



Transformations of values in ethical design approaches

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Abstract. Human existence in a technologised world has prompted scientists to comprehensively consider the problem of integrating human values into the processes of designing products, services and systems, which has led to the emergence and rapid growth of various ethics-oriented approaches to design. The aim of this article was to analyse trends in the interpretation of values in ethical design approaches in contemporary scientific sources. The general strategy for identifying relevant publications was based on a targeted thematic selection in scientometric databases using qualitative methods. As a result of the analysis of the selected sources, key provisions regarding values and their integration into design from the perspective of contemporary approaches were identified and systematised. It was found that although the value systems considered differ significantly depending on the focus of the concept, they often coincide in key points based on fundamental ethical principles. Research into the development of approaches to interpreting values in design has shown that two main trends prevail at the present stage: further development, improvement and adaptation of sets of values and their interpretations within the framework of specific approaches, and the integration of ideas and methods available in different approaches with the construction of new value systems. This has led to the conclusion that a new direction of research is developing, moving away from understanding values as a given rigid and stable register to studying them in dynamics, raising questions about their universality, allowing for contextual interpretation, and exploring their interaction with each other and changes at different stages of design. The results correlate with contemporary research, in particular on value dynamism, and can be used in the training of specialists in design and engineering-related fields in various areas of knowledge

Keywords: value-sensitive design; value-oriented design; value integration; value dynamics; design ethics

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Introduction

Scientific reflection on human existence in the modern world has led to a new round of critical analysis with a clear focus on the ethical component of human activity, its impact on the development of society, the harmonious existence of individuals and the state of the environment. Various approaches based on methods that prioritise ethics have appeared in scientific literature and design practice. Over the past decades, their number has grown significantly – increasingly, any value- and ethics-oriented approaches to design have come to be collectively referred to as ethical design. The problem of implementing ethical principles and values in design is not new, but with the development of digital technologies, it has become particularly relevant. The general concept of ethical design has a solid scientific basis, rooted in research approaches, the most well-known of which are: Value sensitive design, Value/Worth centred design, and Values-led participatory design. Other well-known approaches include Design justice, Reflective design, Positive design, Socially responsible design, Design for Care, Inclusive design, etc.

The large number of contemporary approaches, which is related to the relevance of the problem and the development of scientific thought on the subject of research, necessitates reviews of academic literature in order to systematise information. Thus, J. Donia & J. Shaw (2021), in a thorough review of ethical and value-oriented approaches to design, focused on their systematisation in terms of normative power and designer agency, concluding that it is advisable to take into account the contradictions that arise from balancing normatively “strong” approaches with the restrictions imposed on designer agency in corporate-oriented conditions when developing ethical design strategies. A. Gerdes & T. Frandsen (2023), focusing on a systematic review of the literature on value-sensitive design over the thirty-year history of the approach, concluded that there is a need to strengthen technical research and its adaptation in theoretical and applied studies.

Literature reviews demonstrate the development of both conceptual and empirical research on the outlined issues. In particular, M. Reber *et al.* (2019), having developed the fundamental characteristics of the key concept of value, proposed a descriptive model, ValueD, which describes the definition of value in design as a cognitive process that depends on the agent’s knowledge. A series of works by I. Van de Poel (2024) is devoted to the scientific justification of the taxonomy of changes in values in design, the reasons for their emergence, adaptation and interaction, which encourages the rejection of the understanding of values as a predetermined list and requires further research into the integration of values in design as a scientific problem. Practical research also points to the relevance of this problem. S. Ghoshal & S. Dasgupta (2023), after critically analysing four practical cases, raised the question of the need to theorise the phenomenon of the blurring of values in design.

The rapid development of new technologies is forcing researchers to look for new ways to embody values in design. F. Longo *et al.* (2020), developing design strategies for Industry 5.0, demonstrated through analysis of real solutions and prototypes that a value-oriented approach helps in researching ethical issues arising from the implementation of technological solutions and supports the transition to symbiotic enterprises of the future. K. Tsunetomo *et al.* (2022), seeking value guidelines for designing intelligent product-service systems, note that despite a significant amount of research on the ethics of artificial intelligence, there is a lack of practical methodology for designing such systems, taking into account the positive and negative consequences of using digital technologies, as well as social and ethical values in the design process for the development of human-technology interaction, which requires the search for and integration of constructive ideas into existing approaches. M. Smits *et al.* (2022) expanded attempts to strengthen the foundations of design with values in mind, linking

them to the philosophy of technology, and proposed a new methodology, Values that Matter, which provides tools for evaluating moral mediation in the design process. It should be noted that most of the approaches developed belong to foreign researchers. In Ukrainian-language scientific discourse, this problem has hardly been developed: there have been isolated studies, among which it is worth noting the integrative approach to ethics by design proposed by T. Pavlova & R. Pavlov (2024), who recognise the problem of defining values and their conflict as one of the key challenges, noting that the further development of metaethics in the digital world requires the integration of different philosophical approaches.

Research confirms that at the present stage, the problem of defining values in design remains relevant. The diversity of approaches to its understanding and the heterogeneity and uncertainty of interpretations highlight the need for new research aimed at critically analysing the conceptual foundations of ethical design and the current state of knowledge on the outlined issues, which determined the purpose and relevance of this article. The aim of the study was to analyse approaches to the interpretation of ethical design values in contemporary scientific literature, which led to the following specific tasks: 1) to analyse scientific sources on the issue of integrating values into design; 2) to consider the leading approaches to defining the system of design values in scientific literature; 3) to identify current trends and trace the dynamics of the interpretation of values and their interaction in ethical design approaches.

Materials and Methods

In accordance with the objectives of the study, it was carried out in several stages. At the first stage, the key concepts of the study and criteria for searching for information were defined, and scientific sources on the outlined issues were selected. The main selection criteria were: 1) the focus of the research on the problem of integrating values into design; 2) the quality and authority of the

research, confirmed by citations in other scientific sources. The main sources for the targeted selection were the scientometric databases Scopus and Web of Science. The selection of publications in these databases was limited to English-language sources, so the search was conducted using the keywords: “ethical design”, “values and design”, “ethics and design”. An additional resource was the Academia Scholar search engine (the search was conducted using the same keywords, but in two languages: English and Ukrainian). The search had no strict geographical or chronological restrictions; the selected sources included both the latest works published in the last three years and those that became fundamental in the formation of various approaches and, accordingly, have the highest number of citations. Since there is no single generally accepted terminology for ethical design and different research traditions use different terms to refer to concepts used in this field, the method of tracking references and citations of sources in the selected works was also used to search for information. Given the specific goal, preference was given to qualitative rather than quantitative methods – the study is not a systematic review, so it does not claim to be a complete sample or to cover all available sources on the subject. Based on the title and abstract, an initial sample of 79 articles was selected. After a full-text review, 24 sources were selected that describe an ethical or value-oriented approach to design or consider various aspects of integrating values into design and have high citation indices. The source base consists of scientific articles, conference materials, and sections of monographs. Since the concept of ethical design is developing not only in scientific discourse but also in design practice, several journalistic articles were considered in the study. In the second stage, fragments containing information about values in design were analysed and documented in the selected sources, key ideas and main provisions were identified, a comparative analysis of the value systems proposed in different approaches was carried out, and areas of overlap and fundamental

differences were identified. The main methods at this stage were comparative analysis and synthesis for categorising concepts. At the third stage, based on the results of the analysis of scientific sources, the dynamics of the development of the interpretation of values in design were traced, critical views on the problem and controversial aspects were considered, trends in the definition of values and their systems/lists in modern scientific approaches were outlined, the connections and interactions between values within and outside these systems, and promising directions for further research. At this stage, the results of the study were summarised and final conclusions were formulated; the main methods were analysis, synthesis, systematisation and generalisation.

Results and Discussion

In this study, design is interpreted in a broad sense as a way of creating products, services and systems, as well as a mechanism for shaping the material environment in accordance with human needs and desires (Martynenko, 2021). There is no generally accepted definition of the concept of “ethical design” in contemporary scientific literature. In general, ethical design is understood as the creation of a product or service aimed at benefiting the individual user, their ecosystem and society (Nag, 2022), and the term is used to refer to ethical and value-oriented approaches in design. A distinctive feature of such design is its focus on the development of specific products, systems and services (rather than general technologies) and its emphasis on moral values (Van de Poel, 2024).

There is no consensus among scholars on the understanding of the very concept of “value” in design. As noted by M. Reber *et al.* (2021), over the decades, views on the value of design have changed in line with changes in the corporate competitive environment for product development. Early interpretations of design value, based on an understanding of product value from the manufacturer’s perspective, have evolved to encompass the consumer’s perspective in terms of

benefits, needs, quality, usefulness, and value of services. Different approaches to understanding the key concept and its uncertainty have highlighted the need to develop a theory of values in design. In this regard, researchers have proposed seven axioms that can be considered as general rules describing value in any context and conveying the fundamental characteristics of this phenomenon, namely: value is related to people, is the result of a cognitive process, requires a process of definition, is a matter of a specific situation, is determined by the interpretations of subjects, and is related to entities and criteria (Borisova, 2021).

The importance of understanding interpretations of value in the complex structure of sociological, economic and linguistic representations is also emphasised by N. Gulbransen-Diaz & L. Hepburn (2024) also emphasise the importance of understanding interpretations of value in the complex structure of sociological, economic and linguistic representations. After researching the leading narratives of value in design, they concluded that the strengths and limitations inherent in theories of sociological, economic and linguistic value are reflected in the corresponding design practices, and that a holistic understanding of them allows for a more critical evaluation of design methods and practices. Among the most authoritative scientific sources on ethics and values in design, the works of B. Friedman & D. Hendry (2019) – one of the ideologists of value-sensitive design, which is positioned as a theoretically sound approach to design that fundamentally and systematically takes human values into account throughout the design process. Despite the thorough theoretical justification and focus on values, its proponents tend to have a broad understanding of the key concept: values are what people or groups of people consider important in life. At the same time, these human values are ethically significant, not just individual preferences. As I. Van de Poel (2024) clarified, it is something that has grounds to be valued or should be valued from a normative or moral point of view. Within this

approach, a list of 13 human values important for design was proposed, including: human welfare; ownership and property; privacy; freedom from bias; universal usability; etc. At the same time, the researchers noted that the list is heuristic, does not claim to be exhaustive, and allows for contextual interpretation. Value-sensitive design is interactive and involves interaction between human values and technologies. Unlike approaches based on technological or social determinism, value-sensitive design cultivates the idea that people, acting as individuals, organisations or societies, shape the tools and technologies they develop and implement; at the same time, these tools and technologies shape human experience and society (Friedman & Hendry, 2019). Parallel to the emergence of the value-sensitive design approach, other concepts were also developing. The founder of the concept of open, or disclosive, computer ethics, P. Brey saw a progressive connection between it and value-sensitive design and tried to incorporate values into a comprehensive approach to computer ethics, identifying four key values: justice, autonomy, democracy, and privacy. Ultimately, he initiated a new approach – anticipatory emerging technology ethics, whose list of values included: rights and freedoms; autonomy; human dignity; privacy; property, etc. (La Fors *et al.*, 2019). K. La Fors *et al.* (2019), who studied the ethics of virtues in relation to new technologies, identified the following techno-moral values: honesty; self-control; humility; justice; courage; empathy; care; civility; flexibility; perspective; magnanimity; technomoral wisdom.

A slightly different view of values is presented in value-centred design, which has been positioned as a design philosophy with the overall

goal of providing value to the enterprise, the consumer and society, which lies not in the design artefacts themselves, but in their interpretation in a given situation, taking into account certain criteria. The logic and evolution of value-centred design was reviewed by G. Cockton (2020a), who considers values to be abstract representations that direct human behaviour and evaluation in a positive direction. Comparing the approaches of value-sensitive and value-centred design, G. Cockton (2020b) notes that the former originates from ethical values and extends to others, such as peace of mind, i.e., what people value regardless of moral obligations or imperatives, while the latter has a more open genesis, starting with value, i.e., what some people value, individually or collectively, regardless of ethics or the approval of others. The value-sensitive approach is more specific in defining the list of values but narrower in terms of the corresponding outcomes; the value-oriented approach is broader in considering the corresponding outcomes but more abstract in terms of the manifestations of value in the world. G. Cockton (2020a) developed general design values, formulating them in eight meta-principles, including: acquisitiveness; tenacity; expressivity; inclusiveness; etc. Ultimately, the author proposed renaming value-centred design to worth-centred design to avoid confusion, using the more morally and politically neutral word “worth” as a synonym (in all senses except connotations and associations) to the word “value”, and later to worth-focused design, adding another meta-principle – generosity. Although the above lists of values differ significantly depending on the approach, they often overlap in key areas (the correlation of values is shown in Table 1).

Table 1. Values in ethical and value-oriented approaches to design

Value sensitive design	Disclosive computer ethics	Anticipatory emerging technology ethics	Value/Worth-centered design
autonomy	autonomy	autonomy	acquisitiveness
privacy ownership and property, informed consent	privacy	privacy, property	n/a
freedom from bias, universal usability	justice, democracy	distributive justice, rights and freedoms	inclusiveness, improbability, viability

Table 1. Continued

Value sensitive design	Disclosive computer ethics	Anticipatory emerging technology ethics	Value/Worth-centered design
human welfare, calmness, identity, courtesy, trust, accountability	n/a	well-being and the common good, human dignity, harms and risks	desirability, expressivity, tenacity, committedness
environmental sustainability	n/a	animal rights and welfare	n/a

Note: n/a – no data available on compliance

Source: developed by the author based on research by B. Friedman & D. Hendry (2019), K. La Fors et al. (2019), G. Cockton (2020a)

Another well-known approach is values-led participatory design. Unlike values-sensitive design, this approach does not consider values as something universal, listed in a specific catalogue. At the same time, this approach also differs from value-oriented design, which tends to view value as price or cost. As its name suggests, it developed within participatory design with the actualisation of the value component. Within this approach, values are defined as stable beliefs held about desirable ways of behaving or ultimate states of being in different situations, societies, and cultural contexts (Gulbransen-Diaz & Hepburn, 2024). This is an approach that takes into account the values of users and stakeholders in design in a dialogical process that cultivates the emergence of values, their development and implementation in practice (Donia & Shaw, 2021). That is, values are not fixed but emerge in collaboration with stakeholders.

The significant number of interpretations of values motivates researchers to search for universal tools to define them. S. Kheirandish *et al.* (2020) conducted an empirical study to develop a comprehensive framework of values for design. The survey results identified nine value groups: “carefulness”; “justice”; “ecology”; “respect for others”; “meaningfulness”; “status”; “pleasure”; “respect for oneself”; “personal development”. As a result of cluster analysis of the data, a value framework was developed with four themes, nine value groups, 42 key values, and 135 additional values. According to the developers, this framework provides a comprehensive view of human values and can be used as a common basis for

different approaches to design. Despite different interpretations of values in the approaches considered, each of them has developed both in scientific discourse and in design practice. The key ideas of the main approaches have undergone certain changes in recent years. For example, the value-sensitive approach has been significantly improved, in particular, much effort has been made to overcome criticism regarding the lack of a normative basis. The list of values proposed within this approach has been revised several times. It has most often been criticised for its heuristic nature. The ideologists of this approach, B. Friedman & D. Hendry (2019), while acknowledging that providing any specific heuristic list of human values risks privileging or reifying them over others and cannot be complete, remain committed to the need to articulate them, because without naming human values and working definitions, the opportunity to legitimise certain human values in the development of technologies or at least to discuss them is lost, as is the opportunity to build on previous work, so that each new attempt will require defining values from scratch. The researchers emphasised that the proposed specific list contained many traditional values that depend on deontological and consequentialist moral orientations: human well-being, ownership and property, privacy, etc., and several non-traditional values, such as identity, peace of mind, and environmental sustainability, illustrating how dynamic and adaptive a general framework of human values and ethics in design can be. Another direction that has begun to be actively

developed within this approach is the interaction of values in design. After all, human values do not exist in isolation, requiring their understanding in the complex interrelationship of human life and activity. Within the framework of value-sensitive design, the interconnection of human values in the design process has been formulated in different ways: first in terms of design compromises, then as value conflicts, and more recently as value differences or contradictions. According to B. Friedman & D. Hendry (2019), value-sensitive design in its modern interpretation drives practice in important directions, encouraging designers to conceptualise the shortcomings in contemporary design processes and seek solutions that promote human well-being, and to consider human values as a design criterion.

Another reason for criticising value-sensitive design was that it did not provide an adequate method for resolving value conflicts. A. Kozlovski (2022) considers several such methods, which, despite advantages, have a significant drawback: the common source of value conflicts, namely value incompatibility, is not taken into account. Justifying this concept and drawing on research in the field of axiology, the researcher offers his own solution to the problem by introducing an evaluative relationship of “parity” to optimise specific methods and the methodology of value-sensitive design in general. For a long time, it was believed that values are stable during the design, implementation and use of a product or system. I. Van De Poel (2024) developed a hierarchy of values consisting of three main levels: design requirements, norms and values. Exploring the relationship between values, norms and design requirements, the researcher developed a taxonomy of value change, identifying five types of change caused by various factors, including: the emergence of new values, changes in the priority or relative importance of values, or changes in which values are relevant to the design of a particular technology, or how they are conceptualised and specialised and transformed into norms and design requirements

(unlike conceptualisation, specification refers to how a value is understood in a particular case, depending more on the context and the type of technology being developed). Ultimately, I. Van De Poel (2024) proposed an integrated approach called Design for Values, which combines value-sensitive design, value-oriented engineering, design ethics, and approaches focused on specific values. These approaches have three characteristic features: an emphasis on moral values; the goal of proactively considering values in the design of new technological products, services, and systems; and systematic attention to values throughout the design process. Design for Values aims to actively integrate moral values into design, such as justice, sustainability, autonomy, privacy, and security, and encompasses various academic disciplines, combining expertise in design, engineering, social sciences, and philosophy.

A notable trend in contemporary research is the comprehensive application of ideas and methodologies from different approaches, taking into account their positive and negative aspects. G. Cockton (2020b) believes that interdisciplinary design should balance and integrate the approaches of several practices, which is facilitated by a common foundation, and value provides a productive focus for this common foundation. K. La Fors *et al.* (2019), researching values in the context of new big data technologies, integrated values from different approaches: value-sensitive design, technomoral values, anticipatory ethics of new technologies, and biomedical ethics. As a result, the researchers formulated a list of ten values for the design of new big data technologies, which include: human welfare; autonomy; non-maleficence; justice; accountability; trustworthiness; privacy; dignity; solidarity; environmental welfare. F. Longo *et al.* (2020), anticipating a new revolutionary wave in the industrial sector – Industry 5.0, or the Age of Augmentation, when humans and machines collaborate in symbiosis with each other, based on a rethinking of existing approaches, in particular value-sensitive, value-oriented, anticipatory ethics of new

technologies, etc., developed a list of human values that should be adhered to during techno-social changes towards the symbiosis of humans and machines in Industry 5.0, including: self-actualisation; accountability; trustworthiness; privacy; welfare; autonomy; altruism; common good; security; stimulation; sociability; identity; authority; conformity. K. Tsunetomo *et al.* (2022) combined the ideas of value-sensitive, participatory and systemic approaches in the design of intelligent product-service systems. In particular, they developed a typology of 22 values for the design of intelligent product-service systems. From the canonical list of values of value-sensitive design, the researchers adapted 11 (some under a different name): autonomy; accountability; courtesy; ownership and property; accessibility; fairness; privacy; trust; identity; well-being; ecological benefit. They added 11 more: efficiency; excellence; positive status; self-esteem; enjoyment; aesthetics; escapism; novelty; relational benefit; sense of control; safety, proposed by S. Leroi-Werelds (2019) taking into account the development of digital technologies. The researcher notes that the typology does not aim to cover all types of values, but instead offers different perspectives that may be useful for conceptual research, taking into account the social and ethical impact on the design of intelligent product-service systems (Tsunetomo *et al.*, 2022).

K. Jenkins *et al.* (2020) also emphasise the feasibility of synthesising different approaches, in particular value-sensitive design, responsible research and innovation, and energy justice, to create energy systems. According to the researchers, the isolated existence of these approaches has overshadowed their complementarity, which, if synthesised, could increase their overall academic and practical significance. In particular, a flexible methodology of value-sensitive design can be used to define value priorities and translate them into specific design requirements. An integrative approach to ethics by design, which takes into account changes in subject-object relations in the digital age, was proposed by T. Pavlova &

R. Pavlov (2024). The approach aims to expand the capabilities of existing ethical design models and explores new perspectives for creating ethically responsible digital technologies. The researchers propose to consider ethics not only as a set of norms or theories, but also as ontology – a way of being in the world, which in the digital age is closely intertwined with technological mediations.

The studies reviewed showed significant changes in the development of ethical design approaches. The results correlate with contemporary research, in particular with the provisions expressed by O. Kudina (2019), who, after studying the role of technology in the interpretation of human values, drew attention to the phenomenon of value dynamism, or the fluidity of values, which encompasses how technologies actualise existing values, affirm them, cause them to be re-evaluated, or contribute to a new understanding of values. These ideas were developed by I. Van De Poel & O. Kudina (2022), who proposed a pragmatic explanation of value change, according to which values are understood primarily as “evaluative devices” that are transferred from previous experience and are to some extent shared in society, and within this explanation, they considered three ideal-typical processes of value change: value dynamism, value adaptation, and value emergence. This explanation suggests that value change may sometimes be necessary to adequately address new uncertain or problematic situations. The researchers noted that every transformation of an uncertain situation into a certain one, even if it is temporarily successful, can also give rise to new uncertain situations and, therefore, the need for new values and research. S. Ghoshal & S. Dasgupta (2023) described the phenomenon of value erosion, emphasising that solving the problem must be a long-term and ongoing task in the design and use of technologies, since values in design are not only embedded but, being dynamic, can change. Thus, the diversity of approaches to ethical and value-oriented design indicates a growing focus on integrating human values into the design process,

which ensures not only technological efficiency but also social responsibility and ethical soundness of design solutions.

Conclusions

An analysis of scientific sources confirmed the relevance of issues related to the implementation of ethical principles and moral values in the design of products, services and systems for modern science, and revealed significant changes in the development of approaches to study. The scientific sources selected at the first stage demonstrated that modern research develops both the theoretical foundations of the problem of integrating values into design and the practical aspects of their implementation. Further analysis of the sources made it possible to consider the dynamics of the development of the interpretation of values in design, identify controversial aspects and outline trends in the definition of values and their systems in modern scientific approaches. The generalisation of the results made it possible to conclude that the development of the problem of values in design is marked not only by quantitative progress, as evidenced by the growing number of ethics- and value-oriented approaches, but also qualitative progress, which encompasses the development and rethinking of key provisions and the search for opportunities to integrate them with the methods of other approaches.

Despite the significant diversity of research directions, the conceptual and methodological basis for new approaches remains value-sensitive, value-oriented and participatory, which today have

the most sound theoretical basis and effective methodologies. While at the stage of formation these approaches had predefined lists of universal values, at the present stage of research they are evolving towards the study of the dynamics of values, their emergence, changes, adaptation, factors causing these phenomena, as well as the interaction of values: compromises, disagreements, conflicts.

An analysis of contemporary scientific literature has revealed two main trends in the interpretation of values in design: 1) further development and improvement of the conceptual provisions of the approach, justification of normative principles, filling theoretical gaps, developing methodologies and testing their effectiveness; 2) integration of key ideas, as well as strengths and advantages in the methodologies of different approaches with the construction of new flexible value systems. Recognition of the dynamic and changing nature of values and the possibility of their contextual interpretation opens up a wide field for further research, promising areas of which include the study of the implementation of theoretical and methodological developments in applied research and design practice.

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Трансформації цінностей у підходах етичного дизайну

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Анотація. Буття людини в технологізованому світі спонукало науковців до всебічного осмислення проблеми інтегрування людських цінностей у процеси проектування продуктів, послуг та систем, що зумовило появу і стрімке зростання кількості різних етикоорієнтованих підходів до дизайну. Метою статті було проаналізувати тенденції інтерпретації цінностей у підходах етичного дизайну в сучасних наукових джерелах. Загальна стратегія до визначення релевантних публікацій ґрунтувалася на цілеспрямованій тематичній вибірці у наукометричних базах даних за допомогою якісних методів. У результаті аналізу відібраних джерел виявлено і систематизовано ключові положення щодо цінностей та їх інтегрування у дизайні з точки зору сучасних підходів. З'ясовано, що хоча розглянуті системи цінностей суттєво відрізняються залежно від фокусу концепції, вони часто збігаються у ключових моментах, виходячи з фундаментальних етичних положень. Дослідження розвитку підходів до інтерпретації цінностей у дизайні показали, що на сучасному етапі превалюють дві основні тенденції: подальше розроблення, удосконалення й адаптація наборів цінностей та їх тлумачень у межах визначених підходів та інтеграція ідей і методів, наявних у різних підходах, з побудовою нових систем цінностей. Це дозволило зробити висновок про те, що набуває розвитку напрям досліджень, які переходять від розуміння цінностей як заданого жорсткого і сталого реєстру до їх вивчення в динаміці, порушуючи питання про їх універсальність, допускаючи контекстну інтерпретацію, досліджуючи їх взаємодію між собою та зміни на різних етапах проектування. Результати корелюють із сучасними дослідженнями, зокрема із ціннісного динамізму, і можуть бути використані у підготовці фахівців спеціальностей, пов'язаних із дизайном і проектуванням, різних галузей знань

Ключові слова: ціннісно-чутливий дизайн; ціннісно-орієнтований дизайн; інтегрування цінностей; ціннісна динаміка; етика дизайну