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Supermarket savvy: An analysis of psychological exploitation within grocery stores

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Supermarket savvy: An analysis of psychological exploitation within grocery stores

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Abstract

As obesity rates continue to climb around the world, an increased effort is needed to explore all means of prevention and intervention. Although previous research has examined the effectiveness of strategies like nutritional education, little research has been conducted surrounding the interplay of psychology and marketing within the context of grocery stores. As such, this paper examines the presence of psychological manipulation within grocery stores and the influence it has upon product choice, and ultimately consumption. Several key variables have been taken into account for this analysis, including store layout, location, product placement, packaging, and others, to provide a holistic understanding of the shopper's experience. Although the marketing systems and displays within grocery stores were comparable between the United States (US) and Switzerland, the Swiss system was found to exhibit fewer profit-based marketing tactics. Moreover, strategies that are used in Switzerland were found to be less forceful. Further research should seek to examine why this is, how it relates to the profound difference in obesity rates, and also the average level of shopper's awareness for these tactics.

Keywords: Grocery Store, Psychology, Marketing, Consumer Behavior, Food

Preface

As an athlete, I have had a particular interest in nutrition for as long as I can remember. Always wanting to be faster and stronger, I routinely counted macronutrients and calories. This all changed when I entered college and gave up sports to focus on my studies. Not only did I lack the time to stay active and eat well, but without a sport to motivate me, I also lacked the dedication. My nutritional quality quickly began to deteriorate. Although my mother had always made certain that I was eating a well-balanced diet while I was growing up and living at home, once I moved away for school, I became responsible for what I ate. Eating quick meals every day soon began to have a negative affect on my health, and I realized that I needed to start making more conscious, healthy choices. I began running and made the decision to skip out on my school meal plan to try and start cooking for myself. I had heard that cooking would be difficult to learn, but what I hadn't expected was how difficult it would be just to shop for groceries. I thought that grocery shopping would be a casual stroll through aisles of products, but when one is trying to buy healthy foods, it can actually be unbelievably taxing – mentally, physically, and financially.

I consider myself rather intelligent and so I simply couldn't believe how much difficulty I was having in determining what choices were "healthy." So, I did what I usually do when I'm ignorant on a subject – I hit the books. Very quickly, I became fascinated by not only nutrition and health, but also the inner workings of the food industry and the vested interests behind policies such as the lax regulations on salt and sugar content. Reading book after book, my curiosity became insatiable. The more I have learned about the various tactics and ingredients companies use to influence

consumer behavior, the more skeptical I have become regarding honesty in advertising, packaging, and placement.

Professor Marion Nestle's book *What to Eat* opened my eyes and showed me that it was possible to design a career that combines my love of psychology and my love of nutrition. In her book, she explored the layout of grocery stores, the background of their key products, and above all, how these are all structured to drive appeal and increase sales. I wondered whether all of these product options, so carefully displayed on grocery store shelves, were actually providing any real choice, in terms of nutritive value. I wondered how this correlated with the increase in obesity, particularly in an international context. Do developed countries structure their grocery stores in a similar manner? As the food industry has consolidated, it has introduced ever more preservatives, sugars, fats, salt, GMOs, and pesticides into our food supply. At the same time, the industry has institutionalized its marketing efforts to make these products seem even more appealing than their natural, healthy alternatives. I wondered, are we just lab rats, aimlessly wandering through the aisles at the store while our psychological systems are being exploited, all for the sake of increased profit? I needed an answer.

Coming to Switzerland was an obvious choice for me. Besides being a beautiful country that would enable me to improve my French, Switzerland has the second lowest obesity rate out of all countries in the Organization for Economic Co-operation and Development (OECD).¹ For this reason, exploring grocery store systems in Switzerland seemed like an excellent way to observe international differences in presentation, packaging, layout, and psychological use. I was interested to see if the same or similar

¹ OECD. (2014). Swiss

methods of psychological exploitation were being used to market products and influence customers and, if so, whether it was leading them towards healthy or unhealthy choices.

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This Independent Study Project (ISP) would not have been possible without the guidance, encouragement, and continuous support that I have received from the School for International Training (SIT) community and the many wonderful people I have met throughout my time in Switzerland.

Specifically, I would like to thank Professor Alexandre Lambert, as well as Dr. Anne Golaz, and Mrs. Françoise Flourens from SIT, for your encouragement and help each time I encountered difficulties accessing resources. Beyond that, I would also like to thank several of my peers on this program: Nicole, Sara, Hanh – you guys have been a wealth of support and strength, and have listened to more than your fair share of my frustrations. I appreciate you all so much more than you know, and my time in Switzerland has only been exponentially improved through our shared experiences.

To my family – living in Switzerland has been, by far, the most formative time of my life and I owe it all to you. I have missed you every day and I am so excited for you to see the work that I have accomplished here, and the strong, independent woman that I have become.

To my friends – Kendall, Mikaela, Jess, Naomi, Rae, Mariah, Max, Alex, Ryan and most of all Victoria – despite the substantial time and space difference, I have never failed to feel your warmth, love, and support and I cannot thank you enough for that.

And finally, a huge thanks to Professor Brian Wansink, Mr. Florian Mailänder, Professor Felix Fellmann, Mrs. Francesca Favario-Solari, Mrs. Gabi Buchwalder and Professor Marion Nestle, for taking the time to speak with me and for inspiring me to approach the science of nutrition from a new angle.

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Glossary of Terms and Abbreviations

BMI – Body Mass Index

CAN – Convenient, Attractive, Normal

CVD – Cardiovascular Disease

LRB – Local Review Board

NCDs – Non-communicable Diseases

OECD – Organization for Economic Co-operation and Development

SIT – School for International Training

SDC – Swiss Agency for Development and Cooperation

SKU – Stock keeping unit

SSS – Sign, Structure, Service

US – United States

WHO – World Health Organization

WHO Key Definitions to Note:

Overweight and obesity: “Abnormal or excessive fat accumulation that may impair health... caused by an increased intake of energy-dense foods that are high in fat; and an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization.”²

BMI: “The weight in kilograms divided by the square of the height in meters (kg/m^2) – is a commonly used index to classify overweight and obesity in adults ... WHO defines overweight as a BMI equal to or more than 25, and obesity as a BMI equal to or more than 30.”³

² World Health Organization. (2016, June).

³ World Health Organization. (n.d.). 10 facts on obesity.

Introduction

Overview

The context of nutritional content and food quality is becoming one of the most pressing issues of this century. The double burden of malnutrition, in particular, has become a hot topic in scholarly literature, describing the situation in which people are simultaneously overfed, yet undernourished.⁴ Although people are consuming enough (energy-wise), processed and sugar-sweetened foods do not contain adequate nutritional value, on their own.⁵ These foods have been increasing in popularity and constituting larger proportions of the human diet, paralleling the rise in non-communicable disease (NCD).⁶ The context of obesity, in particular, poses an additional problem, as it not only results in a tremendous health cost, but also a global financial burden. In terms of health consequences stemming from being overweight or obese, the World Health Organization (WHO) has recognized that raised body mass index (BMI) is a major risk factor for several NCDs including cardiovascular disease (CVD), diabetes, musculoskeletal disorders, and numerous forms of cancer.⁷ Moreover, health consequences resulting from being overweight or obese result in both direct and indirect costs. Obesity-related healthcare expenditures, for example, are expected to exceed \$300 billion by 2018, in the US alone.⁸ This number will only continue to increase each year without intervention.

⁴ World Health Organization. (n.d.) Double burden of malnutrition.

⁵ Nestle, M. (2007).

⁶ Ibid.

⁷ World Health Organization. (2016, June).

⁸ Inman, J., Dzhogleva, H., & Maurer, J. (2013).

Current recommendations for combatting obesity target two sides: increasing physical activity and promoting healthier eating.⁹ Unfortunately, these recommendations have not proven to be sufficient, in that they have had little impact in reducing the obesity rate. The obesity rate for America, for instance, was a soaring 36.5% in 2012, second only to Mexico among OECD countries and projections estimate that without immediate and effective action, America will overtake first place by 2020.¹⁰ As such, the intent of this research project is to explore the issue of obesity in relation to the promotion of healthier eating, or lack thereof. This project will focus on grocery stores, in particular, as they are the main source of food acquisition for at-home meal preparation. Studying how products are shelved, zoned, and marketed to consumers will provide a counter-narrative to better explain how market interests and financial gain influence four key variables: product, price, placement, and promotion.¹¹

In stark contrast to the United States, the 2012 obesity rate in Switzerland was a mere 9% (second lowest behind Korea among OECD countries), with projections to become the lowest by 2020.¹² Given these facts and considering the economic similarity between the United States and Switzerland, this environment provides an ideal choice for exploring comparable infrastructure and for determining whether American-style marketing tactics and psychological influencers are being used in Switzerland.

To study international differences, the Migros grocery store in Nyon, Switzerland was chosen as the primary comparative sample. The decision to focus on Migros was made based on its wide sphere of influence in the region – in 2005, Migros and Coop

⁹ World Health Organization. (n.d.). 10 facts on obesity.

¹⁰ OECD. (2014). USA

¹¹ Glanz, K., Bader, M., & Iyer, S. (2012).

¹² OECD. (2014, May 27). Swiss

jointly owned 45.1% of the total retail market in Switzerland.¹³ In 2007, however, Migros expanded their 24.5% hold on the grocery store retail sector by purchasing Denner, a competing retailer.¹⁴ Migros, therefore, is now the largest Swiss supermarket brand. Although there is variation between stores, this comparative study will employ a case-study exploration on their Nyon location, which was selected due to easy accessibility. This choice was made due to time limitations, as given the constraint, an in-depth study would not be feasible for the full extent of the Migros brand. Nevertheless, this study hopes to provide insight into more effective methods of preventing obesity, with means of intervention identified within the Swiss food distribution systems.

The rationale for choosing the grocery store link of the food distribution chain is due to its immediate proximity to the shopper. Ultimately, this is where most food purchases decisions (aka health decisions) are made. Considerable research has been conducted on obesity and its health consequences, while millions of dollars have been spent on educational systems aimed at informing the public about the importance of nutritional health.¹⁵ Despite this, research has been lacking in reference to marketing tactics that influence product choice at the point of purchase. However, this is an important area of study, as product choice ultimately determines consumption and health. The products purchased within the grocery store for at-home preparation are, in most homes, the bulk of the food consumed.¹⁶ Moreover, an ethnographic, methodological study of the presentation and purchase process at grocery stores will provide more

¹³ Carrasco, N. (2008).

¹⁴ Ibid.

¹⁵ Nestle, M. (2007).

¹⁶ Wansink, B. (2017).

actionable insight than another analysis of education systems or retrospective interventions (i.e. dieticians/ nutritionists). Grocery store research is also inclusive of the entire population, not only for those exhibiting help-seeking behavior or for those exposed to nutritional education. The universal quality of this research allows it to be readily extended to the utilization of psychological manipulation in essentially any food-marketing context. This research could also be conducted within restaurants, convenience stores, cafes, and other venues to show the impact that marketing has upon the entire community. Although the analysis of grocery stores may seem like an unconventional approach to understanding obesity and determining methods for its prevention, research at the primary point of purchase for food is essential. Until now, this area has been insufficiently explored.

This research project, in particular, will examine the structure and consumer behavior principles behind grocery stores, with emphasis on how marketing tactics exhibit psychological exploitation. Understanding how our “choices” are strategically positioned and zoned clarifies the relationship consumers have with food, and in turn, nutrient intake. Moreover, this line of research can provide insight as to the extent to which shoppers are aware of the strategies behind product variables like color, height, position, etc.

This paper will travel through the supermarket, as every shopper does, to explore how psychological principles are used within grocery stores on three levels: store layout, aisle structure, and individual product marketing. By mimicking the path of a shopper in the case study of Migros in Nyon, Switzerland, this paper will allow for greater insight into how grocery store systems operate differently on an international context.

Ultimately this research project aims to expose the system that influences how and what we eat, with hopes of finding solutions for positively using psychology in food marketing.

Literature Review

Although this research was influenced by a variety of sources, Professor Marion Nestle inspired the concept and approach in her book, *What to Eat*. Her work served as a foundational and comprehensive frame of reference upon which this project was able to build. Not only did this book provide a detailed outline for the typical American grocery store system (Appendix B), but it also touched on psychological marketing tactics that she uncovered while in pursuit of determining how to successfully navigate a grocery store for the average, uninformed shopper. The unique nature of her research methodology and structured segmentation of the store layout allowed for a similar approach to be used with the Migros store in Switzerland, thus allowing for a direct comparison between the two systems. Moreover, her work documented and explained policies and practices within grocery store systems that work in favor of the food industry and market interests. Each of these facets are descriptively analyzed and critiqued in her book, providing an assortment of considerations that aided in the cultivation, execution, and analysis of this study.

Following the general outline, as set forth by Professor Nestle, many of the ties to psychology were drawn from research conducted by Professor Brian Wansink and the Food and Brand Lab at Cornell University. This lab has an extensive history researching consumer behavior in the context of supermarkets. Variables that they have studied

include, but are not limited to, nudging of healthful food selection, product placement at eye level, signage, structures, and service.^{17,18} In particular, they have created the Convenient, Attractive, Normal (CAN) approach as a means of identifying why individuals buy certain products, and also as a means of improving healthier shopping behavior.^{19,20} This approach is widely used in terms of psychological marketing, emphasizing these attributes with three forms of presentation: signage, structure, and service.²¹ This ultimately results in a 3 x 3 matrix (with two possible interventions in each segment) that corporations are able to utilize when marketing their products in grocery stores.²² The matrix, in particular, was of relevance for this project as it outlined 18 supported findings that rely on a psychological basis for encouraging healthier product choice in a grocery store retail setting.²³ Additionally, the Food and Brand Lab has also published a multitude of findings related to psychological influences within American supermarkets, describing how these influence product choice and are strategically aimed for increasing profitability. This research was, thereby, used as a footing for the psychological element of grocery store marketing and provided a preliminary baseline from which this research project grew.

Many other academic sources have contributed to the understanding of marketing forces within grocery stores; however, the majority of these provide insight into only one or few strategies per article. As such, this research project relied heavily on the

¹⁷ Wansink, B. (2017, April 7).

¹⁸ Wansink, B. (2014).

¹⁹ Ibid.

²⁰ Wansink, B. (2017).

²¹ Ibid.

²² Ibid.

²³ Ibid.

integration of sources to provide a clear line of inquiry that was grounded in literature and previous research.

The main conceptual framework applied to this area of research was devoted to exploring health and nutrition, utilizing a psychologically based lens. This framework was adapted from that of Professor Nestle to explore the Swiss demographic. Employing her framework required an understanding of how she approached documenting and navigating the supermarket so that it could be replicated for this study. Moreover, it was necessary to incorporate sources from several psychology and consumer behavior experts to develop an analysis of the current marketing strategies being employed within the Migros brand. To supplement the primary and qualitative field research, annual reports and academic articles were utilized to assess the areas in which psychological exploitation is most common and how this is being supported from a public health standpoint. As such, this study integrates previous research to demonstrate how psychological tactics used in grocery stores affects shoppers, while simultaneously serving as a logical extension of prior grocery store research through the examination of differences in an international context, with respect to health.

Research Questions

To better understand the international context of psychological marketing tactics and the interplay of competing financial and health-promotional interests, within grocery store systems, several research questions guided this study:

- To what extent does the Migros store in Nyon, Switzerland employ psychologically based marketing tactics to increase profit margins?

- How does the Migros store in Nyon compare to the typical US grocery store (defined in this context as the layout Marion Nestle uncovered in *What to Eat*) in terms of store layout, aisle shelving, and individual product marketing?
- To what extent are consumers/ shoppers aware of the psychological ploys used in the context of grocery stores?
- With what products is psychological exploitation most commonly used within grocery stores?

In pursuit of answers to these questions, subsequent questions arose – each, increasingly more difficult to answer than the last. Unfortunately, it was impossible to explore each line of interest, however, these questions provided the foundation from which this project arose.

Research Methodology

Overview

To examine how psychological tactics are used in marketing grocery store products and the influence this has upon purchasing behavior, information was gathered from a variety of sources to not only understand how the store layout is created, but also how psychology factors into product choice. Preliminary research focused on the internal configuration of grocery store products and displays, as well as the various considerations that are involved in placement. Follow-up research explored the psychological underpinnings of marketing based decisions. For example, research was conducted in reference to several variables including, but not limited to, color and number of product choices, product position on shelf, and general layout of store. Each of these variables

have substantial evidentiary basis that has likely guided marketers in their use within many types of stores, including supermarkets. This information, gathered primarily in the form of secondary sources, constitutes the majority of information used to formulate this paper. To provide a well-developed and holistic foundation for this line of research, information was collected from a wide variety of sources including academic journal articles, publications from the Migros Corporation, annual reports, and documentaries.

To supplement this, both formal and informal interviews were conducted to better understand the complex nature of supermarket product placement and the competing interests between the food industry and health promotion. Moreover, interviews allowed for an open form of communication that was able to further clarify the vested interests of food corporations and to illustrate how placement, combined with various other marketing strategies within the supermarket, can result in the psychological exploitation of naïve shoppers.

A total of four informal interviews were conducted. The first was conducted via email with Marion Nestle, author of the book *What to Eat* and professor of nutrition, food studies, and public health at New York University. Her published work has been a primary inspiration for this research, and so she was consulted to gain an understanding for her research methodology and the challenges that she faced while researching American grocery stores. Her work, in combination with this interview, provided a strong frame of reference and a clear lens through which to compare American and international grocery store structures and marketing tactics.

Attempt was made to conduct an interview with a representative of Migros, but the request for an in-person meeting was denied. Instead, the corporation offered to

answer several questions via email. This interview was informal, but served to shed light onto some specific psychological tactics used in their product assortment. Migros also graciously provided an understanding of the way they “zone” and arrange their stores.

The remaining two informal interviews were conducted live, via Skype. The third interview was with Professor Brian Wansink, director of the Food and Brand Lab at Cornell. Professor Wansink spoke to the past and current research his lab has conducted relative to psychological manipulation within grocery stores and also to how the same form of psychological research could potentially be used for health promotion.

The final informal interview was with Mr. Florian Mailänder, a representative at the Swiss department of the Nielsen Company. Mr. Mailänder was contacted at the encouragement of a customer service specialist at COOP (a competing grocery store chain in Europe), as the Nielsen Company is also contractually involved with the Migros Corporation. In the interview, Mr. Mailänder was able to speak to the job responsibilities of the Nielsen Company, which specializes in international consumer behavior research. Additionally, Mr. Mailänder spoke of the methods utilized when examining consumer behavior and also spoke to their relationship with large retailers, including how the Nielsen Company records consumer purchase data and sells it to manufactures such as Coca Cola, PNG, etc. Each of these informal interviews added substantial value to this research project and stimulated further examination.

Additionally, two formal interviews were conducted to understand diverse perspectives and issues that were not fully captured by the informal interviews and secondary source literature. The first interview was conducted with Professor Felix Fellmann, the focal point for agriculture and food security at the Swiss Agency for

Development and Cooperation (SDC), at his office at the SDC in Bern, Switzerland.

Information gathered in this interview surrounded the SDC's involvement with the food industry and how the food industry influences product choice through strategic marketing tactics. He also offered variables to look at with respect to participant research and helped develop a better understanding of the ethical implications of food psychology and healthier choice promotion.

The second formal interview was conducted at the home of Mrs. Francesca Favario-Solari, a frequent shopper at the focal Migros store in Nyon. Mrs. Favario-Solari was able to provide the perspective of how a consumer chooses their products when faced with hundreds of options and also was able to speak to her experience with some of the psychological tactics used within the Migros store. Her interview, in particular, serves as a key reference for this paper, as it provides insight into the attitudes and knowledge that the average Swiss grocery shopper has in relation to the marketing strategies employed by grocery stores to encourage impulse purchases and, in turn, an increase in market profits.

Each interviewee, whether formal or informal, was explained their rights regarding confidentiality, the right to abstain from answering any questions, and their right to remain anonymous. Semi-structured interview questions (Appendix A) were drafted beforehand, however, further follow-up questions were also asked for clarification purposes and to identify the information that the interviewee felt was most important to share. Interviewees participated out of their own free will and were sent a follow-up email to resolve any remaining questions. All interviews, aside from that with Mrs. Francesca Favario-Solari, were conducted in English (hers was conducted in French,

per her request). Prior to the commencement of this project, a proposal was sent and reviewed by the Local Review Board (LRB) to ensure that each participant in this study would be treated according to proper ethical standards.

Beyond the interviews and secondary source literature, this project also involved qualitative research and participant observation. With the Nyon Migros positioned as the focal point for Swiss grocery stores (due to the time constraint), it was necessary to observe how consumers interact with the product choices and to analyze the store structure. This form of in-depth exploration resulted in the creation of a floor plan (Appendix C) that could be compared to the floor plan created based off of the findings from Professor Nestle's book *What to Eat* (Appendix B). Floor layout maps were created utilizing SmartDraw software template, and altered as necessary to create the most accurate plan possible.²⁴

Limitations of the Study

As with all research pertaining to the food industry, there are political forces that limit the accessibility of information and the transparency with which information can be released. In this particular research area, there was much hesitation regarding the willingness to answer questions in an interview setting. More often than not, this project required following up several times before receiving a response (if a response was even received at all). The majority of responses resulted in dead-ends due to "confidentiality" and details that were unable to be shared. Not only did this become problematic due to the time constraint of the project, but also it was physically and emotionally taxing to

²⁴ SmartDraw LLC. (n.d.).

continually run into challenges and to be prevented from accessing essential information. Beyond that, psychological manipulation is utilized in almost every marketing strategy, however, given the time constraint, this study was only able to cover a select few variables. With additional time and resources, it would be possible to comprehensively explore the breadth of other variables as well as to reach and to speak with other experts in the field of food psychology and consumer behavior.

Another limitation of this study revolves around the utilization of the interview with Mrs. Favario-Solari to represent the knowledge grocery shoppers typically have surrounding marketing tactics. By no means do I intend to suggest that her experiences and knowledge can fully account for the variety amongst grocery shoppers. Rather, her experience simply provided insight into the lack of education surrounding how to effectively navigate through a supermarket and how psychological characteristics are able to influence product choice. Despite being well educated, Mrs. Favario-Solari was unaware of how these products and systems are designed to influence her, suggesting that this area requires further research using a greater informant pool.²⁵ Interviewing a large proportion of shoppers would give a better estimate of how shoppers, on average, interact with, are aware of, and are influenced by these marketing tactics.

Similarly, this study was conducted within a single Migros store. Like with shopper perceptions and awareness, using a single reference as a case study is not all encompassing and, unfortunately, limits the external validity of this study. Given the time constraint, however, using one focal point provided the medium to explore the system more comprehensively. Additional research would be needed to first assess

²⁵ Favario-Solari, F. (2017, April 22).

differences among Migros stores and regions, and then assess differences among other chains of grocery stores (i.e. COOP) before one could adequately analyze the correlation between Swiss grocery systems and health trends.

Aside from the unexpected difficulty of reaching experts in academia or industry willing to speak about how psychological knowledge is used within grocery store (and vendor) marketing practices, this study was also limited by time constraints and the under-representative baseline sample of shoppers and stores. More significantly, this research was limited by a general lack of published literature. This lack of prior research is not simply in the field of food-based market psychology, but rather across the industry. Very little effort has been undertaken to establish a connection between grocery store marketing and the increasing trends of NCDs. Future research should aim to uncover this relationship, as immediate intervention at every possible level is needed to combat the problem of malnutritive obesity.

Analysis

Marketing Within and Among Grocery Stores

Supermarket psychology, a term coined by Dr. Paul Harrison of Deakin University, is an up and coming field that utilizes a basic understanding of how consumers are influenced by marketing tactics to manipulate the shopping experience so that people buy more items, independent of whether or not these purchases are in the customer's best interest.²⁶ Utilizing psychological manipulation to enhance the effectiveness of marketing, and also to distract from the marketing tactics altogether,

²⁶ Tribal Insight (2008, August 18).

grocery stores (and ultimately the food industry) are able to expand their profit margins, without drawing awareness to how or why shoppers are buying, what they are buying.²⁷

In terms of why this is problematic, individuals are being persuaded, subconsciously, and sometimes against better judgment, to purchase products for the benefit of corporations as opposed to the benefit of their own health.²⁸ Although the WHO identifies grocery stores and the food industry as a source that “can play a significant role in promoting healthy diets by reducing the fat, sugar, and salt content of processed foods, ensuring that healthy and nutritious choices are available and affordable to all consumers, restricting marketing of foods high in sugars, salts, and fats (especially those foods aimed at children and teenagers) and ensuring the availability of healthy food choices,” the wide majority of their recommendations are not followed.^{29,30} For example, marketing of food products is highest for salty snacks and soda, and lowest for fruits and veggies.³¹ This decision is financially better for the corporations as they are cheaper to produce and create larger profit margins, however it is not beneficial for the health of the consumer. But this is not simply a problem of excess for marketing strategies aimed at the big profit items, but also a lack thereof for produce and healthier options.³²

Not only are these strategies present, but also they are negatively impacting product choices, and nutritional quality. For example on an international basis, there are inadequate nutritional habits; a 2002 Swiss health survey found that there is an increasing

²⁷ Nestle, M. (2007).

²⁸ This is problematic for countless reasons, but as far as this paper is concerned, psychological exploitation in the supermarket will be centered on its impact on purchasing behavior, and by default consumption behavior. Thus the area of interest is from the specialization of nutrition and health.

²⁹ World Health Organization. (2016, June).

³⁰ Grigsby-Toussaint, D., & Rooney, M. (2013).

³¹ Ibid.

³² Ibid.

problem in which fruit (34%), vegetable (18%), and milk (64%) consumption does not meet the recommended values.³³ This is especially important in the context of nutrition and health, as a poor diet is a risk factor for the majority of NCDs.³⁴ Rather than focusing on marketing healthier products, like fruits and vegetables, grocery stores often reserve the prime product placements and the heaviest advertising for the brands and companies that can afford the steep fees. Again, these products are generally those that are highest in sugar and salt – two substances known to activate the dopaminergic pathway in the brain, resulting in their well-known addictive properties.³⁵ Therefore, not only are the worst products for your health the ones that are most heavily promoted and, on average, the cheapest, but also they are also the products that require the most willpower to refuse.³⁶

Now, not all shoppers are alike, but they exhibit similar considerations when shopping for groceries. In a recent food and health survey, the International Food Information Council Foundation identified that taste was the largest factor in product choice (83%), followed by price (68%) and healthfulness (60%).³⁷ This mentality and knowledge is useful for marketing purposes, as it demonstrates key factors off which product presentation can be based. This is often accomplished utilizing the 4 P's: product, price, placement, and promotion.³⁸ For example, product assortment includes shapes and colors used to increase interest in products (especially those marketed to children), as well as package size, private labels, shelf space, etc. Under the product

³³ Eichholzer, Bernasconi, Jordan, & Gutzwiller. (2005).

³⁴ World Health Organization. (2016, June).

³⁵ Gearhardt, A., Davis, C., Kuschner, R., & Brownell, K. (2011).

³⁶ Ibid.

³⁷ Lempert, P. (2015, May 21).

³⁸ Glanz, K., Bader, M., & Iyer, S. (2012).

category, the food industry can appeal to price-conscious consumers by emphasizing the bargain, appeal to health-conscious consumers with smaller packages and food lower in calories, fat, and added sugars, or appeal to taste-based consumers through the use of colorful and descriptive pictures of the food.³⁹ The second P, price, is less complicated. This involves the price for the product and how this number is advertised. Next is placement, which is interested in self-space elasticity. This refers to where the product is on the shelf and how that affects sales.⁴⁰ Moreover, this idea helps determine the in-store location of products and includes aisle management for categorization of products. Finally, there is the promotion category, which revolves around sales and displays.⁴¹ This section includes everything from health messages that influence the perceived healthfulness of the product, to colorful floor decals that direct shoppers through the store, to sample booths that allow people to taste the product before buying.⁴² Most notably, this also covers the displays that companies use to market the price of the product and to draw attention to the current sales. Each of these Ps works by increasing the availability, affordability, prominence, and promotion of the products, thereby increasing the likelihood that a shopper will purchase more items and spend more money.⁴³

Another theory surrounding psychological utilization in marketing identifies three target areas of interest: convenience, attractiveness, and normality.⁴⁴ The CAN theory, as posited by the Food and Brand Lab, states that boosting these three variables results in a

³⁹ Glanz, K., Bader, M., & Iyer, S. (2012).

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Wansink, B. (2017).

demonstrated increase in product sales.^{45,46} For example, the convenience principle is often branded, largely, on the front of the product. Phrases like “ready in 5 minutes” appeal to the increasingly fast paced and taxing lifestyle of grocery shoppers.⁴⁷ Not only is convenience marketed clearly to catch the eye of passersby, but also so is the attractiveness principle. Often noticeable with color and unique designs or with creative names with brand-specific anthropomorphic characters, this principle revolves around inter-brand competition and highlights how this specific product is superior to all others.⁴⁸

Whereas convenience and attractiveness are more obvious, normality plays at a different level of psychological encouragement. This principle plays to human desire to be like others and to be accepted.⁴⁹ As such, brands utilize demographic factors like age and sex to most effectively market their products to certain consumers. Moreover, even simple phrases like “the average shopper purchases at least 5 fruits and vegetables,” within the store, can result in increased produced sales by more than 10%.⁵⁰ Although less is known about the normality principle, it has nonetheless proven to have psychological underpinnings and to be an effective method for influencing purchasing behavior among grocery shoppers.

To employ the CAN method, the Food and Brand Lab have also identified three effective means of intervention that manipulate the perception of products: sign,

⁴⁵ Wansink, B. (2017, April 7).

⁴⁶ Wansink, B. (2017).

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid.

structure, and service.^{51,52} The SSS approach, thus holistically outlines methods of interventions for grocery store employees to pinpoint consumers and encourage specific purchases. Signage is similar to promotion in the first model, in so far as it involves signs that point out appealing characteristics of the product, whether it be low price, healthful elements (i.e. low fat, no sugar added), social media propaganda, or even fliers and coupons that target specific shoppers.^{53,54} Structure focuses more on the layout and structure of the store, as well as aisles, and the product placement. And finally, service involves the staff and shopper policies as well as different amenities like sample stations or electronic aids that help with the shopper experience. All of these means of intervention help to alter the shoppers' perceived experience grocery shopping within and outside of the store. Holistically understanding how a shopper is influenced on and across several levels is, thus, useful for representing the complex nature of grocery shopping.

Due to the complexity, it was interesting to determine the level of comprehension for the average shopper. For the most part, as discovered in the interview with Ms. Favario-Solari, there is little knowledge surrounding the tactics used by companies to market their products.⁵⁵ Far beyond the interview, this lack of awareness and education surrounding how to choose healthy products has been documented throughout scholarly literature.^{56,57} Even experienced budget shoppers, who use their extensive knowledge of

⁵¹ Wansink, B. (2017).

⁵² Wansink, B. (2017, April 7).

⁵³ Ibid.

⁵⁴ Mailänder, F. (2017, April 4).

⁵⁵ Favario-Solari, F. (2017, April 22).

⁵⁶ Nestle, M. (2007).

⁵⁷ ITV 1. (2014, May 30).

marketing tactics to find the best deal and avoid impulse purchases, have been tested and are not immune every strategy.⁵⁸ With over 70 percent of shoppers bringing a list into supermarkets, and only 10 percent actually sticking to them, it is important to understand how consumers are influenced so heavily to buy more.⁵⁹ Surely some of this could be attributed to human error and forgetfulness on behalf of the list maker; however, this sole cause cannot explain the drastic lack of shopper restraint. As such, this paper will travel through a grocery store, to help identify and explain how psychological tactics are at play; all the while bringing to awareness how this can affect purchasing behavior and ultimately present the implications this has for health.

Store Layout

Walking into a supermarket may feel like a maze. This is primarily the result of a strategically designed layout that forces shoppers to spend as much time in the store as possible, and results in exposure to thousands of colorful and enticing products. For the most part, grocery stores are structured in a similar manner, driven largely by purchase incentives.^{60,61} Each tactic used within the supermarket draws on known psychological ties and subconsciously compels shoppers to follow the general pathway through the store. In fact, large grocery store brands consult with psychologists to better understand how to influence consumer perceptions.^{62,63} Some grocery store companies, like Migros, also consult consumer behavior experts (i.e. the Nielsen Company) which will analyze

⁵⁸ BBC. (2014, October 30).

⁵⁹ Nestle, M. (2007).

⁶⁰ Nestle, M. (2017, April 2).

⁶¹ Nestle, M. (2007).

⁶² Ibid.

⁶³ BBC. (2014, October 30).

purchasing behavior on the store level, and on the individual level, to strategically target advertise to consumers.^{64,65} As such, grocery stores are now able to determine, better than ever, the most effective means of encouraging people to buy more in quantity, in price, and in frequency.^{66,67}

Even something as simple as entering a store makes use of psychological theory to keep shoppers inside. For example, have you ever considered leaving the marketplace without buying anything? You could very easily turn around and walk out the front entrance. But what discourages this? Aside from the overwhelming nature of the grocery store entry, many stores use “metaphorical doors” that close behind the shopper.⁶⁸ This concept draws on the theory set forth by Professor Wansink in the CAN approach. It is not only inconvenient to pass back through these doors once they have closed, but it also plays to the principle of normality. Simply stated, people typically exit through the doors labeled exit. It is not “normal” to exit through the entrance, and stores make this known through their use of signage. And the result - psychological pressure for temptation, and subsequently for purchases that may not have been made otherwise.

If you failed to have noticed this tactic, you are not alone – shoppers frequently fail to notice.^{69,70} In part, this is due to the overwhelming nature of what the grocery store

⁶⁴ Mailänder, F. (2017, April 4).

⁶⁵ Fellmann, F. (2017, April 25).

⁶⁶ Ibid.

⁶⁷ BBC. (2014, October 30).

⁶⁸ Special Broadcasting Services (2009, July 25).

⁶⁹ Ibid.

⁷⁰ Favario-Solari, F. (2017, April 22).

industry refers to as the “transition state.”^{71,72} The store entrance, in particular, is filled with neatly stacked, recently misted, and brightly colored produce.⁷³ Intentional decisions and product placements like this are meant to create a welcoming experience and serve the purpose of helping the shopper adjust to the new environment and variations in lighting, sounds, temperature, colors, signs, etc.⁷⁴ Alternatively, too much use of these variations causes overstimulation and psychological disruption that can negatively impact perception.⁷⁵ In combination with fresh produce, grocers often utilize brightly colored and pleasant smelling floral arrangements.⁷⁶ Placing these products near the front entrance is meant to function as a “slow-down zone” and to set the pace for the rest of the shopping experience.⁷⁷ Oftentimes, shoppers in this zone also have to adjust to soft, slow music that encourages a leisurely pace and therefore, results in the shopper spending more time in the store.⁷⁸ In fact, research has demonstrated that utilization of slow, gentle background music can result in shoppers walking 12% slower and spending 38% more money.⁷⁹ In clearer terms, the logic is economically based and designed to entice the shopper to spend more money.

Moving from the produce and floral section, shoppers are often forced to follow a counter-clockwise shopping pathway. This directional choice is of particular significance, as recent research has demonstrated that shoppers will spend less money,

⁷¹ ITV 1. (2014, May 30).

⁷² Ebster, C., & Garaus, M. (2011).

⁷³ Buchwalder, G. (2017, April 10).

⁷⁴ Ebster, C., & Garaus, M. (2011).

⁷⁵ Special Broadcasting Services (2009, July 25).

⁷⁶ Ibid.

⁷⁷ Buchwalder, G. (2017, April 10).

⁷⁸ Nourish Life (2010, November 1).

⁷⁹ ITV 1. (2014, May 30).

but process information better if able to shop in a clockwise pattern.^{80,81} This illustrates how the economic interest of the grocery store trumps the facilitation of better decision making by the consumer. Although the profit margin, on average, is a mere \$2 more per customer when shopping counterclockwise, grocery stores know this and so predominately have their entrances on the right hand side and their exits on the left, reducing the likelihood that a shopper could shop in reverse.⁸² In order to shop clockwise, a shopper would have to walk in through the exit, then through the checkout zone, against the flow of other customers through the store, just to loop back. Alternatively, if they walked in through the entrance, they would have to walk through several zones (without making any impulse purchase decisions along the way) to begin their clockwise loop from the opposite end of the store. Either way, slowing and confusing their path in this way increases the shopper's rate of exposure to products; and therefore, the advantageous properties of shopping in a clockwise path are essentially nonexistent.⁸³ Structuring a grocery store in this way plays into the CAN approach – it is inconvenient, unattractive, and not normal. Psychologically speaking, unless the shopper is cognizant of unfazed by the extra effort that would be required to make their own path in the grocery store, the barrier is too high and subtle that the sustained encouragement from the layout is enough to follow the usual trajectory around the store.

Another tactic used in the general store outlet of supermarkets is focused on “anchor products,” which are generally perishable and the most profitable products.^{84,85}

⁸⁰ Ebster, C., & Garaus, M. (2011).

⁸¹ Tribal insight (2008, August 18).

⁸² Ibid.

⁸³ Ebster, C., & Garaus, M. (2011).

⁸⁴ Buchwalder, G. (2017, April 10).

Common “anchors” include dairy products, meat, produce, and frozen foods. These items are often placed against the back and side walls, requiring shoppers to travel across the entire store and walk past thousands of other products along the way.⁸⁶ As seen in both the general American grocery store floor plan (Appendix B) and the Nyon Migros floor plan (Appendix C), this approach is highly consistent internationally. Staples line the perimeter of the stores, requiring more effort and more time to reach. This strategic placement provides increased product exposure and, in turn, an increased chance of the shopper making an impulse purchase. The aisles and, more particularly, their end caps are filled with enticing products of various shapes, colors, and aromas.⁸⁷ Grocers utilize heavily-advertised items, that are most likely to be purchased on impulse, to line the shelves closest to these areas.^{88,89,90} Even if a shopper can resist the temptation of placing the high-impulse purchase products in their cart, “zoning” a store in this way ensures that the shopper will have to exert substantial willpower and focus to pick up only the things they came in for.

When analyzing the Migros system in Nyon, Switzerland and comparing it to the floor plan created for a typical American grocery store, a few key differences were evident. For example, dairy products are a well-documented anchor product in America, but within Migros, the dairy section was located within the collection of aisles, rather than positioned against the perimeter, or “racetrack.”⁹¹ Alternatively, bread seemed to be

⁸⁵ Nestle, M. (2007).

⁸⁶ Ibid.

⁸⁷ Glanz, K., Bader, M., & Iyer, S. (2012).

⁸⁸ Ibid.

⁸⁹ Nestle, M. (2007).

⁹⁰ Nestle, M. (2017, April 2).

⁹¹ Larson, J. S., Bradlow, E. T., & Fader, P. S. (2005).

a separate anchor in Migros that may very well represent value-based differences in an international context. Another noteworthy difference between the systems was the lack of slow music in the store. Despite countless trips through the Migros store to record data or even for pleasure, slow music was never a part of the atmosphere – music was either upbeat or entirely lacking. This represents a possible advantage for Migros, as this method of psychological exploitation, so often used in America, was not being employed to influence Swiss shoppers to walk slower and purchase more. Beyond that, there was an observable difference between the aisle lengths of the two store layouts. Whereas Migros divides each aisle line into two separate segments, American grocery stores prefer to wall the customer in with long, unbroken rows.⁹² This structural difference also has psychological underpinnings, as the gap between the Migros aisles allows for freer roaming of shoppers. More simplistically, entering an aisle to get a certain product does not seem as large a commitment as it does within the American system. Shoppers within Migros are able to grab their desired product quickly and move on to the next product, while in America, shoppers are instead forced to walk the entirety of the aisle, causing them to pass hundreds, if not thousands of extra products along the way.

Despite these differences, there are undeniable similarities between the two systems. For instance, Migros exhibits similar anchoring of their key products along the perimeter and utilizes a zoning system, as clarified in the interview with one of the Migros representatives, Mrs. Buchwalder. As stated in the interview, the customer begins in the “slow-down zone then follows the fresh food departments with the

⁹² Nestle, M. (2007).

experience zone and finally the non-food department with obligatory assortments.”⁹³

This creates a specific experience for the shopper that could, in theory, have psychological benefit. Research has demonstrated that the positioning of products among grocery store zones influences purchase, and by default, consumer behavior. For example, people buy more with an empty cart.⁹⁴ This phenomenon has psychological basis in so far as it relates to the selective principle put forth by Professor Wansink, which essentially states that people become more selective as they keep shopping and filling their grocery cart.⁹⁵ Once shoppers have collected items in their cart, they are more readily able to exert willpower and pass up options through direct comparison with items they already have.⁹⁶ When the cart is empty, however, there is no baseline means of comparison and its more difficult for the shopper to rationalize why they should or should not be purchasing the product.

Not only that, but also the sequencing of products within a store is relevant based on the same principle. Although health is almost certainly not the primary reason for produce being positioned at the entrance of the store, there could, in fact, be latent positive effects of having an empty cart while in an environment filled with healthier choices. In theory, the empty cart should encourage produce purchases, and support healthier eating patterns, as there should be little to no barrier (other than economic, but that surpasses the breadth of this paper) to purchasing more produce and less processed foods. Since produce is perishable, grocery stores have begun utilizing several psychological strategies that can increase the sales of fruits and vegetables. Research has

⁹³ Buchwalder, G. (2017, April 10).

⁹⁴ Wansink, B. (2017).

⁹⁵ Ibid.

⁹⁶ Ibid.

demonstrated that most shoppers only spend six minutes or less in this section, so most of these strategies aim at increasing the length of time that shoppers are exposed to produce.^{97,98} One method to accomplish extended time in the produce area is through use of traffic interrupters, like those used by the Nyon Migros, which have been shown to increase sales of overlooked vegetables by over 400%.⁹⁹

Other psychological techniques, not present in Migros, include floor decals that detail a pathway through the produce section and descriptive names for fruits and veggies.¹⁰⁰ Studies have found that these interventions have been effective in increasing time and money spent on produce. The floor decals on average extend the time in this section by three more minutes, with economic advantage being an extra dollar spent per minute.¹⁰¹ In terms of descriptive names, this intervention resulted in shoppers selecting 16% more fruit and vegetables.¹⁰² As such, psychological utilization - within and among grocery store systems - does not have inherently negative consequences for shoppers. Nevertheless, it is ever present in an international context, but the extent to which its implemented varies.

Aisle Structure

Grocery stores take consumer psychology into account when designing not only a store's general layout, but also when structuring and stocking the aisles. On average, shoppers spend the majority of their time along the "racetrack" and drop in and out of the

⁹⁷ Wansink, B. (2017, April 7).

⁹⁸ Wansink, B. (2017).

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

aisles.^{103,104} Knowing this, grocers deliberately position impulse purchases to draw shoppers into the aisle. Moreover, the most popular products are placed midway down the aisle so that shoppers are forced to pass more items.¹⁰⁵ This strategy is referred to as the “boomerang effect” and the logic behind it is simple - as the shopper continues to move throughout the grocery store, their willpower and restraint decrease, causing shoppers to be more likely to make impulse purchases.^{106,107} Making shoppers travel as far and as long as possible is, therefore, a central, profit-based theme among grocery stores.

Among aisles, products are also arranged strategically so that it is difficult for the shopper to identify all options. To help understand this phenomenon, researchers have used eye-tracking software in-store to examine how people shop and choose their products. While wearing special glasses, shopper eye movements are tracked and digitally recorded to pinpoint what best captures the shopper’s attention and what is overlooked.¹⁰⁸ From these studies, it has become clear that shoppers view products from left to right, just as if they were reading.¹⁰⁹ Moreover, this line of research has also demonstrated the power that eye-level placement holds in increasing the rate of product choice.

With over 30,000 to 40,000 food and beverage products available in the typical US supermarket, and 20,000 to 40,000 offered in a single Migros branch, it is clear that

¹⁰³ Tribal insight (2008, August 18).

¹⁰⁴ Larson, J. S., Bradlow, E. T., & Fader, P. S. (2005).

¹⁰⁵ Tribal Insight (2008, August 18).

¹⁰⁶ Ebster, C., & Garaus, M. (2011).

¹⁰⁷ Wansink, B. (2017).

¹⁰⁸ Ebster, C., & Garaus, M. (2011).

¹⁰⁹ Ibid.

shoppers have to utilize heuristic search processes to accomplish the feat of grocery shopping in a reasonable amount of time.^{110,111} One such heuristic that has been well-documented is that of eye-level searching. Items are typically grouped in vertical columns based on similar categories i.e. yogurt, cheese, butter.¹¹² Within the columns, the organization is hierarchically determined with the most profitable products placed at eye-level.¹¹³ Profitability is determined in this sense by which brands and companies can afford the hefty cost for the most visible shelf space. “Slotting fees,” as they are often called, can range up to a million dollars for a prime position in a large supermarket.¹¹⁴ Although this may seem like a steep fee for something as simple as a six-inch difference in shelf height, the cost generally pays off because the products that are shelved in this location are subsequently those that are the most susceptible for impulse and intended purchases.¹¹⁵ In this way, aisles can be structured to subconsciously encourage purchases of the most popular, and profitable, products. Unfortunately, these high-margin products are, more often than not, highly processed, heavily advertised, laden with sugar and salt, and ultimately, not beneficial to health.¹¹⁶ Nevertheless, strategic placement in the direct line of sight makes them more attractive and more convenient to purchase, as locating the cheaper and potentially better items, intentionally placed out of direct eyesight, requires more effort and carries more cognitive load.

¹¹⁰ Nestle, M. (2007).

¹¹¹ Buchwalder, G. (2017, April 10).

¹¹² Ebster, C., & Garaus, M. (2011).

¹¹³ Tribal Insight (2008, August 18).

¹¹⁴ Nestle, M. (2007).

¹¹⁵ Notre Dame College. (2013, January 4).

¹¹⁶ Grigsby-Toussaint, D., & Rooney, M. (2013).

With aisles structured in vertical columns by category, shoppers are able to efficiently utilize horizontal scanning to locate what they are searching for, whether it is rice or cereal, etc. However, once they find the desired category, product selection becomes more difficult. This is in part due to the hierarchical, vertical organization. For the most part, the bottom shelf is reserved for cheaper, generic brands or bulk items.¹¹⁷ These products are less profitable, and so are placed out of eyesight. Reasoning for this type of placement is that savvy shoppers in search of a deal will exert the extra effort to find these products, so they choose not to “waste” prominent shelf space.¹¹⁸ Top shelves are usually reserved for local, gourmet, or smaller brand names.¹¹⁹ Again, this shelf is out of direct eyesight for most people, yet, items placed here are more likely to be chosen than those placed on the bottom shelf.¹²⁰ This is due to the convenience of it being easier to reach up than to bend down.¹²¹

Since lower shelving places products in the direct line of sight of children, this is often referred to as the kid’s shelf. Stores will commonly target this area, approximately 23 inches off the ground, with attractive, kid friendly products.^{122,123} By marketing to children directly, stores and brands are appealing to what is referred to as “pester power,” which is essentially the influence that children have over what their parents are

¹¹⁷ Notre Dame College. (2013, January 4).

¹¹⁸ Ibid.

¹¹⁹ Ibid.

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Ibid.

¹²³ Musicus, A., Tal, A., & Wansink, B. (2014).

purchasing¹²⁴ Increasing pester power can have the effect of lowering the willpower and restraint of the shopper.¹²⁵

And lastly, there is the middle, eye-level shelf, approximately 48 inches off the ground, which is reserved for the best-selling products.¹²⁶ This method of organization has basis in both psychology and biology. For example, eye muscles are designed for horizontal movement, as opposed to vertical scanning.¹²⁷ This is not to say that eyes are unable to scan vertically, just that this is not the default mode and so it requires additional effort and directed attention.¹²⁸ Therefore, this marketing and positional strategy impacts product choice by subtly promoting the eye-level products even further.

Other noteworthy psychological strategies at the level of aisle structure involve leveraging the unconscious mind in thought-based product selection. A key example of this may be found in products like baby food, which evoke an emotional component. These products are often separated from the general food-filled aisles, as purchasing baby food will result in the shopper stopping to think about what product to choose.¹²⁹ This level of emotional involvement is lacking with typical foods – the average shopper thinks very little about the specifics of the items they are buying.¹³⁰ The majority of thought is centered on category of product, and beyond that, grocery stores actually aim to reduce the need for thought surrounding product comparison.¹³¹ This is primarily due to the fact that if individuals are consciously comparing items and making a thought-based decision,

¹²⁴ BBC. (2014, October 30).

¹²⁵ Ibid.

¹²⁶ Musicus, A., Tal, A., & Wansink, B. (2014).

¹²⁷ Ebster, C., & Garaus, M. (2011).

¹²⁸ Ibid.

¹²⁹ Tribal Insight (2008, August 18).

¹³⁰ Ebster, C., & Garaus, M. (2011).

¹³¹ Wansink, B. (2017).

there is a better chance that they may not spend as much money and, more importantly, that they will be able to abstain from impulse purchases.¹³² To reduce the possibility of this, emotional products are separated from all others.

In addition to placement strategies, grocery stores consciously carry a massive number of product options. With documented research supporting the notion that the human brain “behaves illogically when faced with the sort of information overload that shoppers are faced with in a typical supermarket,” it is clear that there is a psychological component to explain this decision.¹³³ Psychological research on choice has outlined that, on average, having more options to choose from actually results in a worse choice and less satisfaction.¹³⁴ So why would grocery stores continue to sell so many products? The answer is short and simple: profitability. Although it may not be beneficial for the shoppers to have a large array of products to choose from, grocery stores benefit and profit from each item in the store. In fact, the majority of a grocery store’s profit comes from the cost companies pay to have their products shelved in the store – not from the purchases of the consumer.¹³⁵ As such, consumer benefit falls to the wayside.

Recent research has sought to find a middle ground for this dilemma: how to maintain profitability, but reduce the amount of items for sale in the store so that consumers are able to make better choices. Stock keeping unit (SKU) reduction has been one proposed solution: efficient assortment strategies, which reduce the least popular brands by 35-50% (depending on the store).¹³⁶ Although this intervention can save

¹³² Wansink, B. (2017).

¹³³ Ebster, C., & Garaus, M. (2011).

¹³⁴ Iyengar, S., & Lepper, M. (2000).

¹³⁵ Nestle, M. (2007).

¹³⁶ Broniarczyk, S., Hoyer, W., & McAlister, L. (1998).

money by simplifying inventory and has been demonstrated to have no affect upon customer assortment perception, grocery stores remain hesitant to implement this tactic.¹³⁷

In Switzerland, many of the same strategies are employed. For example, the Migros store in Nyon makes heavy usage of end-caps, filled with enticing products like those special for Easter or brand name cheese. Within each aisle, Migros also uses a similar methodology for their product placement. Mrs. Buchwalder expanded upon this, saying “we [Migros] position products according to certain hierarchies, for example, by brand and price category, with low prices lower down and high prices within easy reach and colors from bright to dark and sizes from small to large.”¹³⁸ Similar to American supermarkets, the Nyon Migros store clearly utilizes profit-based, strategic placement to encourage shoppers to choose the higher-priced, eye-level options. Migros also uses spot lamps and promotional signs to direct the attention of the shopper to specific products.¹³⁹ The division between emotionally relevant and emotionally irrelevant products is likewise utilized by the Migros brand.

Nevertheless, there were some key differences observed at the aisle level between the Swiss and US stores. Despite employing many of the same psychologically based marketing tactics to reach adults, Migros does not place as much emphasis on marketing to children. Although there were specific children’s level shelves, these were not seen to be overtly targeting children with anthropomorphic characters and bright colors. In the US, marketing to children has been discussed at length with cereals that have their brand

¹³⁷ Broniarczyk, S., Hoyer, W., & McAlister, L. (1998).

¹³⁸ Buchwalder, G. (2017, April 10).

¹³⁹ Ibid.

representatives specifically designed to make eye contact with children walking down the aisle. This same tactic, in which the anthropomorphic character's eyes tilt downward at a 9.6 degree angle, is infrequently used, if at all, in the Swiss system.¹⁴⁰ This marketing tactic utilizes the psychological desire for human connection to establish trust through eye contact.¹⁴¹ In fact, findings demonstrate that eye contact can result in a 16% higher sense of brand trust and 28% higher feeling of connection to the brand.¹⁴² The more limited extent to which this is employed within Swiss grocery stores demonstrates a beneficial difference, as children are exceptionally susceptible to psychological exploitation.

Individual Product Marketing

Beyond the considerations of store layout and shelving, individual products must also demonstrate their value and entice consumers. Product manufacturers typically do this with a range of strategies. Aside from targeted advertisement (such as anthropomorphic brand mascots and incidental eye contact with children), companies rely on strategic color, shape, price, and wording to appeal to the attractiveness principle of the CAN theory.¹⁴³ Many companies hire psychologists and packaging specialists to consult with their marketing teams to better understand and uncover how to elicit particular emotions.¹⁴⁴ Color, especially, has been widely acknowledged as a means of inducing emotions and manipulating how consumers perceive products. For example,

¹⁴⁰ Musicus, A., Tal, A., & Wansink, B. (2014).

¹⁴¹ Ibid.

¹⁴² Ibid.

¹⁴³ Wansink, B. (2017).

¹⁴⁴ Nestle, M. (2007).

shades of red are often attention grabbing, exciting, and inviting, whereas blue has been shown to release trust hormones in the brain and encourages a sense of responsibility.¹⁴⁵ Moreover, gold, which mimics the color of fat, can evoke hunger and suggests the product is of high quality, while white represents purity and low-calorie products.¹⁴⁶ Shoppers typically pay little, if any, attention to the specifics like color, yet these psychological tactics register unconsciously and have been repeatedly demonstrated to have an influence in product perception and choice.^{147,148}

A large number of unconscious mechanisms beyond color are taken into account to increase appeal and influence a purchase. Product shape, size, font, wording, pricing – every single detail is deeply considered and used only if it is determined to be the best method for selling a product.¹⁴⁹ Pricing displays a very interesting case of the unconscious interplay between psychology and consumer behavior – even a one-cent difference is known to be able to alter the shopper’s feeling of control and perceived value. This is referred to as the 99-cent trap and involves the explicit choice to not round up to the nearest dollar.¹⁵⁰ Surveys have demonstrated that this one-cent difference results in the shoppers viewing the product as “far more affordable,” and therefore, more favorable.¹⁵¹ Psychologists have examined this phenomenon and determined that use of this strategy results in the shopper feeling as though they have some control over the

¹⁴⁵ University of Southern California. (n.d.).

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ Favario-Solari, F. (2017, April 22).

¹⁴⁹ University of Southern California. (n.d.).

¹⁵⁰ Weller, C. (2013, November 21).

¹⁵¹ Ibid.

price of the product as opposed to the retailer having complete control.¹⁵² The feeling of autonomy when making these purchases increases the rate of sales, and in turn, benefits the company because the price difference is essentially insignificant.¹⁵³

Another example of unconscious influence is through the utilization of linguistic knowledge, which is particularly relevant for its impact not only on product choice, but also taste perception.¹⁵⁴ Buzzwords like “organic” and “fortified” are used to instill in the shopper that the foods have added health benefits. Sometimes, these health benefits are irrelevant – like with the case of margarine being labeled with the buzzword, vegan.¹⁵⁵ All margarine is made of a blend of oils (typically soybean oil), and so, for the most part, margarine is naturally a vegan product.¹⁵⁶ As such, the addition of this marketing ploy plays to both the ignorance of the shopper and also to their health-conscious desires.¹⁵⁷

Beyond the use of specific buzzwords, simply adding descriptive language on the box can influence how shoppers view the product. This phenomenon has been tested countless times, with similar results: no matter how silly the descriptive name was, people would buy more of the descriptive product and choose it over others. In a study of chocolate cake, a mere adjustment of the name to be Belgium Black Forest Cake resulted in an increase in sales by 28%.¹⁵⁸ Oddly enough, the Black Forest is in Germany, not

¹⁵² Weller, C. (2013, November 21).

¹⁵³ Ibid.

¹⁵⁴ Cornell University. (2014, August 18).

¹⁵⁵ University of Southern California. (n.d.).

¹⁵⁶ Nestle, M. (2007).

¹⁵⁷ Ibid.

¹⁵⁸ Cornell University. (2014, August 18).

Belgium, but that was of insignificance to the consumer when it came to perception.¹⁵⁹ Linguistic alteration has been shown to not only influence purchase, but also the actual opinion of a product. A famous study showed that shoppers who sampled the exact cake under two different labels, almost always thought one was better than the other, demonstrating that linguistic alteration can also influence taste perception.¹⁶⁰

The same phenomenon can be said with brand photos on the front of the package. Pictures of decadent, oozing chocolate cake, or salty, blown up Cheez-Its appeal to attractiveness principle of the CAN theory and are meant to excite your taste buds.¹⁶¹ The logic behind it is simple – you see it, you want it, you buy it.¹⁶² Much like the brand ambassadors on children’s products, these foods are unfortunately the ones that are typically heavy in sugar, salt, and the like.¹⁶³ This emphasis on advertisement for these types of products, which are not beneficial to your health, exemplifies a health exploitative pattern of targeted marketing.¹⁶⁴ Unfortunately, it is psychological marketing tactics like these that have made it increasingly difficult for shoppers to classify unhealthy and healthy foods.

In terms of the Migros Corporation, many of the same tactics used in the US are also used in Switzerland. This could be, in part, attributed to the fact that, at the individual product level, it is the brands and manufacturers who are behind determining the design and marketing for each food product. Nevertheless, through the case study of Migros and general analysis of hundreds of products throughout the store, it was clear

¹⁵⁹ Cornell University. (2014, August 18).

¹⁶⁰ Ibid.

¹⁶¹ Berry, B., & McMullen, T. (2008).

¹⁶² Wansink, B. (2017).

¹⁶³ Berry, B., & McMullen, T. (2008).

¹⁶⁴ Ibid.

that color, shape, and design of food products worldwide used many of the same American methods. Products low in fat, for example, were often colored white with buzzwords clearly positioned on the front of the package. Some products used blown up images on the front of the package, like that in US stores; however, it was not as common. There were few, if any, brand characters and in terms of food photos, many were not as exaggerated, instead choosing to represent a more factual image of the actual product. Along the same line of thought, buzzwords and descriptive language was also less common. Items marketed within Migros were using many of the same tactics, yet the tactics were more realistic and consistent with the actual product.

As for price, the same phenomenon as used in the US is present in Switzerland. Rather than being in full, fixed price denominations, the prices frequently ended in odd cents. This is designed to appeal to the attractiveness principle, in so far as it allows consumers to feel as though they have more control over the price of the product. Additionally, Migros uses colored signage and promotional measures to draw attention to the price of products with these unrounded prices. This signage further encourages the idea that the shopper is getting a deal by buying the product, and increases the likelihood that the shopper will purchase the item. Although Migros was found to utilize many of the same tactics as those present in US grocery stores, this may not entirely be their fault, as brands are likely the primary proponent behind these strategies. Nevertheless, there are some strategies that Migros can influence i.e. price and signage, and for those, it was found that the marketing systems were both less prominent and less frequent than those employed in the average US grocery store.

Labeling

Beyond the observable marketing tactics used on the individual product level, it is of utmost importance to understand where the general confusion is surrounding the ability to separate healthy and unhealthy products.¹⁶⁵ One theory is that although people believe that they are able to read and understand nutrition labels, the current system is too complex, technical, and numerically based for the average consumer.¹⁶⁶ A recent survey sought to understand this better and found that over 58% of the surveyed population read nutrition labels and over 81% used the label in evaluation of the food products.¹⁶⁷ When asked what they looked for on the nutrition label, the majority of respondents admitted to only looking for elements that they were trying to avoid.¹⁶⁸ The majority of shoppers are not very aware of nutrition and so the search for specific items to avoid is both an expression of ignorance and a heuristic used to save time in the store. However, this can result in poor comprehension of the product's health quality. In fact, another study found that when shoppers were asked to differentiate the healthy product from the unhealthy product using solely the nutrition label, most were unable or lacked the knowledge to do so.¹⁶⁹ Therefore, although some shoppers are using nutrition labels to purchase products, they may not be doing so effectively and may have false beliefs about what is and is not healthy. This has implications far beyond the point of purchase, as these shoppers are likely to consume foods they believe to be healthy in larger and more frequent amounts,

¹⁶⁵ University of Southern California. (n.d.).

¹⁶⁶ Hawkes, C. (2004).

¹⁶⁷ Shine, A., O'Reilly, S., & O'Sullivan, K. (1997).

¹⁶⁸ Ibid.

¹⁶⁹ Hawkes, C. (2004).

which can backfire if their decisions are not informed by a solid understanding of what truly constitutes “healthy.”¹⁷⁰

Not only does misunderstanding manifest in the form of nutrition labels, but there is a demonstrated lack of understanding surrounding date labels as well. A separate study found that over 80% of shoppers misinterpret date labels and over 91% threw away food that still had shelf life.^{171,172} This is in part due to a lack of standardization in the terminology used, whether it be “sell by”, “use by”, “best by,” etc. Moreover, there is a complete lack of education surrounding how to best utilize this knowledge once the item leaves the grocery store.¹⁷³ Better labeling practices are surely needed, especially with sustainability measures in mind. With over one-third of food going to waste, making these labels easier to read and understand is of utmost importance and could, reduce the amount of wasted food.^{174,175}

Each of these studies has demonstrated that there is a general sense of consumer ignorance that inhibits the shopper’s ability to successfully read and understand these labels. Moreover, these studies have identified that better educational systems surrounding nutritional education could help in developing the necessary skillset required for reading nutrition labels. Another method, that could in theory, better facilitate quick knowledge acquisition within the supermarket is through a change in the labeling system. The “traffic light labeling” model has been proposed to help improve understanding, by

¹⁷⁰ Wansink, B. (2017).

¹⁷¹ Lempert, P. (2017, April 3).

¹⁷² Natural Resources Defense Council, & Harvard Food Law and Policy Clinic. (2013, September).

¹⁷³ Ibid.

¹⁷⁴ Food and Agriculture Organization of the United Nations. (n.d.).

¹⁷⁵ Fellmann, F. (2017, April 25).

employing a three-tier system to rank food products: green, yellow, and red.¹⁷⁶ The idea is that this system would be easier to understand and faster – seeing as though many people spend very little time looking at labels.¹⁷⁷ This system would also be placed on the front of the package to reduce any other barriers to its use.¹⁷⁸ However, utilizing high, medium, and low categorization does come with its own challenges. There is always the concern that corporations would strive to meet the bare minimum for their product to meet yellow or green standards.¹⁷⁹ Additionally, there is worry that using this system would result in shoppers actually eating more of the products, in greater quantities, because it is “healthier”, which would negate any benefit from the new labeling program.¹⁸⁰

Ultimately, some sort of labeling change is needed. There is no current standardization, especially on an international context.¹⁸¹ For example, the US system uses portion sizes, which can be as arbitrary as 11 chips per serving.¹⁸² But what defines “1 chip?” Does a broken chip still count, or does that mean the consumer can eat two? There is absolutely no standardization that allows for effective comparison between products. Alternatively, the Swiss system uses a base rate of 100g, which does allow for more accurate comparison, but it also requires the use of both a scale and usually a calculator to stick to portion sizes.¹⁸³ Neither system is inherently better, but

¹⁷⁶ Siegrist, M., Leins-Hess, R., & Keller, C. (2015).

¹⁷⁷ Ibid.

¹⁷⁸ Ibid.

¹⁷⁹ Siegrist, M., Leins-Hess, R., & Keller, C. (2015).

¹⁸⁰ Sutherland, L., Kaley, L., & Fischer, L. (2010).

¹⁸¹ Hawkes, C. (2004).

¹⁸² Center for Food Safety and Applied Nutrition. (2013, January).

¹⁸³ Council of the European Union. (1990, September 24).

international standardization could aid in easing shopper's understanding of how to identify whether their product is healthy or not.

Conclusion

“Our best and worst eating habits start in the grocery store.”

- Professor Brian Wansink¹⁸⁴

The most effective way to impact what products are consumed is to influence what products are purchased. With grocery stores serving as the primary source of food for at-home preparation, this is a logical source of intervention for increased health promotion and, more importantly, improved regulation of marketing tactics. Marketing can serve a beneficial purpose and be used to increase the likelihood of healthier purchases (like produce), however, they will not be sufficient on their own. Although there are measures that have demonstrated effectiveness for increasing the sales of produce, the effect is independent of total sales.¹⁸⁵ Simply stated, these measures increase total sales as a whole, not just the sales of produce. When shoppers purchase more produce, they are not purchasing more produce instead of less healthy options, rather they are purchasing it in addition to everything else.¹⁸⁶ This clearly demonstrates that although health promotion is one angle to combat the increasingly challenging task of meeting nutritional guidelines, improvement will not be sufficient without regulations surrounding marketing.

Since the utilization of psychological knowledge to make marketing tactics more effective has been well documented within the US, it was of interest to explore this issue

¹⁸⁴ Wansink, B. (2017).

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

internationally. It was found that many of the same strategies are also used in Switzerland, but to a lesser degree. This line of research demonstrated that there is also a lack of awareness surrounding various psychological elements used in marketing, both in the US and in Switzerland. From the interview conducted with Swiss resident, Mrs. Favario-Solari, it was evident that the average shopper falls victim to many of the psychological tactics used in supermarkets – much like what has been extensively documented in secondary source literature.¹⁸⁷ As in the US, the products that are most heavily marketed in Switzerland, as in the US, are those most heavily processed or high in unhealthy elements like sugar or salt. Unfortunately, increased marketing efforts do have an effect on consumer purchases. Grocery stores in the US and Switzerland both take advantage of this; placing these impulse buys at the end caps and forcing customers to walk the entire store to retrieve the most basic staple products like meat and bread.

Ultimately, reducing the nutritional crisis that is becoming epidemic in society today will require changes within the social and business environment to make it easier for shoppers to make better choices. Grocery stores presently rely on the ignorance of their shoppers so that, through psychological exploitation, they can benefit financially. This paper has outlined several instances in which the benefit of the consumer is outweighed by economic profits. Whether these changes involve allowing people to shop clockwise, or restructuring aisles to allow consumers to search for products horizontally, or improving nutritional education, there are countless possible interventions that grocery stores can take; the only thing stopping them is their own vested interest.

¹⁸⁷ Favario-Solari, F. (2017, April 22).

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Appendix A

Migros Corporation Questions (Swiss grocery store):

1. What are some considerations that go into how products are arranged in the store?
2. How does Migros create the floor plan of products? Is there any way that I can access a floor plan of the products for comparison purposes with the one I have from an American grocery store? I'm curious to find out why certain choices are made i.e. why is produce at the front and bread near the back of the Nyon Migros in the canton of Vaud.
3. How do you utilize food psychology to market your products i.e. food on eye level, number of options for a particular product?
4. I realize that there is an online platform for Migros purchases, but how are the retail stores affected by online services/ competition?
5. How does Migros encourage healthier product choices i.e. labeling, product arrangement, etc. Can you speak to the effectiveness of these choices?
6. And finally, how many different products do you currently carry in store, on average?

Mr. Mailänder Questions (Nielsen Company):

1. What is your job role/ what does the Nielsen Company do?
2. It says on your site that you conduct research in 100 countries – have you noticed any differences in trends and habits between Switzerland and America in relation to grocery stores?

3. What grocery store corporations do you work with and what is your involvement with them?
4. Are you involved at all in creating store layout, or do you provide advise about this based on your consumer behavior knowledge?
5. Do you study consumer behavior methods that could be used to encourage consumers to purchase healthier options?
6. How do you assess effective marketing strategies for supermarkets?
7. Does the buy business record data of every consumer or simply those with membership cards?
8. Do you correlate your research at all with increasing obesity trends?
9. Also, do you happen to know the number of food products, on average, Migros carries?

Mrs. Francesca Favario-Solari Questions (Shopper):

1. Combien de fois par semaine est-ce que tu faire le cours à la Migros à Nyon?
2. Comment est-ce que tu décides quel produit d'acheter? Le prix, le design du produit, la substance nutritive?
3. Sur quel niveau est-ce que tu trouves les produits en général? En bas, en hausse, le niveau des yeux?
4. Est-ce que tu utilises une liste? Si oui, est-ce que tu achetés les choses qui ne sont pas sur ta liste?
5. Quelle importance est-ce que le prix pour toi?
6. Aussi tu as dit que les produits au supermarché changent leur place de temps en

- temps – c'est vrai? Est-ce que c'est plus difficile de trouver les choses que tu veux après ça?
7. Sur une échelle d'un jusqu'à dix où un est le plus bas et 10 est le plus haute – c'est facile pour toi de lire et comprendre les labels de la nourriture?
 8. En utilisant le même échelle, dis-moi ta connaissance des ces méthodes d'avertissement qui sont utilisé par les supermarchés.
 - a. La plus cher produit restent au niveau des yeux (sur rayonnages).
 - b. Les couleurs ont utilisé pour provoquer les émotions spécifiques.
 - c. Les yeux des animaux dans les boites de céréales pour les enfants sont vers les bas.
 - d. Les produits nécessaires comme le pain, la viande, les fruits/ les légumes, etc. ont placé au périmètre.
 - e. Les supermarchés utilisent la musique lente pour encourager les clients de passer plus de temps dans le supermarché.

Professor Nestle Questions (Professor of nutrition/ food studies/ public health at NYU):

1. Can you briefly describe your approach used in analyzing the layout/ floor plans of grocery stores?
2. In your opinion, what were some of your most interesting findings in relation to the food psychology/ marketing tactics used in product display?
3. What were your biggest obstacles and how did you overcome them when conducting research for your book *What to Eat*?

4. As my project is limited to the time constraint of one month, I am only planning on looking at a handful of variables related to marketing tactics, including store layout and number of product choices. What other variables would you suggest I consider?
5. Will you expand upon how these marketing strategies correlate with increased consumption, and in turn, the increasing rate of obesity and non-communicable disease?
6. In your opinion, what could be done to encourage healthier eating habits amongst consumers, at the level of grocery store product management? And why do you think that they aren't implementing these suggestions?
7. And finally, when looking at supermarket store layouts, did you create floor plans that you could share with me for comparison purposes? (I'm using your book as a baseline for American grocery stores, so if not, I can create one based on your description).

Professor Wansink Questions (Director of Food and Brand Lab at Cornell University):

1. What are some of your current research projects?
2. Other than observational methods i.e. using Kleenex boxes and cameras embedded in water bottles, how do you assess consumer behavior in the context of supermarkets? Do you use / map out floor plans at all? Could I have access to these?

3. I've read your key discoveries section on the Food and Brand Lab website, but I'm curious to know in your opinion, what are some of your most interesting / surprising findings and what things do you think require more research?
4. As my project is limited to the time constraint of one month, I am only planning on looking at a handful of variables related to marketing tactics, including store layout and number of product choices. What other variables would you suggest I consider?
5. How do you think these marketing strategies correlate with increased consumption, and in turn, the increasing rate of obesity and non-communicable disease?
6. Why do you think that some health marketing strategies (that have been demonstrated to be effective) like the divided cart are not implemented in grocery stores?

Professor Felix Fellmann Questions (Focal Point for Agriculture and Food Security at the Swiss Agency for Development and Cooperation):

1. What is your relationship with the food industry?
2. In your opinion, what influence does the food industry have in the context of grocery stores?
3. How do you think marketing strategies used to encourage the purchase of unhealthier products correlates with increased consumption, and in turn, the increasing rate of obesity and non-communicable disease?
4. What are some marketing tactics like store layout and number of product choices

- that you'd suggest I look at in the context of grocery stores?
5. In your opinion, what could be done to encourage healthier eating habits amongst consumers, at the level of grocery store product management?
 6. How do you think we can move forward and improve healthier choice promotion within the context of grocery stores? Do you have any suggestions for possible infrastructure or regulations?
 7. What are the ethical implications of using food psychology to market products to consumers?

Appendix B

Typical US Grocery Store Layout (based on "What to Eat")



