

IDENTIFYING CONSUMER PROFILES IN THE BEAUTY INDUSTRY
USING SURVEY-BASED CLUSTERING

by

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A thesis submitted in partial fulfillment of the
requirements for the degree of

MA in Business and Financial Economics

Kyiv School of Economics

2025

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ACKNOWLEDGMENTS

First, I would like to acknowledge an extraordinary respect to my thesis advisor Professor Yuliia Kuntsevych, whose professionalism guided me through this path of researches, methodologies and conclusions. Her wise advice and faith in my performance reinforced my thesis resulting in the research that I treat as a personal achievement and am really proud of. The confidence of my thesis advisor, in me, my abilities, knowledge, motivated me and gave me a sense of being supported and guided on this academic path.

Also, I would like to express my gratitude to KSE University and its professors for providing a comprehensive knowledge foundation on which I was able to develop the study presented.

A special acknowledgment goes to L'Oréal Ukraine as a representative of the market under discussion. The advice and market insights of the people belonging to the company, my mentors, were vitally important for my research and subsequently formed its basis.

This thesis is a reflection of a supportive attitude and confidence I received from my family during this challenging chase of such important academic goal. I owe them boundless respect and gratitude because they are the one of the main contributors to my ability to fulfill my thirst for knowledge, curiosity and growth.

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Chapter 1

INTRODUCTION

The beauty industry is a highly competitive sector, associated with growth and expansion over the last decade. Therefore, the discussion regarding it is potentially leading to the improvement of current players' performance or to finding niches for newcomers.

Cosmetics is an omnigenous market, where various customers have totally different motivation and approach to making a purchase. The market incorporates body, face and hair care, decorative, professional cosmetics, goods for all genders and ages, making it extremely important to adapt enterprises' strategic thinking to customers' needs and requests – for this purpose product segmentation is done. Nevertheless, consumer behavior within these segments is heavily influenced by socioeconomic factors, for example income level, which determines both affordability and perceived value of goods. That is why further investigation of how these characteristics vary will be productive and informative.

The need to further discover intricate relationship between evolving consumer preferences in beauty and market performance is attributed to the gained professional experience in the sector of discussion. This dive into practice gave opportunity to emphasize the importance of factors which affect the demand in such dynamic environment as Ukrainian market. This fact became the motivation for academic research on how different socioeconomic factors affect the choice of products. Understanding this concept results in professionally beneficial effect, providing a unique perspective on consumer's psychology and market evolution as well as helping companies to reach the new level of efficiency and performance.

Taking into account this introduction, the process of resolving concerns mentioned above could shape into complete business research on the central question:

How could be consumers attributes reflected in strategies of beauty and cosmetics companies?

The main purpose of this research is to identify how cosmetic companies such as L'Oréal and Estée Lauder could integrate in their strategies differentiated consumer attributes. Apart from that study of consumers' motivation and preferences allows to improve development and marketing approaches. Taking Ukrainian beauty market as an example, regarding the fact that in the last few years it shows an outstanding combination of financial issues and stable consumption, the study will contribute to determination of how businesses can adjust their strategic vision in accordance with constantly changing markets.

In this study implemented a quantitative methodology based on initial data, gathered during the conduct of consumer survey. For the purpose of identifying so called clusters in this study was performed a statistical analysis of responses of the previous stage. This research provides valuable information about the beauty market from the perspective of influence of factors such as income level and other customer attributes on their segmentation.

The outcome of the research indeed provides practical recommendations for the beauty companies as specific conclusions are provided on the basis of clustering analysis results. These findings are useful for beauty companies enabling them to optimize pricing, refine product development and find proper tone of voice to resonate with specific consumer segments.

Ultimately, the study is aimed to contribute not only to academic literature upon beauty as an economic sector, a market, but also to practical guides, strategies for cosmetic corporations in challenging yet resilient consumer landscapes.

Chapter 2

INDUSTRY OVERVIEW AND RELATED STUDIES

Beauty industry is an appealing sector, as nowadays the number of people using beauty products increases, no matter of their age, sex, etc. This happens due to the increasing variety of products in the market and cultivation of personal care and well-being. The cosmetics industry is a growing field globally, however in the past years dynamics of its development has changed.

2.1 Industry Overview

The dynamics of the market were turbulent in the last years but despite some fluctuations, caused by pandemic and economic uncertainties, global beauty market has shown a stable growth since 2019. Different estimates are available, for example Statista¹ states in the latest reports of spring 2025, that the industry is projected to earn nearly US \$115bil this year, growing for 3-4% in comparison to the previous one and is going to grow 3.96% annually 2025-2030. According to L'Oréal's annual report 2024², beauty market grew by 5% in 2019 then followed by a significant decline in 2020 (8%) due to COVID-19 pandemic. However, this decline has been compensated by growth in 2021 by 8%. Since then, the growth of beauty sector remained and showed around 6% and 8% in 2022 and 2023. In 2024 the beauty market lost its tempo but still showed growth by 4,5%, indicating the continue of expansion.

¹ "Cosmetics - Worldwide | Statista Market Forecast". Statista. <https://www.statista.com/outlook/cmo/beauty-personal-care/cosmetics/worldwide>

² "Beauty market in 2024 | L'ORÉAL Finance". L'ORÉAL Finance. <https://www.loreal-finance.com/en/annual-report-2024/beauty-market/>

According to Euromonitor International³ modern top-5 trends of beauty industry include: 1) so called “Recession glam”, that is associated with shortening of budgets devoted to beauty purchases, but keeping some goods like lipsticks in high demand as a “small luxury treat”, which is reflected in “the lipstick effect”⁴ first noticed in and most famously demonstrated by Estee Lauder companies sales in 2001 and 2008, periods of turbulence in US and global markets; 2) “Desire for clinical confidence” – evidence of real performance of ingredients, confirmation of them being unharmed to their health; 3) “Loyalty immersion”, which stands for increasing positive effect from bonus programs, client clubs, etc.; 4) “Healthspan plans” highlight how modern-day consumers think of beauty as of a part of their general well-being, choosing products that contribute positively to it; 5) “Eco-evaluation” wraps up the trends with a note on importance of responsible production and packaging, making eco-conscious brands thrive among others.

The trends and directions of the industry are closely tied to different cultural events, social media outbreaks and even fashion industry trends. Today beauty ideas comove with popular fashion-aesthetics, one of the recent examples of such aligning is “clean-girl” beauty trend and “Pilates-girl” fashion era, that both basically stand for a person’s (mainly females, as highlighted in the names of the mentioned above) devotion to keeping their face and body healthy, rested and nicely primed. How does it relate to trends in the beauty industry overall? The production of goods fulfilling consumers requests escalades to a specific aesthetic-oriented cosmetic brands like rhode, (HRBeauty LCC – officially) founded in 2022 as a manifestation of a “clean-girl” beauty product variety. There are a lot of similar examples of micro-trending businesses, however some of them reach the top shelf of beauty competitive landscape. This is confirmed by huge M&A deals happening,

³ Hu, Yang. "Top Trends Shaping the Beauty and Personal Care Industry In...". Euromonitor, 12 may 2025. <https://www.euromonitor.com/article/top-trends-shaping-the-beauty-and-personal-care-industry-in-2025>

⁴ N. Danziger, Pamela. "With Recession Threatening, the Lipstick Effect Kicks in and Lipstick Sales Rise". Forbes, 1 June 2022. <https://www.forbes.com/sites/pamdanziger/2022/06/01/with-inflation-rising-the-lipstick-effect-kicks-in-and-lipstick-sales-rise/>

just like the recent one of rhode being sold to E.l.f. (American mass cosmetics producer) in May 2025 for \$800mil initially with potential \$200mil payment dependent on performance of the business as disclosed in the recent NY Times article⁵.

As was said before, the cosmetic industry is a highly competitive field, where countless number of companies operate. Major players in the global cosmetics market include L'Oréal Groupe, The Estée Lauder Companies, Unilever, Procter & Gamble, and LVMH Moët Hennessy Louis Vuitton. Ltd. These companies have a significant presence across various product categories and geographic regions, they have earned trust and loyalty of consumers and also have resources to run huge industry-transforming R&D.

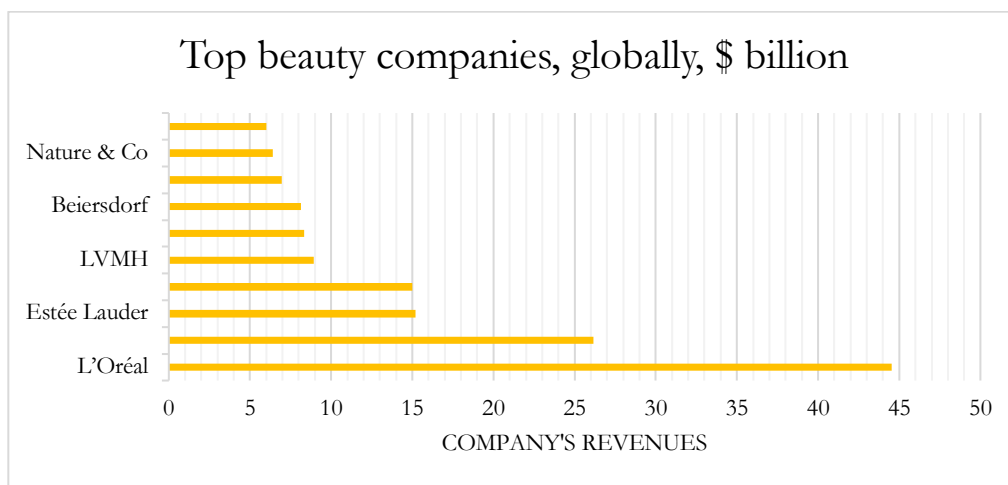


Figure 1. Top beauty companies by revenue size

Source: Article "The Ultimate List of Beauty Industry Stats (2025)"⁶

In 2025 despite the general growth of industry, mentioning the fact that the biggest players on beauty market faced with sales slowdown is inevitable. Companies from top-10

⁵ E. Garcia, Sandra. "Rhode, Hailey Bieber's Beauty Brand, Sells in Billion-Dollar Deal". nytimes.com, 29 may 2025. <https://www.nytimes.com/2025/05/29/style/hailey-bieber-rhode-elf-beauty.html>

⁶ Howarth, Josh. "The Ultimate List of Beauty Industry Stats (2025)". Exploding Topics, 23 march 2025. <https://explodingtopics.com/blog/beauty-industry-stats#top-beauty-industry-statistics>.

shown above reported decline or slowed growth in sales in first quarter. As reasons were named inflation, economic instability, decrease of orders from retailers and lack of innovations in beauty sphere. In one of the latest articles by BOF⁷, the surprising information by the Bank of America's was shown: Gen-Z expenses on beauty products decrease by 5% in the second half of 2024. Young generation of consumers starts to move its focus from frequent purchases, additionally, gen-Alpha started to buy less, probably, because of previously accumulated products.

The Ukrainian cosmetics market, while smaller in scale, has shown the willingness to grow and high adaptability to changes in the life of consumers. Local brands rose with a strategy focused on local production and the demand for unusual products, meanwhile well-known global giants still play a crucial role in market positioning. The list of global key players⁸ present in Ukraine could be elongated by such companies like Eveline Cosmetics, Uniqlo, Amalgama Lyuks OOO, Top Beauty, HOLLYSKIN that are especially observant in the local market. One of the major concerns is the fact that deep and comprehensive data on Ukrainian beauty market is limited, making further research necessary to provide a detailed analysis.

The market of discuss is broad and combines a lot of different segments and categories of products, consequently differently-oriented consumers. There are several approaches to distinction of them, most basic one is based on products area of use: skincare, decorative cosmetics, haircare, fragrance. However, more and more brands today grow out of one specific product category, combining sales of make-up, perfumes etc. under one name, so this segmentation approach is too limiting.

⁷ Morosini, Daniela. "The Beauty Slowdown, Explained". *businessoffashion*, 13 february 2025. <https://www.businessoffashion.com/articles/beauty/why-is-the-beauty-industry-not-doing-well/>

⁸ Ukraine Skin Care Products Market 2025 – StrategyHelix Ltd." *StrategyHelix Ltd.* – Power your decision with data analysis. <https://store.strategyh.com/report/skin-care-products-market-in-ukraine/>

The other approach, developed by McKinsey and published in BOF's "The State of Fashion: Beauty Report 2023"⁹ is combining pricing and use segmentation, defining three product groups (skincare, fragrance, color cosmetics) and six price tiers associated with different brand positioning and consumer accessibility. At the top of the price range lies the Ultra luxury segment, followed by True luxury, the categories available only to the most exclusive consumers. Then the Prestige and Entry prestige tiers encompass well-established brands, that are available widely but not budget-friendly yet. The next step of this ladder is the Masstige (a mix of mass and prestige), targeting the consumers that aim for a high-quality product for a reasonable price and finally, the Mass market segment concludes the range of segments, catering to the largest number of consumers. This two-dimensional segmentation provides room for strategic brand positioning in relation to purchasing power of buyers, meanwhile partially neglects the intended use of production.

Another convenient and optimal for this research approach is divisional. Generally, this could be presented in four categories: Mass products division, with brands available through retail outlets; Luxury products division, targeting high-end consumers; Professional products division, specifically designed for beauty professionals; Derma cosmetics division, in other words cosmeceuticals, that mostly cater to skin health requests. Each division is taking responsibility for specific market segment. This approach allows enterprises and researchers to discuss how the specific category of products perform and moreover, helps with tying business strategies to unique features of each division.

This tiered pricing structure reflects not only brand positioning but also differing consumer value perceptions, purchasing power, and lifestyle aspirations, forming a critical framework for analyzing division favoritism in relation to income levels.

⁹ Amed, Imran, Achim Berg, Sara Hudson, Kristi Klitsch Weaver, and Megan Lesko Pacchia. "The State of Fashion: Beauty." Business of Fashion and McKinsey & Company, May

2.2 Academic studies

Not limiting to the market researches and industry-insider papers, academic studies related to the field are numerous. Both local and foreign authors analyze consumers' behavior, competition among beauty brands, relationships between ingredients, marketing and sales etc. Although all of these topics are highly insightful this paper mainly focuses on consumers clusterization therefore some specific academic papers are to be reviewed.

First in discussion is the investigation of consumer purchase intentions conducted by Krishnan C., Agarwal N. and Gupta S. (2022)¹⁰. The study covers luxury perfume sector in which several factors were identified as crucial for purchasers' decision. Initial suggestion of influencing factors included brand image, quality, price, status and perceived uniqueness. The analysis was based on questionnaire and than using statistical approach allowed to estimate significance of the factor and surprisingly, the results showed that the uniqueness is not valued indeed. Often brands develop their position based on the exclusivity while this research demonstrates dominance of brand image, quality and price. These variables are to be taken into consideration in the analysis upcoming in this thesis – assuming that consumers may differ in levels of relevancy to such factors.

Chang W.-Y., Taecharungroj V., Kapasuwan S. (2022)¹¹ applied a choice-based conjoint (CBC) analysis combined with K-means clustering to segment consumer preferences in the sustainable beauty and jewelry market. Their results prove the growing global sustainability trend, showing that consumers indeed value ethical sourcing, eco-friendly materials, transparency, alongside traditional luxury attributes such as heritage and

10 Krishnan, Chitra/Agarwal, Naraini et. al. (2022). Factors influencing consumer purchase intention of luxury branded perfumes. In: *Marketing i menedžment inovacij* 13 (3), S. 190 - 199. https://armgpublishing.com/wp-content/uploads/2022/10/A625-2022-17_Krishnan-et-al.pdf. doi:10.21272/mmi.2022.3-017

11 Chang, Wen-Yun, Viriya Taecharungroj, and Supara Kapasuwan. 2022. "Sustainable Luxury Consumers' Preferences and Segments: Conjoint and Cluster Analyses" *Sustainability* 14, no. 15: 9551. <https://www.mdpi.com/2071-1050/14/15/9551>

exclusivity. The study demonstrates how quantitative preference measurement paired with clustering methods can reveal characteristics of consumer groups, offering actionable insights for positioning strategies in industries like beauty and cosmetics.

The last paper for the discussion covers Ukrainian context and is the analysis of local consumers behavior changes as well with the usage of questionnaires. Sviderska S., Zhylinska O., Kukhta P.(2023)¹² deliver the analysis of most important factors for Ukrainian consumers, comparing to other regions and the most unpredictable result is the lower importance of price on the contrary of general its viability for third-world countries. This study determines five clusters of beauty consumers with main focus on their perception of wellness and online shopping and media influence. The factors are also to be considered and the methodology could suggest some ideas, like K-means and Silhouette method.

Concluding the preliminary analysis of previous information, it is undoubtful that more insights into the consumers behavior, attitudes in the beauty sector will benefit both the purchasers and businesses of the market as the match between supply and demand could be improved.

12 Svitlana Sviderska, Oksana Zhylinska and Pavlo Kukhta. "Identification of the Factors Influencing the Cosmetic Products Market (Ukraine Case)". *Studies in Business and Economics* Lucian Blaga University of Sibiu, 18, no. 1 (2023): 328-341. <https://sciendo.com/article/10.2478/sbe-2023-0018>

Chapter 3

METHODOLOGY

The methodology of the study is based on the quintessence of papers mentioned in the previous section, research and analysis approaches complimenting each other and personal vision of mine as the author of the paper. Study could be divided into two methodological parts: consumers survey and consequent data analysis. First focuses on data gathering and basic analysis and second on understanding of how consumer preferences could be. Main aim is to formulate consumer segments that later on will be the source for marketing strategies development useful directly for the beauty businesses.

3.1 Survey

The data gathering was done with the web tool Google Forms. The questionnaire was distributed to the respondents in the August of 2025 through most popular messengers in Ukraine, the groups targeted included more than 10 000 possible respondents of different age, gender, region etc. background.

Preferences, habits, consumers' evaluation of specific factors that are going to be used in the analysis were to be discovered from the survey, therefore careful formulation of questions was a must. Key questions assess respondents' attributes regarding consumer behaviour, like frequency of purchase, value for money, etc. Examples include:

- What do you value most when choosing beauty products?
- On a scale of 1–5, how important is price when you choose a beauty product?
- Which of the following beauty brands have you used in the past 6 months?

One of the targets of the survey was income level due to the fact that in Ukraine it differs vastly and beauty as not a product of the most necessity could react to its changes greatly.

Therefore respondents were asked to attribute themselves to specific ranges of monthly income levels with the possibility to opt out. For evaluation of price elasticity, the scaled metric was introduced, however there should be clear understanding that it is quite frivolous estimation. Together these could give the overview of purchasing comfort. Not to omit that the basic demographic data was collected like age, gender, region of residence as well as skin or hair needs, brands favoritism and other related detailed.

For the convenience the questionnaire is added in the Appendix section. It is displayed in logical section, resembling the pages that the respondents had a view of. For clear and unambiguous interpretation some context and definitions were included as additional information. Other important notice is that the question handed to the respondents was meticulously translated to Ukrainian so the language barrier would not preserve possible answers.

As it is known, the amount of obtained data is highly important: with enlargement of sample size the quality and precision of analysis improve. To ensure robust analysis and valid conclusion there is a need to state the aimed number of respondents that is possible to define using your Statistical baseline for general population. If the aim is 95% confidence level (5% margin of error) and we expect the high variability within the population at proportion of 0.5 the calculated sample size would be:

$$n = \frac{(z^2 p(1 - p))}{e^2} = \frac{1.96^2 * 0.5 * 0.5}{0.05^2} \approx 385 \quad (1)$$

As we can see number of 385 respondents meets the criteria of a minimum baseline for statistical representativeness. However if we expect more unity in the answers, meaning lower population proportion, the requested entries would be lower number.

As the upcoming analysis section will include clustering, we could estimate size of population for appropriate clustering fit as well. Generally, for adequate representation cluster should contain at least 20-30 respondents. Anticipating 5-6 distinct clusters (the

amount often taken for strategy development purposes) and at least 6-8 variables we can count at minimum of 180+ cases, therefore previous target is a proper population bar.

Clearly the analysis with the smaller sample size will demonstrate some results, but its trustworthiness will lower. Nonetheless, potential data clearing could possibly take place, including deletion of some entries. That is why is prudent to aim for a higher number respondents in the data gathering process.

3.2 Clustering

In the analysis part cluster analysis is applied to group consumers into distinct segments based on their attitudes towards product factors, financial aspects.

Regarding the variables of interest several were marked in the previous chapter but that list is not fully complete. Now we can specifically define the ones used: demographic (age, gender, region); income level and price importance; influencers opinion (how the responded reacts to online advise); frequency of purchase; place of purchase; top purchased product type (hair or skincare etc) and top important factors at purchase (quality, ingredients etc). This set allows to have a wide overview of traits that are dominant globally and specifically in Ukraine. Potentially the set could be enlarged or reduced but for now it seems the most effective.

As a part of data preparation several steps are taken. First, Gower's distance is implemented because it accommodates variables measured on nominal, ordinal, and binary scales. Szepannek, Aschenbruck, & Wilhelm's (2024)¹³ discussion of clustering mixed-type data with ordinal variables, confirms the appropriateness of Gower distance in complex survey settings computing normalized dissimilarities per variable and averaging them. Then, to assess data quality, row-wise variance is calculated to identify respondents with

¹³ Szepannek, G., Aschenbruck, R., & Wilhelm, A. (2024). Clustering large mixed-type data with ordinal variables. *Advances in Data Analysis and Classification*, 1–19. DOI:10.1007/s11634-024-00595-5

uniform responses, while pairwise correlations between variables are examined to detect misleading connections.

The appropriate number of clusters¹⁴ was determined using Partitioning Around Medoids (PAM) combined with average silhouette analysis, which evaluates how well each observation fits within its assigned cluster relative to others. The silhouette method quantifies the average distance of each point to its own cluster relative to the nearest cluster – is selected as the optimal segmentation structure – the highest average is chosen. PAM is chosen to validate the width of the clusters.

After defining clusters, statistical tests of independence between cluster membership and each survey variable using Chi-square tests are initiated. Where contingency tables are sparse, Monte Carlo¹⁵ simulation is used to obtain more reliable p-values. This step verifies that the clusters are not mere algorithmic artifacts but reflect real, statistically significant differences in respondents' profiles. Thus, the full methodology delivers a realistic picture of clustering approach used as a center of attention in this paper.

Finally, hierarchical clustering using the Ward.D2 linkage method is performed on the Gower dissimilarity matrix to produce a dendrogram and visualize the relationships between respondents. The Ward.D2 criterion minimizes the total within-cluster variance at each step of the agglomeration process, producing clusters that are as internally homogeneous as possible¹⁶. This approach allows the identification of nested cluster structures and offers interpretability in categorical data segmentation (Kimes et al., 2017). Final stage of the clustering, dendrogram demonstrating the results, would be illustrative

¹⁴ Kimes, P. K., Liu, Y., Neil Hayes, D., & Marron, J. S. (2017). Statistical significance for hierarchical clustering. *Biostatistics*, 18(4), 723–737. DOI:10.1111/biom.12647

¹⁵ Landau, Sabine & Chis Ster, Irina. (2010). Cluster Analysis: Overview. *International Encyclopedia of Education*. 72-83. 10.1016/B978-0-08-044894-7.01315-4. https://www.researchgate.net/publication/286854317_Cluster_Analysis_Overview

¹⁶ Murtagh, F., & Legendre, P. (2014). Ward's hierarchical agglomerative clustering method: which algorithms implement Ward's criterion? *Journal of Classification*, 31(3), 274–295. <https://doi.org/10.1007/s00357-014-9161-z>

of how dissimilar clusters really are, how far away from each other the strategies recommended should be and how possibly merged the respondents are for which the most suitable option would be hierarchical clustering. As mentioned variables are mainly categorical this approach will ensure transparent visual representation of groups and all the steps of clusterization process align this research with best practices for justified consumer survey.

As a matter of course, this methodology could suit several different standpoints of analysis but here the main attention is on potential beneficial business conclusions and therefore determined hypotheses to think of are needed.

It is possible to say that cornerstone for modern Ukrainian context is purchasing power, hence the assumptions generally are investigating the relation between the income level and propensity to buy. For actionable deliverables in the finale the research should focus on the following hypotheses:

- H1: The influence of online reviews and influencers' opinions differs across age groups.

This hypothesis assumes that younger consumers are more likely to follow influencer recommendations, while older consumers demonstrate greater autonomy and skepticism toward digital activations. The base for it are common stereotypes about social media addiction among digital natives (aged under 25 in Ukraine) and Internet neglect of mature population. Definitely the generational difference in media trust exists, but now it is unsupported with evidence in regard of Ukrainian beauty market context.

- H2: Active cosmetics face no relationship with income level.

The assumption comes as demand for dermatological skincare products is driven by medical skin needs and product efficiency rather affordability for individuals. Consumers across all income brackets may prioritize dermatologically tested or health-oriented products, especially in cases where skincare concerns are medically supported. However

this does not include the possible medical products to be prescribed by dermatologists as the rejection to buy those should be interpreted as avoiding medical treatment. Dermatology cosmetics are aesthetic non-prescriptive products that could be sold at drug channels but are not limited to. So the decision to buy it despite the price could also signal of the consumers trust in the products effectiveness.

Summarizing the methodology section, the structured approach of studying consumer segmentation builds on survey-obtained data. The core of the survey is collection of primary data through online questionnaire as consumers' demographical characteristics, frequency of purchases and product preferences. Before conducting the technical clustering part, several data quality check procedures are implemented, including row-wise variance and correlation assessment to ensure alignment and meaningfulness of all variables and their appropriation for clustering. At clusterization stage Gower distance is applied in order to measure dissimilarity within respondents population, followed by PAM and hierarchical clustering dendrogram for visualized representation of distinction between beauty consumers. The whole approach is a foundation for accurate clustering results, that would be an input for the most informative part of a study - formulation of recommendations for different consumer groups in the cosmetics market.

Chapter 4

DATA

Obtaining real-life data is a crucial step. The data collection was performed via Google forms as most common platform for respondents. The number of responses presented is 371. Then, out of these respondents only 36 were males, leading to 90% proportion of females. Of course, that is predictable as the market is more female-oriented, however the engagement of men population could provide meaningful insights. As per average income of respondents, the spread was harmonious, shown in the graph below, but 7.3% preferred not to say, shortening real answers entries. Speaking of regional spread of respondents, the majority 38.9% lives in Kyiv city, following by 10% living in Odesa oblast and 7.8% residing in Kyiv and Mykolaiv oblast. Others were mentioned less than 5%. However, this dispersion cannot be viewed as confidently correct due to selection of recipients – often people from the same online communities are residents of the same areas.

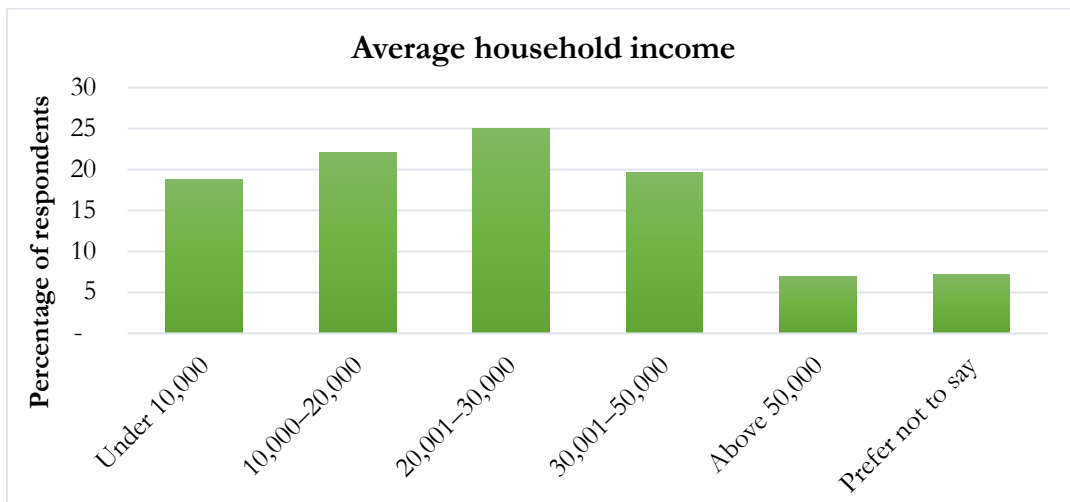


Figure 2. Respondents by average household income

Speaking of consumer preferences and purchasing behavior, the answers are relatively predictable. As the cosmetics products are everyday-use goods the frequency of

purchasing is high among women. Men on the contrary buy new products every 2-3 months, maybe due to the fact that women in their household do it for them.

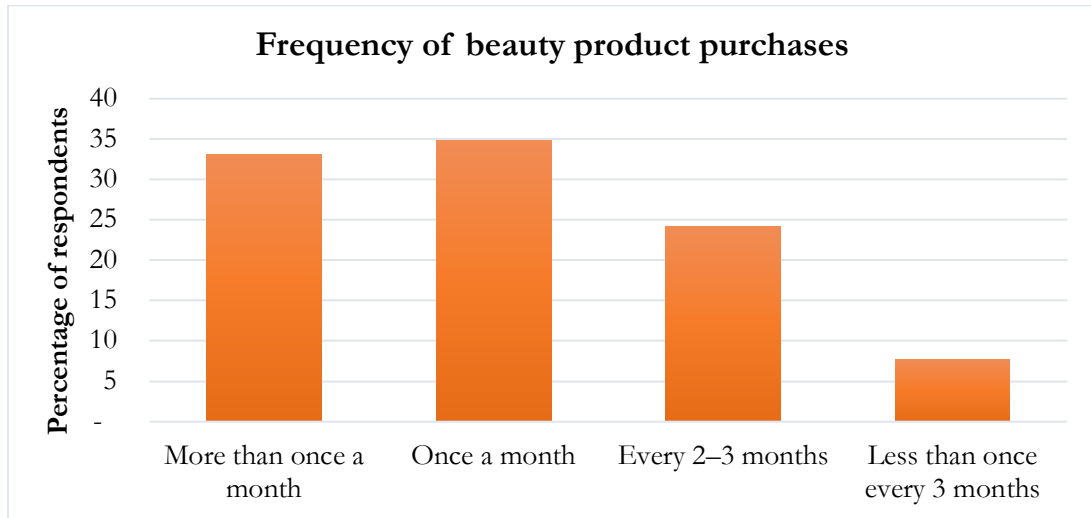


Figure 3. Respondents by frequency of beauty product purchases

Today huge share of marketing is performed via social media and influencer advocacy, the pilot survey showed that almost 33.7% of consumers react neutrally to online advice, 14.6% would not probably buy because of the influencer mentioning the product and some share even would never listen to online advice. However, the use of advocacy in marketing is justified as 42.6% would “rather buy” and “highly likely buy” after such recommendation.

The factors influencing the decision to purchase are numerous, the most popular are listed below in a graph with percentage of respondents admitting to value them the most. As we can see the Ingredients and Formula and Product Quality are ranked as the most important factors, resembling modern trend for conscious and health-oriented beauty choices. The other highly important factor for respondents is price, and in a specially designated question 61.6% of respondents evaluated its importance on a 4 and 5 out of 5 points (where 1 was “not important” and 5 – “Very important”), highlighting that proper

pricing is crucial for decent sales suggesting that Ukrainian prefer good deal for money in beauty choices.

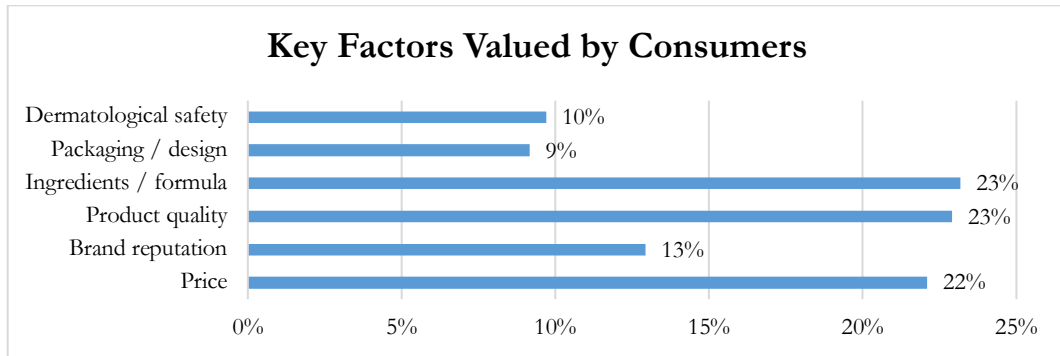


Figure 4. Key factors valued by consumers

The analysis regarding the categories uncovers that mass market stands out as most frequently purchased and prices for it are viewed as justified. Derma cosmetics and the Professional category are perceived as high-quality and possess the trust of respondents. The lifestyle acceptance shows that the products of any division do have their own buyers and the spread is fairly expected.

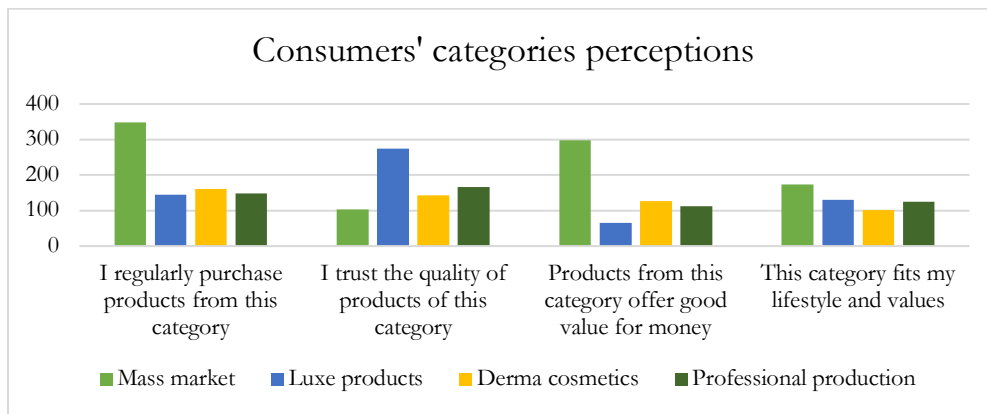


Figure 5. Categories by consumers' perceptions

In appendix B the diagram of how products of most popular brands are purchased is demonstrated. The most highlighted choices sum to 62.8% of people use cosmetics

by L'Oréal Paris and 57.1% using Maybelline, both owned by L'Oréal Group and proving them as a beauty giant in Ukraine as well as globally.

Approximately 24.5% of respondents reported not purchasing dermatological or pharmacy-grade cosmetics, 28.8% avoid luxury products, while an even larger share—30.5%—do not buy professional salon brands. This suggests two important insights. First, some amount of consumers at least occasionally purchase dermatological products, hinting some skin-related concerns such as acne or irritation, which may have been intensified by stress during wartime conditions. Second, the minor presence of demand for luxury and prestige cosmetics, even amid economic instability, reflects the persistence of the “little pleasure” tendency in Ukraine, where beauty consumption serves partly as an emotional coping mechanism and self-expression tool. The avoidance of Professional salon products is could be explained as the customers may not know what cosmetics to buy.

Place of a purchase is quite important to tailor marketing strategy in accordance and the results of questionnaire showed that for respondents the most frequent place to buy cosmetic products is via online (30%) and offline (27.3%) beauty retailers. Official websites of cosmetic brands are chosen by 10.6% of responders and 15.5% shop at pharmacies, channel is connected to dermatological beauty product lines. In addition, some suggested to include in a list so-called ‘buyers’ (people residing abroad, who buy items and ship them to customer directly) – suggesting that in Ukraine there is either a shortened choice of products or higher price.

The question regarding the change in consumers spendings for beauty category showed the result which misaligns with European tendency of reducing purchases of beauty products discussed in latest The State of Fashion: Beauty Volume 2 (BOF & McKinsey report, June 2025, p.26). A noticeable share of 38.7% of respondents now buy more expensive products in comparison to what they bought 12 months ago, 30.7% state no change but 21.3% shortened spendings devoted to cosmetic products in general (the question had a room for multiple answers from a person). Some admit to buy new products

never purchased prior to last year, and in detailed answers several respondents stated that now they pay attention specifically to ingredients in a product. These answers, to some extent, could coincide with “the lipstick effect” discussed in chapter above.

RESULTS

5.1. Data verification and appropriacy checks

Before proceeding with clustering, diagnostic checks were conducted to evaluate the quality and consistency of survey entries. Different but complementary approaches were applied: respondent row-wise variance and average Gower dissimilarity.

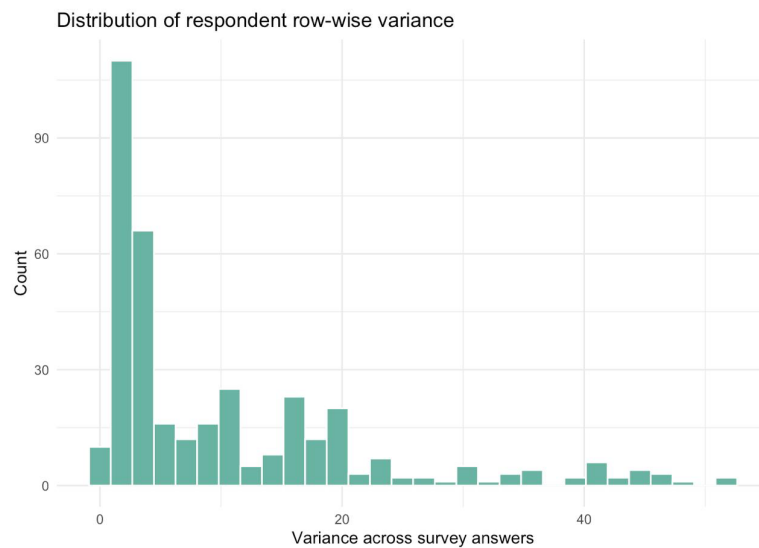


Figure 6. Respondent Row-Wise Variance

Row-wise variance: Figure 6 presents the distribution of variance across individual respondents’ answers. This metric captures how much a respondent differentiates between survey items. Very low variance values (close to zero) indicate “flatliners” who provided almost identical ratings across all questions, suggesting limited discriminatory information. Extremely high variance values, on the other hand, may point to inconsistent or noisy answering behavior. In our data, there is a spike at the beginning of the chart, that shows that some share of respondents share similar answers, however

that is a logical demonstration of the fact that respondents share attitudes, preferences and some common traits. Overall, manual check showed that only 13 answers fell under the ‘almost-flat’ variance bar and they were flagged as outliers.

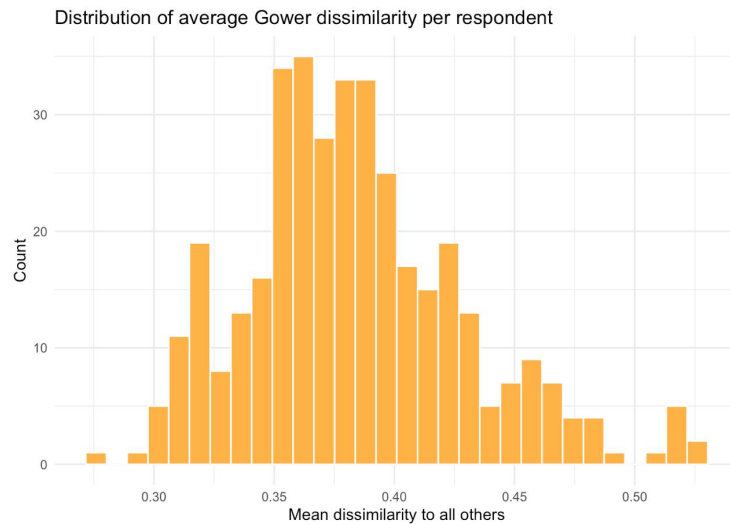


Figure 7. Average Gower dissimilarity

Average Gower dissimilarity: Figure 7 displays the distribution of average Gower dissimilarity scores for all respondents. Gower’s metric was chosen as it accommodates both categorical and ordinal variables in the dataset. Respondents with low average dissimilarity are relatively similar to the overall sample, while those with high dissimilarity represent more unique profiles. In this study, most participants clustered around values of 0.35-0.4, suggesting they share comparable patterns with others. A small tail above 0.5 was observed, indicating a few individuals who are markedly distinct from the rest of the sample.

Taken together, these diagnostics confirm that the dataset is generally suitable for clustering, with most respondents providing meaningful and comparable information. Nevertheless, flatliners and extreme outliers were identified and in the end 21 respondents were removed due to high dissimilarity or low variance. Overall, final sample

size is 350 respondents exactly, which is slightly lower than targeted amount, however the quality of clustering will be better.

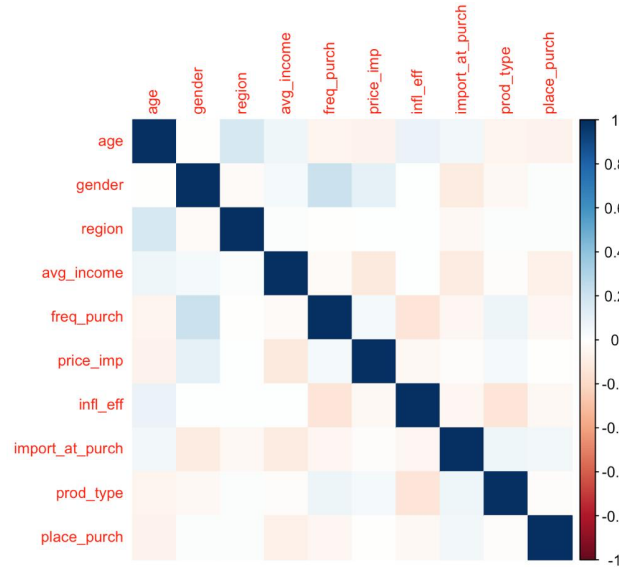


Figure 8. Variables Correlation Heatmap

To finalize the data check, the correlation analysis was conducted. The heatmap above shows that most variables have weak pairwise correlations, indicating that they are largely independent and each contributes unique information to the clustering process. Only a few mild associations are present (e.g., between income and purchase frequency), but none are strong enough to suggest redundancy or multicollinearity. Therefore, all variables are suitable for inclusion in the clustering analysis, as they provide complementary insights into consumer behavior.

5.2. Cluster analysis

The suitable number of clusters was chosen using the silhouette method, which shows how similar each observation is to its own cluster and against other clusters. The plot of average silhouette width (Figure 9) shows relatively low values for all solutions, which hints that the data is not strongly separated into distinct groups, maybe due to the fact

that respondents were chosen via similar channels of information. In practice, interpretability and conciseness are the most important for the analysis, so optimal selection is $k=4$ that allows not to over-fragment the picture.

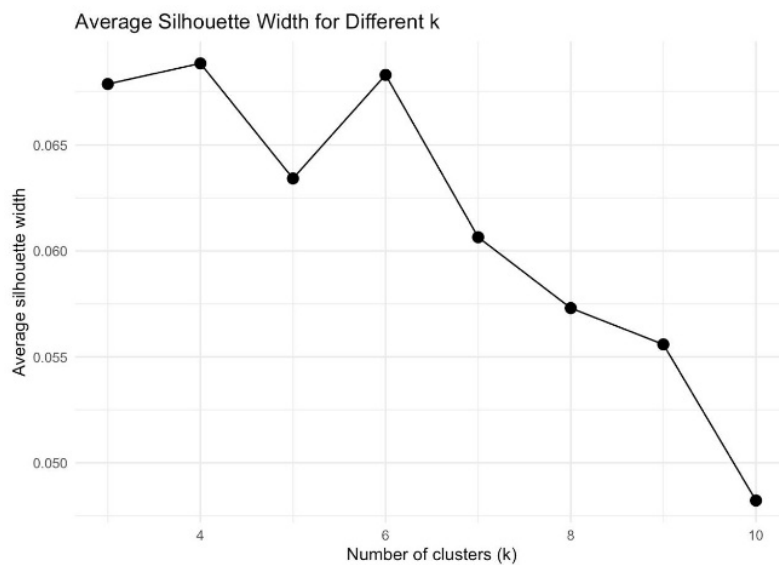


Figure 9. Plot Of Average Silhouette Width

On the Figure 10 below the silhouette plot for $k=4$ could be observed. The fit of distinguished clusters is not totally clear, but the values are mostly above 0 indicating stronger fit, with only minimal number of not so accurate. As can be seen clusters 2, 3 and 4 possess cohesive and well-defined groups, their interpretability will be of better use than the one of cluster 1 with some negative values. This negative fit claims weaker internal consistency, may be a signal for misclassifications. However, their presence is a minority, so the analysis is still representative. The overall average silhouette width, though moderate, confirms that the four-cluster solution captures meaningful structural differences among respondents while allowing for some overlap between consumer segments.

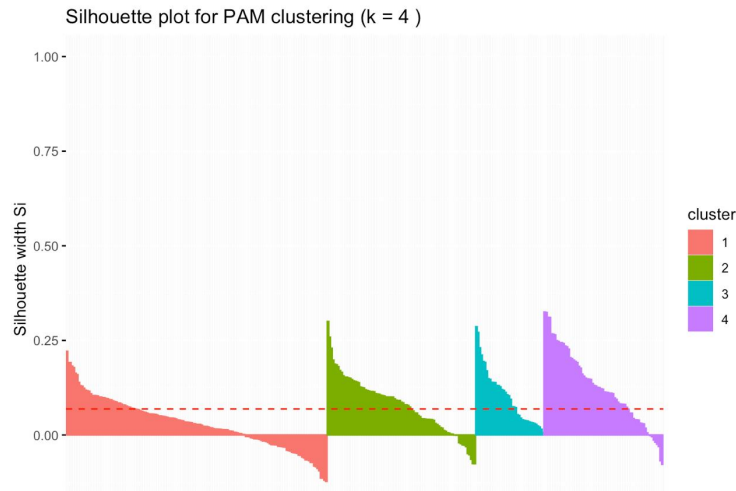


Figure 10. Silhouette plot for PAM clustering

The silhouette plot also visualizes the sizes of determined clusters with the first being the biggest, consisting of 153 respondents, and third being the smallest, including only 40 individuals. Here comes the clear presentation of how accuracy lowers with size increase regarding the fit discussed before. Two other comprise 87 and 70 members, being more balanced. Such sizing allows some clusters to obtain broader characteristics while others being more precise with narrowly focused segments.

To ensure that the identified clusters differ significantly across respondents' characteristics, independence tests were applied between each categorical variable and the cluster devotion. Since all survey variables are categorical, the Chi-square test of independence was used to check whether their distributions varied across clusters, with Monte Carlo p-value simulation applied where expected cell frequencies were low to ensure statistical reliability. For binary variable - gender, Fisher's exact test was employed as a more accurate alternative for small or sparse tables. The results (Appendix C) show that most variables are statistically significant across clusters ($p < 0.05$), indicating that these attributes meaningfully differentiate the consumer segments. Only gender did not

show a significant association, suggesting it does not contribute to explaining the cluster structure. That is explainable as males were underrepresented in the sample.

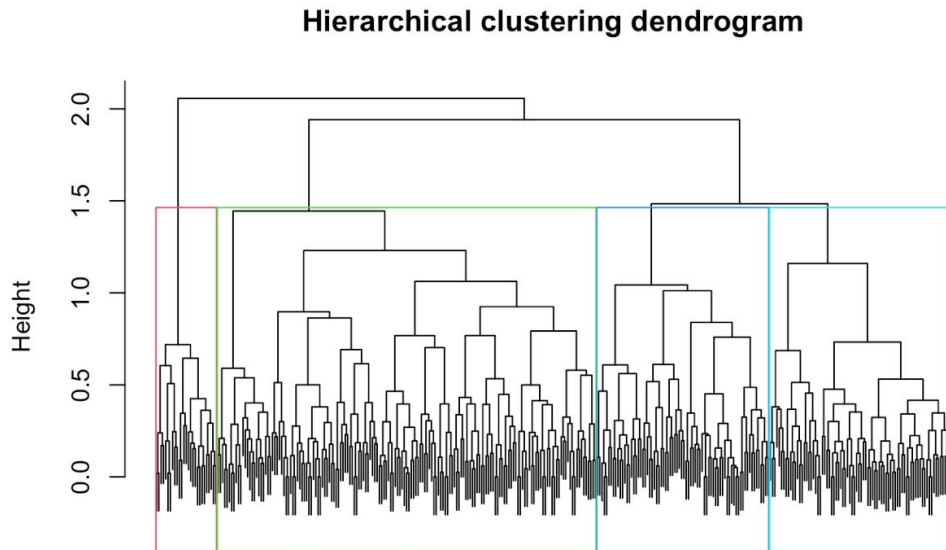


Figure 11. Hierarchical Clustering Plot

Finally, the clustering dendrogram was generated. As we can observe on Figure 10, clusters are not distributed evenly, however, at least some categorical differences could be noticed about respondents belonging to different sectors of the plot.

Cluster 1 – Balanced buyers

This cluster primarily includes young adults aged 18–34 (about 65%) with middle to upper-middle income levels (55,5% of respondents state income above 30,000 UAH per month). They frequently purchase beauty products, generally once, mainly from online platforms and retail stores. When choosing products, they focus on product quality and ingredients, and consider price as important factor (most rate it 4 out of 5). Interestingly, they are a group where color cosmetics – make up – is dominant. Their purchasing decisions are somewhat influenced by online reviews, indicating a room for advocacy from the business

perspective. Overall, they could be marked as quality-oriented, digitally comfortable shoppers.

Cluster 2 – Active moderate-income shoppers

Consists mostly of consumers aged 18–24 with lower-to-medium income (10,000–30,000 UAH). They are frequent purchasers, with nearly half buying more than once a month, typically from offline retail stores like EVA, Watsons etc. This group tends to prioritize price and product quality, showing higher sensitivity to affordability, making them a target for discount-based promotions. Crucially, they are responsive to online reviews and influencers exposure almost 60% are likely to buy after such marketing exposure. So the segment profile could be described as price-attentive, promotion- and review-responsive.

Cluster 3 – Youngsters with skin concerns

This segment is driven by respondents under 18, accounting for over 70%. As expected they are indicated with lower income (under 20,000 UAH) and purchase products less regularly. They prefer dermatological or pharmacy-grade cosmetics and often buy directly from brand websites showing brand-curious behavior. Their price sensitivity is moderate, and surprisingly, skeptical of influencer content: 30% are not very likely to purchase based on online recommendation and 17.5% never do so at all. What makes them a cluster of selective, credibility-seeking, cautious toward social influence buyers.

Cluster 4 – Low-income, pragmatic consumers

The last cluster mainly includes younger and lower-income individuals, with 67% under 18 and over half reporting income below 10,000 UAH. They purchase beauty products rarely or once a month, mostly from online platforms. When choosing products, they emphasize packaging design (probably for practicality or visual appealing) and dermatological safety, with price being an important but not exclusive criterion. Their stance toward influencers

is mixed-neutral. This group represents a budget-conscious yet safety-oriented consumer segment, cautious in spending but attentive to product reliability and ingredients.

Altogether, the clusters share a lot of criteria, respondents base is limited and have similar attributes at the beginning. That is why in some aspects the interpretation is minimalistic yet still provides some ground for strategic recommendations.

The clustering analysis could be interpreted as a partial justification for the hypothesis of the research as they help explain the behavioral differences among consumer groups.

To revise, H1 is depicting the connection between the age of respondents and their propensity to follow recommendations from online influencers and digital media. Based on clusters, the findings confirm that the influence of online reviews and influencers indeed varies across age groups - the clusters differ upon both of these categories and the ones dominated by younger respondents (under 24 years old) showed a distinct tendency to follow online advice and rely on influencer opinions when making purchase decisions. On the contrary, older (and by coincidence more financially stable) consumers demonstrated a cautious approach in purchasing after such activities. This pattern supports the idea that younger consumers feel more integrated in online media environments and thus social media influence takes place in their purchasing decisions, while older consumers rely on prior experience, evidences and personal judgment.

However, the cluster of Youngsters with skin concern shows the importance of critical overview of influencers' opinions. As they are taking attentive care about health-related issues like acne, the blind belief could be unsafe for them – leading to deviation from general youth group. Such differentiation in reaction to online recommendations also highlights the generational gap in digital media trust. Coming close to thinking of business strategy, this suggests tailoring marketing to clusters differences in information processing within the Ukrainian beauty market.

As for H2, the initial assumption was that the demand for dermatological or pharmacy-grade cosmetics is not strongly associated with income level – it aligns with the results of the clustering analysis. The clusters representing both lower- and higher-income respondents displayed similar shares of users who reported purchasing derma products. These findings hint that skin concerns as sensitivity, imperfections, texture and perceived effectiveness of the beauty product are real decision-driving factors compared to financial capacity. An interesting pattern even arises when speaking about income levels – the most pharmacy-cosmetics oriented cluster is within the low average income frame – however here the age is the factor of influence. Conclusion for this hypothesis is that active skincare is considered a necessity rather than a luxury.

Overall, the result of clustering is a successful identification of four distinct consumer segments that vary in characteristics: demographic (age and income), behavioral and purchasing habits, attitudes towards pricing and marketing. Mostly, generational and needs-based differences are determined and these insights are a strong base for understanding how demographic and psychological factors shape consumers' purchasing decisions.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

The clustering analysis demonstrated in the section above provides possibility to develop strategic recommendations for four distinct consumer segments, tailored to demographic and behavioral features. The majority of respondents is young adults, yet their motivations for purchase and habits vary, and as they are the main target audience of the large portions of products – the conclusions about them are highly important. However, four clusters could be differentiated and in brief represent: segment one, identified as balanced buyers, consisting of financially independent adults who prioritize product quality and value transparent ingredients while maintaining moderate price sensitivity; group two, active buyers with median income, representing consumers in their twenties who frequently shop beauty products, react to promotions and are notably influenced by social media marketing; another smaller, but meaningful cluster consists of young respondent with skin concerns, who mostly prefer dermatological products and pharmacy-grade cosmetics, guided by needs rather than brand image; the last segment of low-income pragmatic buyers gathers people who purchase rarely compared to others and focus in practicality, affordability and safety.

This clustering differentiation shows that, even among majorly young audience, choices are shaped by a combination of factors like income level, purchasing frequency, perceived product effectiveness and preferences. The findings indicate that behavioral and psychological aspects, such as sensitivity to price or trust in digital media, play a role in determination of purchasing decisions.

The main reason for performing such segmentation is to use its results as a base of beauty companies to find opportunities to adjust their marketing approaches to the needs, motivations and behavior of specific consumer groups. Therefore, the variety of recommendations could be provided for each clusters profile.

- Cluster 1 – Balanced buyers

The audience of this segment reacts on triggers about product quality, composition transparency therefore that should be a focus for marketing efforts. All the claims should be evidence-based, moreover this could be used as a tool in the PR – readiness to prove the efficiency as an activation initiative. Also, the buyers of this cohort value balanced price-to-performance ratio, so proving the effectiveness would allow pricing to be not as moderate as initially. Brands should strengthen credibility of their production by highlighting transparent choice of ingredients, implementing sustainable sourcing.

The practical advice is to develop a series of to-do guides with goods, especially in a make-up section (the cluster is main target for color cosmetics). These guides could be placed in multiple channels: 1) obviously, online on brands' official websites and social media, where buyers will be exposed to initial guides and encouragement to continue the guide with user-generated content, gaining more publicity; 2) offline as activations events with step-by-step guides by professional in point of sales. These two initiatives arise the possibility of creation of community around the cosmetics productions. Loyalty programs or better say Consumer clubs could be settled, providing recurrent meetings where new products could be introduced, feedback for products could be shared between members and the brands' representatives and the sense of belonging to special production would be formed. Generally speaking, since this group purchases regularly and engages both online and offline omnichannel strategies can reinforce their trust.

- Cluster 2 – Active moderate-income shoppers

The attributes of this cluster make them a target for price-oriented activations, like discounts, bundle offerings or proposals for limited time. Another leverage to use on them is influencer marketing, the members of this cluster follow digital trends and recommendations, therefore social-media-driven campaigns are the best channel of advertisement for them. Cosmetic companies should use the most out of interactive

formats of Instagram and TikTok, promoting attainable products with popular influencers and developing some gamification activities for youth. For example, make a photo at a specific sales point after purchase – get special discount for the next visit. In this dimension, partnerships with major retail chains as EVA or Watsons are favorable. The members of this cluster prefer to shop in similar stores so such liaison will contribute to easy access, visible price advantages and form kind of a habit of beauty shopping.

Specific seasonal promotions are a great way to promote purchases within this group: “Flash Sale Weekend”, “Holiday-Edition Event” etc. could be the hooks for shoppers with such profile. However, the diligence of the brands should be maintained in the eye of the buyers, to avoid scenario where promotions bring the products to category of cheap entertainment. For this purpose, educational micro-content like quick skincare tips or routine under minimal budget” can help the consumers to make informed yet emotionally-driven choices. For this cluster main strategy is to ensure conscious brand trust without sacrificing excitement at purchase.

- Cluster 3 – Young consumers with skin concerns

Functionality and dermatological safety are main drivers of purchase for this group dominated by teenagers with lower income, rather than image or luxury. The best marketing strategy for this group is to emphasize gentle, effective formulas backed by dermatologists and convey real results through before-and-after comparison campaigns. The tone of voice of brands should be using medical specifications, scientific survey results, ensuring trustworthiness. Accessible digital platforms such as YouTube or Instagram could be used to share educational information about acne care, sensitive skin and other skin concerns, but this format should be more meaningful and serious compared to previous clusters.

The partnerships with medical professionals are highly important, possibly scaled to activations with skincare diagnostics at point of sales. Another interesting form of

marketing for this group is to partner with universities, schools and organizations where youth could be mindfully familiarized with the production. The main focus of such activations should be to improve skincare and health awareness in the group as a part of a brand cause – the global target of the company.

- Cluster 4 – Low-income, pragmatic consumers

The motivation for members of this cluster is dictated by price reasoning, safety, practicality, mostly shifting focus to budget-friendly products. Marketing to this group should be focused on core value offerings like family-size formats, affordable daily care bundles. Communications should stress trust, safety and convenience – the rational motives are primary not the aspirational ones. Visuals for the brands should support this tone of voice, emphasizing clarity, functionality and simplicity – matching the purchase logic of the buyers.

The specific idea for this cluster is to pay attention to refill packaging, making the purchase of the components a part of the routine and allowing to save money when not rebuying the whole package. This could be perfected by making the product multi-useable, for the periods when the refill is not required anymore – the package itself will be a reminder about the product from the past, constant advertisement in the surroundings of everyday life.

The strategies displayed above illustrate how beauty companies can adapt the advertisement and promotion to segmented consumers within Ukrainian market. However, the study could be extrapolated to the nearby markets as the cultural and purchasing background are somehow similar. Each of clusters mentioned represents a unique balance of emotional, functional and economic motivations. Based on this the brands are required to combine affordability, product mix and a kind of storytelling in an effective proportion. Implementation of insights from this paper would benefit beauty companies, both large giants and smaller local representatives, by enhancing their

connection with consumers, reinforcement of brands perception. Most important – would bring a contribute to long-term loyalty in highly competitive, rapidly evolving and widespread beauty market.

The improvements to the methodology and approach could enhance any potential future research. Several ways to continue the study include diversification and enlargement of the sample making it heterogeneous, incorporation of precise psychographic questions about individuals' lifestyle, self-perception and core values, comparison between different regional segments and maybe cross-European research. These improvements will bring the more accurate representation, shed a light on consumer groups that are now in minority (such as males and mature buyers), bring understanding of how beliefs of a purchaser effect the decision of consumption of specific products. The influence of external factors and seasons could be tracked only if long-term studies are executed. This could illustrate how seasonal changes affect preferences and how the economic conditions could shape the decision in beauty consumption. Modern technology could also be the part of the future research, possibly the integration of machine learning could be useful if the continuous studies are held, for example at the stage of analysis of purchase questionnaires, but this possibility requires collaboration with the skilled professionals in the relevant field.

The study culminates by successful identification of consumer clusters within the Ukrainian beauty market. It offers valuable insights into behavioral and purchasing patterns. The applied clustering methodology proved effective in revealing meaningful group attributes that could guide data-driven marketing and developmental strategies.

Concluding the research, I would like to emphasize anticipation for the findings and recommendations to deliver valuable implications for the beauty companies. The potential for beauty brands to strengthen market positioning through strategies aligned with clusters is substantial. Adaptation of recommendations in real-life practice would benefit companies considerably and could be performed in different scales and on a different budget.

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APPENDIX A

QUESTIONNAIRE

Section 1: Demographics	
1. What is your age?	<input type="radio"/> Under 18 <input type="radio"/> 18–24 <input type="radio"/> 25–34 <input type="radio"/> 35–44 <input type="radio"/> 45–54 <input type="radio"/> 55+
2. What is your gender?	<input type="radio"/> Female <input type="radio"/> Male <input type="radio"/> Non-binary / Other <input type="radio"/> Prefer not to say
3. What is your monthly household income (UAH)?	<input type="radio"/> Under 10,000 <input type="radio"/> 10,000–20,000 <input type="radio"/> 20,001–30,000 <input type="radio"/> 30,001–50,000 <input type="radio"/> Above 50,000 <input type="radio"/> Prefer not to say
4. Which region of Ukraine do you live in? (<i>Dropdown list</i>)	Cherkasy Oblast; Chernihiv Oblast; Chernivtsi Oblast; Dnipropetrovsk Oblast; Donetsk Oblast; Ivano-Frankivsk Oblast; Kharkiv Oblast; Kherson Oblast; Khmelnytskyi Oblast; Kirovohrad Oblast; Kyiv; Kyiv Oblast; Luhansk Oblast; Lviv Oblast; Mykolaiv Oblast; Odesa Oblast; Poltava Oblast; Rivne Oblast; Sumy Oblast; Ternopil Oblast; Vinnytsia Oblast; Volyn Oblast; Zakarpattia Oblast; Zaporizhzhia Oblast; Zhytomyr Oblast
Section 2: Consumer Preferences	
5. How often do you purchase beauty/cosmetic products?	<input type="radio"/> More than once a month <input type="radio"/> Once a month <input type="radio"/> Every 2–3 months <input type="radio"/> Rarely
6. What do you value most when choosing beauty products?	<input type="radio"/> Price <input type="radio"/> Brand reputation <input type="radio"/> Product quality <input type="radio"/> Ingredients / formula <input type="radio"/> Packaging / design <input type="radio"/> Dermatological safety
7. On a scale of 1–5, how important is price when you choose a beauty product?	<input type="radio"/> 1 = Not important <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 = Extremely important

8. How likely are you to try a new cosmetic brand based on online reviews or influencer recommendations?	<input type="radio"/> Very likely <input type="radio"/> Somewhat likely <input type="radio"/> Neutral <input type="radio"/> Not very likely <input type="radio"/> Never
Section 3: Product Category Preferences	
9. Which types of beauty products do you find most important in your routine?	<input type="radio"/> Skincare <input type="radio"/> Haircare <input type="radio"/> Color cosmetics (makeup) <input type="radio"/> Fragrance <input type="radio"/> Dermatological / pharmacy-grade cosmetics <input type="radio"/> None
10–13. How do you perceive the following product categories in terms of your personal use and values?	Select if applicable

Statement	Mass market	Luxe products	Derma cosmetics	Professional production
I regularly purchase products from this category	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust the quality of products of this category	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Products from this category offer good value for money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This category fits my lifestyle and values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4: Purchase Behavior	
14. Which of the following beauty brands have you used in the past 6 months? <i>(Select all that apply)</i>	<u>Mass-Market / Consumer</u> 5. Garnier 6. Nivea 7. L'Oréal Paris 8. Maybelline 9. Oriflame 10. Avon <u>Dermatological / Pharmacy Brands</u> 11. La Roche-Posay 12. Vichy 13. Bioderma 14. Uriage 15. Eucerin <u>Professional / Salon Brands</u> 16. Kérastase 17. Londa Professional 18. L'Oréal Professionnel 19. Wella Professionals 20. Schwarzkopf Professional

	<u>Prestige / Luxury Brands</u> 21. Lancôme 22. Yves Saint Laurent Beauty 23. Estée Lauder 24. Dior Beauty 25. Chanel Beauty <u>Other / None of the Above</u> 26. Other (please specify): 27. None of the above
15. Where do you buy your beauty and personal care products most often?	<ul style="list-style-type: none"> ○ Offline retail stores (Watsons, EVA, etc.) ○ Online platforms (MakeUp.ua, Rozetka) ○ Pharmacies ○ Beauty salons ○ Direct from brand websites ○ I don't buy beauty products
16. Have you changed your purchasing habits in the past 12 months? <i>(e.g., brand choice, price category)</i>	<ul style="list-style-type: none"> ○ Yes, I now buy more expensive products ○ Yes, I now buy more affordable products ○ No major change ○ I started using new product types (e.g., skincare, derma cosmetics) ○ I reduced purchases overall

Table 1. Appendix A

APPENDIX B

CONSUMER'S PURCHASING PROPENSITY BY BRANDS

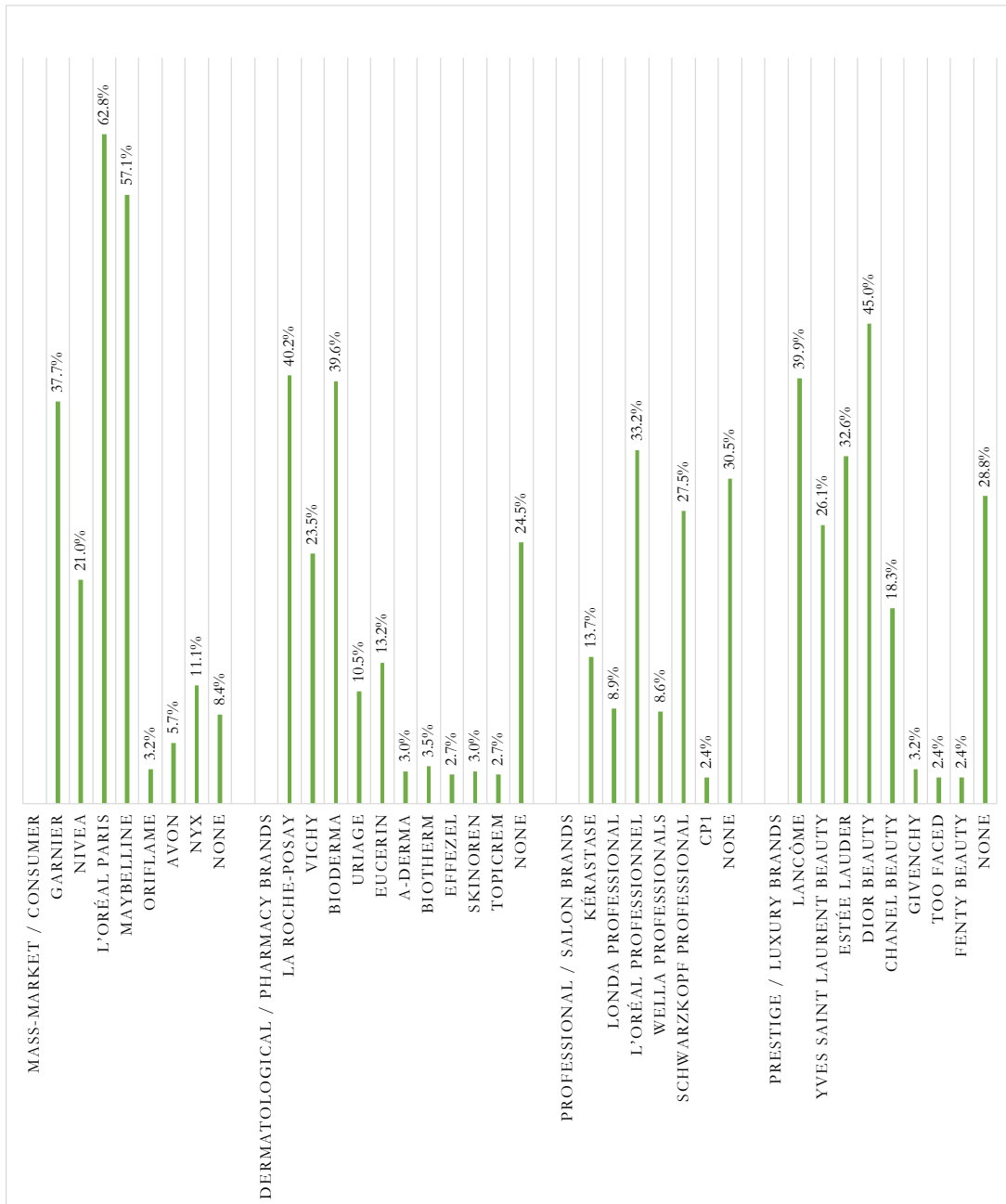


Figure 12. Appendix B

APPENDIX C

SIGNIFICANCE TEST FOR CLUSTERED VARIABLES

Variable	Test Method	p-value	Significant (p < 0.05)
Age	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Region	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Average Income	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Importance of Imports at Purchase	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Product Type	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Place of Purchase	Chi-square (Monte Carlo, 10,000 sim.)	0.0001	Yes
Influence of Inflation	Chi-square (Monte Carlo, 10,000 sim.)	0.0002	Yes
Purchase Frequency	Chi-square (Monte Carlo, 10,000 sim.)	0.0006	Yes
Price Importance	Chi-square (Monte Carlo, 10,000 sim.)	0.0051	Yes
Gender	Fisher's Exact Test	0.7660	No

Table 2. Appendix C