The Wild Medley Problem

Why Untill.ag should change the lowest-performing product's name from "Wild Medley" to "Supergreens"

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Introduction & Research Problem

In the competitive landscape of agricultural products, the significance of product naming extends far beyond a mere label; it is an integral component that intertwines with packaging to steer consumer choice. Recognizing this influence, our research underscores the critical role of product names in conveying information, encapsulating brand identity, and fostering an emotional connection, all of which are pivotal in shaping consumer purchase decisions (Ozgec & Ozgec, 2017). This emphasis is not confined to isolated product categories but spans the entire spectrum, as existing literature illuminates the synergistic effect of product name and packaging design on the consumer's perceived quality, thereby influencing the likelihood of purchase (Brun & Johnson, 2000).

While these studies predominantly address the broader food and beverage industries, their findings yield valuable insights that are particularly relevant to the context of packaged greens. This study delves into an experimental investigation centered on Until.ag's product "Wild Medley," which, despite its high-quality standards, has underperformed in the market. Through meticulous experimental design involving the randomization of 80 participants and comprehensive statistical analyses, this research aims to uncover the potential impact of a strategic name change on the consumer's buying behavior and taste perceptions. The insights gleaned from this study are anticipated to not only bolster the product's market position but also contribute to the broader discourse on the influence of semantic elements in marketing and branding strategies.

Experimental Design

The experimental design of this study was predicated on a robust framework to investigate the effects of product naming on consumer preferences and purchase intentions. A total of 80 participants were recruited for this study, with their emails collected ex-ante to facilitate communication and ensure commitment to the experimental process. To maintain the integrity of the experiment, a complete randomization approach was employed. This randomization was vital to ensure that each participant had an equal chance of being assigned to any of the four variations of the survey, thereby mitigating selection bias and enhancing the reliability of the results.

Each participant was randomly assigned to one of four versions of a carefully structured Google Form. The forms were meticulously designed to be identical in every aspect, with the exception of the image of packaged greens featured in Section 2. This deliberate design choice was critical in isolating the variable under study—product naming. The image used for the packaged greens was consistent across all forms in terms of visual elements such as size, color, and placement, except for the name displayed

on the package. This controlled manipulation allowed us to directly assess the impact of the product name on participants' perceptions and choices.

The control version of the form displayed the product with its current market name, "Wild Medley," while the three treatment arms featured alternative names: "Spice Medley," "Spring Mix," and "Supergreens." These names were selected with the intent to explore varying thematic and sensory connotations, ranging from the zestful "Spice Medley" to the vibrant "Spring Mix," and the nutritionally suggestive "Supergreens."

Survey Design

Our survey provided participants with a realistic shopping scenario, replete with high-quality images and product descriptions, to effectively simulate a genuine consumer experience. By analyzing the responses across different naming treatments, we aimed to elucidate the nuances of how product naming can sway consumer attitudes and the decision-making process in the context of packaged greens.

The survey designed for this research was structured to meticulously capture both demographic information and product preferences. The first section solicited demographic details, gathering data on age, gender, employment status, and income range, thereby establishing a contextual background for each participant's responses. The subsequent section shifted focus towards shopping habits, querying the frequency of purchasing greens and preferred shopping venues.

A pivotal element of the survey was the Likert-scale questions, which were strategically employed to assess the importance of various factors such as freshness, organic quality, price, packaging, and brand when choosing packaged greens. This rating system was chosen to quantify subjective preferences, allowing for nuanced analysis of consumer priorities.

The survey culminated in a product evaluation segment, where participants were presented with an image of the "Wild Medley" product alongside specific questions regarding the likelihood of purchase, the maximum price willingness, and perceptions of freshness, nutritional value, quality, and taste profile—sour, sweet, and spicy. This structure was deliberate, enabling a direct association between the product's visual and nominal appeal and the participant's perceived value and purchase intent. The scoring system for these responses was designed to translate subjective opinions into measurable data, facilitating statistical analysis for informed decision-making.

Data Preprocessing and Cleaning

Initial data preprocessing included handling missing values and confirming the absence of null entries post-cleanup, ensuring data integrity for the subsequent analysis. Visualizations of demographic data showcased a diverse participant pool across age, gender, employment, and income categories, critical for establishing the generalizability of the study's findings.

The EDA then transitioned into an examination of participants' purchasing behaviors and preferences through descriptive statistics and visual plots, revealing commonalities and variances in factors influencing purchasing decisions, such as price sensitivity and organic preference.

Randomization Checks

Rigorous randomization checks were employed to ensure the validity of the treatment allocations across different groups. Using Analysis of Variance (ANOVA) for continuous variables and Chi-Square tests for categorical variables, the study assessed the balance of covariates across the three treatment groups. The ANOVA results displayed no statistically significant differences in variables such as choice freshness, organic preference, price sensitivity, packaging appeal, and brand loyalty. Similarly, the Chi-Square tests revealed that demographic factors like age group, gender, employment status, income level, purchase frequency, and shopping venue were also evenly distributed across the groups. These outcomes confirmed that the randomization process was effective, as there were no significant baseline differences between the groups, ensuring that any subsequent effects observed could be confidently attributed to the treatment interventions rather than pre-existing disparities.

Additionally, a power analysis was conducted to determine the appropriate sample size needed to detect an effect, if present. By setting an effect size of 0.7, a significance level (alpha) of 0.05, and a desired power of 0.8, the analysis calculated that approximately 23 participants were needed per group.

Results

i. Probability of Purchase

Changing the packaged greens name from “Wild Medley” to “Spring Mix” increases the probability of purchase by 15% (0.75 points on a 5 point scale), significant at 5% alpha. Changing the name to “Supergreens” increases the likelihood of purchase by 23% also with a high degree of significance. There is no statistically significant change in the probability of purchase by changing the name to “Spice Medley”.

ii. Highest Spend

Changing the name to “Spring Mix” increases the highest spend by 23%. The name “Supergreens” increases the highest spend by 30% also with a high degree of significance. There is no statistically significant change in the highest spend by changing the name to “Spice Medley”.

iii. Perception of Freshness

Changes in naming show no statistically significant change in the perception of freshness. We add appropriate covariates to increase the model’s precision without a big effect on the significance.

iii. Perception of Quality

Changes in naming to “Spring Mix” and “Spice Medley” show no statistically significant change in the perception of freshness. “Supergreens” exhibits a 10% increase in the perception of quality with significance.

iii. Perception of Taste (Sour, Sweet, Spicy)

Changes in naming to “Spring Mix” show no statistically significant change in the perception of taste profile. “Supergreens” exhibits a 10% decrease in the perception of how sour the product is, only at an 8% significance (insignificant, but notable). “Spice Medley” expectedly increases the perception of how spicy the product is by 19% with significance.

Recommendations

Since we have ensured a proper experimental design with robust controls and randomization protocols, we can confidently recommend a change in naming from “Wild Medley ” to “Supergreens” on the basis of statistically sound increases in the probability of purchase and willingness to pay. “Spring Mix” also exhibits these increases, but to lesser degrees and with lower significance. We recommend “Supergreens” not just based on the statistics, but also because of its alignment with the overall brand of Untill.ag, which is positioned as a unique brand with unique nomenclature in its product ecosystem.

Limitations and Future Research

This study demonstrates a robust approach to experimental design, yet it is not without potential limitations that could influence the outcomes. One such limitation is the sample size, which, while adequate for initial explorations, may not fully capture the broader consumer base's diversity and potential nuances in behavior. We have assumed a rather large effect size in our power analysis which could highlight our inflated assumption of the effect of nomenclature on consumer choice.

Additionally, the sample is subject to selection bias, as the participants who agreed to sign up to the study may have certain characteristics or preferences that are not representative of the general population. Moreover, the self-reported nature of the survey data could introduce response bias, where participants might provide answers they believe are expected or socially desirable rather than their true preferences. Lastly, another potential bias could arise from the experimental setting itself, which is highly unlikely to fully capture the complexity of real-world purchasing environments. Participants' responses in a survey or experimental context may differ from their actual behavior in a natural setting, a phenomenon known as the Hawthorne effect.

For future research, Untill.ag and the broader academic community could benefit from expanding the study to a larger and more diverse participant pool to validate the findings and ensure they are generalizable across different demographics and consumer segments. Longitudinal studies could also be conducted to observe the effects of product naming over time and in various market conditions. Additionally, integrating qualitative research methods, such as focus groups or interviews, could provide deeper insights into the emotional and cognitive processes that underlie consumers' responses to product naming. Also, potentially creating an in-person experiment where people actually get to choose between our product vs the competitors at every treatment arm, creating a much better simulation of the real-world purchasing environment. There is also reason to consider a blind experiment where every participant is shown every treatment arm, increasing the power of the study.

For us as a team of scientists, broadening the scope of our work to include a wider range of products and industries would also enrich the understanding of how naming influences sales, allowing for the development of more sophisticated and nuanced marketing strategies that leverage the power of product nomenclature.

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