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EXPLORING THE TAXONOMY AND CREATIVE DYNAMICS OF INFOGRAPHICS: A COMPREHENSIVE CLASSIFICATION AND ANALYSIS

Problem. In our time, infographics are used to enhance the effectiveness of visual communication as a design tool for the symbiotic encoding of complex topics with multilayered information for the broad engagement of various recipient groups. Social infographics are an extremely relevant variation of the infographic cluster in the context of global trends in sustainable societal development, which focuses on increasing public awareness of socially significant issues. However, there is currently no consensus within the scientific community regarding the criteria and classification of infographic products based on them. The aim of this research is to identify classification criteria that are designed to facilitate the differentiation or universalization of design solutions in the creation of graphically high-performing infographic projects that, due to their visual communicative properties, will possess sociotransformative potential. Scientific novely. The research establishes that the taxonomy of social infographics encompasses three main genres: journalistic, educational, and scientific, each of which consists of separate subgroups for information presentation. Each of these genres can be presented separately or in a symbiotic combination with others. Journalistic infographics play a key role in visual storytelling, particularly in the media. They can further be classified into commercial and noncommercial subgroups, differing in their primary focus on trade outcomes or the provision of valuable knowledge to the audience. Educational infographics serve to modify behavior, promote personal growth, and enhance the skills necessary for productive functioning in society. Within educational infographics, instructional and procedural-descriptive types are distinguished. Scientific infographics aim to acquire objective knowledge, systematize information, and contribute to the development of an accurate worldview in people, and they are divided into branches of scientific knowledge, among which historical, geographical, and financial-economic infographics are highlighted as those in greatest need of infographic representation. Conclusion. In the design of enhanced infographics, particular attention should be paid to instructional and procedural-descriptive types of infographics, as they are the ones that should encourage recipients to engage in active activities and achieve their goals. In contrast, procedural-descriptive infographics represent processes independently of the observer, providing a general informational overview. Scientific infographics, despite dealing with precise data, should contain content in the form of information encoding through images, as it enhances memorization and prolongs the retention of data in consciousness. Combined infographics offer a unique combination of several genres, avoiding specific categorization due to the complexity of the information offered within its boundaries.

Key words: infographics, classification, infographic categorization, visual communication, social infographics.

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ДОСЛІДЖЕННЯ ТАКСОНОМІЇ ТА КРЕАТИВНОЇ ДИНАМІКИ ІНФОГРАФІКИ: КОМПЛЕКСНА КЛАСИФІКАЦІЯ ТА АНАЛІЗ

Проблема. У наші дні інфографіка застосовується для посилення ефективності впливу візуальних комунікацій у якості дизайнерського інструменту симбіотичного кодування комплексних тем з багаторівневими шарами інформації для широкого охоплення різних груп реципієнтів. Соціальна інфографіка є надзвичайно актуальною варіацією інфографічного кластера у зв'язку з всесвітньо охоплюючими тенденціями стійкого розвитку суспільства, що орієнтується на посилення інформованості населення у сфері соціально значущих проблем. Проте, на даний момент в наукових колах відсутнє суголосне визначення критеріїв і класифікації на їх основі інфографічних продуктів. Мета дослідження полягає у виявленні критеріїв класифікації, що покликані сприяти диференціації або універсалізації дизайнерських рішень у створенні графічно високорезультативних інфографічних проектів, що, завдяки своїм візуально-комунікативним властивостям, будуть володіти соціотрансформативним потенціалом. Наукова новизна. В дослідженні встановлено, що таксономія соціальної інфографіки охоплює три основні жанри: журналістський, навчальний і науковий, кожен з яких складається з окремих підгруп для представлення інформації. Кожний з цих жанрів може бути представлений виокремлено, або у симбіотичному поєднанні з іншими. Журналістська інфографіка відіграє ключову роль у візуальному сторітелінгу, зокрема в ЗМІ. Її можна далі класифікувати на комерційні та некомерційні підгрупи, що відрізняються своєю основною спрямованістю на результати торгівлі або надання цінних знань аудиторії. Навчальна інфографіка служить для коригування поведінки, сприяння особистому зростанню та вдосконалення навичок, необхідних для продуктивного функціонування у суспільстві. В складі навчальної інфографіки виділяють інструкційну та процедурно-описову. Наукова інфографіка має на меті отримання об'єктивних знань, систематизацію інформації та сприяння розвитку точного світогляду в людей і поділяється за галузями наукових знань, серед яких виділено історичні, географічні та фінансово-економічні, як таки, що найбільш потребують інфографічної форми представлення. Висновок. В дизайні інфографіки посиленої уваги потребують інструкційна та процедурно-описова види інфографіки, оскільки саме вони повинні заохочувати реципієнтів до активної діяльності й досягнення поставлених цілей. Натомість, процедурно-описова інфографіка представляє процеси незалежно від спостерігача, пропонуючи загальний інформаційний огляд. Наукова інфографіка, попри оперування точними даними, повинна містити контент образного кодування інформації, оскільки саме він сприяє посиленню запам'ятовування та пролонгованому утриманню даних в свідомості. Комбінована інфографіка пропонує унікальне поєднання кількох жанрів, не піддаючись конкретній категоризації через складність інформації, що пропонується в її межах.

Ключові слова: інфографіка, класифікація, інфографічна категоризація, візуальні комунікації, соціальна інфографіка.

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Introduction. Classification plays a fundamental role in the field of graphic design and visual communication, enriching the creative product with a distinctive character and elegance. It involves skillful categorization of elements based on their characteristics, providing structure, sophistication, and impact to visual compositions. Identifying common attributes and uniting them cohesively enables designers to create a structured foundation that guides the development and arrangement of visual content. Through thoughtful organization and meticulous categorization, designers bring to life complex concepts, trans-

forming them into accessible and comprehensible visual narratives. This outcome allows viewers to easily grasp the intended message, fostering an engaging and impactful communication experience. The allure of classification also lies in its ability to weave motifs of sequence and unity throughout the entire project. Skillful grouping of elements with shared characteristics enables designers to craft a visual language deeply resonant with the essence of the project.

Analysis of recent research and publications. The significant scientific work by Chen et al. (2022) introduced a relevant bottom-up approach to classi-

fying visualization styles in infographics. This typology thoroughly examines the interaction of visual elements and allows for a comprehensive classification based on visual representation. Another alternative approach to classification in graphic design and visual communications focuses on the purpose of the elements themselves. In the modern research by Lankow (2013), three primary purposes of infographics are identified: informing, persuading, and entertaining. This classification serves as a guide in choosing the most suitable type of infographics for specific communication objectives. The study by Purchase et al. (2018) proposed a classification based on structural, functional, and audience characteristics. This insightful framework ensures precise adaptation of infographics to the needs and preferences of the intended recipients. The realm of infographic design encompasses an impressive array of types, each possessing its unique character and purpose. The valuable scientific approach proposed by Afify (2018) distinguishes four prominent types of infographic content: statistical, process-oriented, timeline-based, and storytelling-infused. Employing this classification enables the selection of the most fitting infographic format for any given subject matter. The visual style of infographics also plays a pivotal role in captivating audiences and establishing brand identity. Drawing from Lankow's (2013) insightful research, we can identify four prevailing visual styles: minimalist, illustrative, photographic, and abstract. Aligning the visual style with an organization's branding allows infographics to exude consistency and resonate harmoniously with the target audience. Ultimately, the purpose of infographics cannot be overlooked. As eloquently emphasized by Purchase et al. (2018), infographics can inform, persuade, and entertain. This purpose-driven classification ensures the coherence of infographic design and content to captivate and engage viewers.

The aim of the article. The aim of this article is to thoroughly explore the classification, distinguishing features, and remarkable efficacy of social infographics, with a particular focus on the genres of journalistic, educational, and scientific infographics. Through a meticulous examination of their underlying purposes, visually striking elements, and effective styles of information presentation, this article seeks to provide valuable insights into the impact and future prospects of social infographics. Moreover, it aims to accentuate the diverse array of infographic clusters, showcasing their variety in style, creativity, and strategies employed to address socially significant topics. The article also sheds light on the significance of visually striking elements that skillfully employ a range of symbols, concise yet meaningful textual components, visuals, and imagery, all working together seamlessly to captivate viewers and inspire action. Furthermore, it delves into the distinctions between journalistic, educational and scientific infographics, unraveling the layers of their multifaceted nature, while also uncovering the possibilities presented by combined infographics. By providing a comprehensive understanding of the effectiveness of social infographics, this article endeavors to elevate our comprehension of their role in the realm of visual communication and the dissemination of knowledge.

Presenting main material. Our research presents an important contribution – a novel classification system for infographics, which aims to enhance the field of visual communication. Based on the diverse informational genres they embody, this system offers a fresh perspective and invites further exploration. Through meticulous analysis and extensive exploration, we propose a classification framework that categorizes infographics according to their unique informational genres, potentially developing our understanding and utilization of these visual tools. By introducing this principally new classification scheme, we illuminate the rich tapestry of informational genres within the realm of infographics, enabling a more nuanced comprehension and empowering designers and communicators to craft impactful visual narratives. Our comprehensive classification model provides a foundation for leveraging the diverse genres of information present in infographics, inspiring creative associations and enhancing the effectiveness of visual communication.

The term "Social Infographics" was first introduced to the scientific world by Tetyana Bozhko and Ganna Golubnycha. The scientists formulated the term "Social Infographics" in the following manner: "this is a special type of information graphics, which has an intrinsically informative or informativemotivational component, prompting to action. Its goals are to change the world in a humane direction, with the commitment to achieving positive actualization of the individual as a member society" (Bozhko, Golubnycha, 2021).

The taxonomy of social infographics extends further through their classification based on the genre of information they present. Consequently, distinct categories have been identified, including journalistic, educational, and scientific infographics. The journalistic category can be further divided into commercial and non-commercial subgroups. The educational category serves as a platform for both instructional and subject-specific infographics, such as geographical, historical, statistical, procedural-descriptive,

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or combined infographics. Similarly, the scientific category explores the specifics of particular knowledge domains, encompassing geographical, statistical, historical, procedural-descriptive, financial-economic or combined infographics.

The fundamental disparity between educational and scientific social infographics lies in their underlying purpose. Educational infographics are developed to manage future recipients' behavior, adapt them to evolving sociocultural needs, foster personal growth, and enhance skills necessary for productive functioning in society. In contrast, scientific infographics aim to produce objective knowledge, systematize it, and facilitate the formation of an accurate worldview in individuals.

The impact and effectiveness of social infographics greatly hinge upon the presence of a vibrant and distinct creative factor. Successful social infographics rely on well-balanced and thoroughly tested strategies to visually present various thematic clusters of infographic data. It is noteworthy that each cluster differs stylistically and conceptually, enabling diverse design variations even for socially significant themes.

Illustrative elements are ubiquitous in social infographics, utilizing a wide range of symbols to represent objects, situations, and processes. The textual components of social infographics are concise yet meaningful, providing essential context and information.

Emotionally evocative visual components are often employed in social infographics to augment the impact of the conveyed information. Achieving an affective outcome is facilitated through artistic and imaginative design techniques.

A common feature in social infographics is the utilization of a key visual – an infographic image that either depicts an idealized reality with hyperbolic attractiveness or represents prioritized advantages and benefits. Achieving this requires the collaboration of designers, illustrators, photographers, typesetters, and other specialists who employ artistic and art direction techniques.

Social infographics occasionally portray ideal visions and convey conceptual meanings rather than a depiction of reality. As a result, infographics are crafted to be visually appealing and engaging, employing a diverse range of artistic and visual communication tools to capture and retain viewers' attention and inspire action toward achieving desired objectives.

A distinctive category that warrants separate consideration is journalistic (overview) infographics, which encompass infographics presenting carefully collected and edited information intended for dissemination through mass media channels. When covering social-related topics, journalistic infographics can serve as visual storytelling through the decoding of visual messages into a complete narrative comprising interconnected events. This narrative aspect, in conjunction with plot, characters, and a narrative perspective, distinguishes journalistic infographics as a form of visual storytelling. Visual storytelling in journalistic infographics may incorporate photographs, illustrative elements, and graphics, while interactive and animated infographics can leverage video and artistic animation for added impact.

The visual components of journalistic infographics exhibit a high standard of professionalism, featuring meticulously crafted and high-quality elements, including secondary supporting graphics. This is attributed to the adequate funding typically available for print and online media.

Commercial journalistic infographics aim to stimulate trading outcomes and contribute to the profitability of private clients, while non-commercial journalistic infographics focus on providing viewers with valuable knowledge applicable to everyday life, without seeking commercial success or financial gain.

Another significant category is educational infographics, which visually represent educational data with the goal of acquiring and shaping knowledge, covering both popular and general educational topics. In cases where social-related topics necessitate the development of infographics, incorporating educational properties would be appropriate to enhance their effectiveness.

Educational infographics often feature vibrant and simplified illustrations that augment the information presented within the composition. Typically, they are relatively simple in terms of informational complexity, lacking intricate interactions and correlations between data that can be graphically represented.

Instructional infographics constitute a subset of educational infographics, visualizing detailed instructions for performing specific technical procedures. They provide a step-by-step overview of each key stage of the process. While instructional infographics share some graphic similarities with procedural-descriptive graphics, the main distinction lies in the subject of action. Instructional infographics encourage viewers to actively participate in achieving desired goals through a visually guided step-by-step process, while procedural-descriptive infographics present processes autonomously, independent of the observer.

Instructional infographics can further be classified as graphical instructions and warning infographics (how-to infographics). Instructional infographics are often used as visual supplements for engineering

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products in their unassembled form and can partially complement medical instructions, including the use of industrial solutions.

Stylistically, graphical instructions are closely aligned with the artistic execution of engineering graphics, prioritizing the realistic representation of form over other graphic aspects. In rare cases, instructional infographics may exclusively rely on illustrative components without the inclusion of textual elements. This approach eliminates the need for extensive linguistic translations in the form of textual labels, as the illustrative components effectively convey the intended meaning through graphical decoding possibilities.

Warning infographics follow a specific algorithm in their development. This algorithm entails initiating the stages of the process graphically, assigning each stage a number and a name that includes a call to action, and incorporating an individual symbol that visually complements the textual semantic load and description of the process.

Among the diverse range of educational infographics, geographic infographics stand out as a distinct category. These infographics visually unveil the informational content pertaining to territorial, spatial, and geographic characteristics in descriptive, distributive, and interactive forms. They provide an overview of various physical, cultural, and biological data related to the Earth's surface.

Statistical infographics, on the other hand, serve the purpose of visualizing statistical data encompassing analytical, summary, interpretive, and presentational arrays of numerical information concerning specific objects or events. These infographics actively employ various types of diagrams, such as charts, histograms, pie and radial charts, area charts, and their derivatives, to accentuate the interactive properties of the data. The combination of different types of diagrams in a single statistical infographic allows for the maximum level of informational content.

Additionally, column charts can assume diverse artistic forms that visually correspond to the object, while maintaining accentuated differences in visual proportions based on predefined indicator levels, thereby creating a hybrid diagram that combines a symbol and a chart (Golubnycha, 2021: 78–84).

Procedural-descriptive infographics serve the purpose of demonstrating the step-by-step progression of any process that occurs naturally or involves the participation of other subjects. These infographics predominantly serve a general informational purpose and fall within the category of educational and scientific infographics. The transition from the initial point to the final point in procedural-descriptive infographics is achieved either through a logical linear progression from left to right or by employing vector pointers to guide the viewer's perspective. Each phase of the procedural-descriptive informational graphics is characterized by unique visual and illustrative features that differentiate the stages and simplify the associative process. The perceptual sequencing of information blocks in procedural-descriptive infographics is further facilitated by implementing an explicit, intuitively understandable, and clearly delineated modular grid within the infographic composition. Differentiation techniques such as contouring, color zoning, or variations in the area of the counterform that separates the informational blocks contribute to the overall effectiveness of these infographics.

Historical infographics, as the name suggests, visualize the meaningful dynamics of significant historical events or phenomena over a specific period of time. An essential characteristic of historical informational graphics is the incorporation of timeline blocks within the infographic composition. The complexity of visually representing timeline data depends on the artistic expressiveness skills and multidimensionality of the content. Integration of illustrations is a common feature in historical infographics, where their significant size dominates the overall composition. These illustrations typically depict the atmosphere and moods of a particular historical era, represent iconic landmarks, or illustrate key historical events. The color palette employed in historical infographics predominantly consists of calm, pastel, and muted colors. This deliberate approach aims to create an atmosphere of the past for the viewer, accentuating the psychological retrospection associated with the infographic data.

Scientific infographics play a vital role in visualizing scientifically accurate information derived from practical research or the use of precise and systematic methods. These infographics employ graphic design tools to accurately detail and realistically resemble the physical objects being represented. Meticulously crafted illustrations, graphic models including three-dimensional representations, and photographs are utilized to enhance accessibility and facilitate the correct decoding of scientific information without unnecessary decorative additions. Text captions, serving as sources of scientific information, are an integral element of scientific infographics. Positioned at the bottom of the infographic composition, to the right or left, they are presented in a reduced font size relative to the base font, following the principles of information hierarchy. Annotation text accompanying the visualization is commonly found in scientific infographics and is typically read after the infographic headline. Scientific infographics often incorporate a significant amount of

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conventional classical text that complements and explains the informational nuances of the visual components. The color palette employed in scientific infographics is restrained, calm, and often pale and minimalist. This intentional choice aims to facilitate the assimilation of content, as scientific infographics do not rely on emotionally compelling factors.

Financial-economic infographics focus on representing financial information related to monetary circulation, credit grants, investment, bank service commissions, as well as economic information pertaining to the production, distribution, and consumption of goods and services. These infographics typically employ diagrams to demonstrate the positions and properties of individual components within the larger economic context. Indicators in financial-economic infographics are often presented in monetary equivalents, percentage ratios, and occasionally proportions. Comparative data, describing material equivalents of investments of the same monetary value, are commonly depicted either graphically or verbally in financial-economic infographics. While these infographics may occasionally feature bright and saturated colors, the figurative elements of the visual representation remain reserved in terms of form and outlines, conveying a serious attitude towards the presented financial information. Symbolic elements in financial-economic infographics often take the form of line art or line drawings, utilizing straight or curved lines without shading or color gradations to represent flat objects. Volumetric object symbols are rarely encountered in financial-economic infographics. Additionally, a certain level of hierarchy can be observed in the visual information of financial-economic infographics. Bold typography is often utilized to emphasize monetary and percentage indicators when multiple indicators describe a single information block.

In the realm of informational graphics, examples of combined infographics can be found. These infographics do not fit into a specific subcategory due to the complexity of the information being conveyed. They may include the combination of commercial journalistic infographics with process-oriented or statistical infographics, resulting in a unique amalgamation of visual elements and content.

The multidimensionality and diversity of informational graphics are readily apparent, as the artistic direction, style, and content of the infographic product may vary depending on the intended purpose, the presented topic, and the target audience. Furthermore, it is important to note that the future may witness the emergence of fundamentally new categories of informational graphics. Interactive informational

graphics, in particular, hold high innovative potential. The principle of interactive graphics involves user interaction with the infographic interface, leading to an individually tailored visual output.

Conclusions. The taxonomy of social infographics encompasses three main genres: journalistic, educational, and scientific, each consisting of distinct subgroups for information presentation. Journalistic infographics play a pivotal role in visual storytelling, particularly in mass media. They can be further classified into commercial and non-commercial subgroups, differing in their primary focus on trading outcomes or providing valuable knowledge to the audience. Educational infographics serve the purpose of correcting behaviors, fostering personal growth, and enhancing skills necessary for productive societal functioning. On the other hand, scientific infographics aim to produce objective knowledge, systematize information, and facilitate the development of an accurate worldview in individuals. Instructional infographics provide detailed step-by-step instructions for performing specific technical procedures, encouraging active participation in achieving desired goals. In contrast, procedural-descriptive infographics present processes independently of the observer, offering a general informational overview. Historical infographics visually depict significant historical events or phenomena over a specific period of time. They often incorporate timeline blocks within the composition and utilize illustrations to capture the atmosphere and essence of a particular historical era. Scientific infographics play a crucial role in presenting scientifically accurate information derived from practical research or systematic methods. These infographics utilize meticulously crafted illustrations, graphic models, and photographs to ensure accurate representation. They also incorporate text captions as sources of scientific information and employ a restrained and minimalist color palette. Financial-economic infographics focus on representing financial and economic information, including monetary circulation, credit grants, investment, and the production, distribution, and consumption of goods and services. These infographics commonly employ diagrams to illustrate the positions and properties of various economic components, often presented in monetary equivalents, percentage ratios, or proportions. Combined infographics offer a unique amalgamation of multiple genres and visual elements, defying specific categorization due to the complexity of the information they convey.

The effectiveness and impact of social infographics rely on the presence of a vibrant and distinct creative factor. Successful social infographics employ well-balanced strategies and visually appealing designs to effectively present thematic clusters of information. Social infographics employ a combination of illustrative elements, concise yet meaningful text, emotionally evocative visuals, and key visuals to capture viewers' attention and inspire action towards achieving desired objectives. The multidimensionality and diversity of informational graphics become apparent through variations in artistic direction, style, and content. Furthermore, the emergence of new categories, such as interactive informational graphics, holds innovative potential within the realm of infographics.

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