

From Invisibility to Innovation: A Start-Up's Strategy for Filling the Market Void in Elderly Skincare

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Abstract. As the size of the beauty and skincare market increases, there is still great potential for the development of the middle-aged and elderly beauty and skincare field. This paper introduces a hypothetical skincare brand specifically targeting this demographic, with a focus on entering and scaling in the anti-aging sector. Through consumer segmentation, product efficacy analysis and positioning, a conjoint survey, correlation coefficient, and linear regression analysis, the study identifies key factors for success. The findings suggest that the hypothetical brand should prioritize mild ingredients, maintain affordable pricing, and offer large-volume and bulk packaging options. On the other hand, product efficacy is not the primary goal that the brand needs to develop when targeting the middle-aged and elderly market. The significance of this research is to help middle-aged and elderly women enhance their skincare quality from the perspective of skincare product companies. It addresses the challenges of social marginalization, to help women regain self-confidence while advocating for greater gender and age equality in society. This paper serves as a valuable resource for businesses aiming to enter or expand the market for silver hair.

Keywords: skincare, silver hair market, anti-aging, middle-aged and elderly people, new brands, senior mental health

1. Introduction

With a sizable and expanding senior market and a high demand for skincare products, there is a big opportunity for brands. The anti-aging market has thrived. Between 2021 and 2026, the worldwide anti-aging industry, estimated to be worth US\$58.5 billion in 2020, is expected to rise at a compound annual growth rate of 7% [1]. However, there is still a big gap in the beauty market for middle-aged and elderly people. This paper created a middle-aged and elderly skincare brand in the hypothetical, having segmentation based on age, lifestyle, and consumption habits to better satisfy the demands of various groups and fill the gap in this market. Researchers have evaluated the impact of parameters such as product efficacy, safety, price, and capacity on consumer purchase intentions using questionnaires and data analysis, and researchers have built a regression model to give a scientific foundation for product development and pricing strategies. How can middle-aged and

elderly consumers be divided? What attributes do they value more about skincare? The discussion of these issues is of great significance for enterprises to enter and develop in the silver market.

So, this paper proposed a new skincare brand aimed at middle-aged and elderly women and designed an end-to-end go-to-market strategy for a hypothetical start-up to help to find natural beauty in daily life. Through a thorough study and insight into the skincare industry for silver hair, the researchers hope their brand can serve as an example, providing a useful resource for companies looking to enter or grow in this market.

2. Literature review

Cecil et al. [2] studied the intricate relationship between ageism, gender, and appearance, specifically focusing on older women's choices regarding gray hair. The research involved surveying 80 women from various countries and regions using an open-ended questionnaire. This questionnaire asks participants' experiences with age-related body and hair changes, and their thoughts and feelings toward these transformations. The researchers employed thematic analysis with NVivo software to analyze the data and utilized a template analysis approach to identify key themes and subthemes. By integrating Goffman's stigma theory with their findings, the researchers uncovered a significant tension older women face between maintaining a sense of competence and embracing authenticity. While women desired to present their true selves, they also expressed concerns about the potential loss of competence and social status as their appearance aged. This conflict highlights the older women's challenges in navigating societal expectations and preserving their identity and self-worth.

Meanwhile, research on the invisibility of older women highlights issues of ageism and sexism, with 84% of women reporting a diminished sense of visibility as they age, facing challenges such as media erasure, sexual objectification, social neglect, and patronization [3]. Our brand is committed to bringing older people from "Invisible" to "Noticeable". By taking care of the skin, middle-aged and elderly people can express care for themselves, which helps to improve their quality of life and happiness.

The study of Muise and Desmarais [4] shows evident ambivalence in women's attitudes and behaviors toward anti-aging products. Quantitative studies have found that aging and rating the importance of appearance are significant predictors of the purchase of anti-aging products. The result demonstrated that women are more willing to pay a premium for an anti-aging product with active and natural ingredients than simply because the product has been scientifically tested. As with makeup and hair coloring, the use of anti-aging products is considered acceptable. Thus, it can be concluded from this research that Greater aging anxiety and higher importance of appearance were related to a greater likelihood of purchasing anti-aging products.

3. Method

3.1. Segmentation

The segmentation strategy focuses on addressing the specific needs of underrepresented consumer groups, particularly women aged 45 and older, who represent 31.5% of the target market and often face societal discrimination [3]. The strategy also targets the low-middle income bracket, accounting for 40% of consumers, with an emphasis on the importance of budget control in purchasing decisions. Researchers target poor and middle-income groups because they may not be able to or unwilling to purchase high-end skincare products. They aim to promote resource equity and the idea

that skincare rights can spread to all corners of the globe. Behaviorally, it caters to the 95% who seek value for money and the 66% who prefer online shopping, recognizing a demand for more frequent skincare routines with a twice-daily usage frequency. Geographically, the strategy covers both urban and rural regions, acknowledging the skincare challenges posed by city pollution, countryside UV exposure [5], and 20% of the population living in dry, low-humidity areas requiring additional hydration. Psychographically, the focus is on consumers who are natural-conscious and eco-friendly, reflecting a desire to protect the environment, and those experiencing high anxiety about facial aging, necessitating urgent and effective skincare solutions.

3.2. Positioning

The brand is strategically positioned to offer medium sensitization and effective anti-aging solutions, with a primary focus on providing comprehensive care to consumers intent on preventing the signs of skin aging. The formulation emphasizes a balance between safety and efficacy, aiming to rejuvenate the skin while enhancing its vitality. Recognizing the thinning of the stratum corneum and the loss of collagen typically observed in middle-aged and older women, the brand's main ingredient is designed to gently slow the aging process. This ingredient is particularly well-suited for consumers seeking subtle anti-aging effects without resorting to injectable medical treatments, aligning with the expectations of many within this demographic. Additionally, the inclusion of chemical-free herbal extracts ensures the protection of the skin barrier, supporting the anti-aging process while maintaining skin health.

The skincare market is currently saturated with various brands, each claiming superiority in terms of anti-aging or allergy relief. However, the brand has successfully carved out a distinct niche by delivering strong anti-aging results while maintaining a low allergy score. This strategic positioning currently effectively differentiates this start-up brand from competitors, making it a more attractive option for consumers seeking comprehensive skincare solutions.

When compared to established skincare brands such as Curology, Kiehl's, and SK-II, the advantages of this emerging brand become apparent. Curology is recognized for its commitment to safe, mild, and hypoallergenic products, catering specifically to consumers with sensitive or fragile skin barriers, ensuring a gentle and effective skincare regimen. Kiehl's, by contrast, targets consumers who seek robust anti-aging results through professional-grade products, offering high sensitization and meeting the demand for noticeable skin improvement. Positioned at the luxury end of the market, SK-II delivers extreme anti-aging and high-sensitivity care, appealing to consumers who prioritize luxury skincare and are willing to invest in cutting-edge technology to achieve exceptional results. This comparison highlights the distinct position of the new brand, which offers a balanced approach to anti-aging with a focus on both efficacy and skin barrier protection.

By positioning this emerging brand as a leader in anti-aging and allergy functions, it feels confident that it will continue to differentiate itself from the competition and attract a growing consumer base. The commitment to continuous innovation and investment in R&D will ensure that the new brand remains at the forefront of the skincare industry. As consumer demands evolve, the brand will be able to adapt the latest strategies to meet these changing needs, ensuring that the brand remains a trusted and preferred choice in the market.

3.3. Data collection

While analyzing the existing market, the conjoint survey was conducted to collect and analyze consumer preference data to prove and improve the initial marketing strategy. The survey evaluated

five key attributes: brand, allergenicity, efficacy, volume, and price (see Table 1). Each of these attributes is briefly explained below. A higher percentage of allergenicity indicates a greater likelihood of causing an allergic reaction. Efficacy is categorized into two levels: "strong," representing high functionality, and "plain," indicating lower functionality. The brands included in the survey were Curel, Kiehl's, and SK-II, with similar brand positioning to ours, compared to the new start-up brand. Price was divided into six options, each with an 8-dollar interval. Customers were provided with a variety of options to select from to determine their priority and order of preference, which helps inform future product development.

To perform quantifiable calculations, three allergenicity levels were hypothesized: 10%, 40%, and 70%, for further analysis, researchers converted percentages to float types, which become 0.1, 0.4, and 0.7. Efficacy has two kinds: strong(functional) and plain (gentle ingredients; less functional). For further analysis, strong efficacy was assigned a grade of 1, while plain efficacy was assigned a grade of 0. Volume represents the third variable, with three distinct parameters established: 30 ml, 50 ml, and 70 ml. Price, being the most varied attribute, allows for the construction of a demand curve to investigate consumer preferences. Six different price points were set: 20, 28, 36, 44, 52, and 60 dollars. There was a total of 667 responses from 9 people in the class, with each person answering approximately 74.1.

Python was used to analyze the correlation coefficient of the data, which is a statistical measure that describes the strength and direction of a linear relationship between two variables. The value of the correlation coefficient ranges from -1 to 1.

Table 1. One example of conjoint analysis

Brand	Our brand	Cruel	Kiehl's
Allergenicity(%)	10%	20%	60%
Efficacy	strong	plain	strong
Volumn(ml)	30ml	40ml	125ml
Price(USD)	\$20	\$25	\$50
Choose one			

4. Results

Researchers analyzed the correlation coefficient of the four variables respectively as shown in Figure 1, and the results are as follows.

```
[8]: neoscholar.pwcorr(data[['Choice', 'Attribute1']])

[8]: (
      Choice  Attribute1
Choice      1.00000    -0.26423
Attribute1  -0.26423     1.00000,
      Choice  Attribute1
Choice      0.000000e+00  4.217576e-12
Attribute1  4.217576e-12  0.000000e+00)

[12]: neoscholar.pwcorr(data[['Choice', 'Attribute2']])

[12]: (
      Choice  Attribute2
Choice      1.000000    -0.000317
Attribute2  -0.000317     1.000000,
      Choice  Attribute2
Choice      0.000000     0.993492
Attribute2  0.993492     0.000000)

[14]: neoscholar.pwcorr(data[['Choice', 'Attribute3']])

[14]: (
      Choice  Attribute3
Choice      1.000000     0.106188
Attribute3  0.106188     1.000000,
      Choice  Attribute3
Choice      0.000000     0.006088
Attribute3  0.006088     0.000000)

[16]: neoscholar.pwcorr(data[['Choice', 'Attribute4']])

[16]: (
      Choice  Attribute4
Choice      1.000000    -0.423447
Attribute4  -0.423447     1.000000,
      Choice  Attribute4
Choice      0.000000e+00  2.338473e-30
Attribute4  2.338473e-30  0.000000e+00)
```

Figure 1. Correlation coefficient analysis results

The correlation coefficient between attribute1 and choose to purchase is -0.26423, suggesting a moderate negative correlation between these two variables. This implies that there is a tendency for an increase in the value of allergenicity to correspond with a decrease in the value of the likelihood of purchasing. Furthermore, the correlation coefficients between attribute 3 and attribute 4 and the likelihood of purchasing are 0.106188 and -0.423447, respectively. Notably, volume exhibits the only positive correlation, whereas price exhibits the strongest correlation. In contrast, attribute 2 (Efficacy) demonstrates minimal and no significant correlation ($p > 0.1$) with the likelihood of purchasing.

The correlation coefficient, although useful for describing the association between variables, is insufficient for predictive or causal inference purposes. Unlike regression analysis, which can provide predictive intervals and elucidate causal relationships, the correlation coefficient lacks the necessary precision for these applications. Thus, as shown in Figure 2, regression analysis was employed for advanced study.

[24]:

Y = data['Choice']
X = data[['Attribute1', 'Attribute2', 'Attribute3', 'Attribute4']]

[26]:

neoscholar.regress(Y,X).summary()

[26]:

NeoscholarOLS Regression Results

Dep. Variable:	Choice	R-squared:	0.262
Model:	NeoscholarOLS	Adj. R-squared:	0.258
Method:	Least Squares	F-statistic:	58.81
Date:	Wed, 07 Aug 2024	Prob (F-statistic):	1.74e-42
Time:	10:54:17	Log-Likelihood:	-317.22
No. Observations:	666	AIC:	644.4
Df Residuals:	661	BIC:	666.9
Df Model:	4		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	0.7607	0.099	7.665	0.000	0.566	0.956
Attribute1	-0.4892	0.062	-7.851	0.000	-0.612	-0.367
Attribute2	0.0811	0.046	1.781	0.075	-0.008	0.171
Attribute3	0.0044	0.001	3.456	0.001	0.002	0.007
Attribute4	-0.0141	0.001	-12.677	0.000	-0.016	-0.012

Omnibus:	49.350	Durbin-Watson:	0.974
Prob(Omnibus):	0.000	Jarque-Bera (JB):	40.118
Skew:	0.515	Prob(JB):	1.94e-09
Kurtosis:	2.378	Cond. No.	518.

Figure 2. Linear regression analysis results

According to $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon$ and the results in the table, here is the formula:

$$Buy = 0.7607 - 0.4892 * Allergenicity + 0.0811 * Efficacy + 0.0044 * Volume - 0.0141 * Price.$$

$$Revenue = (0.7607 - 0.4892 * Allergenicity + 0.0811 * Efficacy + 0.0044 * Volume - 0.0141 * Price) * Price$$

Through regression analysis, researchers can determine the causal relationship between multiple variables and predict the result caused by the change of each attribute. For example, if the volume (Attribute 3) increases by 200 (ml) and the price increases by 100(USD), the possibility of being chosen will change:

$$0.0044 \times 200 - 0.0141 \times 100 = -0.53$$

5. Discussion

It is worth mentioning that in the regression analysis, efficacy (Attribute 2) still shows no significant correlation with consumers' purchase intention ($p=0.75>0.1$). Therefore, the initial positioning strategy must be revised, which makes anti-aging efficacy the feature selling point of the product.

Further investment in enhancing the brand's efficacy can be deprioritized, as the findings indicate that consumers do not view efficacy as the primary reason for purchasing the brand. This aligns with a previous study, which revealed that middle-aged and older women prefer not to have visible signs of anti-aging on their faces. Consequently, the brand's differentiation should focus on developing gentle ingredients and maintaining affordable pricing, ensuring a competitive position in the saturated beauty market.

According to the results of data analysis, consumers' purchase intention is positively correlated with the volume of skin care products, and this finding provides an important market strategy guidance for the skin care industry. In the process of skin care product development and marketing, enterprises should consider launching large-volume packaging of skin care products to meet the needs of consumers. At the same time, bulk products can bring higher single purchase value, helping to increase sales and market share. However, it should be noted that the introduction of large-volume products must consider that the product should maintain stability and effectiveness in a long service cycle, which requires strengthening the anti-corrosion performance of the formula or packaging.

6. Conclusion

With a sizable and expanding senior market and a high demand for skincare products, there exists a significant opportunity for brands to capitalize on this segment. Segmentation based on age, lifestyle, and consumption habits allows for the effective targeting of various groups, addressing the current gap in the market. This segmentation provides clear guidelines for brand positioning and marketing initiatives. The impact of factors such as product efficacy, safety, price, and capacity on consumer purchase intentions has been evaluated through surveys and data analysis, leading to the development of a regression model that offers a scientific basis for product development and pricing strategies. In conclusion, this study presents a comprehensive analysis and insight into the skincare industry for the silver-haired demographic, serving as a valuable resource for companies aiming to enter or expand in this market.

The study presents several limitations that should be addressed in future research. First, the survey used a non-probability sampling method, which may limit the generalizability of the results. Second, the participants surveyed do not align with the age demographic of the target customers, highlighting the need for further investigation into the expectations and needs of middle-aged and elderly customers in the beauty market. Lastly, the analysis method could be enhanced in future studies by exploring additional factors that may influence the decision-making of middle-aged and elderly consumers.

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