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ПОВЕДІНКОВІ МЕХАНІЗМИ КОГНІТИВНОЇ ЕКОНОМІЇ У СПОЖИВЧОМУ ВИБОРІ

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BEHAVIORAL MECHANISMS OF COGNITIVE ECONOMY IN CONSUMER CHOICE

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Анотація. *У статті розглянуто проблему прийняття споживчих рішень у середовищі, де зростання асортименту, інтенсивність маркетингових сигналів і розвиток цифрових сервісів ускладнюють раціональне порівняння товарів. За таких умов споживач прагне зменшити навантаження на увагу, пам'ять і час, тому поглиблює використання простих орієнтирів, повторюваних сценаріїв та технологічних підказок. Метою дослідження є вивчення поняття когнітивної економії як поведінкового механізму, що допомагає споживачеві швидше ухвалювати рішення, але водночас може створювати ризики імпульсивності та залежності від зовнішньо сформованого середовища вибору. Об'єктом дослідження виступає споживча поведінка в умовах інформаційної насиченості, надлишкової кількості альтернатив, візуального впливу, сервісної зручності та цифрової автоматизації купівельних дій. Емпіричну базу складено на основі анонімного онлайн-опитування 108 респондентів, у якому поєднано закриті запитання за шкалою Лайкерта та відкриті відповіді. У роботі використано аналіз і синтез, порівняння, систематизацію, описову статистику, кореляційний і коваріаційний аналіз, а також контент-аналіз відкритих відповідей респондентів. Отримані результати показали, що колір, дизайн упаковки, впізнаваність бренду й інтерфейсні підказки можуть виконувати роль когнітивних орієнтирів, скорочуючи час вибору та підсилюючи суб'єктивну впевненість у рішенні. Водночас такі стимули не завжди сприяють раціональності, оскільки можуть активізувати імпульсивні покупки. Дослідження також виявило, що споживачі надають вагомого значення зручності доставки, економії фізичних зусиль, автоматизованим сервісам і повторним покупкам, особливо тоді, коли процес вибору стає складним або емоційно виснажливим. Аналіз відкритих відповідей засвідчив, що 65% респондентів пов'язують свободу вибору передусім із самостійністю, зрозумілістю, контролем і відсутністю нав'язливого впливу, а не лише з кількістю доступних товарів. Практична цінність дослідження полягає в тому, що його результати можуть допомогти споживачам критичніше оцінювати маркетингові стимули, а бізнесу – створювати зручні та етично виважені рішення, які спрощують вибір без застосування маніпулятивного впливу.*

Ключові слова*: когнітивна економія; споживча поведінка; споживчий вибір; інформаційне перевантаження; надлишковий асортимент; евристики; ілюзія свободи вибору; автоматизовані сценарії споживання; імпульсивні покупки; цифрове споживче середовище.*

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Abstract. *The article addresses consumer decision-making in an environment where expanding assortments, intensive marketing signals, and the development of digital services make fully rational product comparison increasingly difficult. Under these conditions, consumers seek to reduce the burden on attention, memory, and time; therefore, they more often rely on simple cues, repeated purchasing patterns, and technology-based prompts. The study aims to reveal cognitive economy as a behavioral mechanism that helps consumers make decisions more quickly, while also creating risks of impulsivity and dependence on an externally shaped choice environment. The object of the study is consumer*

behavior under conditions of information saturation, excessive choice, visual influence, service convenience, and digital automation of purchasing. The empirical basis consists of an anonymous online survey of 108 respondents, combining closed-ended Likert-scale questions with open-ended responses. The study applies analysis and synthesis, comparison, systematization, descriptive statistics, correlation and covariance analysis, and content analysis of respondents' responses. The results show that color, packaging design, brand recognizability, and interface cues may operate as cognitive reference points, reducing choice time and strengthening subjective confidence in the decision. At the same time, these stimuli do not always promote rationality, as they may trigger impulsive purchases. The study also demonstrates that consumers attach considerable importance to delivery convenience, saving physical effort, automated services, and repeat purchases, especially when the choice process becomes complex or emotionally exhausting. The analysis of open-ended responses revealed that 65% of respondents associate freedom of choice primarily with independence, clarity, control, and the absence of intrusive influence, rather than merely with the number of available products. The practical value of the study lies in the potential to use its findings to help consumers assess marketing stimuli more critically and to guide businesses in developing convenient, structured, and ethically balanced solutions that simplify choice without manipulative influence.

Keywords: *cognitive economy; consumer behavior; consumer choice; information overload; excessive assortment; heuristics; illusion of freedom of choice; automated consumption scenarios; impulsive purchases; digital consumer environment.*

Formulas: 0, fig.: 0, tab.: 3, bibl.: 12

Introduction. The competitive environment has stimulated companies to more fully satisfy consumer needs by improving product quality, increasing service variety, and offering a wide assortment of goods tailored to diverse preferences and life situations. Such a strategy aims to enhance consumers' quality of life, reduce the time spent on routine tasks, and, consequently, create opportunities for self-development. At the same time, the increasing variety of goods and services has led to greater complexity in consumer decision-making processes. In particular, an increase in the number of alternatives raises the difficulty of choice (Bettman et al., 1991). In practical terms, this is evident in everyday decision-making situations, where consumers are confronted with numerous variations of the same product (e.g., milk of different brands, fat content, packaging types, and volumes). Although a wider range of choices is generally considered beneficial, an excessive number of alternatives can lead to choice overload, which complicates decision-making (Jacob et al., 2024).

Under such conditions, consumer behavior is increasingly shaped by mechanisms of cognitive economy, whereby individuals seek to minimize the expenditure of mental resources in information processing and decision-making. This leads to the use of simplified decision-making strategies (heuristics), which, on the one hand, accelerate the decision-making process, but on the other hand, increase the likelihood of mistakes in the consumer decision-making process.

Literature Review. The expansion of product assortment and the growing volume of product information available in the market do not always lead to higher-quality consumer choice. In practice, a different pattern emerges: an excessive number of alternatives significantly complicates the evaluation of offers, increases uncertainty, and raises consumers' cognitive costs.

Jiang H., Zeng J., and Cai J. argued that in scholarly research from 2020 to 2025, primary attention was paid to outcome-oriented cognitive mechanisms, particularly perceived trust, uncertainty, and value; however, the dynamic aspects of consumers' cognitive processes remain insufficiently explored (Jiang et al., 2026). In particular, limited attention has been paid to cognitive economy in consumer decision-making under conditions of information overload and extensive product assortment.

Peng M., Xu Z., and Huang H. found that "information overload in the digital environment increases consumers' cognitive costs and increases the likelihood of using simplified decision-making rules" (Peng et al., 2021).

Consumers do not always make economically optimal decisions, even when they have sufficient information and the necessary level of knowledge. For instance, He S., Blasch J., van Beukering P., and Wang J.

defined that "strong value orientations, particularly environmental ones, may lead to heuristic-based decisions that do not account for the principles of economic optimization" (He et al., 2022). Therefore, cognitive economy is an adaptive mechanism that facilitates simplifying the decision-making process under conditions of increasing complexity.

Barkemeyer R., Young C. W., Chintakayala P. K., and Owen A. found that "consumers tend to choose convenient, low-cost behavioral alternatives that allow them to avoid cognitively demanding decisions, thereby creating barriers to more effective actions" (Barkemeyer et al., 2023). In addition, Townsend C. and Kahn B. E. found that "the visual presentation of products acts as a heuristic that reduces choice complexity and increases the subjective ease of decision-making" (Townsend et al., 2014). Dar A. R. and Gul M. argued that "too many choices can be detrimental to consumer decision-making" (Dar et al., 2025). Park J. Y. and Jang S. S. found that "choice overload occurs when consumers face an excessive number of alternatives, increasing the likelihood of decision deferral and potentially intensifying post-choice regret" (Park & Jang, 2013).

Ven M., Douce L., Willems K., Rademakers F., Brengman M., Loupiac P. found out that "AR, particularly static AR, strengthens consumers' mental imagery, which in turn affects choice difficulty and decision confidence" (Ven et al., 2025).

Cooke A. D. J., Meyvis T., and Schwartz A., as well as later findings by Chen Y. and Yang Z., confirmed that "the likelihood of deferring choice under conditions of choice overload depends on preference uncertainty and the influence of negative emotions, particularly regret" (Cooke et al., 2001; Chen & Yang, 2020).

Therefore, the reviewed literature suggests that cognitive economy functions as an adaptive behavioral mechanism that helps consumers reduce cognitive effort, simplify complex choices, and make more effective decisions under conditions of information overload and excessive product assortment. Nevertheless, cognitive economy remains insufficiently studied in the academic literature as an integrated behavioral mechanism linking visual signals, convenience, automated consumption scenarios, impulsive reactions, and subjective perceptions of choice, warranting further empirical investigation in digital consumer environments characterized by information overload and excessive product assortment.

Aim and Methodology. The article aims to substantiate cognitive economy as a behavioral mechanism for improving the efficiency of consumer decision-making under conditions of information overload and excessive product assortment. The empirical basis of the study consists of the results of an anonymous online survey of 108 respondents concerning the influence of visual stimuli, convenience, automated choice scenarios, and the perceived freedom of choice. In our survey, we did not collect detailed socio-demographic characteristics of respondents, because the study had an exploratory design and focused on identifying general behavioral mechanisms of cognitive economy rather than comparing consumer groups by age, gender, education, employment status, or frequency of online purchases. Given the relatively small sample size, further division of respondents into socio-demographic subgroups could have reduced the reliability of subgroup comparisons and shifted the study's focus away from its primary objective. To achieve the stated aim, we employed methods of analysis and synthesis, comparative analysis, systematization, descriptive statistics, correlation analysis, covariance analysis, and content analysis of respondents' open-ended responses. The combined application of these methods enabled the summary of theoretical approaches to cognitive economy, the identification of empirical relationships among the variables under study, and the substantiation of its role in enhancing the efficiency of consumer decision-making.

Results. Cognitive economy in consumer behavior is regarded as an adaptive mechanism that enables consumers to reduce cognitive, temporal, and emotional costs in the

process of making a purchase decision. The informational saturation of the consumer environment leads to the simplification and standardization of behavioral patterns, under which consumers increasingly lack either the capacity or the motivation to conduct a fully rational analysis of all available alternatives. Under such conditions, the effectiveness of a consumer decision is determined not only by its economic optimality, but also by the possibility of making it quickly, without excessive psychological burden, and with a sufficient level of subjective confidence in control over the choice. This position aligns with the findings of Peng, Xu, and Huang (2021), who demonstrated that "information overload negatively affects the quality of consumer decisions by increasing choice complexity".

Consumers' bounded rationality can explain this type of consumer behavior. Individuals do not always act as rational consumers who consistently compare all product characteristics, price, quality, alternative options, and the long-term consequences of their choices. Consumers often rely on simplifications, such as familiarity with a brand, packaging color, delivery convenience, recommendations provided by digital platforms, previous experience, and other cues. However, such decision rules do not always guarantee the best outcome from the perspective of classical economic rationality; however, they help reduce the burden on attention, memory, and critical thinking capacity. A similar view is shared by He, Blasch, van Beukering, and Wang (2022), who argue that "under conditions of high information-processing costs, consumers tend to rely on heuristics and salient product attributes rather than on rational analysis".

To empirically test the mechanisms of cognitive economy in consumer choice, we surveyed 108 respondents. The questionnaire included questions grouped into three thematic blocks. The first block was aimed at identifying the influence of visual cues, particularly color, packaging design, advertising banners, and interface elements, on the speed of decision-making and the formation of a sense of confidence in consumer choice. The second block covered issues related to convenience, time-saving, the use of automated delivery services, and consumers' willingness to delegate part of their decision-making to technological systems. To examine readiness for automated consumption scenarios, the questionnaire included a question about the potential use of a drone delivery service, enabling assessment of both rational perceptions of technological convenience and respondents' emotional reactions to innovative forms of logistics. The third block focused on investigating the tendency toward repeat purchases without further analysis, the complexity of choice under excessive numbers of alternatives, and the subjective understanding of freedom of choice. We use a five-point Likert scale to quantitatively measure the intensity of the variables under study in the survey questions. In contrast, we applied open-ended questions to supplement the quantitative results with qualitative observations.

Within the study, we formulated three hypotheses. First, specific colors and design elements may function as catalysts of cognitive economy by accelerating consumer choice through the formation of an illusion of confidence and a reduced need for analytical comparison of alternatives. Second, consumers' desire to minimize physical, temporal, and emotional effort contributes to the spread of automated consumption scenarios and the emergence of new business strategies focused on convenience and speed. Third, the so-called "lazy choice" under conditions of excessive supply may create an illusion of freedom of choice, whereas a more structured choice environment promotes more conscious and responsible consumer decision-making. The proposed hypotheses were tested using descriptive statistics, correlation and covariance analyses, and qualitative content analysis of respondents' open-ended responses.

Before conducting correlation and covariance analyses, we used ANOVA as an auxiliary procedure for mean comparisons. In

this study, the compared units were not socio-demographic groups of respondents, but the empirical variables presented in Table 1: VCOLOR, VEX, VF, VNS, VFOFC, VA, VOP, VSP, VV, and VPT. Each variable represents a separate indicator of cognitive economy in consumer choice, measured within the same sample of 108 respondents.

The results of ANOVA and Welch's F-test showed statistically significant differences between the mean values of the studied indicators (ANOVA F-test = 1.34E+12, $p < 0.001$; Welch's F-test = 1.60E+11, $p < 0.001$). We interpreted these differences as evidence that the analyzed dimensions of cognitive economy were expressed with unequal intensity in respondents' answers. These results do not indicate causal relationships between variables or differences between respondent groups. They confirm the heterogeneity of the average manifestation of the studied indicators.

Table 1

Descriptive statistics for empirical data (n=108)

Variable	Survey question and variable description	Mean	Stand. Dev.	Stand. Err. of Mean
V_{COLOR}	**Question:** Has a certain color or product design ever created a sense of confidence in its quality, even if you did not previously have reliable information about it? **Variable description:** Perceived quality confidence formed through color/design.	2.889	0.879	0.085
V_{EX}	**Question:** Please justify your choice between online delivery and purchasing in a physical store. **Variable description:** Open-ended rationale for the trade-off between convenience and price saving.	2.693	1.746	0.168
V_{F}	**Question:** What would you feel about drone delivery: excitement, relief, anxiety, discomfort, etc.? **Variable description:** Emotional reaction to technological innovation.	2.695	1.094	0.105
V_{NS}	**Question:** How difficult is it for you to make a decision when there are many similar goods or services? **Variable description:** Perceived decision difficulty under numerous options.	2.657	0.968	0.093
V_{FOFC}	**Question:** How do you personally understand "freedom of choice"? **Variable description:** Subjective understanding of freedom of choice.	1.704	1.052	0.101
V_{A}	**Question:** Have you had situations when you constantly buy the same product without additional analysis? **Variable description:** Tendency toward repeat purchases without additional analysis (automaticity).	0.806	0.272	0.026
V_{OP}	**Question:** In your opinion, do packaging color, advertising banner color, or interface design influence how quickly you make a purchase decision? **Variable description:** Impact of packaging color/design on decision-making speed.	0.796	0.355	0.034
V_{SP}	**Question:** Have you ever made a purchase under the influence of a bright color, attractive design, or visual presentation and later regretted the haste of the decision? **Variable description:** Experience of regretted impulse purchases after exposure to visual stimuli.	0.713	0.454	0.044
V_{V}	**Question:** Would you use a drone delivery service that allows you to receive goods within 10–15 minutes without personal contact with a courier? **Variable description:** Willingness to use a drone delivery service.	0.648	0.300	0.029
V_{PT}	**Question:** Imagine two identical products: one is available online with delivery but is more expensive; the other is cheaper but requires a 25-minute trip to a physical store. Which option would you choose? **Variable description:** Choice between online delivery (more expensive) and a physical store (cheaper).	0.556	0.499	0.048

Source: Compiled by the authors based on research data

The highest mean values were observed for the variables V_{COLOR} (mean = 2.89), V_F (mean = 2.69), V_{EX} (mean = 2.69), and V_{NS} (mean = 2.66), indicating the predominant role of visual stimuli, emotional perception of innovations, and choice complexity under conditions of an excessive number of product alternatives among the respondents.

Regarding the first hypothesis, the high value of V_{COLOR}, together with V_{OP} (mean = 0.80) and V_{SP} (mean = 0.71), supports the assumption that color and design may serve as cognitive markers associated with faster choice and a higher risk of impulsive decisions.

The analysis of the second hypothesis, based on V_{PT} (mean = 0.56) and V_V (mean = 0.65), revealed a moderate willingness among respondents to use automated services. However, the V_F score indicates emotional ambivalence toward technological innovations, particularly drone-delivered goods.

Regarding the third hypothesis, the gap between the high V_{NS} value and the low V_{FOFC} value (mean = 1.70) suggests an imbalance among respondents between excessive product supply and the subjective perception of freedom of choice.

Overall, the results suggest that respondents' cognitive economy strategies are associated with visual stimulation, the pursuit of convenience, and the automation of consumer habits under conditions of information overload.

In contrast to descriptive statistics, which enabled us to assess the intensity with which individual variables were manifested, the correlation analysis was conducted to identify the relationships among these variables (Table 2).

Table 2

Correlation matrix of the studied variables

	V_{OP}	V_{COLOR}	V_{SP}	V_{PT}	V_{EX}	V_V	V_F	V_A	V_{NS}	V_{FOFC}
V_{OP}	1.00	0.45	0.27	0.28	-0.29	0.15	-0.26	0.02	0.27	0.09
V_{COLOR}	0.45	1.00	0.36	0.27	-0.36	0.20	-0.16	0.22	0.31	-0.07
V_{SP}	0.27	0.36	1.00	0.30	-0.19	0.11	0.05	0.07	0.35	0.02
V_{PT}	0.28	0.27	0.30	1.00	-0.70	0.44	-0.14	0.29	0.15	0.03
V_{EX}	-0.29	-0.36	-0.19	-0.70	1.00	-0.33	0.10	-0.27	-0.03	0.05
V_V	0.15	0.20	0.11	0.44	-0.33	1.00	-0.29	0.30	0.22	-0.02
V_F	-0.26	-0.16	0.05	-0.14	0.10	-0.29	1.00	-0.16	0.05	0.07
V_A	0.02	0.22	0.07	0.29	-0.27	0.30	-0.16	1.00	-0.06	0.01
V_{NS}	0.27	0.31	0.35	0.15	-0.03	0.22	0.05	-0.06	1.00	0.18
V_{FOFC}	0.09	-0.07	0.02	0.03	0.05	-0.02	0.07	0.01	0.18	1.00

Source: Compiled by the authors based on research data

Within the first hypothesis, we identified a moderate positive relationship between V_{OP} and V_{COLOR} (r = 0.45). In addition, the moderate associations of V_{COLOR} with V_{SP} (r = 0.36) and V_{NS} (r = 0.31) indicate that visual stimuli not only shape consumers' sense of confidence in their choice. However, they are also associated with faster decision-making and an increased risk of impulsive behavior when product choice becomes complex, that is, under conditions of cognitive overload.

The content analysis of respondents' open-ended responses showed that, for some respondents, the blue packaging of the Yahotynske brand functions as a recognizable visual marker associated with freshness, reliability, and a positive prior consumption experience, thereby reducing the need for additional comparisons.

Regarding the second hypothesis, the most pronounced relationship was the negative

correlation between V_{PT} and V_{EX} (r = –0.70), indicating that an orientation toward convenience and time-saving is accompanied by a reduced need for extensive rational justification of the choice. At the same time, the correlations between V_{PT} and V_V (r = 0.44), V_V and V_A (r = 0.30), and V_{PT} and V_A (r = 0.29) point to an interrelationship between readiness to use automated services and habitual consumption patterns.

The analysis of respondents' open-ended responses confirms a shift in consumer priorities toward viewing time as a particularly valuable and limited resource. This explains the willingness of some consumers to incur additional financial costs for the sake of logistical convenience and a shorter time interval between the emergence of a need and its satisfaction through receiving the product. Respondents noted that they chose delivery, in particular, when they felt tired or when weather conditions made going to a store less comfortable. This explains the adaptive nature of cognitive economy. Consumers are willing to incur additional financial costs to save time and effort when the purchasing process is complicated.

In the digital environment, consumers' desire for greater convenience in the purchase decision process is reinforced by recommendation algorithms, personalized offers, and pre-structured purchasing scenarios, which reduce cognitive load by simplifying the choice process. Under such conditions, freedom of choice is manifested, on the one hand, in consumers' access to a large number of alternatives and, on the other hand, in the fact that their attention is directed toward a limited set of options shaped by the digital marketplace, interface design, color accents, or previous behavioral patterns. This is consistent with the findings of Ven et al. (2025), who showed that "augmented reality tools influence choice complexity and consumers' confidence in their decisions".

A substantial proportion of respondents (65%) described freedom of choice in the questionnaires as the ability to make decisions independently and consciously, in the absence of aggressive external influence from advertising, marketing tools, or excessive assortment. This provides grounds to argue that, for the contemporary consumer, the quality of choice organization becomes a priority, namely its clarity, convenience, and the sense of control over the decision, which may contribute to a more rational rather than purely emotional model of consumer behavior.

The third hypothesis posits that the correlation between V_{NS} and V_{SP} (r = 0.35) indicates that choice complexity may prompt consumers to resort to simplified, impulsive strategies. Meanwhile, the weak relationship between V_{NS} and V_{FOFC} (r = 0.18) shows that the subjective understanding of freedom of choice is not directly dependent on the number of alternatives but rather reflects an individual value-based perception.

Overall, the results of the correlation analysis indicate that cognitive economy manifests itself in consumer behavior as a system of interrelationships among visual stimuli, convenience, automation, impulsivity, and the complexity of consumer choice.

To deepen the interpretation of the results, a covariance analysis was conducted (Table 3), which clarified the direction of joint variation among the variables under study.

Regarding the first hypothesis, the positive covariance values between V_{OP} and V_{COLOR} (0.14), V_{COLOR} and V_{SP} (0.14), as well as V_{COLOR} and V_{NS} (0.26), are consistent with the results of the correlation analysis and indicate that visual stimuli vary in the same direction as consumers' perceived confidence in purchase decision-making, impulsivity, and choice complexity. This provides grounds for arguing that, under conditions of cognitive overload, color and design may serve as visual markers for consumers and may be associated with a simplified choice process and a higher likelihood of impulsive purchases.

Table 3

Covariance Matrix

	V_{OP}	V_{COLOR}	V_{SP}	V_{PT}	V_{EX}	V_{V}	V_{F}	V_{A}	V_{NS}	V_{FOFC}
V_{OP}	0,13	0,14	0,04	0,05	-0,18	0,02	-0,10	0,00	0,09	0,03
V_{COLOR}	0,14	0,77	0,14	0,12	-0,55	0,05	-0,15	0,05	0,26	-0,06
V_{SP}	0,04	0,14	0,20	0,07	-0,15	0,01	0,02	0,01	0,15	0,01
V_{PT}	0,05	0,12	0,07	0,25	-0,60	0,07	-0,07	0,04	0,07	0,02
V_{EX}	-0,18	-0,55	-0,15	-0,60	3,02	-0,17	0,19	-0,13	-0,05	0,10
V_{V}	0,02	0,05	0,01	0,07	-0,17	0,09	-0,09	0,02	0,06	-0,01
V_{F}	-0,10	-0,15	0,02	-0,07	0,19	-0,09	1,19	-0,05	0,05	0,08
V_{A}	0,00	0,05	0,01	0,04	-0,13	0,02	-0,05	0,07	-0,02	0,00
V_{NS}	0,09	0,26	0,15	0,07	-0,05	0,06	0,05	-0,02	0,93	0,19
V_{FOFC}	0,03	-0,06	0,01	0,02	0,10	-0,01	0,08	0,00	0,19	1,10

Source: Compiled by the authors based on research data

About the second hypothesis, the most indicative result is the negative covariance between V_{PT} and V_{EX} (–0.60), which indicates an opposite direction of change between orientation toward logistical convenience and the need for extensive rational justification. This complements the previously identified strong negative correlation and indicates that a reduction in the analytical component of choice accompanies consumers' desire to save time and physical effort. In addition, the positive covariance between V_{PT} and V_{V} (0.07) and between V_{V} and V_{A} (0.02) suggests a common direction of variation between readiness to use automated services and habitual consumption patterns. However, the intensity of this joint variation is relatively low.

Considering the third hypothesis, the positive covariance between V_{NS} and V_{FOFC} (0.19) indicates a certain degree of joint variation between choice complexity and consumers' subjective understanding of freedom of choice. At the same time, this value does not provide sufficient grounds to directly equate freedom of choice with the number of available alternatives. Rather, it supports the conclusion that freedom of choice has a complex value-based character and depends on the clarity, controllability, and comfort of the consumer decision-making process.

A comprehensive interpretation of the results of descriptive statistics, correlation analysis, covariance analysis, and content analysis of respondents' open-ended responses provides sufficient grounds to argue that all three research hypotheses received empirical support. The findings indicate that cognitive economy in consumer behavior is realized through visual heuristics, the prioritization of convenience, the minimization of cognitive and temporal costs, the automation of choice, and the reinterpretation of freedom as clarity, controllability, and the absence of external informational pressure.

The practical significance of the results obtained lies in their potential use by both consumers and producers to improve the quality of consumer choice. For consumers, the findings may serve as a tool for developing conscious, sustainable purchasing behavior, as they enable a better understanding of how color, packaging design, delivery convenience, digital platform recommendations, and recurring purchasing scenarios are associated with decision-making speed and subjective confidence. This may contribute to the development of consumers' self-control skills, critical assessment of marketing stimuli, prevention of impulsive purchases, and the ability to distinguish situations in which choice simplification genuinely saves temporal,

cognitive, and financial resources from situations in which it becomes irrational. In the former case, cognitive economy may help consumers find the necessary and useful products more quickly. In contrast, in the latter case, such irrational simplification may lead to an illusion of benefit, the spending of a limited budget on goods that do not correspond to consumers' actual needs, do not maximize their individual utility function, contribute to overconsumption, and generate negative emotions.

For producers, retailers, and digital platforms, the results are relevant to improving visual communications, particularly packaging design, color solutions, and other elements of product presentation that shape associations with quality, reliability, and ease of product choice in consumers' minds. At the same time, the findings indicate the importance of developing service solutions that save time and reduce consumers' physical and cognitive effort. Such solutions include subscriptions with automatic replenishment of product stock, one-click purchasing, and personalized recommendation systems that help narrow choices in line with consumers' previous preferences and needs.

A separate practical implication concerns the finding that excessive expansion of a product line does not always improve the quality of choice, since it may increase cognitive load and complicated decision-making. In this regard, a structured choice strategy may be more effective for business entities, in which consumers are offered not the entire range of possible alternatives but a limited number of relevant options, for example, the top three products corresponding to a specific need. This approach enables consumers to preserve their sense of freedom of choice while reducing the risk of information overload, analysis paralysis, and impulsive decisions.

At the same time, the use of cognitive economy mechanisms should be ethically balanced: they should not be aimed at manipulative control over consumer consciousness, but rather at simplifying the choice process, reducing cognitive load, and supporting more conscious purchasing decisions. A manipulative model of interaction may provide only a short-term commercial effect. But in the long term, it reduces consumer trust and commitment. By contrast, the ethical use of cognitive economy tools contributes to the formation of long-term cooperation, strengthening consumer loyalty, and improving the overall consumer experience.

Conclusions. The conducted study confirmed that cognitive economy is an important mechanism of consumer adaptation to information overload and a large number of alternatives. The first hypothesis received empirical support: color and design may function as visual cues associated with faster decision-making and a potentially higher risk of impulsive choice. The second hypothesis also received empirical support, as the desire to save time, physical effort, and emotional resources was associated with the greater importance of convenience and a stronger orientation toward automated consumption scenarios. At the same time, attitudes toward technological innovations, particularly drone delivery, depend on their functional convenience and on the level of trust and the security context. The third hypothesis also received empirical support, suggesting that an excessive assortment is not necessarily associated with a stronger sense of freedom of choice and may be linked to additional cognitive load. For respondents, freedom of choice is increasingly associated not with the number of available products, but with clarity, controllability, and the absence of external pressure during decision-making. Thus, cognitive economy enhances the efficiency of consumer choice. But it also requires ethical use by producers and retailers so that choice simplification does not turn into manipulative control over consumer behavior.

Our results should be interpreted with due regard for the study's methodological limitations. The relatively small sample size (n = 108) limits the ability to extrapolate the findings to the general consumer population. In addition, our survey did not collect detailed socio-demographic characteristics of

respondents, which limits our ability to assess differences between consumer groups. This limitation is consistent with the exploratory nature of the study, which aimed to identify general behavioral mechanisms of cognitive economy rather than to conduct socio-demographic segmentation. Prospects for further research include expanding the sample and incorporating socio-demographic variables (age, gender, education, family stage, lifestyle, employment status, attitudes, and frequency of online purchases) to compare the manifestation of cognitive economy across consumer groups and to examine more deeply the impact of digital platforms, algorithmic recommendations, and AI on consumer autonomy.

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