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THE ECONOMICS OF MANIPULATION: DIGITAL CHOICE ARCHITECTURE AND THE RATIONALITY OF CONSUMER DECISIONS

This research paper thoroughly examines the current phenomenon of the modern digital commercial space functioning as a specific environment for targeted psychological influence on consumers. The relevance of the study is determined by the global digitalisation of markets and the introduction of complex algorithmic systems that effectively replace traditional methods of marketing persuasion with mechanisms of hidden manipulation. This situation poses a threat to an individual's cognitive autonomy and ability to make rational economic decisions. The research is based on the hypothesis that the digital architecture of choice is, by its very nature, a destructive environment in which the interplay between specific design ("dark patterns") and automated psychological triggers is aimed at disabling critical thinking and forcing the subject to take actions that contradict their real needs. To test the stated hypothesis, a comprehensive methodological apparatus was employed, combining terminological analysis, deductive modelling of cognitive reactions, and comparative analysis of e-commerce interface solutions. The results demonstrate a complex hierarchy of methods for exploiting cognitive inertia, automatic thinking, and emotional vulnerabilities of the individual. It has been proven that the digital architecture of choice artificially stimulates fast, subconscious thinking (System 1), while simultaneously blocking the analytical resources of the brain (System 2),

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ЕКОНОМІКА МАНІПУЛЯЦІЇ: ЦИФРОВА АРХІТЕКТУРА ВИБОРУ ТА РАЦІОНАЛЬНІСТЬ СПОЖИВЧИХ РІШЕНЬ

Досліджено актуальний феномен функціонування сучасного цифрового торговельного простору як специфічного середовища цілеспрямованого психологічного впливу на споживача. Актуальність дослідження зумовлена глобальною цифровізацією ринків та впровадженням складних алгоритмічних систем, які фактично заміщують традиційні методи маркетингового переконання механізмами прихованої маніпуляції. Такий стан справ створює загрози для збереження когнітивної автономії індивіда та його здатності до раціонального економічного самовизначення. Висунуто гіпотезу, що цифрова архітектура вибору за своєю природою є деструктивним середовищем, де синергія специфічного дизайну ("темних патернів") та автоматизованих психологічних тригерів спрямована на вимкнення критичного мислення та примушування суб'єкта до дій, що суперечать його реальним потребам. Для перевірки гіпотези застосовано комплексний методологічний апарат, що поєднує термінологічний аналіз, дедуктивне моделювання когнітивних реакцій та компаративний аналіз інтерфейсних рішень у сфері електронної комерції. Отримані результати демонструють складну ієрархію методів експлуатації когнітивної інерції, автоматизмів мислення та емоційних вразливостей особистості. Доведено, що цифрова архітектура вибору штучно стимулює швидке, підсвідоме



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which leads to the formation of the illusion of voluntary decision-making. This study examines how the digital architecture of choice transforms the traditional model of rational consumer behaviour, creating conditions for unfair competition and inefficient resource allocation. The scientific novelty of the study lies in identifying the connection between the emotional and value aspects of digital interaction and the overall effectiveness of algorithmic manipulation. The practical value of the work lies in the development of the concept of psychological resistance as a strategy for individual self-defence. The authors propose an integrated model for counteracting manipulation that involves the introduction of ethical design standards and the active development of consumers' metacognitive skills. The results of the study can serve as a basis for the creation of educational programmes to improve digital literacy and the development of regulatory acts in the field of consumer protection. This work paves the way for studying the mechanisms of ethical programming of digital interfaces.

Keywords: choice architecture, dark patterns, psychological manipulation, cognitive autonomy, behavioural economics, consumer choice.

мислення (Систему 1), одночасно блокуючи аналітичні ресурси мозку (Систему 2), що призводить до формування ілюзії добровільності прийнятих рішень. Наукова новизна дослідження полягає у виявленні зв'язку між емоційно-ціннісними аспектами цифрової взаємодії та загальною ефективністю алгоритмічного маніпулювання. Практична цінність дослідження втілена у розробці концепції психологічної резистентності як стратегії самозахисту особистості. Запропоновано інтегровану модель протидії маніпуляціям, що передбачає впровадження етичних стандартів дизайну та активний розвиток мета-когнітивних навичок споживачів. Результати дослідження можуть стати підґрунтям для створення освітніх програм з підвищення цифрової грамотності та розробки регуляторних актів у сфері захисту прав споживачів. Дослідження відкриває шлях до вивчення механізмів етичного програмування цифрових інтерфейсів.

Ключові слова: архітектура вибору, темні патерни, психологічна маніпуляція, когнітивна автономія, поведінкова економіка, споживчий вибір.

JEL Classification: D91, M31, D18, D11, Z13.

Introduction

The transformation of the global economy into a digital format has radically changed the mechanisms of interaction between suppliers and consumers. While classical economic theory was based on the postulate of the "rational agent" (Homo Economicus), modern digital markets increasingly exploit the irrational nature of the human psyche. The premise of this study is the rapid development of choice-architecture technologies, in which every element of the interface—from the colour of a button to the recommendation algorithm—is designed to steer user behaviour in ways that benefit the business. In conditions of information overload, consumers lose their ability to think critically, making them vulnerable to hidden psychological influences.

The key problem is the blurring of the line between ethical marketing persuasion and destructive manipulation. The use of so-called "dark patterns" in the digital environment creates a situation in which consumers make economic decisions that are contrary to their own interests, while being under the illusion of complete freedom of choice and voluntary consent (Naimy, 2025; Witte, 2025). This leads not only to individual financial losses but also to a general erosion of trust in the digital ecosystem, which poses a threat to the stable development of the modern economy.

The problem of psychological influence on consumer behaviour has deep roots in academic discourse. The fundamental principles of persuasion laid down by Cialdini (2006) remain the basis for understanding social triggers such as scarcity, authority, and reciprocity, which are now automated in the digital environment. The development of behavioural economics in the context of digital transformation is analysed in detail in the works of Tamilarasi (2025) and Radu et al. (2024), who point to a paradigm shift from "rational choice" to "manipulation" in the era of digital subscriptions.

Of particular value for understanding the architecture of choice are the works of Trzaskowski (2023), who distinguishes between the concepts of persuasion and manipulation through the prism of EU internet law, emphasising the role of cognitive architecture. The issue of destructive interface design ("dark patterns") is explored by Mejtoft et al. (2021), focusing on manipulative forms of obtaining consent for the processing of personal data, which creates a technical basis for further economic pressure.

The psychological dynamics of decision-making in the marketing era of AI and algorithms are examined by Sudirjo et al. (2024) and Nadeem (2022), emphasising that the digital economy creates new cognitive loads that reduce consumer resistance. Witte (2025) made an important contribution to the classification of these phenomena by proposing an integrated framework for defining manipulation, while Arango-Kure and Garz (2025) developed a conceptual framework of unethical influence in marketing, which allows legitimate sales promotion methods to be distinguished from coercive practices.

The legal and ethical aspects of consumer protection in the context of the exploitation of their vulnerabilities are highlighted in the works of Raj et al. (2025) and Mäihäniemi (2024), in which choice manipulation is considered an abuse of a dominant market position. Finally, Naimy (2025) introduces the concept of "digital smoke screens," pointing out that modern consent is often illusory due to the complex architecture of manipulation.

Despite a significant number of developments in the fields of law and marketing, the psychological mechanism of integrating several types of manipulation into a single choice architecture remains insufficiently studied. Most studies focus either on legal protection or on individual types of "dark patterns," while the synergistic cumulative impact of the algorithmic environment on consumer psychological autonomy requires deeper analysis. This article is devoted to this aspect—the combination of psychological traps into a coherent system of digital consumer experience.

The purpose of the article is to provide a theoretical justification and a systematic analysis of the psychological mechanisms underpinning the manipulative architecture of digital consumer choice, and to identify their impact on individual cognitive autonomy in the context of the modern digital economy.

To achieve this goal, the following tasks were identified and solved:

- to clarify the essence of the concept of "digital manipulation" and determine its place in the structure of modern choice architecture based on an interdisciplinary approach;

- to study the psychological tools of "dark patterns" and classify them according to their type of influence on the cognitive and emotional spheres of the consumer;
- analyse the mechanism of transformation of psychological biases (anchoring, scarcity, social proof) into specific instruments of economic pressure in the e-commerce environment;
- identify the consequences of manipulative influence on the process of financial decision-making and justify the need to develop strategies for consumer psychological resistance.

The work is based on the hypothesis that the modern architecture of digital consumer choice is not a neutral platform for decision-making, but functions as an integrated system of psychological manipulation. This system is based on the convergence of "dark patterns" and the exploitation of cognitive biases, which leads to the deformation of consumer autonomy and the adoption of economically inefficient decisions under the illusion of voluntary consent. The source base of the study comprises research by leading experts in behavioural economics, digital law, and cognitive psychology from 2021 to 2025.

The hypothesis was tested using the following algorithm: terminological analysis and systematisation (processing of scientific data to determine the concepts of "manipulation" and "choice architecture," defining the boundary between ethical influence and coercion), deduction (transition from general psychological principles of persuasion to the analysis of specific mechanisms for transforming cognitive errors into profits for digital platforms); comparative analysis (comparison of different "dark patterns" to identify universal psychological triggers); logical generalisation (modelling the impact of identified manipulations on financial stability and consumer mental well-being).

This work is primarily theoretical and methodological and does not include results from our own empirical experiments (laboratory tests or surveys). The analysis is limited to a segment of digital markets (e-commerce and social networks) and does not extend to offline trading practices. The study also does not take into account individual cultural differences in the perception of manipulation, focusing on universal cognitive mechanisms.

During the study, the hypothesis was refined: the initial assumption about the perceived harm of manipulation was adjusted toward a "complex architecture of choice," in which the line between convenience and exploitation is often subjective and depends on the design context.

A logical structure is proposed for the main part of the article, with each section revealing a specific aspect of hypothesis testing. The main part of the article is structured into four interrelated sections. The first section conceptualises the manipulative architecture of choice, defines its psychological essence as a tool for bypassing rational personality filters, and substantiates the impossibility of neutral design in modern digital systems. The second section is devoted to the typology of "dark patterns." It reveals

the mechanisms of exploiting cognitive inertia, automatic thinking, and socio-psychological pressure, which are implemented through interface solutions in e-commerce. The third chapter analyses the economic consequences of manipulation, in particular the distortion of consumer choice towards unstable behaviour patterns and the emergence of consumer financial dependence as a result of the "dopamine loops" of digital marketing. The fourth chapter contains a justification of psychological resistance strategies. It defines the role of psychological literacy and ethical marketing as key factors in protecting consumer cognitive autonomy in the digital age.

1. Conceptualisation of manipulative choice architecture in the digital economy

The transformation of the global market into a digital format has radically changed the mechanisms of interaction between economic actors. While classical economic theory was based on the model of a "rational agent" (Homo Economicus) capable of logically calculating benefits, modern digital infrastructure is increasingly seen as a space for targeted influence on the subconscious cognitive processes of individuals. The digital architecture of choice is no longer a passive backdrop for transactions; it has become an active system of persuasion, where every element of the interface, recommendation algorithm, or navigation structure performs a specific psychological function of directing behaviour (Trzaskowski, 2023).

It is noteworthy that digital platforms manipulate users' time (through "endless feeds" or time constraints), thereby depriving people of the "time sovereignty" necessary for rationally comparing prices and alternatives (Suwan-Achariya, 2026).

The psychological essence of manipulation in this context lies in covert interference with an individual's autonomy by bypassing their rational filters. As noted in our previous studies (Hudzenko et al., 2024), the modern information space is saturated with complex psycholinguistic mechanisms that transform the process of information perception, creating the preconditions for the formation of predetermined behaviour patterns. In the architecture of consumer choice, these mechanisms are adapted to algorithmic e-commerce models, where the line between ethical nudging – gentle assistance in making useful decisions – and destructive manipulation is increasingly blurred.

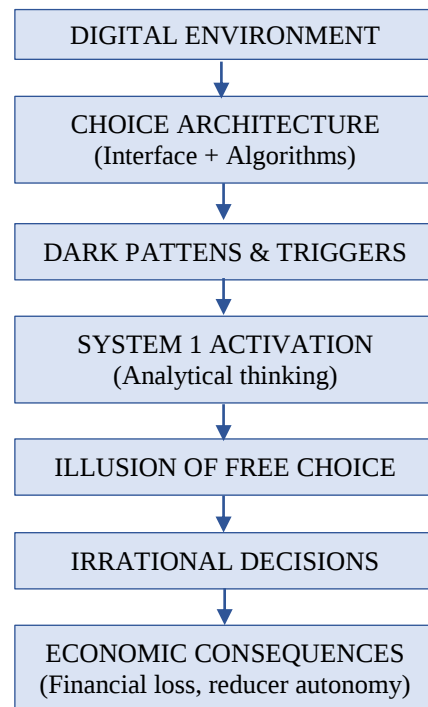
The central element of such architecture is the creation of the illusion of voluntary consent. Under the influence of pre-designed triggers, consumers perceive externally imposed decisions as the result of their own free will (Naimy, 2025). Witte (2025) suggests viewing manipulation as a form of "covert influence" that exploits the user's cognitive vulnerabilities for economic gain.

For a deeper understanding of this process, it is necessary to refer to the concept of dual-process thinking. The digital architecture of manipulation

focuses on stimulating System 1 – the fast, automatic, emotional, and subconscious mode of the brain. At the same time, it deliberately creates barriers to the activation of System 2 – slow, effortful, logical, and analytical thinking. In the digital age, classic principles of social influence – such as time scarcity, social proof, or authority (Cialdini, 2006) – are undergoing a process of large-scale algorithmic automation. This creates an environment in which rapid response to interface stimuli dominates over conscious analysis of price and product quality.

The general logic of how the digital architecture of manipulation works and its impact on the decision-making process are illustrated in *Figure*.

Thus, manipulative choice architecture functions as a holistic ecosystem in which design psychology and data-processing algorithms work in concert to direct consumer activity. This approach not only stimulates demand but also changes the very nature of consumer agency, transforming the individual from a free market participant into an object of algorithmic control through the "smoke screens" of digital interfaces.



Model of the influence of digital choice architecture on the rationality of consumer decisions

Source: author's elaboration based on dual-process theory and choice architecture concepts. Compiled by the authors based on Trzaskowski (2023), Naimy (2025), and Witte (2025).

2. Typology and mechanisms of action of "dark patterns"

The implementation of manipulative choice architecture in the digital space is carried out through "dark patterns" – specific design solutions based on a deep understanding of human cognitive errors. "Dark patterns" (especially subscription traps) artificially inflate the transaction costs consumers face when cancelling a subscription. The psychological nature of these mechanisms lies in the deliberate creation of conditions under which the consumer acts under the influence of System 1 (automatic, emotional thinking), while the functioning of System 2 (logical analysis) is blocked or significantly impeded.

2.1. Exploitation of cognitive inertia and linguistic traps

A significant part of digital manipulation relies on the linguistic-psychological dimension, which we have analysed in detail in previous works (Hudzenko et al., 2025). Verbal constructions in e-commerce interfaces are

often designed to disorient the user. This is achieved through double negatives, confusing terminology, or emotionally charged appeals that appeal to basic instincts.

Manipulation of consent and the illusion of control: studies of manipulative patterns in cookie requests (Mejtoft et al., 2021) show that the interface design makes the "Accept All" button bright and accessible, while the opt-out option is hidden behind several levels of settings. This is a classic example of exploiting cognitive inertia: the consumer chooses the path of least resistance, which effectively negates the essence of free consent (Naimy, 2025).

The pitfalls of digital subscriptions: the "roach motel" mechanism involves maximally simplified entry into financial obligations and artificially complicated exit from them. As Radu et al. (2024) point out, such strategies create a psychological barrier: System 2 recognises the need to cancel the subscription, but System 1 avoids the complex and uncomfortable procedures of "unsubscribing," leading to irrational spending.

2.2. Social and psychological pressure and algorithmic "smoke screens"

Modern digital platforms use personalised data to create intense psychological pressure in real time. The use of linguistic-psychological strategies of influence (Hudzenko et al., 2024) allows marketers to activate specific triggers that paralyse critical thinking:

Artificially created scarcity: Messages such as "Only 1 item left in stock" or "5 more people are viewing this hotel right now" provoke anxiety and fear of missing out (FOMO). This activates an immediate System 1 response aimed at "protecting resources," even if there is no objective need for them.

False social proof: The use of artificially generated reviews or messages about recent purchases by other users creates peer pressure. Consumers tend to trust the "choice of the majority," which is an evolutionary survival mechanism that, in the digital age, becomes a tool of exploitation (Cialdini, 2006).

2.3. Cognitive overload as a method of disorientation

Algorithmic architecture often uses the "hiding in the crowd" or over-informing methods. By increasing the number of choices or complicating the product description, platforms cause cognitive fatigue (Nadeem, 2022). When fatigued, System 2 "shuts down" and people become highly susceptible to suggestion, making decisions based on visual cues (button colour, font size) rather than the substance of the offer.

The variety of forms of destructive interface design requires a clear classification based not only on technical characteristics but also on the nature of their impact on an individual's economic behaviour. A general overview of the most common manipulation mechanisms and their consequences for consumers is presented in *Table*.

Table

Classification of digital manipulation mechanisms and their impact on consumer economic behaviour

Type of "dark pattern"	Psychological mechanism (activation of System 1)	Consequences for consumer economic behavior
Digital subscription traps (Roach motel)	Exploitation of cognitive inertia and the avoidance of complex procedures	Creation of unwanted recurring costs; hidden capital extraction for unused services
Artificially created scarcity and urgency	Inducing anxiety and fear of missing out (FOMO)	Blocking rational price analysis; conducting transactions at inflated prices.
False social proof	Exploiting evolutionary trust in the "majority choice"	Stimulating irrational demand based on unreliable market data
Manipulation of consent and interface traps	Choosing the path of least resistance ("Accept All")	Loss of control over personal data as an economic asset; the illusion of voluntary decision-making
Cognitive overload (information noise)	Inducing cognitive fatigue through excessive choice	Shifting to impulsive reactions based on visual stimuli rather than the content of the offer

Source: author's elaboration based on the concepts of behavioural economics and cognitive psychology. Compiled by the authors based on Cialdini (2006), Mejltoft et al. (2021), Nadeem (2022), Radu et al. (2024).

The data in *Table* show that each type of manipulation examined distorts rational choice, ultimately resulting in direct financial losses for the consumer or a suboptimal allocation of their personal resources.

Thus, the typology of "dark patterns" covers the entire spectrum of human cognitive activity – from basic text perception to complex social interactions. All these mechanisms work toward a single goal: to make the process of spending money as automatic as possible, minimising the moment of rational awareness of the transaction.

3. Deformation of consumer choice and economic consequences of manipulation

The consequences of manipulative choice architecture extend far beyond individual marketing transactions, causing systemic deformation of economic behaviour and undermining individual financial well-being. The psychological mechanism of this distortion is based on an artificial shift in emphasis from conscious planning to impulsive gratification of needs, which often leads to decisions that are contrary to the long-term interests of the consumer.

An important factor in this process is the emotional vulnerability of the subject in the digital space. As substantiated in our previous studies (Hudzenko, 2025), the emotional and value aspects of interaction in the digital environment determine the depth of a person's involvement and their reactivity to external stimuli. Manipulators in e-commerce exploit these emotional states, creating conditions under which the consumer feels an acute need for immediate purchase to restore emotional balance or confirm their own social value. This phenomenon is described as a "dopamine loop," where

interface rewards stimulate repetitive, often irrational, consumer activity (Tamilarasi, 2025).

The economic consequences of such a choice architecture can be classified in several ways:

Encouraging unsustainable consumption: the use of dark patterns pushes users to purchase goods or services that have no real consumer value for the individual. Mäihäniemi (2024) defines this as "exploitative abuse," which leads to excessive accumulation of resources and financial exhaustion of the consumer.

Distortion of price perception: through dynamic pricing and personalised discounts, consumers lose the ability to objectively compare the cost of products. The creation of the illusion of "exclusive benefit" (scarcity) causes System 1 to ignore the rational calculations of System 2, leading to purchases at inflated prices (Nadeem, 2022).

Hidden economic exploitation through subscriptions: automatic renewal models, analysed in detail by Radu et al. (2024), exploit consumer cognitive inertia. The complexity of the unsubscribe procedure creates a situation in which consumers continue to pay for services they do not use, which is a direct form of manipulative capital extraction.

A consumer's time is a limited economic resource. Manipulative algorithms (endless feeds, artificial time scarcity) appropriate this resource, depriving people of their "time sovereignty." Without free time, consumers cannot compare prices (make rational choices), which leads to market anomalies (Suwan-Achariya, 2026).

Thus, manipulative choice architecture transforms the very essence of the consumer experience: from an act of satisfying needs, it becomes a process of algorithmic exploitation of psychological states. This poses a threat not only to individual financial security but also to market competition as a whole, as the advantage is gained not by companies offering the best product but by those that more effectively manipulate cognitive biases (Arango-Kure & Garz, 2025).

4. Psychological resistance strategies and ethical regulation

The final stage of researching manipulative choice architecture requires the development of a comprehensive approach to minimising its negative impact. Since digital manipulation evolves faster than legislative norms, the protection strategy must combine external ethical regulation of the market and internal psychological resilience of the individual.

An important prerequisite for the formation of such resilience is the development of psychological resistance – the consumer's ability to identify manipulative patterns as they arise and consciously switch from impulsive System 1 to analytical System 2. As noted in our previous works (Hudzenko et al., 2024), understanding the psycholinguistic mechanisms of manipulation is the first step towards deconstructing external influence. In the digital

market, this means the ability to "read" the interface not as a convenient service, but as a set of psychological triggers.

Ethical regulation, according to the integrated framework proposed by Arango-Kure and Garz (2025), should be based on the principle of preserving consumer cognitive autonomy. This involves the introduction of "ethical design" standards, where the priority is transparency of information and ease of opting out of services. However, as Raj et al. (2025) argue, purely legal restrictions are not enough, as "dark patterns" often balance on the edge of legality, using legal but ethically questionable methods of persuasion.

Therefore, the key area of protection is the development of consumers' psychological literacy. Based on an analysis of moral and ethical guidelines and value aspects of interaction in the digital sphere (Hudzenko, 2025), the following components of resistance can be identified:

Meta-cognitive awareness: knowledge of one's own cognitive biases (e.g., the scarcity or anchoring effect), which allows one to recognise when the architecture of choice is attempting to provoke impulsive action.

Digital hygiene: consciously limiting the time spent in manipulative environments to prevent cognitive fatigue, which is the main ally of manipulators (Nadeem, 2022).

Critical analysis of interfaces: developing the skill of recognising linguistic and psychological traps (Hudzenko et al., 2025) in the texts of buttons, notifications, and advertising calls.

Therefore, the solution to the problem of digital manipulation lies in a partnership between the state, which must establish strict ethical frameworks for developers (Trzaskowski, 2023), and the consumer, whose awareness is the last line of defence. Psychological resistance in the digital age is becoming not just a skill but a necessary condition for preserving an individual's subjectivity and financial independence.

Conclusions

The study allows us to summarise the analysis of psychological manipulation in the architecture of digital consumer choice and to state that the set goal has been achieved.

As a result of the tasks set, the essence of digital manipulation as a form of hidden interference with the cognitive autonomy of the individual was clarified. It was established that the architecture of choice in e-commerce is not neutral but functions as a system of targeted influence. The typology of "dark patterns" allowed us to identify key mechanisms for exploiting cognitive inertia, linguistic traps, and socio-psychological pressure by activating System 1 and blocking the analytical potential of System 2.

The scientific hypothesis underlying the study has been fully confirmed: the modern architecture of digital choice is indeed a holistic system of psychological manipulation, which, through the synthesis of interface solutions and algorithmic data processing, distorts consumer autonomy, prompting them to make economically inefficient decisions under the illusion of voluntary consent.

The study found a direct correlation between the level of cognitive fatigue of the user and the effectiveness of linguistic manipulation. It was established that digital platforms deliberately create "information noise" to accelerate the consumer's transition to impulsive reactions.

The scientific novelty of the work lies in the interdisciplinary synthesis of behavioural economics theories with psycholinguistic mechanisms of manipulation in the media space, which were previously considered by the author (Hudzenko et al., 2024; 2025). For the first time, the architecture of choice is analysed through the prism of emotional and value aspects of digital interaction (Hudzenko, 2025), which made it possible to prove that manipulators exploit not only logical errors but also the consumer's deep value orientations.

The study contributes to solving the pressing issue of consumer protection in the digital age. The practical value of the results lies in the development of the principles of psychological resistance. The proposed approaches to the formation of meta-cognitive awareness and critical analysis of interfaces can be used in the development of digital literacy programs and codes of ethics for software developers.

The digital architecture of choice requires institutional regulation. Standards for ethical design must be implemented to protect consumer rights and ensure fair competition in digital markets.

Further scientific efforts should be directed toward empirical testing of the effectiveness of specific "demanipulation" techniques and studying the impact of artificial intelligence systems on the complexity of consumer choice architecture, which will require an even higher level of psychological counteraction.

REFERENCES / СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

Arango-Kure, M., & Garz, M. (2025). Manipulation: An integrative framework of unethical influence in marketing. *Journal of Business Research*, (197), Article 115476. <https://doi.org/10.1016/j.jbusres.2025.115476>

Cialdini, R. B. (2006). Influence: The psychology of persuasion (Revised ed.). *HarperCollins e-books*. 266 p. https://www.academia.edu/9978388/Influence_The_Psychology_of_Persuasion

Hudzenko, O. (2025). *Emotional and value aspects of interaction in a digital learning environment. National education in strategies of sociocultural choice: theory, methodology, practice: collection of materials from the IX International Scientific and Practical Conference*. 12.11.2025. Lutsk: KZVO "Lutsk Pedagogical College" of the Volyn Regional Council. Part 1. 2025. 87-90. https://lpc.in.ua/wp-content/uploads/2026/02/ch-1_-zbirnyk.pdf

Гудзенко, О. (2025). *Емоційно-ціннісні аспекти взаємодії у цифровому навчальному середовищі. Національна освіта в стратегіях соціокультурного вибору: теорія, методологія, практика": збірник матеріалів IX Міжнародної науково-практичної конференції*. 12.11.2025. Луцьк: КЗВО "Луцький педагогічний коледж" Волинської обласної ради. Частина 1. 2025. С.87-90. https://lpc.in.ua/wp-content/uploads/2026/02/ch-1_-zbirnyk.pdf

Hudzenko, O., Pastryk, T., Lazko, A., & Halchun, N. (2024). Psycholinguistic mechanisms of manipulation in the modern information space: strategies of influence and counteraction. *Academic Studies. Humanities Series*. Lutsk: Lutsk Pedagogical College of the Volyn Regional Council, (4), 66–76. <https://doi.org/10.52726/as.humanities/2024.4.10>

Гудзенко, О., Пастрик, Т., Лазько, А., & Гальчун Н. (2024). Психолінгвістичні механізми маніпуляції у сучасному інформаційному просторі: стратегії впливу та протидії. *Академічні студії. Серія "Гуманітарні науки"*. Луцьк: Комунальний заклад вищої освіти "Луцький педагогічний коледж" Волинської обласної ради, (4), 66–76. <https://doi.org/10.52726/as.humanities/2024.4.10>

- Hudzenko, O. G., Borozenzeva, T. V., & Aleksandruk, A. I. (2025). Mechanisms for implementing manipulative strategies in the media space: a linguistic-psychological dimension. *Academic Studies. Series "Humanities,"* (4), 96–104. <https://doi.org/10.52726/as.humanities/2025.4.13>
- Гудзенко, О. Г., Борозенцева, Т. В., & Александрук, А. І. (2025). Механізми реалізації маніпулятивних стратегій у медіапросторі: лінгвопсихологічний вимір. *Академічні студії. Серія "Гуманітарні науки",* (4), 96–104. <https://doi.org/10.52726/as.humanities/2025.4.13>
- Mäihäniemi, B. (2024). Manipulation into unsustainable consumer choices as exploitative abuse of dominance. *Market and Competition Law Review*, 8(1), 101–125. <https://doi.org/10.34632/mclawreview.2024.16037>
- Mejtoft, T., Frängsmyr, E., Söderström, U., & Norberg, O. (2021). Deceptive design: Cookie consent and manipulative patterns. In *Digital support from crisis to progressive change: Conference proceedings*. University of Maribor Press. 393–404. <https://doi.org/10.18690/978-961-286-485-9.29>
- Nadeem, S. (2022). The psychology of consumer decision-making in a digital economy. *Journal of Frontiers in Multidisciplinary Research*, 3(2). 1–3. https://www.multidisciplinaryfrontiers.com/uploads/archives/20250218134208_26.pdf
- Naimy, P. (2025). Smokescreens of digital markets—choice manipulation and the illusion of consent. *Journal of European Competition Law & Practice*, 16(3), 208–222. <https://doi.org/10.1093/jeclap/lpaf050>
- Radu, C. G., Dumitra, E. C., & Cotesu, R.-G. (2024). Behavioral Economics in The Era of Digital Subscriptions: Choice or Manipulation. *Journal of Academic Opinion*, 4(2), 72–46. <https://academicopinion.org/index.php/pub/article/view/68>
- Raj, P., Nanda, S. S., & Noorani, M. S. (2025). Safeguarding the digital consumer: A comparative legal and psychological analysis of dark patterns in e-commerce. *Advances in Consumer Research*, 2(4), 3567–3574. <https://acr-journal.com/>
- Sudirjo, F., Ausat, A. M. A., Suherlan, S., & Azzaakiyyah, H. K. (2024). Understanding psychological dynamics in consumer decision-making processes in the digital marketing era: A review. *Jurnal Penelitian Inovatif*, 4(2), 635–644. <https://doi.org/10.54082/jupin.384>
- Suwan-Achariya, S. (2026). *Temporal Sovereignty for Beginners: Designing Time in the Age of AI and Multipolarity*. Amazon Kindle Direct Publishing. ASIN: B0GGLZV6P9
- Tamilarasi, R. (2025). Behavioral Economics and Consumer Decision-Making in the Digital Age. *International Journal of Social Impact*, 10(3), 192–202. DIP: 18.02.024/20251003, <https://doi.org/10.25215/2455/1003024>
- Trzaskowski, J. (2023). Persuasion, manipulation, choice architecture and dark patterns. In A. Savin & J. Trzaskowski (Eds.), *Research Handbook on EU Internet Law* (309–330). Edward Elgar Publishing. <https://doi.org/10.4337/9781803920887.00025>
- Witte, J. (2025). Consumer manipulation: A definition, classification and future research agenda. *Journal of Information, Communication and Ethics in Society*, 23(1), 14–31. <https://doi.org/10.1108/JICES-09-2023-0119>

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