CULTURE AND ART

TYPOLOGIA KOMPOZYCYJNA MODELI PROJEKTOWYCH
STRON INTERNETOWYCH E-COMMERCE

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Adnotacja. Artykuł poświęcony jest analizie typowych rozwiązań kompozycyjnych i graficznych dla wersji desktopowych witryn e-commerce różnych typów i kategorii produktów, w celu zidentyfikowania najczęściej występujących z nich, opracowania ich typologii i szczegółowej charakterystyki. W pracy zawarto przegląd literatury naukowej i popularnej na ten temat, którego wyniki analizy potwierdzają aktualność tematu pracy. W artykule wykazano, że różnice w typach kompozycji i grafiki stron internetowych dotyczą ich struktury, umiejscowienia głównych bloków informacyjnych i logo, typografii, kolorystyki, rodzajów czcionek, dostępności wolnego miejsca, elementów rysunkowych, treści fotograficznej i wideo itp. Na podstawie wyników badań zidentyfikowano siedem najczęściej występujących typów, określono listę cech każdego z nich i podano ich szczegółową charakterystykę.

Słowa kluczowe: projektowanie stron internetowych, elementy projektu, rozwiązania kompozycyjne i graficzne, projektowanie stron internetowych, rynek, sklep internetowy.

COMPOSITIONAL TYPOLOGY OF DESIGN MODELS
FOR E-COMMERCE WEBSITE PAGES

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Abstract. The article is devoted to the study of typical compositional and graphic solutions for designing desktop versions of e-commerce websites of various types and product categories to identify the most common ones and develop their typology, and detailed characteristics. This study contains a review of the scientific and popular literature on the subject, the results of which confirm the relevance of the topic. The article shows that the differences in the types of compositional and graphic solutions for website pages relate to their structure, location of the main information blocks and the logo, typography, color scheme, font types, availability of free space, drawn elements, photo, and video content, etc. Based on the research results, the seven most common types have been identified, a list of features of each has been determined, and a detailed description of them has been provided.

Key words: web design, design elements, compositional and graphic solution, website design, marketplace, online store.

КОМПОЗИЦІЙНА ТИПОЛОГІЯ ПРОЄКТНИХ МОДЕЛЕЙ СТОРІНОК
ВЕБСАЙТІВ ЕЛЕКТРОННОЇ КОМЕРЦІЇ

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Анотація. Стаття присвячена дослідженню типових композиційно-графічних рішень дизайну сторінок десктопних версій вебсайтів електронної комерції різних типів та товарних категорій з метою виокремлення найбільш поширених з них, розробки їх типології та розгорнутої характеристики. Це дослідження містить огляд наукової

та популярної літератури стосовно означеної тематики, результати аналізу якої підтверджують актуальність теми роботи. У статті показано що відмінності типів композиційно-графічного рішення сторінок вебсайтів стосуються їх структури, місць розташування основних інформаційних блоків і логотипу, типографіки, кольорового рішення, типів шрифтів, наявності вільного простору, рисованих елементів, фото та відео контент тощо. За результатами досліджень виокремлено сім найбільш поширених типів, визначено перелік особливостей кожного та наведено розгорнуту їх характеристику.

Ключові слова: вебдизайн, елементи дизайну, композиційно-графічне рішення, дизайн вебсайту, маркет-плейс, інтернет-магазин.

Introduction. The issues of typical and stylistic solutions in website design are studied by O. Vasilyev (Vasilyev, 2024), D. Kurtseva (Kurtseva, 2023), S. Pryshchenko (Pryshchenko, 2015), J. Beaird (Beaird, 2014), G. Beer (Beer, 2007), B. Doosti and others (Doosti et al., 2017), W. Chen and others (Chen et al., 2017), C. Cloninger (Cloninger, 2001), I. Engholm (Engholm, 2007), U. Mukhamedov (Mukhamedov, 2021), etc. For example, in the works of domestic authors (Vasilyev, 2024; Opalev, 2009; Pryshchenko, 2015), the style solution of a website is defined as a system of visual elements that ensures the cohesive perception of the website and its pages. The authors note that a designer creates an end-to-end design that includes a single modular grid, fonts, color scheme, navigation elements, ways of presenting photos and videos, etc. Due to the placement of these elements on all website pages, a single graphic design is provided, which determines the style features of the website. Based on his own research, C. Cloninger (2001) proposed several author's style models of web design and defined their main characteristics. In his work, the author raised the problem of the difficulty of a clear definition of styles in web design due to style heterogeneity in the design solutions of different websites. I. Engholm (Engholm, 2007) provides the author's definition of the concepts of style and genre in web design and presents the author's description of several styles with two directions of web design development defined and described by the author: functionalism and digital modernism. In the work of S. Doosti (Doosti et al., 2017), the design style of the Apple website is defined as canonical, which is the first to introduce the latest technologies and set fashion trends in the design of e-commerce websites.

The analysis of scientific papers has shown that the scope of web design research is limited to the period from 1991 to the present, making it impossible to determine the styles developed in it. It is also determined that theoretical developments on the concept of style and typical solutions of websites are insufficiently developed and do not have a single definition, and no studies have been conducted on e-commerce websites. Therefore, to understand the directions of further development, it is necessary to study the features of typical compositional and graphic solutions for the design of e-commerce websites of various types and product categories.

Main body. The aim of the study was to investigate the pages of desktop versions of modern e-commerce websites to identify and characterize typical compositional and graphic solutions and develop their typology.

Material and methods of research. In order to achieve this aim, the compositional and graphic solutions of the pages of the desktop versions of thousands of e-commerce websites of various types selling 27 different product groups were identified and studied. The methodological basis of the study was an integrated approach, methods of analytical and visual-analytical analysis of the object of study, and systematization of information about the types of typical solutions for the design of e-commerce website pages. Based on the results of the study, the most common types of compositional and graphic solutions for website pages were identified. It was found that their different solutions are characteristic of both different pages of the site and different types of online stores and marketplaces. They also depend on the type of activity, groups of goods sold, and quantity.

Results and discussion. A review of the existing scientific literature highlights the lack of agreement on the typology of e-commerce website design, with notable differences in how various authors define the types. The existing typology models encompass artistic, structural, or aesthetic features that are either part of the functioning system or serve as independent typification criteria. In contemporary culture, the artistic and figurative presentation of websites is typologized within three groups, the differences between which are determined by the nature of utilitarian and functional orientation of design solutions: "interface" (unified), "author's" (alternative), and "ethnic" (regional) design (Vasilyev, 2024; Kurtseva, 2023). These types are the basic models of web resources.

The most widespread UI design model today, which is used by the vast majority of e-commerce websites, is characterized by the following features: functionality, uniformity of graphic solutions, and templatization based on a typical structure and an attempt to bring the graphical interface closer to the options that are familiar to users. The main task of interface design is to ensure that the content and meaning of graphic and text messages are consistent. Usability practices play an important role, and most modern e-commerce websites are built according to this model (Kurtseva, 2023). The interface model ensures the website's aesthetics, allowing us to maintain a balance in the usability of the content and providing an opportunity to create individual artistic solutions, guaranteeing the ability to be different from others. For interface design, compositional, graphic, and industry-specific components are of primary importance, as they determine the structure of websites and their pages, are built with the corporate component in mind, and underlie artistic imagery.

There are significant differences in the structural, compositional, and graphic solutions of modern e-commerce websites. In this regard, there is a need to define standard solutions and develop a typology that would be based on the features that allow associating a website with a graphic design object, taking into account the presence of certain elements (text, images, color, etc.), their relationship with each other, structure, etc. Important markers for creating a typology of compositional and graphic solutions for websites are structure; number and level of graphics; subject matter; design style (classic, minimalism, etc.); color scheme (black and white, multicolored, light, dark); fonts

and typography features; ways of presenting and principles of arranging content elements and navigation on web pages; availability of images of particular objects and locations of various information blocks, etc. Design features of the navigation structure, catalog, header, and footer are also markers of the corresponding typological profile of a website.

The article studies and analyzes the compositional and graphic solutions of e-commerce website pages of various types and product categories in Ukraine, the USA, China, and nineteen European countries. Seven types of compositional and graphic solutions for e-commerce website pages have been identified, which differed in structure and features of the artistic and graphic presentation of elements. Each type is given a name that corresponds to its main characteristics. The following types of compositional and graphic solutions for website design with distinctive features have been identified: minimalist, card, magazine and newspaper (typographic), ecological, retro, drawn, and business type (Vasilyev, 2024). The business type is one of the most common compositional and graphic solutions for e-commerce website pages. This type is typically seen in homepages, marketplace websites, and online stores with a wide range of product categories. A significant number of American and European e-commerce websites belonging to this category exhibit a high degree of similarity, suggesting the utilization of a standard template or design approach. Prominent examples of websites with business-type pages include well-known online stores (Fig. 1, a) and marketplaces: newegg, aliexpress (Fig. 1, b), rozetka, allo, shafa, skidka, etc.
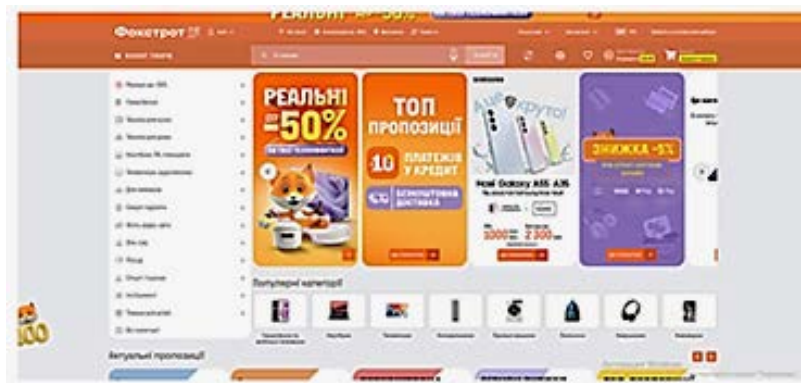

a

b

Fig. 1. Home pages of websites that correspond to the business type of composition and graphic solutions:
a – Foxtrot; б – Aliexpress

The business type of compositional and graphic solutions has several characteristic features: fixed width of the website pages; standard arrangement of elements on the web pages, which is ensured by their construction on modular grids, the use of which makes them well-organized and pleasant to view; familiar and understandable images that correspond to the subject matter of the websites; left vertical directory; constantly changing banner ads that are present everywhere and can be either internal, leading to another page of this website, or external, leading to the pages of others; content in the form of product cards with high-quality photo images arranged in rows, indicating the name, price and rating of the product by consumers according to a five-point system; contrasting and bright color schemes that correspond to the industry theme; sans serif fonts; logo located in the upper left corner of the header. The business type is typical for the main pages of online auctions and well-known marketplaces, thematic online stores with a small number of product groups, and large online stores specializing in the sale of household appliances, computers, electronics, books, and postcards, etc., as well as category and subcategory pages of most online stores.

The minimalist compositional and graphic approach is a common design strategy employed on the main pages of luxury e-commerce websites (Vasilyev, 2024). This approach is characterized by using simple and laconic elements, neutral colors, formalized fonts, and the exclusion of decorative elements. Examples of websites utilizing this approach include the online stores of globally renowned fashion designers and prestigious brands in the jewelry, watch, and perfume sectors, such as Dior, Chanel, Gucci, Armani, and McQueen (Fig. 2, a), Cartier (Fig. 2, б), Tiffany, etc.

a
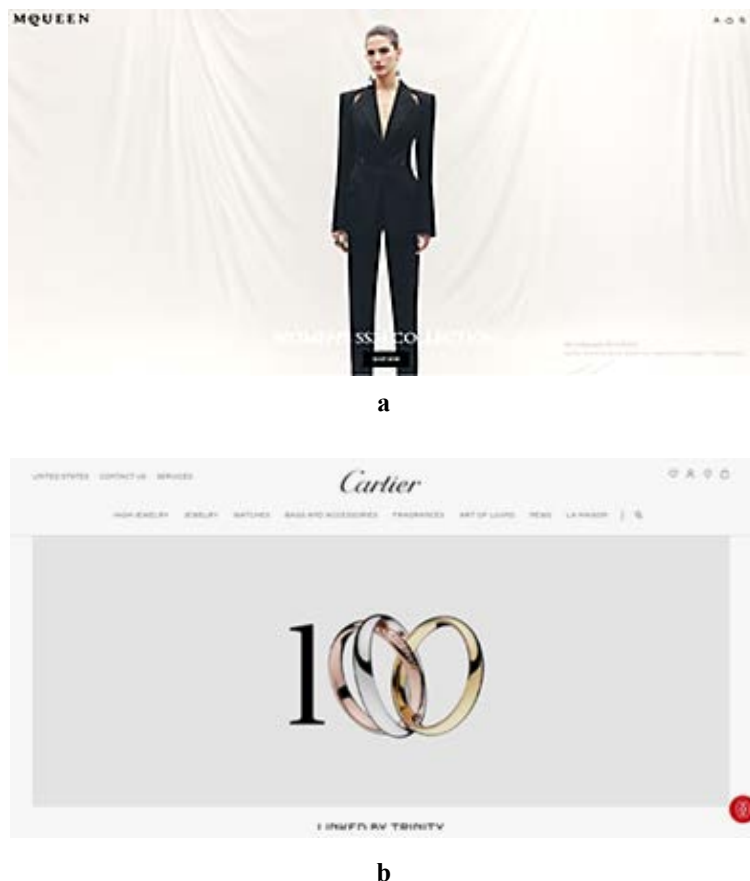
b
Fig. 2. Home pages of websites corresponding to the minimalist type of compositional and graphic solution:
a – McQueen; b – Cartier

Minimalistic compositional and graphic solutions are employed for the presentation of luxury goods to convey the uniqueness of their design and ensure maximum convenience and clarity for users. The general concept of minimalist websites is based on high-quality content and a strict hierarchy regarding the placement of information blocks. The design of such websites is characterized by conciseness, simplicity, accuracy, and clarity of composition, which allows for a combination of aesthetics, functionality, and convenience.

The key characteristics of the minimalist type of compositional-graphic solutions for e-commerce website pages (Vasilyev, 2024), include simplicity and clarity of content, a significant amount of free space, and the absence of unnecessary details. This type is characterized by a minimal number of graphic elements and the use of high-quality photographic materials that are thematically relevant to the site and free from excessive detail. Color schemes are simple and minimalist, with a limited palette often employing a single color or monochromatic solutions to set the mood and appropriately direct attention. Typography varies in complexity, with minimal, highly simplified text presented in the form of theses and diverse fonts tailored to the website's theme and brand positioning. These fonts may include serif, strict sans-serif, bold, standard, vibrant, or restrained options, with a strong preference for readability over decorative appeal. The composition is organized based on a modular grid, where well-placed accents guide the user's attention and direct their gaze in the desired direction. A notable recent trend in this type of compositional graphic solution, as seen on the websites of globally renowned brands, is the integration of video materials that showcase products, demonstrate collections, and fulfill similar purposes.

The design of minimalist e-commerce websites is characterized by presenting essential information on the main pages, with detailed product descriptions and photos available on category and product pages. This approach is meticulously crafted to ensure that users remain focused on the products and the purchase. Web pages are streamlined, avoiding an overload of graphic elements and empowering users to select information that aligns with their interests consciously. In some cases, the main pages of minimalist e-commerce websites feature three sections: a header with a horizontal catalog and a logo, placed in the upper left corner and the middle of the header; a banner

with a large, high-quality photo of one product; and a footer. The individual blocks of such web pages have large areas of free space, which allows for a clear separation of graphics and text. The background of minimalist websites is usually white. The background of the header and footer most often coincides with the background of the web pages. To focus the users' attention on the necessary elements, they are made in contrasting colors, and on the pages of categories, subcategories, and products, various icons and schematic images are primarily used instead of text. Typical for the minimalist type of compositional and graphic design of website pages are font logos, transparent and translucent call-to-action buttons, and the use of black for accents.

An example of modern minimalist design is the pages of the Apple website. A well-thought-out hierarchical structure of the website ensures the uniqueness of the main page, which contains a minimum of information. Separate blocks have large areas of free space, allowing for a precise information distribution. The website has a top horizontal catalog combined with a header. The website's main page has one large image of the main product. Sans-serif fonts are used on the website pages, which support the concept of minimalism due to their severity. The color scheme aligns with the best traditions of minimalism and includes white, gray, and black, which are the primary colors of Apple's website.

The following features are inherent in the card-based type of compositional and graphic solution (Vasilyev, 2024): minimalism, functionality, organization, and simplicity of information (Fig. 3). The card-based type of compositional graphic solution is used in designing user-friendly websites that feature a large volume of content across various product categories. These may include websites in the luxury segment, where the number of cards is limited to two or three large, consolidated categories. For marketplaces and online stores with extensive product categories, cards can occupy the entire content area of the page, as seen on websites like amazon.com, makitra.ua, and others.
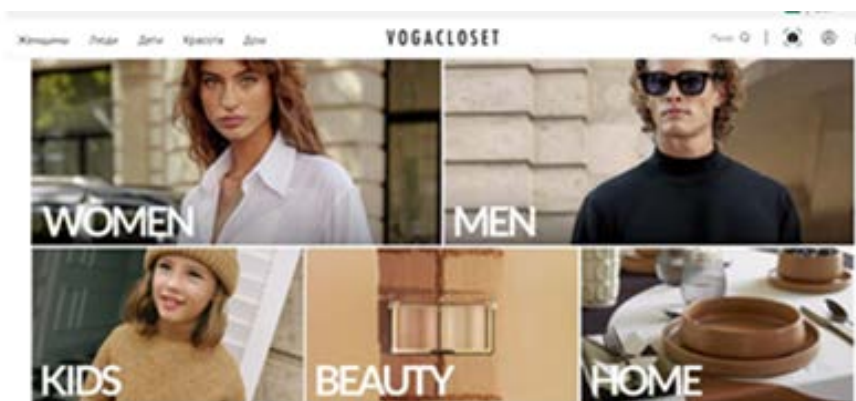

**Fig. 3. The main page of the Vogacloset website, corresponding to the card-based type
of compositional and graphic solution**

The card-based type of compositional and graphic solution for web pages is based on the following principles of building the structure of an e-commerce website: a catalog of goods in the form of cards with images and names of the relevant product categories; a clear and understandable structure of the web page based on the use of a modular grid, simple and understandable content; a large amount of free space and the absence of unnecessary details; various color solutions depending on the product category; sans serif fonts that ensure the readability of the text. The following color schemes are inherent in this type of website design: restrained minimalist color schemes combining pastel shades of colors based on the principle of nuance and bright, contrasting color schemes corresponding to the industry theme. The first type of color scheme is typical for the design of luxury websites, and the second type is used for marketplaces and online stores with a large number of product categories.

The typographic (magazine and newspaper) type of compositional and graphic solution is less common and rarely used for designing the main pages of e-commerce websites. However, it is typically employed for creating informational pages or sections of main pages that provide textual details about products, quality, service features, delivery methods, payment options, and similar content. Pages designed in this style rely on the expressive qualities of fonts as the primary means of conveying their aesthetic appeal. They are characterized by the following: large amounts of textual information; large amounts of textual information combined with images that illustrate the presented text; differently designed blocks of textual information located on the same page; text layout in the full width of the page or in several columns: different color solutions for the main text and headings; different types of fonts and font styles for headings and main text. The magazine and newspaper type of compositional and graphic solution is characterized by using a white background and sans-serif black fonts.

An ecological type of compositional and graphic solution is typical for websites that specialize in selling flowers and plants, food, natural cosmetics, and eco-friendly products (Fig. 4). The page design of such websites has its peculiarities.

a

b

**Fig. 4. Home pages of online shopping websites that correspond to the ecological type
of compositional and graphic solution: a – Hondlaver, b– Ekohata**
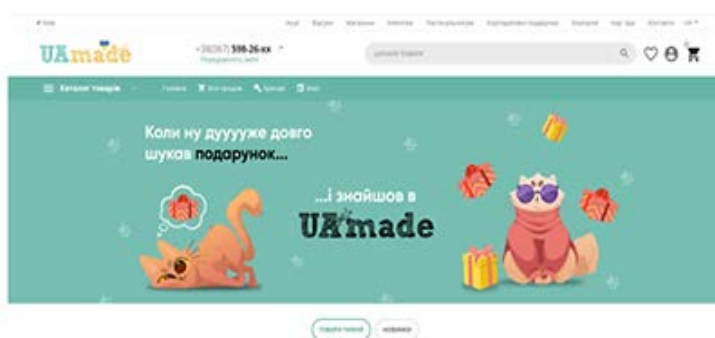
On the main pages of websites that correspond to the ecological type, there are (Vasilyev, 2024) a header with a mixed-type logo in the upper left corner, a left vertical or upper horizontal catalog combined with a header, an additional catalog in the form of cards with images and names of product categories; a banner advertising products according to the theme of the website; rows of cards of products in demand. A distinctive feature of the ecological type of website design is the use of images of natural materials, textures, and decorative elements such as trees, leaves, flowers, floral motifs, etc. The color schemes of this type of website use natural colors and shades, such as green, beige, brown, blue, yellow, and orange. These colors are often muted pastel shades or, on the contrary, bright, juicy combinations of blue, light green, and red, which is especially typical for online flower and plant shops. The ecological type of e-commerce website design is characterized by neat and subtle typography. Typically, these websites employ sans-serif fonts for the main text and headings to ensure optimal readability. Headings, catalogs, and logos on these websites often feature fonts with curls, rounded lines, and decorative elements, contributing to a cohesive visual style. The color schemes of fonts are carefully curated to align with the natural color palette, and dark fonts on light backgrounds are often preferred to enhance readability.

The retro type of compositional and graphic solution is typical for the pages of websites of online stores of antiques, vintage items, online auctions, etc. As a rule, this type of website design emphasizes the history and brand recognition (mollyjogger.com, jpeterman.com) or the relevant topic (antik-shop.com.ua, decovina.com. ua, sorokastore.com). The page structure of retro websites is simple and logically clear. The main pages of such websites have a header with a mixed-type logo in the upper left corner, a left vertical or horizontal catalog, a banner corresponding to the website's theme, rows of product cards with high-quality photos of antiques and their names, and a footer with contact information. The characteristic features of retro websites are illustrations and photographs on the themes of the past, people in clothes and interiors of the past centuries, old technology, etc. The color scheme uses muted pastel colors, worn effects, and old paper and wood textures, including patterns and monograms. Typography on the pages of websites that correspond to the retro type has significant differences. For websites with a retro theme, headlines often feature not only sans-serif fonts but also serif, script, and slab-serif fonts, referencing the era of typewriters.

The drawn type of compositional and graphic solution for e-commerce website pages is characterized by originality and exclusivity, and specially created drawn illustrations are used in its development. This type is typical for e-commerce website pages specializing in selling flowers, children's goods, and decor (Fig. 5).
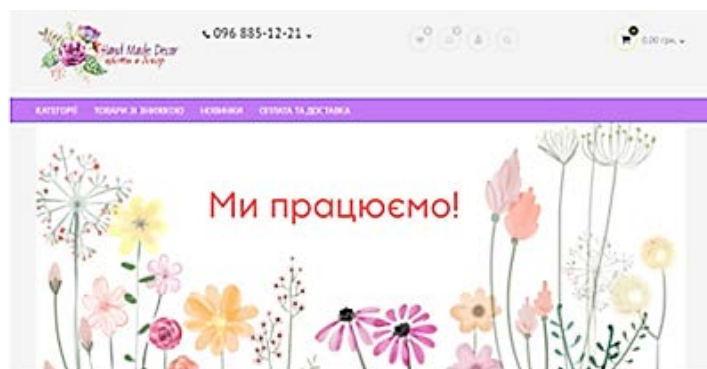
a

b

Fig. 5. Home pages of websites corresponding to the drawn type of compositional and graphic solution:
a – Hm-decor; b – Uamade

The main pages of such websites have the following: a header with a font logo in the upper left corner; a horizontal catalog or a catalog in the form of cards with drawn images of goods; a banner with a drawn image corresponding to the theme of the website; a footer with contact information. The drawn illustrations on websites can be simple, restrained, neat, or bright and intricate, attracting users to examine every detail. The color schemes of web pages, characterized by a drawn type of design, depend on the product category of websites and can be either monochrome or multicolored. Most often, they are bright multicolor illustrations. Such websites use both handwritten and classical fonts. However, sans serif fonts prevail, as they ensure the readability of information. Examples of websites designed in a drawn style are the pages of the websites of the online stores hm-decor.com.ua and uamade.ua (Fig. 5).

Conclusion. The main types of compositional graphic solutions in the aesthetics of e-commerce websites have been identified. It has been found that different types of compositional graphic solutions for website pages are characteristic of various e-commerce businesses and linked to their activity fields. For instance, the business type is typical for the main pages of marketplace and online store websites with a large number of product categories. In contrast, the minimalist type is used for e-commerce websites in the luxury segment. The card-based type is employed by online stores and marketplaces with a wide range of product categories, presenting them graphically in accordance with the contemporary trend of replacing textual information with visual symbols. The ecological type is used for online stores related to eco-business and the sale of plants, while the retro type is applied for websites selling antiques and vintage items. It has been established that the differences in compositional-graphic solutions for e-commerce websites concern the structure, catalog and logo placement features, color schemes, font types, free space, hand-drawn elements, photo and video content, and more. A detailed characterization of the identified types of compositional graphic solutions for e-commerce website pages has been provided.

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