM labeling (Somogyi, Music, and Cunningham 2019).

Predictions

In this section, we develop predictions on how GMO labeling affects different aspects of consumer choice, including preference for GM foods, price sensitivity, and product category purchase. We also outline how these predicted effects are moderated by the GMO label format. Figure 2 summarizes our main hypotheses.

GMO Labeling and Consumer Choice

In an absence-focused labeling policy, manufacturers may use a "non-GMO" label when appropriate. In a world in which many consumers have negative attitudes toward GM products, non-GMO producers often use absence-focused claims (e.g., a TV ad for Triscuit[1]). Such claims are in line with those that highlight the absence of negatives—namely, no preservatives, no artificial colors, no chemicals, and so on. These nature-based claims that remove a negative strongly affect consumers' inferences about product's taste and healthfulness (André, Chandon, and Haws 2019), even when they are irrelevant to the actual quality. In contrast, in a presence-focused GMO labeling policy, regulators mandate that GM-food products display a "contains GMO" label. For many consumers who have negative attitudes toward GM products, this information signals potential risk.

The absence- and presence-focused labeling policies outlined thus far may impact consumers' evaluations of GM foods via two separate mechanisms—information valence and information source. With regard to information valence, it is well known that people place greater weight on negative information than positive information. This negativity bias (Rozin and Royzman 2001) is at the core of how consumers may

[1] See https://www.ispot.tv/ad/dRuzG/triscuit-non-gmo-project-verified-featuring-cecily-strong.

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evaluate a GMO label. From an evolutionary perspective, this bias occurs because we have a greater chance of surviving and thriving if we pay greater attention to negative information; negative events are more consequential than positive ones. Some argue that negative information is more informative because it is rarer (Fiske 1980), attracting more attention and thus being more "diagnostic or informative" (Skowronski and Carlston 1989). Previous research has documented negativity bias in a variety of contexts. For example, negative attributes are more diagnostic of product quality than positive ones (Herr, Kardes, and Kim 1991), and negative reviews have a stronger effect on purchase decisions (Chevalier and Mayzlin 2006).

In addition, absence- and presence-focused labeling differs by their information source. In presence-focused GMO labeling, a regulatory body mandates the display of GMO labels, whereas in absence-focused labeling, this decision is voluntary and made by the firm. The perceived credibility of a message's source can affect the recipient's cognitive response (Sternthal, Dholakia, and Leavitt 1978). For trusted information sources, consumers accept a message without undertaking an extensive assessment of its content (Finch, Deephouse, and Varella 2015). Evidence suggests that consumers trust public sources (e.g., a government) more than private ones (e.g., a firm). For example, Dyer and Kuehl (1974) found that advertising from a government source (the Federal Trade Commission) is more credible than that from a firm. Similar results have been noted for safety hazard information (Lirtzman and Shuv-Ami 1986), environmental information (Darnall, Ponting, and Vazquez-Brust 2012), and forest-product certification seals (Ozanne and Vlosky 1997). Given the differences in information valence and source between the two labeling regimes discussed thus far, we propose the following hypothesis:

H_1: Presence-focused GMO labeling makes consumers more sensitive to the GMO attribute when choosing a product than absence-focused GMO labeling.

GMO Labeling and Price Sensitivity

Previous studies have shown that negative information is more diagnostic and, as a result, attracts more attention (Skowronski and Carlston 1989). In line with the argument that attention is a scarce resource, DellaVigna (2009) demonstrated that greater attention to a previously unconsidered attribute reduces the relative importance of other attributes. Extending these theoretical findings to our research context, greater attention to GMO ingredients likely diverts consumer attention away from other product-related information, such as price. Negative presence-focused GMO labeling should reduce consumers' focus on price information more compared with absence-focused GMO labeling. Thus,

H_2: Presence-focused GMO labeling makes consumers less price sensitive than absence-focused labeling.

GMO Labeling and Product Category Purchase

Choice deferral is a means of mitigating the negativity generated in uncertain or difficult choice contexts. Previous research shows that this negative feeling in such contexts increases the likelihood that consumers will defer their decision (Luce 1998). Deferral occurs when no single option dominates a choice set or when consumers face difficult trade-offs between product attributes (Dhar 1997).

In our context, consider a Brand A, which contains GMOs, and a Brand B, which does not. Assume that a consumer prefers Brand A but prefers non-GMO ingredients. In the absence-focused condition, this consumer will choose between Brand A, not knowing whether it is a GM product, and Brand B, fully aware that it is a non-GM product because of the "non-GMO" label. Conversely, in the presence-focused condition, the same consumer will choose between Brand A, fully aware that it is a GM product because of the "contains GMO" label and Brand B, with no GMO-related knowledge. The trade-off between brand name and GM ingredients may be more difficult in the presence-focused condition because the consumer has to analyze the costs and benefits of a brand they prefer (Brand A) and an attribute they do not (GMO). This increased task difficulty may enhance the likelihood of choice deferral.

McKenzie, Liersch, and Finkelstein (2006) show that consumers tend to view a government's default option as an implicitly recommended course of action. In their studies, when the government uses the "organ donor" default, most participants inferred that (1) the policy makers were willing to be donors and (2) people ought to be donors. In the GMO labeling context, a GMO label mandated by a regulatory body may send a negative signal that consumers should avoid a product with GMO ingredients. Growing concerns and perceived risks associated with GMOs could increase customers' uncertainty about brand quality, thus leading to choice deferral. Therefore,

H_3: Presence-focused GMO labeling makes consumers less likely to purchase the relevant product category than absence-focused GMO labeling.

GMO Labeling Alignment and Consumer Choice

The first three hypotheses focus on scenarios where the product alternatives available apply either an absence-focused label or a presence-focused label. However, when a government mandates presence-focused labeling, firms that produce non-GM products may be free to use absence-focused labeling, as is the case in the United States today. Because many consumers view non-GM products favorably, firms offering non-GM products have a strong incentive to include such information on their product packaging to differentiate themselves from firms offering GM products. Therefore, when a mandatory GMO labeling policy is implemented in the marketplace, it is plausible that most—if not all—products will display either GMO or non-GMO labels. We use structural alignment theory (Kivetz and Simonson 2000; Slovic and MacPhillamy 1974; Zhang

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and Markman 2001) to discuss the impact of partial or complete GMO-related information on consumer choice and how they drive our predictions.

Consider the following example involving two mariners sauce brands, A and B. Brand A is sold at $2.00, without providing any information on GMO attributes; Brand B is sold at $2.50 and includes a non-GMO label. In this example, the price is alignable information because the attribute is present in both options. In contrast, under either the absence-focused or presence-focused labeling, GMO-related information is only available for Brand B, making it nonalignable. The structural alignment literature suggests that consumers pay more attention to alignable attributes (Gentner and Markman 1997) and put greater weight on them (Slovic and MacPhillamy 1974).

Consistent with this discussion, when both types of GMO labels are included (i.e., "non-GMO" and "contains GMO"), consumers will give greater weight to the GMO attribute. According to the arguments used previously for H_2, giving greater weight to the GMO attribute would (1) further reduce the weight consumers give to price information and (2) make them more reluctant to purchase a product in the category. Formally,

H_4: Compared with a situation where only presence-focused ("contains GMO") labels are displayed, when both absence-focused ("non-GMO") *and* presence-focused ("contains GMO") labels are displayed, consumers become (a) more sensitive to GMOs, (b) less sensitive to price, and (c) less likely to purchase in the product category.

GMO Labeling Format and Consumer Choice

A regulatory body's choice of GMO label reveals its beliefs or attitudes about GMOs and is, therefore, a critical policy decision—consumers tend to view a government's default option as an implicit recommended course of action (McKenzie, Liersch, and Finkelstein 2006). Moreover, Sher and McKenzie (2006) showed that a speaker's description signals their attitude toward an object. For example, if someone likes a team, they describe its successes, and if they do not, they note the team's failures. The descriptions a speaker chooses, even of seemingly equivalent objects, are important for listeners (McKenzie 2004).

As a concrete example involving the color of a GMO label, consumers tend to infer that a product has positive, nature-related attributes when it prominently displays the color green (Underwood and Klein 2002). Similarly, the color blue signals openness, peace, and tranquility (Mehta and Zhu 2009), whereas yellow signals caution. Such color choices and their associated signals are highly relevant for GMO labeling. We hypothesize that policy makers' choice of a GMO label (e.g., the color green, blue, or yellow) is important as it delivers an implicit recommendation that may influence consumers' choices.

H_5: The graphical format of the label determines how much impact the GMO attribute has on consumer choice, including (a) how sensitive consumers are to the GMO attribute, (b) how important price is to consumers, and (c) how likely consumers are to purchase in a given product category.

Consumers' prior beliefs about GMOs could also play a role in how much a labeling policy impacts them. Previous research showed that most individuals do not know enough details to establish their own perspectives on new technologies and scientific developments (Fernbach and Light 2020) and accept the position of others they trust (Sloman and Fernbach 2018). As a result, we anticipate that consumers in the middle, who neither like nor dislike GM products, are affected the most by the label format policy makers select.

Overview of Studies

We include four empirical studies. The first study uses a simple between-subjects design to examine the effect of different GMO labeling policies (i.e., absence, presence, or both) on consumer choice. We subsequently conduct three choice-based conjoint studies to test H_1–H_5. Study 2 focuses on H_1, H_2, and H_3 by disentangling the impact of GMO labeling on different aspects of consumer choice. Study 3 tests H_4, focusing on how the findings pertaining to H_1–H_3 are affected by GMO information disclosure (partial vs. full). Lastly, Study 4 tests H_5, focusing on how the different graphical formats of GMO labeling impact our previous findings.

Study 1

The goal of Study 1 was to demonstrate that different GMO labeling regimes (i.e., no GMO labeling, absence-focused labeling, presence-focused labeling, and both labeling conditions) can lead to systematic differences in demand for GM foods.

Procedures and Participants

Using Amazon Mechanical Turk (MTurk), we recruited respondents in exchange for monetary compensation. To begin, we asked the respondents questions to assess whether they shopped in the focal categories (marinara sauce and pickle) and whether they were paying attention to the study instructions. Of the 2,110 respondents who completed this first step of the study, 767 (36.4%) respondents did not qualify to continue because they did not shop in the two focal categories ($N = 644$; 30.5%) or failed to correctly answer the attention check questions ($N = 123$; 5.8%). A total of 1,343 respondents ($M_{age} = 41.0$ years; female = 62%) qualified to participate in the main study and completed it. We randomly assigned these respondents to one of the four study conditions in a between-subjects design ($N_{control} = 340$, $N_{absence} = 331$, $N_{presence} = 335$, $N_{both} = 337$).

We presented respondents with choice sets in two different product categories (marinara sauce and pickles) and asked them to select their preferred brand. We selected these two product categories because (1) they are frequently purchased

Summarizes all findings from **high-quality academic** articles that are already known with respect to the research question. Concludes with a **synthesis** of the relevant literature and the formulation of the study's **hypotheses** (conceptual framework).

Appendix

Example of the structure of an academic paper

(Hypothetical) Experiment / Study

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and (2) they complement the less healthy product category (potato chips) that we use in our subsequent studies.

In the marinara sauce category, the first two (Prego and Newman's Own) of the three brands included in the study were GM products while the third (Barilla) was a non-GM product. Similarly, in the pickles category, two brands (Claussen and Vlasic) were GM products and the third (Mt. Olive) was a non-GM product. In both categories, we gave respondents in the control condition no information on GMOs. In the absence labeling condition, only the non-GMO label was displayed. In the presence labeling condition, only the GMO label was displayed. Finally, in the both labeling condition, both non-GMO and GMO labels were displayed. Figure 3 shows the four GMO labeling conditions for the pickles category in this study. The stimuli for the marinara sauce category are included in the Web Appendix A (Figure W1).

Results

Figure 4 shows the share of non-GM and GM products in each category across the four labeling conditions. We found that the GMO labeling regime significantly impacts consumer choice of the brands included. In all three GMO labeling conditions (absence, presence, and both), more participants preferred the non-GM product than in the control condition, where no GMO-related information is displayed. The magnitude of these shifts in demand toward the non-GM product (Barilla or Mt. Olive) depended on the GMO labeling condition.

In the marinara sauce category (Figure 4, Panel A), the choice share of non-GM product was lower in the control condition ($\hat{s}_{control}$ = .171) than in the absence ($\hat{s}_{absence}$ = .236; z = −2.094, p = .046), presence ($\hat{s}_{presence}$ = .370; z = −5.825, p < .001), and both labeling conditions ($\hat{s}_{both}$ = .407; z = −6.780, p < .001). In addition, the non-GM product's choice share was lower in the absence labeling condition ($\hat{s}_{absence}$ = .236) than in the presence ($\hat{s}_{presence}$ = .370; z = −3.761; p < .001) and the both ($\hat{s}_{both}$ = .407; z = −4.730, p = .001) labeling conditions. These results imply that consumer preference for non-GM products increases progressively from control to absence to presence labeling conditions. The difference between the presence and both labeling conditions was not statistically significant ($\hat{s}_{presence}$ = .370 vs. $\hat{s}_{both}$ = .407; z = −.984, p = .374).

The findings for the pickles category (Figure 4, Panel B) are largely consistent with those for marinara sauce. The choice share of the non-GM product was lower in the control condition ($\hat{s}_{control}$ = .229) than in the absence ($\hat{s}_{absence}$ = .293; z = −1.888, p = .074), presence ($\hat{s}_{presence}$ = .421; z = −5.327, p < .001), and both ($\hat{s}_{both}$ = .469; z = −6.552, p < .001) labeling conditions. As in the marinara sauce category, the non-GM product's choice share was lower in the absence labeling condition ($\hat{s}_{absence}$ = .293) than in the presence ($\hat{s}_{presence}$ = .421; z = −3.446, p < .001) and both ($\hat{s}_{both}$ = .469; z = −4.685, p < .001) labeling conditions. Once again, the difference between the presence and both labeling conditions was not statistically significant ($\hat{s}_{presence}$ = .421 vs. $\hat{s}_{both}$ = .469; z = −1.252, p = .241).

Study 1 supports our central thesis—namely, that the way the GMO message is conveyed to consumers affects their choices. In all GMO labeling regimes, the share of non-GM products is greater than when no GMO-related information is revealed. The share of non-GM products increases progressively from control to absence to presence labeling conditions. Although these findings are interesting on their own, Study 1 raised important follow-up research questions. For example, should we expect GMO labeling to affect the importance of price to consumers and their willingness to pay (WTP) for a non-GM product? Does the manner in which the GMO message is delivered affect the product choice consumers make? Furthermore, Study 1 confounds brand and GM ingredients, as only the Barilla brand carried the GMO-free label and only Prego and Newman's Own displayed the "contains GMO" label in the marinara sauce category. To answer our next set of research questions and remove the confounding between brand and GMO ingredients, we conducted three choice-based conjoint experiments, which we report on next.

Study 2

The purpose of Study 2 was twofold. First, we test H_1, H_2, and H_3, which examine the impact of GMO labeling (absence vs. presence) on consumers' sensitivity to the GMO attribute, price, and category purchase, respectively. Second, we explore the behavioral processes associated with consumer choice under the different GMO labeling regimes. Unlike Study 1, we do not have a confound between brand and GMO ingredients in this study.

Procedures and Participants

To introduce Study 2, we used incentive alignment instructions similar to those employed by Hauser, Eggers, and Selove (2019), informing respondents that 25 of them would receive a total value of $5 based on their answers to the survey: either a product of their choice and a Walmart e-gift card for the remaining value, or a $5 Walmart e-gift card. Existing literature shows that incentive-alignment techniques make consumers likely to provide more realistic responses. When a study offers as an incentive a version of the product that is predicted to give consumers the highest utility, respondents put greater effort into the choice task, and their responses are more likely to reflect their actual preferences (Ding 2007; Hauser, Eggers, and Selove 2019).

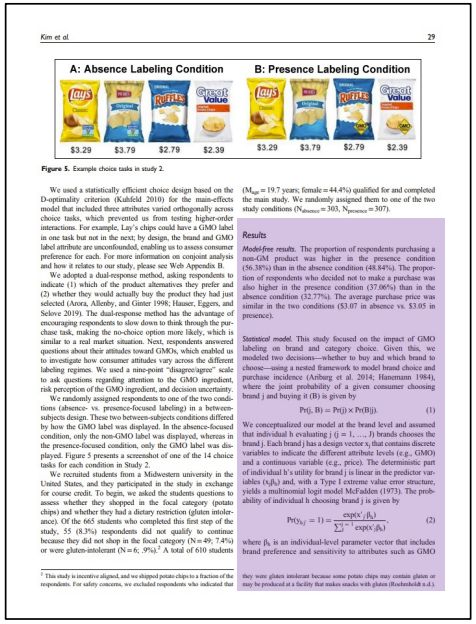
We informed respondents that the study's purpose was to understand how they evaluated potato chips. We asked the respondents to complete 14 choice tasks. In each choice task, we showed the respondents four brands of potato chips: Lay's, Herr's, Ruffles, and a private label. The price varied by brand. As in the marketplace, we set the prices of the national brands ($2.79, $3.29, $3.79) and the private brand ($1.99, $2.39, $2.79) at different levels. The two GMO label conditions were included or not included on the package. We displayed all four brands in each choice set, varying the GMO ingredients and prices from one scenario to the next in the 14 choice tasks.

Explains how the research question and hypotheses are translated into **measurable outcomes**.

Appendix

Example of the structure of an academic paper

Empirical Analysis and Results



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A: Absence Labeling Condition B: Presence Labeling Condition

$3.29 $3.79 $2.79 $2.39 $3.29 $3.79 $2.79 $2.39

Figure 5. Example choice tasks in study 2.

We used a statistically efficient choice design based on the D-optimality criterion (Kuhfeld 2010) for the main-effects model that included three attributes varied orthogonally across choice tasks, which prevented us from testing higher-order interactions. For example, Lay's chips could have a GMO label in one task but not in the next; by design, the brand and GMO label attribute are unconfounded, enabling us to assess consumer preference for each. For more information on conjoint analysis and how it relates to our study, please see Web Appendix B.

We adopted a dual-response method, asking respondents to indicate (1) which of the product alternatives they prefer and (2) whether they would actually buy the product they had just selected (Arora, Allenby, and Ginter 1998; Hauser, Eggers, and Selove 2019). The dual-response method has the advantage of encouraging respondents to slow down to think through the purchase task, making the no-choice option more likely, which is similar to a real market situation. Next, respondents answered questions about their attitudes toward GMOs, which enabled us to investigate how consumer attitudes vary across the different labeling regimes. We used a nine-point "disagree/agree" scale to ask questions regarding attention to the GMO ingredient, risk perception of the GMO ingredient, and decision uncertainty.

We randomly assigned respondents to one of the two conditions (absence- vs. presence-focused labeling) in a between-subjects design. These two between-subjects conditions differed by how the GMO label was displayed. In the absence-focused condition, only the non-GMO label was displayed, whereas in the presence-focused condition, only the GMO label was displayed. Figure 5 presents a screenshot of one of the 14 choice tasks for each condition in Study 2.

We recruited students from a Midwestern university in the United States, and they participated in the study in exchange for course credit. To begin, we asked the students questions to assess whether they shopped in the focal category (potato chips) and whether they had a dietary restriction (gluten intolerance). Of the 665 students who completed this first step of the study, 55 (8.3%) respondents did not qualify to continue because they did not shop in the focal category ($N = 49$; 7.4%) or were gluten-intolerant ($N = 6$; .9%).[5] A total of 610 students ($M_{age} = 19.7$ years; female = 44.4%) qualified for and completed the main study. We randomly assigned them to one of the two study conditions ($N_{absence} = 303$, $N_{presence} = 307$).

[5] This study is incentive aligned, and we shipped potato chips to a fraction of the respondents. For safety concerns, we excluded respondents who indicated that they were gluten intolerant because some potato chips may contain gluten or may be produced at a facility that makes snacks with gluten (Rochesholdt n.d.).

Results

Model-free results. The proportion of respondents purchasing a non-GM product was higher in the presence condition (56.38%) than in the absence condition (48.84%). The proportion of respondents who decided not to make a purchase was also higher in the presence condition (37.06%) than in the absence condition (32.77%). The average purchase price was similar in the two conditions ($3.07 in absence vs. $3.05 in presence).

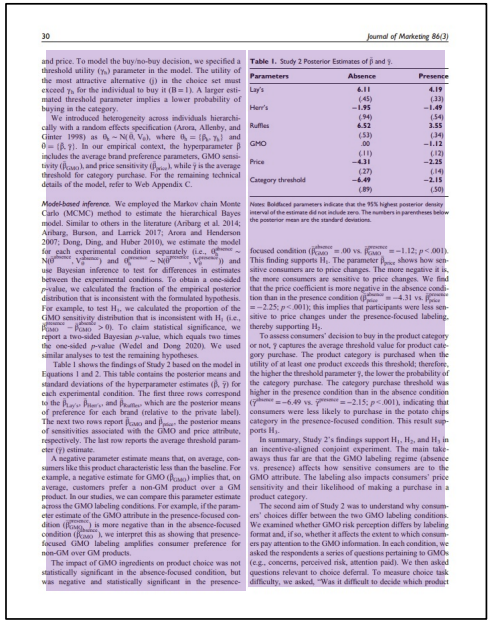
Statistical model. This study focused on the impact of GMO labeling on brand and category choice. Given this, we modeled two decisions—whether to buy and which brand to choose—using a nested framework to model brand choice and purchase incidence (Aribarg et al. 2014; Hanemann 1984), where the joint probability of a given consumer choosing brand j and buying it (B) is given by

$$\Pr(j, B) = \Pr(j) \times \Pr(B|j). \quad (1)$$

We conceptualized our model at the brand level and assumed that individual h evaluating j ($j = 1, \ldots, J$) brands chooses the brand j. Each brand j has a design vector x_j that contains discrete variables to indicate the different attribute levels (e.g., GMO) and a continuous variable (e.g., price). The deterministic part of individual h's utility for brand j is linear in the predictor variables ($x_j\beta_h$) and, with a Type I extreme value error structure, yields a multinomial logit model McFadden (1973). The probability of individual h choosing brand j is given by

$$\Pr(y_{hj} = 1) = \frac{\exp(x_j'\beta_h)}{\sum_{j=1}^{J}\exp(x_j'\beta_h)}, \quad (2)$$

where β_h is an individual-level parameter vector that includes brand preference and sensitivity to attributes such as GMO



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and price. To model the buy/no-buy decision, we specified a threshold utility (γ_h) parameter in the model. The utility of the most attractive alternative (j) in the choice set must exceed γ_h for the individual to buy it (B = 1). A larger estimated threshold parameter implies a lower probability of buying in the category.

We introduced heterogeneity across individuals hierarchically with a random effects specification (Arora, Allenby, and Ginter 1998) as $\theta_h \sim N(\theta, V_\theta)$, where $\theta_h = \{\beta_h, \gamma_h\}'$ and $\theta = \{\bar{\beta}, \bar{\gamma}\}$. In our empirical context, the hyperparameter $\bar{\beta}$ includes the average brand preference parameters, GMO sensitivity ($\bar{\beta}_{GMO}$), and price sensitivity ($\bar{\beta}_{price}$), while $\bar{\gamma}$ is the average threshold for category purchase. For the remaining technical details of the model, refer to Web Appendix C.

Model-based inference. We employed the Markov chain Monte Carlo (MCMC) method to estimate the hierarchical Bayes model. Similar to others in the literature (Aribarg et al. 2014; Aribarg, Burson, and Larrick 2017; Arora and Henderson 2007; Dong, Ding, and Huber 2010), we estimate the model for each experimental condition separately (i.e., $\theta_h^{absence} \sim N(\theta^{absence}, V_\theta^{absence})$ and $\theta_h^{presence} \sim N(\theta^{presence}, V_\theta^{presence})$) and use Bayesian inference to test for differences in estimates between the experimental conditions. To obtain a one-sided p-value, we calculated the fraction of the empirical posterior distribution that is inconsistent with the formulated hypothesis. For example, to test H_1, we calculated the proportion of the GMO sensitivity distribution that is inconsistent with H_1 (i.e., $\bar{\beta}_{GMO}^{presence} - \bar{\beta}_{GMO}^{absence} > 0$). To claim statistical significance, we report a two-sided Bayesian p-value, which equals two times the one-sided p-value (Wedel and Dong 2020). We used similar analyses to test the remaining hypotheses.

Table 1 shows the findings of Study 2 based on the model in Equations 1 and 2. This table contains the posterior means and standard deviations of the hyperparameter estimates ($\bar{\beta}$, $\bar{\gamma}$) for each experimental condition. The first three rows correspond to the $\bar{\beta}_{Lay's}$, $\bar{\beta}_{Herr's}$, and $\bar{\beta}_{Ruffles}$, which are the posterior means of preference for each brand (relative to the private label). The next two rows report $\bar{\beta}_{GMO}$ and $\bar{\beta}_{price}$, the posterior means of sensitivities associated with the GMO and price attribute, respectively. The last row reports the average threshold parameter ($\bar{\gamma}$) estimate.

A negative parameter estimate means that, on average, consumers like this product characteristic less than the baseline. For example, a negative estimate for GMO ($\bar{\beta}_{GMO}$) implies that, on average, customers prefer a non-GM product over a GM product. In our studies, we can compare this parameter estimate across the GMO labeling conditions. For example, if the parameter estimate of the GMO attribute in the presence-focused condition ($\bar{\beta}_{GMO}^{presence}$) is more negative than in the absence-focused condition ($\bar{\beta}_{GMO}^{absence}$), we interpret this as showing that presence-focused GMO labeling amplifies consumer preference for non-GM over GM products.

The impact of GMO ingredients on product choice was not statistically significant in the absence-focused condition, but was negative and statistically significant in the presence-focused condition ($\bar{\beta}_{GMO}^{absence} = .00$ vs. $\bar{\beta}_{GMO}^{presence} = -1.12$; $p < .001$). This finding supports H_1. The parameter $\bar{\beta}_{price}$ shows how sensitive consumers are to price changes. The more negative it is, the more consumers are sensitive to price changes. We find that the price coefficient is more negative in the absence condition than in the presence condition ($\bar{\beta}_{price}^{absence} = -4.31$ vs. $\bar{\beta}_{price}^{presence} = -2.25$; $p < .001$); this implies that participants were less sensitive to price changes under the presence-focused labeling, thereby supporting H_2.

To assess consumers' decision to buy in the product category or not, $\bar{\gamma}$ captures the average threshold value for product category purchase. The product category is purchased when the utility of at least one product exceeds this threshold; therefore, the higher the threshold parameter $\bar{\gamma}$, the lower the probability of the category purchase. The category purchase threshold was higher in the presence condition than in the absence condition ($\bar{\gamma}^{absence} = -6.49$ vs. $\bar{\gamma}^{presence} = -2.15$; $p < .001$), indicating that consumers were less likely to purchase in the potato chips category in the presence-focused condition. This result supports H_3.

In summary, Study 2's findings support H_1, H_2, and H_3 in an incentive-aligned conjoint experiment. The main takeaways thus far are that the GMO labeling regime (absence vs. presence) affects how sensitive consumers are to the GMO attribute. The labeling also impacts consumers' price sensitivity and their likelihood of making a purchase in a product category.

The second aim of Study 2 was to understand why consumers' choices differ between the two GMO labeling conditions. We examined whether GMO risk perception differs by labeling format and, if so, whether it affects the extent to which consumers pay attention to the GMO information. In each condition, we asked the respondents a series of questions pertaining to GMOs (e.g., concerns, perceived risk, attention paid). We then asked questions relevant to choice deferral. To measure choice task difficulty, we asked, "Was it difficult to decide which product

Table 1. Study 2 Posterior Estimates of $\bar{\beta}$ and $\bar{\gamma}$.

Parameters	Absence	Presence
Lay's	**6.11**	**4.19**
	(.45)	(.33)
Herr's	**−1.95**	**−1.49**
	(.94)	(.54)
Ruffles	**6.52**	**3.55**
	(.53)	(.34)
GMO	.00	**−1.12**
	(.11)	(.12)
Price	**−4.31**	**−2.25**
	(.27)	(.14)
Category threshold	**−6.49**	**−2.15**
	(.89)	(.50)

Notes: Boldfaced parameters indicate that the 95% highest posterior density interval of the estimate did not include zero. The numbers in parentheses below the posterior mean are the standard deviations.

Reports the analyses and results and indicates whether the hypotheses are supported or rejected.

Important:

- Results are reported only in empirical studies.
- For non-empirical studies, discuss the analyses only briefly.
- Do not invent or speculate about results in non-empirical work.

Appendix

Example of the structure of an academic paper

Discussion

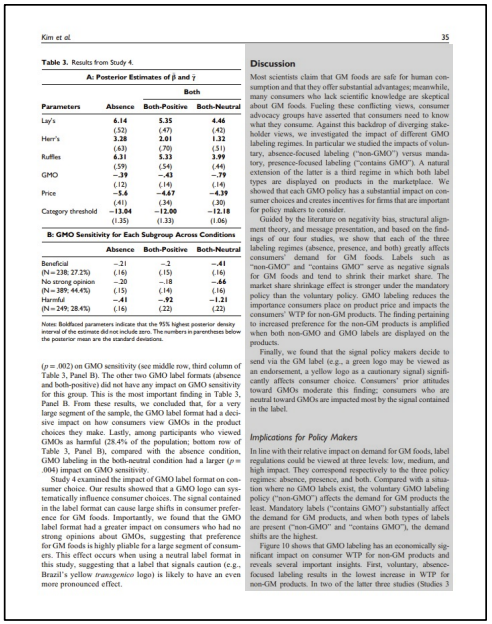

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Table 3. Results from Study 4.

A: Posterior Estimates of β and γ

Parameters	Absence	Both-Positive	Both-Neutral
		Both	
Lay's	6.14	5.35	4.46
	(.52)	(.47)	(.42)
Herr's	3.28	2.01	1.32
	(.63)	(.70)	(.51)
Ruffles	6.31	5.33	3.99
	(.59)	(.54)	(.46)
GMO	−.39	−.43	−.79
	(.12)	(.14)	(.14)
Price	−5.6	−4.67	−4.39
	(.41)	(.34)	(.30)
Category threshold	−13.04	−12.00	−12.18
	(1.35)	(1.33)	(1.06)

B: GMO Sensitivity for Each Subgroup Across Conditions

	Absence	Both-Positive	Both-Neutral
Beneficial (N = 238; 27.2%)	−.21	−.2	−.41
	(.16)	(.15)	(.16)
No strong opinion (N = 389; 44.4%)	−.20	−.18	−.66
	(.15)	(.14)	(.16)
Harmful (N = 249; 28.4%)	−.41	−.92	−1.21
	(.16)	(.22)	(.22)

Notes: Boldfaced parameters indicate that the 95% highest posterior density interval of the estimate did not include zero. The numbers in parentheses below the posterior mean are the standard deviations.

($p = .002$) on GMO sensitivity (see middle row, third column of Table 3, Panel B). The other two GMO label formats (absence and both-positive) did not have any impact on GMO sensitivity for this group. This is the most important finding in Table 3, Panel B. From these results, we concluded that, for a very large segment of the sample, the GMO label format had a decisive impact on how consumers view GMOs in the product choices they make. Lastly, among participants who viewed GMOs as harmful (28.4% of the population; bottom row of Table 3, Panel B), compared with the absence condition, GMO labeling in the both-neutral condition had a larger ($p = .004$) impact on GMO sensitivity.

Study 4 examined the impact of GMO label format on consumer choice. Our results showed that a GMO logo can systematically influence consumer choices. The signal contained in the label format can cause large shifts in consumer preference for GM foods. Importantly, we found that the GMO label format had a greater impact on consumers who had no strong opinions about GMOs, suggesting that preference for GM foods is highly pliable for a large segment of consumers. This effect occurs when using a neutral label format in this study, suggesting that a label that signals caution (e.g., Brazil's yellow *transgenico* logo) is likely to have an even more pronounced effect.

Discussion

Most scientists claim that GM foods are safe for human consumption and that they offer substantial advantages; meanwhile, many consumers who lack scientific knowledge are skeptical about GM foods. Fueling these conflicting views, consumer advocacy groups have asserted that consumers need to know what they consume. Against this backdrop of diverging stakeholder views, we investigated the impact of different GMO labeling regimes. In particular we studied the impacts of voluntary, absence-focused labeling ("non-GMO") versus mandatory, presence-focused labeling ("contains GMO"). A natural extension of the latter is a third regime in which both label types are displayed on products in the marketplace. We showed that each GMO policy has a substantial impact on consumer choices and creates incentives for firms that are important for policy makers to consider.

Guided by the literature on negativity bias, structural alignment theory, and message presentation, and based on the findings of our four studies, we show that each of the three labeling regimes (absence, presence, and both) greatly affects consumers' demand for GM foods. Labels such as "non-GMO" and "contains GMO" serve as negative signals for GM foods and tend to shrink their market share. The market share shrinkage effect is stronger under the mandatory policy than the voluntary policy. GMO labeling reduces the importance consumers place on product price and impacts the consumers' WTP for non-GM products. The finding pertaining to increased preference for the non-GM products is amplified when both non-GMO and GMO labels are displayed on the products.

Finally, we found that the signal policy makers decide to send via the GM label (e.g., a green logo may be viewed as an endorsement, a yellow logo as a cautionary signal) significantly affects consumer choice. Consumers' prior attitudes toward GMOs moderate this finding; consumers who are neutral toward GMOs are impacted most by the signal contained in the label.

Implications for Policy Makers

In line with their relative impact on demand for GM foods, label regulations could be viewed at three levels: low, medium, and high impact. They correspond respectively to the three policy regimes: absence, presence, and both. Compared with a situation where no GMO labels exist, the voluntary GMO labeling policy ("non-GMO") affects the demand for GM products the least. Mandatory labels ("contains GMO") substantially affect the demand for GM products, and when both types of labels are present ("non-GMO" and "contains GMO"), the demand shifts are the highest.

Figure 10 shows that GMO labeling has an economically significant impact on consumer WTP for non-GM products and reveals several important insights. First, voluntary, absence-focused labeling results in the lowest increase in WTP for non-GM products. In two of the latter three studies (Studies 3

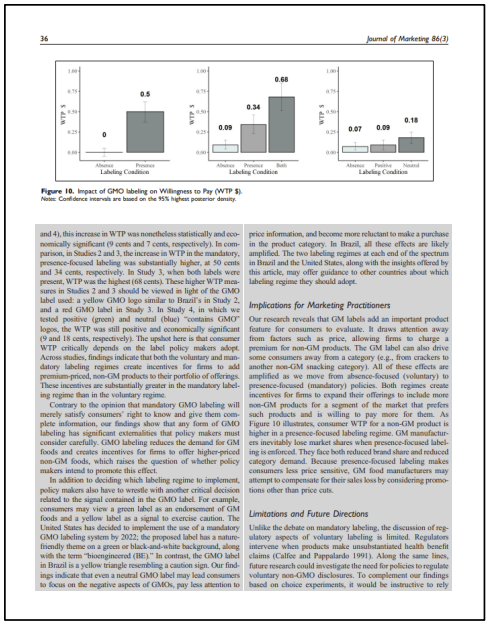

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Figure 10. Impact of GMO labeling on Willingness to Pay (WTP $).
Notes: Confidence intervals are based on the 95% highest posterior density.

and 4), this increase in WTP was nonetheless statistically and economically significant (9 cents and 7 cents, respectively). In comparison, in Studies 2 and 3, the increase in WTP in the mandatory, presence-focused labeling was substantially higher, at 50 cents and 34 cents, respectively. In Study 3, when both labels were present, WTP was the highest (68 cents). These higher WTP measures in Studies 2 and 3 should be viewed in light of the GMO label used: a yellow GMO logo similar to Brazil's in Study 2, and a red GMO label in Study 3. In Study 4, in which we tested positive (green) and neutral (blue) "contains GMO" logos, the WTP was still positive and economically significant (9 and 18 cents, respectively). The upshot here is that consumer WTP critically depends on the label policy makers adopt. Across studies, findings indicate that both the voluntary and mandatory labeling regimes create incentives for firms to add premium-priced, non-GM products to their portfolio of offerings. These incentives are substantially greater in the mandatory labeling regime than in the voluntary regime.

Contrary to the opinion that mandatory GMO labeling will merely satisfy consumers' right to know and give them complete information, our findings show that any form of GMO labeling has significant externalities that policy makers must consider carefully. GMO labeling reduces the demand for GM foods and creates incentives for firms to offer higher-priced non-GM foods, which raises the question of whether policy makers intend to promote this effect.

In addition to deciding which labeling regime to implement, policy makers also have to wrestle with another critical decision related to the signal contained in the GMO label. For example, consumers may view a green label as an endorsement of GM foods and a yellow label as a signal to exercise caution. The United States has decided to implement the use of a mandatory GMO labeling system by 2022; the proposed label has a nature-friendly theme on a green or black-and-white background, along with the term "bioengineered (BE)." In contrast, the GMO label in Brazil is a yellow triangle resembling a caution sign. Our findings indicate that even a neutral GMO label may lead consumers to focus on the negative aspects of GMOs, pay less attention to price information, and become more reluctant to make a purchase in the product category. In Brazil, all these effects are likely amplified. The two labeling regimes at each end of the spectrum in Brazil and the United States, along with the insights offered by this article, may offer guidance to other countries about which labeling regime they should adopt.

Implications for Marketing Practitioners

Our research reveals that GM labels add an important product feature for consumers to evaluate. It draws attention away from factors such as price, allowing firms to charge a premium for non-GM products. The GM label can also drive some consumers away from a category (e.g., from crackers to another non-GM snacking category). All of these effects are amplified as we move from absence-focused (voluntary) to presence-focused (mandatory) policies. Both regimes create incentives for firms to expand their offerings to include more non-GM products for a segment of the market that prefers such products and is willing to pay more for them. As Figure 10 illustrates, consumer WTP for a non-GM product is higher in a presence-focused labeling regime. GM manufacturers inevitably lose market shares when presence-focused labeling is enforced. They face both reduced brand share and reduced category demand. Because presence-focused labeling makes consumers less price sensitive, GM food manufacturers may attempt to compensate for their sales loss by considering promotions other than price cuts.

Limitations and Future Directions

Unlike the debate on mandatory labeling, the discussion of regulatory aspects of voluntary labeling is limited. Regulators intervene when products make unsubstantiated health benefit claims (Califee and Pappalardo 1991). Along the same lines, future research could investigate the need for policies to regulate voluntary non-GMO disclosures. To complement our findings based on choice experiments, it would be instructive to rely

Summarizes the key findings, situates them within the existing literature, discusses the **limitations**, and provides an outlook on **future research**, followed by a **conclusion**.

Appendix

Example of the structure of an academic paper

Conclusion

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on purchase data over time (e.g., Moorman 1996) from sources such as Nielsen and IRI to investigate how GMO labeling affects consumer behavior. Our choice experiments offer limited evidence for category shrinkage effects because of GMO labeling; a rigorous test for such effects would be in a multicategory context using household-level panel data.

Conclusion

GMO labels create vertical differentiation for many consumers by signaling that non-GM products are better than GM products. They draw attention away from factors such as price—making it less important—and allow firms to charge a premium for non-GM products. Even a voluntary GMO labeling policy deserves regulatory scrutiny because it causes a decrease in demand for GM products. In comparison, a mandatory GMO labeling policy shrinks the demand for GM products even more, and the signal contained in the GMO logo (e.g., color) plays a critical role in consumers' perceptions of GM products. Both voluntary and mandatory policy regimes create incentives for firms to expand their offerings to include more non-GM products for the market segment that prefers such products and is willing to pay more for them. The critical question for policy makers here is whether they wish to promote such consumer and firm behaviors.

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References

André, Quentin, Pierre Chandon, and Kelly Haws (2019), "Healthy Through Presence or Absence, Nature or Science? A Framework for Understanding Front-of-Package Food Claims," *Journal of Public Policy & Marketing*, 38 (2), 172–91.
Arrhag, Anocha, Neeraj Arora, Ty Henderson, and Youngju Kim (2014), "Private Label Imitation of a National Brand: Implications for Consumer Choice and law," *Journal of Marketing Research*, 51 (6), 657–75.
Arrhag, Anocha, Katherine A. Burton, and Richard P. Larrick (2017), "Tipping the Scale: The Role of Discriminability in Conjoint Analysis," *Journal of Marketing Research*, 54 (2), 279–92.
Arora, Neeraj, Greg M. Allenby, and James L. Ginter (1998), "A Hierarchical Bayes Model of Primary and Secondary Demand," *Marketing Science*, 17 (1), 29–44.
Arora, Neeraj and Ty Henderson (2007), "Embedded Premium Promotion: Why It Works and How to Make It More Effective," *Marketing Science*, 26 (4), 514–31.
Borges, Bárbara J.P., Olívia M.N. Arantes, Antonio A.R. Fernandes, James R. Binach, and Patrícia M.B. Fernandes (2018), "Genetically Modified Labeling Policies: Moving Forward or Backward?" *Frontiers in Bioengineering and Biotechnology*, 6 (181), https://www.frontiersin.org/articles/10.3389/fbioe.2018.00181/full.
Boyle, John H., Harmony J. Dalgleish, and Joshua R. Puzey (2019), "Monarch Butterfly and Milkweed Declines Substantially Predate the Use of Genetically Modified Crops," *Proceedings of the National Academy of Sciences*, 116 (8), 3006–11.
Caffee, John F. and Janis K. Pappalardo (1991), "Public Policy Issues in Health Claims for Foods," *Journal of Public Policy & Marketing*, 10 (1), 33–53.
Chevalier, Judith A. and Dina Mayzlin (2006), "The Effect of Word of Mouth on Sales: Online Book Reviews," *Journal of Marketing Research*, 43 (3), 345–54.
Dannenberg, Astrid (2009), "The Dispersion and Development of Consumer Preferences for Genetically Modified Food—A Meta-Analysis," *Ecological Economics*, 68 (8/9), 2182–92.
Darnall, Nicole, Cerys Ponting, and Diogo A. Vazquez-Brust (2012), "Why Consumers Buy Green," in *Green Growth: Managing the Transition to a Sustainable Economy*, Diogo A. Vazquez-Brust and Joseph Sarkis, eds. New York: Springer, 287–308.
Della Vigna, Stefano (2009), "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature*, 47 (2), 315–72.
Dhar, Ravi (1997), "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, 24 (2), 215–31.
Ding, Min (2007), "An Incentive-Aligned Mechanism for Conjoint Analysis," *Journal of Marketing Research*, 44 (2), 214–23.
Domingo, José L. and Jordi G. Bordonaba (2011), "A Literature Review on the Safety Assessment of Genetically Modified Plants," *Environment International*, 37 (4), 734–42.
Dong, Songting, Min Ding, and Joel Huber (2010), "A Simple Mechanism to Incentive-Align Conjoint Experiments," *International Journal of Research in Marketing*, 27 (1), 25–32.
Dyer, Robert F. and Philip G. Kuehl (1974), "The 'Corrective Advertising' Remedy of the FTC: An Experimental Evaluation: An Empirical Study of the Effectiveness of Corrective Advertising," *Journal of Marketing*, 38 (1), 48–54.
Egeberg, Morten (2010), "The European Commission," in *European Union Politics*, 3rd ed., Michelle Cini and Nieves Perez-Solorzano Borragan, eds. Oxford, UK: Oxford University Press, 125–40.
European Commission (2017), *The Precautionary Principle: Decision-Making Under Uncertainty*. Luxembourg: Publications Office of the European Union.
Fernbach, Philip M. and Nicholas Light (2020), "Knowledge Is Shared," *Psychological Inquiry*, 31 (1), 26–8.
Fernbach, Philip M., Nicholas Light, Sydney E. Scott, Yoel Inbar, and Paul Rozin (2019), "Extreme Opponents of Genetically Modified Foods Know the Least but Think They Know the Most," *Nature Human Behaviour*, 3 (1), 251–56.

Briefly **summarizes** the thesis by answering the **research question**.
No new content is introduced.

What else do I need to include in the thesis outline?

Appendix
Statutory Declaration

The declaration must include the **place and date** and must be signed **personally**.

Eidesstattliche Erklärung	Statutory Declaration
Hiermit erkläre ich, dass ich die vorliegende Arbeit selbstständig und ohne Benutzung anderer als der angegebenen Hilfsmittel (inklusive ChatGPT oder anderer künstlicher Intelligenz) angefertigt habe. Mir ist bekannt, dass ich die volle Verantwortung für die Wissenschaftlichkeit des vorgelegten Textes selbst übernehme, auch wenn KI-Hilfsmittel eingesetzt und deklariert wurden. Alle Stellen, die wörtlich oder sinngemäss aus veröffentlichten oder nicht veröffentlichten Schriften entnommen wurden, sind als solche kenntlich gemacht. Die Arbeit ist in gleicher oder ähnlicher Form oder auszugsweise im Rahmen einer anderen Prüfung noch nicht vorgelegt worden.	I hereby declare that I have composed this work independently and without the use of any aids other than those declared (including ChatGPT or other artificial intelligence). I am aware that I take full responsibility for the scientific character of the submitted text myself, even if AI aids were used and declared. All passages taken verbatim or in spirit from published or unpublished writings are identified as such. The work has not yet been submitted in the same or similar form or in excerpts as part of another examination.

Appendix
Declaration of the Usage of AI

AI offers opportunities to support you in writing your thesis. However, caution is required when using AI, as it cannot think critically and its outputs are not always accurate. It is therefore essential to use AI responsibly:

- Include a complete description of how AI was used as an appendix to the declaration on the use of AI (see next slide). If you did not use AI, please indicate 0% in the respective sections.
- For referencing in your thesis, you may follow the APA Style guidelines (see the APA guidance on citing ChatGPT).
- The **Declaration on the Usage of AI** must include the place and date and must be signed personally.

Declaration of the Usage of AI

I declare that I have not used any artificial intelligence (AI) assistants for this work, except as noted below. Please indicate if you used any AI assistants (e.g., ChatGPT, DALL-E2, Stable Diffusion, Lumen 5, Gen-1, Looka, and Grammarly) to write or edit your thesis or computer code used within or for this thesis:

☐ Yes, I used an AI assistant to assist me with this thesis.

☐ No, I did not use any AI assistants to assist me with this thesis.

If you selected "Yes", please indicate the following. Which AI assistant(s) did you use?

_____

Appendix

Declaration of the Usage of AI: How did you use AI tools?

First, please indicate if you used AI for any of the following examples and if so, specify the input, where, and how you used the output for each. Second, indicate the references that the AI can access and reflect about the quality of the references. Third, indicate what percentage of your thesis was written or edited using AI for the examples below.

☐ **1. Editing purposes**: *Examples for 1.: "Prompt: I was unhappy with the phrasing of around 12 sentences in Chapter 2.1, and I asked ChatGPT to provide an alternative text for these sentences. For that, I submitted the full sentences to ChatGPT and asked ChatGPT to improve the writing. Output: Half of the sentences I just copy-pasted without changing them. For the other half of the sentences, I only used parts of the suggested changes (~2 words per sentence)"; "I used ChatGPT to find synonyms for repetitive words with the prompt "synonyms for …"."; "I used DeepL to check my thesis for grammar mistakes."; "I used DeepL to reformulate my thesis in an academic language."*

What percentage of the present work was edited that way? ___%

☐ **2. Shortening**: *Example for 2.: "Prompt: I submitted a whole paragraph from Chapter 4.2 and asked ChatGPT to shorten the text. Output: I copy-pasted the whole paragraph without editing."*

What percentage of the present work was edited that way? ___%

☐ **3. Generating ideas/texts/references**: *Examples for 3.: "Prompt: I submitted the general topic and some bullet points to ChatGPT and asked it to generate open questions based on that input. Output: I used the ideas but rewrote the sentences."; "When prompted with "Define X (in one sentence)" the ChatGPT-generated text gave a short sentence definition, that I used in chapter 2.1.1., defining "Y"."; "I asked ChatGPT to give me a reference list on the topic of X, which I used in chapter 2.1 to write the paragraph about X. Specifically, when prompted with "X" the ChatGPT-generated text gave a reference list: "Here are some references related to the concept of X: reference 1, … ." Examples for 2.: "Scite can access a wide range of research articles, books, reports, and preprints. This extensive coverage includes content from both open access sources and publishers with whom Scite has indexing agreements, such as Wiley, Sage, Cambridge University Press, the American Chemical Society, and The Royal Society. However, it's noteworthy that Scite's selection tends to predominantly feature European journals, notably from publishers like Emerald. In other cases, Scite only has access to citation metadata without full-text content. This includes notable A+ Journals such as Journal of Marketing, Journal of Marketing Research, Journal of Consumer Research, and Marketing Science. While Scite can provide citation information, it cannot include them in the literature reviews. Therefore, I supplemented Scite with other databases or institutional access to ensure comprehensive literature reviews. Furthermore, I ensured the correctness of the citations provided by Scite by manually checking them."*

What percentage of the present work was edited that way? ___%

☐ **4. Help with problems in coding (e.g., for data analysis purposes, coding of experiments, or simulation studies):** *Example for 4.: "Prompt: I copied malfunctioning code/an error message from R into ChatGPT and asked why my code is not working/for improvements of my code. Output: I implemented the changes/copy-pasted the corrected code into RStudio. I verified that every line of the resulting R code and output correspond to the intended statistical analysis."*

What percentage of the present work was edited that way? ___%

☐ **5. Other:** *Explanation: "Please list any other applications that are not covered by 1.-4. above."*

What percentage of the present work was edited that way? ___%

How do I formulate a research question that is appropriate to the topic?

Appendix
Research Question (RQ)

Formulate a research question that is appropriate to the topic. The causal relationship hypothesized in the research question will be theoretically derived in your conceptual framework based on the literature and empirically tested in your experiment.

Formulate open "W-questions," such as: *What is the relationship …? / What kind of relationship exists …?*
The research question should be concise and precisely worded. It should also be theoretically grounded and build on existing research, while also being relevant to practice.

Important: Your research question must be novel, meaning that the existing literature has not yet addressed it. Since you will often build on prior research, you must clearly explain how your research question differs from and extends existing work.

Note: Develop several alternative research question ideas. Together with your supervisor, you can then identify the most promising one.

In most cases, your thesis will be a qualitative study. Accordingly, you will develop the research question without answering it through data collection and analysis. Instead, you will design and outline an experiment which addresses the research question.

What is a conceptual framework and how do I develop one?

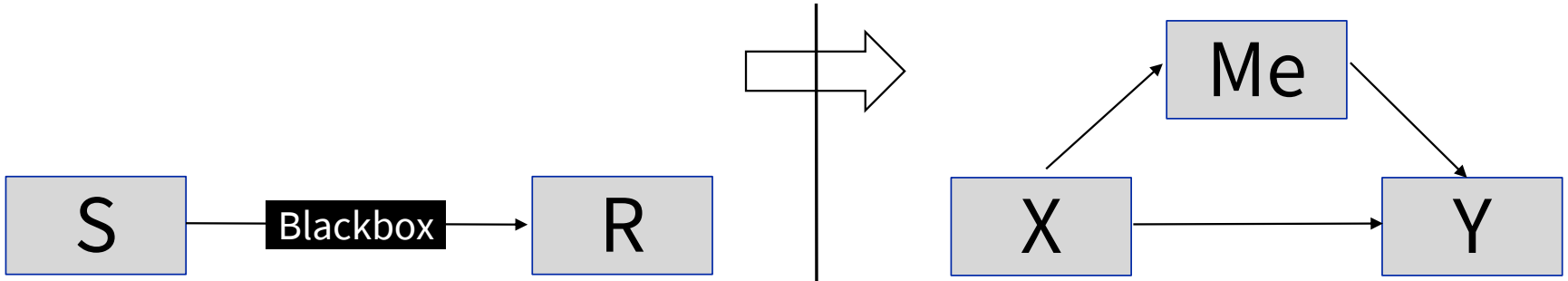
Appendix
Framework: Direct Effect

Direct Effect:
Shows the relationship between an independent variable X and a dependent variable Y.

Examples:
- Sun, Jennifer J.; Bellezza, Silvia; Paharia, Neeru (2021): Buy Less, Buy Luxury: Understanding and Overcoming Product Durability Neglect for Sustainable Consumption. In: Journal of Marketing 85 (3), S. 28–43.
- Tezer, Ali; Bodur, H. Onur (2020): The Greenconsumption Effect: How Using Green Products Improves Consumption Experience. In: Journal of Consumer Research 47 (1), S. 25–39.
- Winterich, Karen Page; Reczek, Rebecca Walker; Irwin, Julie R. (2017): Keeping the Memory but Not the Possession: Memory Preservation Mitigates Identity Loss from Product Disposition. In: Journal of Marketing 81 (5), S. 104–120.

Appendix
Framework: What is a mediation? (1/2)

Mediation:
A mediator (Me) is a variable that causally links an independent variable X to a dependent variable Y. Conceptually, the statistical model of mediation is based on the stimulus–organism–response (S-O-R) paradigm.



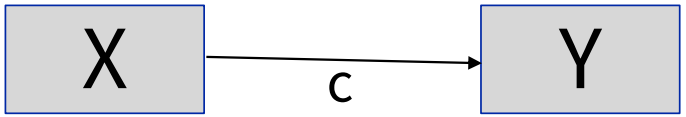
S-O-R-Modell:
- Question: Is there a relationship between the two variables (i.e., does X influence Y)?
- "Blackbox" is ignored.

Mediation Analysis:
- Question: why does a stimulus cause a reaction (i.e., which process(es) take place between X and Y)?
- The mediator can be an emotional, cognitive, or physiological process.

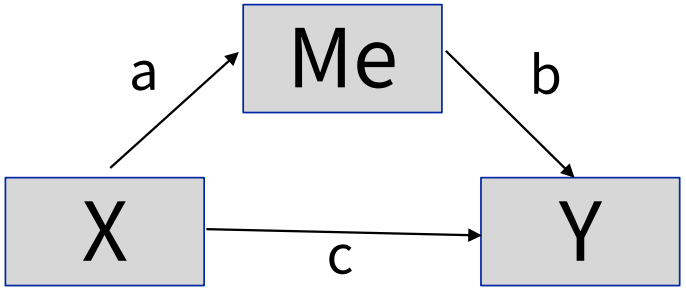
Appendix
Framework: What is a mediation? (2/2)

Mediation identifies three types of effects:

c = total effect (i.e., effect of X on Y)



a * b = indirect effect of X on Y
c' = direct effect of X on Y

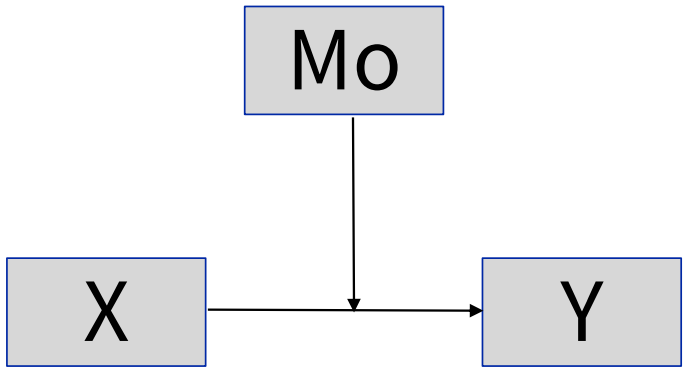


→ total effect = direct effect + indirect effect c = c' + (a*b)
→ indirect effect = complete mediation – direct effect (a*b) = c - c'

Appendix
Framework: What is a moderation?

Moderation:
A moderator (Mo) is a variable that alters the strength and/or direction of the relationship between an independent variable X and a dependent variable Y.

Synonyms: interaction, multiplicative effect.

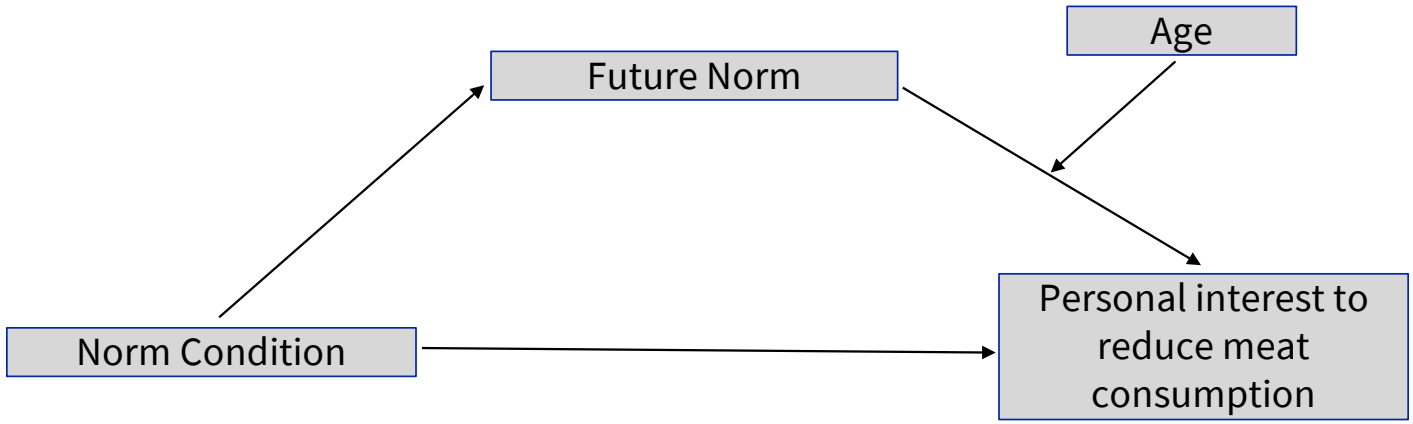


Moderation Analysis:
Addresses the question of when a stimulus elicits a response:

- Under what conditions does a variable Mo influence the strength of the effect of variable X on variable Y?
- A moderator can be a variable that specifies for whom, when, or under which conditions the relationship between X and Y holds.
- Examples of moderators include demographic characteristics (e.g., age, weight, income), geographic characteristics (e.g., place of residence), and psychographic characteristics (e.g., interests, attitudes, values).

Appendix
Framework: Moderation & Mediation – Example (1/4)

Fictitious Example

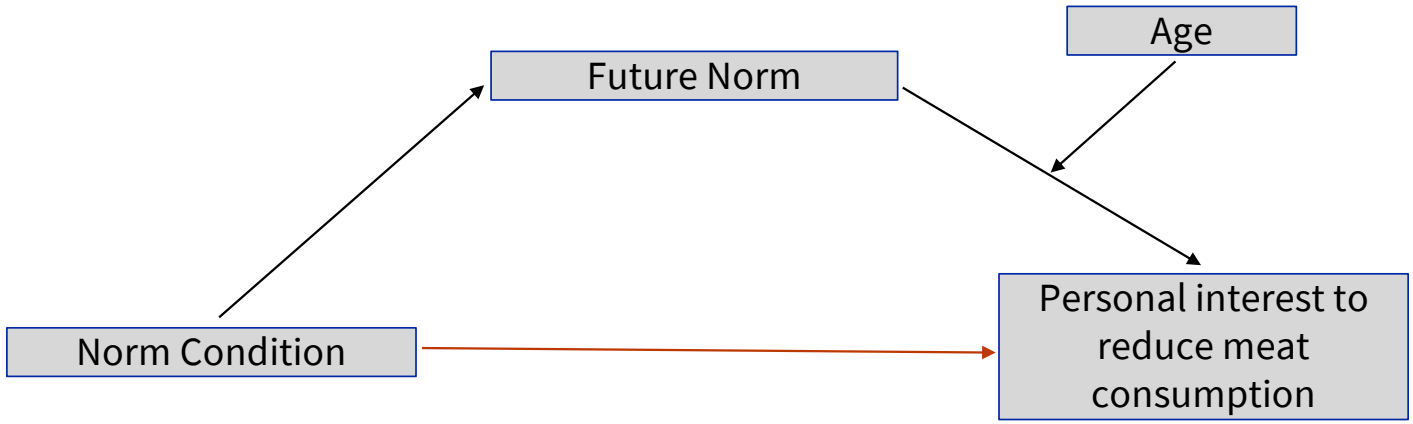


Important: The relationships between moderators, mediators, independent variables, and dependent variables may also take different forms. These relationships must be theoretically derived and justified using existing academic literature.

For more examples:
Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological science, 28*(11), 1663-1674.

Appendix
Framework: Moderation & Mediation – Example (2/4)

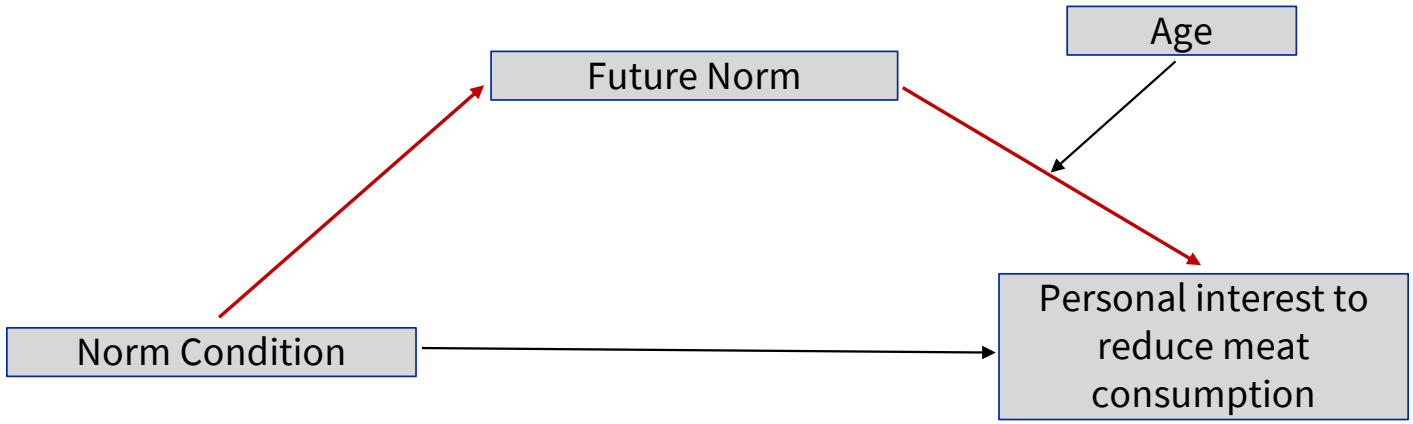
Fictitious Example



Exposure to dynamic norms regarding meat consumption has a positive effect on individuals' interest in reducing their meat consumption.

Appendix
Framework: Moderation & Mediation – Example (3/4)

Fictitious Example

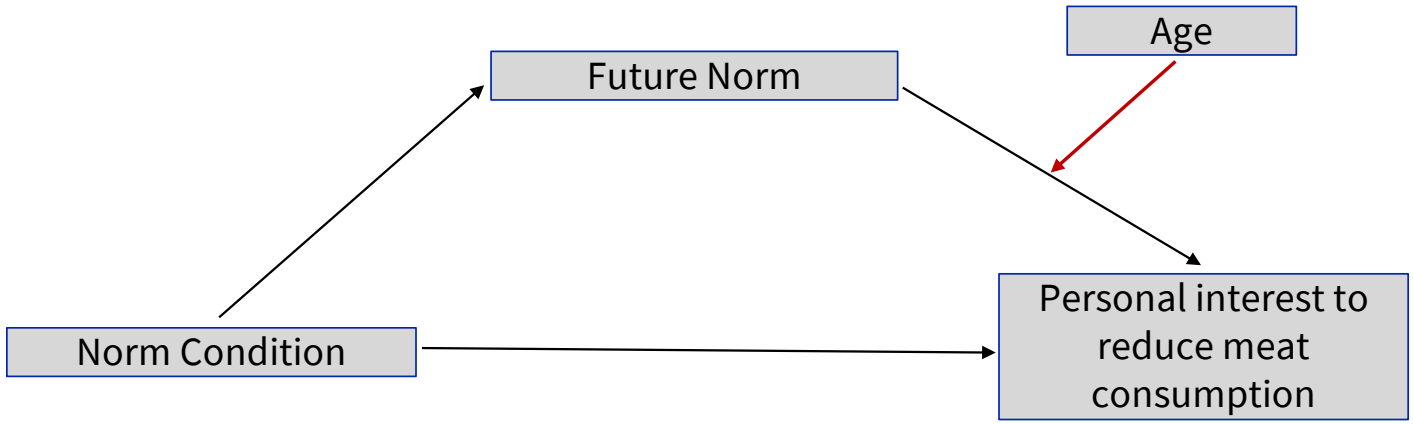


Exposure to dynamic norms regarding meat consumption has a positive effect on individuals' interest in reducing their meat consumption.

This effect is mediated by the anticipation of lower meat consumption in the future; that is, the perception of a changing norm motivates individuals to imagine that eating less meat will become normative in the future. This anticipation, in turn, has a positive effect on interest in reducing one's own meat consumption.

Appendix
Framework: Moderation & Mediation – Example (4/4)

Fictitious Example



Exposure to dynamic norms regarding meat consumption has a positive effect on individuals' interest in reducing their meat consumption.

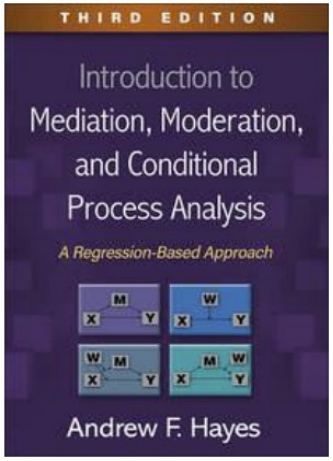
However, this effect is moderated by age; specifically, it is stronger for younger individuals and weaker for older individuals. Thus, when comparing a younger and an older person with the same initial level of interest, the perception of a changing norm has a differential impact on their interest in reducing their own meat consumption due to age.

Appendix
Framework: Further Questions?

Which of the causal relationships described on the preceding slides should be included in your conceptual framework depends on your research question.

Accordingly, you do not necessarily need to model moderation, mediation, or both in your conceptual framework. However, the hypothesized relationships between the variables must be theoretically derived and justified using existing, conceptually related academic literature.

For further information on moderation and mediation effects, possible relationships, and explanations of the analyses:



Find it in our library (UB/ZB):
https://swisscovery.slsp.ch/permalink/41SLSP_NETWORK/19n6r1g/alma991170868685905501

What do I need to consider when formulating hypotheses?

Appendix
Hypotheses

Formulate hypotheses that precisely specify the relationships described in your conceptual framework. The hypotheses should …

- …be statements rather than value judgments.
- …be grounded in existing literature.
- …be directionally causal (e.g., X has a positive effect on Y).

The explanations of the individual causal relationships presented on the preceding slides can serve as a guide for formulating your hypotheses.

What do I need to consider when conducting an empirical study?

Appendix
Empirical Analyses (only for empirical theses!)

It is expected that you conduct the data analysis independently. This requires a thorough engagement with the data and the analytical methods used.

Responsible handling of the data is mandatory. In the event of non-compliance with the confidentiality agreement (see the PDF on the publication of student theses), we reserve the right to initiate the necessary legal action.

The methods consultation provides an overview of the most used analytical procedures.

For the analysis, we recommend using statistical software (e.g., R, Python, SPSS, STATA). Through the Central IT Services of the University of Zurich, you can obtain various licenses and attend introductory courses. You are responsible for independently obtaining the required software and familiarizing yourself with its use.

In the “Empirical Analysis” chapter of your thesis, please address the following points:
- **Data collection** (if applicable): How were the data collected?
- **Overview of the data**: What type of data are used?
- **Methods**: Which methods were used to analyze the data?
- **Results**: What are the results of the data analysis?
- **Conclusions**: What conclusions can be drawn from the results?

The analysis code must be submitted as an appendix to the thesis.

What do I need to consider when planning an experiment?

Appendix
Description of the experiment / study

Describe how you intend to measure the relationships specified in your conceptual framework and hypotheses:

- How are the experimental stimuli designed for the control and treatment groups?
- How are participants assigned to the control and treatment groups?
- Which variables do you measure, and how are they operationalized?
- Which existing scales can be used to measure your variables (e.g., by consulting the *Handbook of Marketing Scales*)?
- Who participates in your experiment?
- Which methods can be used to analyze the experiment? (Tip: For qualitative studies, outline this only briefly, as the actual analysis will not be conducted.)
- What alternative explanations for the observed relationships might exist, and how can you control for them in your experiment (e.g., by ruling out alternative explanations through the experimental design or scenario, or by measuring additional variables that allow you to test these alternative explanations)?

IMPORTANT: Do not describe hypothetical results that might emerge from an actual implementation of the experiment.

What do I need to consider when designing my experiment using Qualtrics?

Appendix
Qualtrics (only if noted in your topic description!)

Account:

1. To open a Qualtrics account with access to the Faculty license, please contact your supervisor. They will provide you with access details.
2. Once your account is set up, your supervisor will invite you to a shared Qualtrics project. Please make sure to set up your experiment within this project only (i.e., do not start a separate project on Qualtrics).

Familiarization:

You are expected to familiarize yourself independently with the survey software Qualtrics. To do so, you may, for example, make use of Qualtrics support resources or consult the numerous tutorials available online.

Example:

An example of how a Qualtrics survey looks can be accessed at the following link (German only)
https://uzhmarketing.eu.qualtrics.com/jfe/form/SV_6txQWlzFmwHbo34

Appendix
Qualtrics (only if noted in your topic description!)

When planning an online experiment, please consider the following points, among others:

- **Introductory text and data protection:** How do you inform participants about the purpose of the study? How do you explain the data protection conditions to participants? (see next slide)
- **Questions:** Are the questions clear, meaningful, and grammatically correct?
- **Response options:** Are the response options clear and grammatically correct? Are they meaningful and consistent? What requirements apply to responses (e.g., forced responses vs. optional responses)?
- **Randomization:** Which blocks, questions, or response options should be displayed in randomized order?
- **Display logic:** Which questions should be shown to which participants?
- **Variable labeling:** Are the individual blocks and variables named clearly and consistently?
- **Survey flow:** In which thematic order should questions be presented? Do randomizations and quotas need to be set for different experimental groups?
- **Testing:** Is the order of questions correct? Are the questions displayed properly? Does the randomization work as intended? Are the data stored correctly? Is the duration of the online experiment realistic and reasonable?

Appendix

Qualtrics (only if noted in your topic description!)

Example introductory text and data protection statement
(*Note: sections in italics are optional*)

Welcome
We would like to invite you to participate in our study on the topic of XXX. The survey takes approximately XXX minutes to complete and is conducted by the University of Zurich.
Please read the data protection statement carefully. Participation in the survey is only possible if you are 18 years of age or older.
Title: *A study on the topic of XXX*
Purpose and content: The aim of this study is to examine attitudes toward the topic of XXX and to gain a better understanding of XXX. In this study, you will be asked questions about XXX.
Benefits: You will receive compensation for your participation. Beyond this, participation in the study is unlikely to provide you with any direct personal benefit. However, some people enjoy expressing their opinions in such studies. Your participation contributes to scientific research on how people process information.
Device: *We recommend completing the survey on a computer or laptop to ensure that all survey content is displayed correctly. If you prefer, you may also use a tablet or smartphone.*
Data management and storage: The survey data are recorded via the survey platform Qualtrics. The University of Zurich analyzes the data anonymously for scientific purposes. The data collected do not allow any conclusions to be drawn about your identity. Any results and data from the study will be published only in aggregated and anonymized form in scientific publications.
Withdrawal: Participation is voluntary. You are not required to take part in the survey. If you decide to participate and later change your mind, you may withdraw from the survey at any time. As no personal data are collected, it is not possible to remove your data from the dataset once you have submitted your responses.
Further questions: If you have any further questions, please feel free to contact Person X (contact details X) at any time.

I have read and understood the information about the study and data protection. I agree to participate in the survey voluntarily. Furthermore, I consent to my survey data being securely stored in anonymized form and used and published in anonymized form for scientific purposes. [yes/no question]

What should I do if I would like to publish my thesis?

Appendix
Note on publishing your thesis

If you intend to publish your thesis, please propose your own topic. For topics suggested by the chair, publication is permitted only after prior consultation with the chair and with the written consent of the supervisor. Any potential publication—regardless of the origin of the topic—must be formally approved.

Prior to the first supervisory meeting, the document *"Intellectual Property Rights and Publication Agreement"* must be signed. The form is available on our website. Please send the signed document to your supervisor by email.
To ensure proper and rigorous academic practice, we ask that you adhere to the publishing ethics guidelines of Elsevier.

Further information is available via Elsevier's publishing ethics resources under this link:
https://www.elsevier.com/about/policies-and-standards/publishing-ethics