The study analyzes the effectiveness of data storytelling for the comprehensibility of economic publications. It considers it as a method of presenting information that facilitates better perception and understanding of economic processes. Data storytelling has proven to be one of the key methods in presenting economic data, transforming complex numerical sets into meaningful narratives. The application of this method allows readers to more easily assimilate information more efficiently, enhancing financial literacy.

**Keywords:** media, data storytelling, narratives, economic journalism, infographics.

**Problem statement.** In all times of human production, publications on economic topics are relevant because the economy is one of the final branches of the life of people and society as a whole. Information about financial processes and trends can help people understand how the economy works, how it affects people’s lives, and what opportunities and challenges they face. The comprehensibility of materials that address economic issues must be high because economics is a complex technical subject that can be difficult for people to understand. Suppose publications on a financial topic are complicated and unclear. In that case, they may not only fail to engage the audience. Still, they may also cause them to turn away from the issue altogether, resulting in a loss of audience or misrepresenting economic credibility. In addition, the accessible publication of such publications is a place to help people understand how the economy affects their daily lives and how economic processes affect their income and expenses.

One of the methods that can help us understand economic topics is data storytelling. By definition, storytelling is an effective method of conveying information to the audience, motivating a person to act, achieving the highest results of activity – all thanks to the narration of a story\(^1\). Thus, data storytelling is a narrative based on data. In times of war,
this is a very good method of presenting information, as data is something concrete, and a story involves experiences and emotions.

The use of data storytelling in such types of publications is justified and appropriate – it is the process of using data to tell an interesting and understandable story about economic phenomena and processes. It can be used for creating articles, video reports, infographics, dashboards, and other formats.

In the modern information era, where long blocks of text often deter readers, effective data visualization becomes the key to attracting and retaining audience attention. Tables, diagrams, infographics – all these tools can be used to present extensive data in an intuitively understandable form.

**Analysis of recent research and publications.** Storytelling gained popularity in the 1990s in America, becoming a significant communication technique through David Armstrong’s work «Managing by Storying Around: A New Method of Leadership». Today, this method, from education to business, is actively used worldwide, demonstrating its versatility and effectiveness. The works: «Making Numbers Count The Art and Science of Communicating Numbers» Chip Heath and Karla Starr, which analyzes the meaning and use of numbers to create date narratives. In the work «Storytelling with Data: A Data Visualization Guide for Business Professionals» by Cole Nussbaumer Knaflic, the author showed the importance of data for communication and how to visualize it effectively. The book by the English scientist Will Storr «The Science of Storytelling by Will Storr» translated into Ukrainian, is about creating exciting narratives not to lose the audience’s attention. Such scientists as Ljubov Vasylyk, Nadiya Tyhonyk, Iryna Pobidash and others significantly contributed to storytelling research.

**Methodological Basis of the Research.** The study applies quantitative and qualitative methods to analyze how data is transformed into understandable stories. The expertise focuses on how journalists use statistical data to create coherent and convincing narratives that resonate with the audience. Using content analysis, one can determine how often and in what context elements of data storytelling are used, what types of data are most often used and how they are presented. Since data storytelling often includes data visualization, it is important to analyze graphs, diagrams and other visual elements. This was done using the method of Analysis of Visual Elements. Quantitative data analysis was used to assess the effectiveness of different types of storytelling depending on audience reaction. For example, analyzing audience engagement metrics such as views, time spent on page, comments can give an idea of the impact of certain approaches to data use. These research methods have allowed a deeper understanding of how data storytelling affects the perception of information by the audience and how it can be optimized for better engagement and informing readers.

**Presentation of the Main Material of the Research.** The concept of information transmission always requires finding a balance between conciseness and detail. In situations where it is necessary to describe an event with limited data, short sentences that include one or two numbers can be most effective. This approach allows you to highlight the main points, focusing the reader’s attention on key facts and avoiding information overload. For example, instead of disseminating detailed statistical data, the author can simply state that
«the IMF improved its forecasts for the growth of Ukraine’s real GDP for 2023 to 45%»2. The use of one specific number 45% allows the reader to quickly grasp the main idea of the economic growth forecast. Such an approach, avoiding detailed analysis of specific sectors of the economy or sources of GDP growth, facilitates ease of perception and effectiveness of information transmission.

However, when it comes to more complex analyses or when a deeper comparison is needed, tables become indispensable. They allow structuring and presenting a large amount of information in an organized, easily perceivable format. Tables facilitate visual perception and help readers identify trends, compare indicators, and draw conclusions without the need to study cumbersome text. For example, the Ministry of Finance uses tables to visually present monthly changes in consumer prices across various categories in 2023, providing convenience in analyzing inflation3. Tables allow for a deeper dive into detailed data. Tables allow you to dive deeper into detailed data, compare indicators in different sectors, and determine which categories of goods or services are most affected by price changes. Using a tabular method in reporting promotes the transparency of economic information and enables government agencies, researchers, and the public to use data effectively.

In the modern information era, where long blocks of text often deter readers, effective data visualization becomes critical to attracting and retaining audience attention. Tables, diagrams, infographics – all these tools can present extensive data in an intuitively understandable form.

When describing an event with few data points, it can be done with short sentences using no more than three numbers4. For example, a single tariff will be 264 UAH per kilowatt-hour instead of 144 UAH and 168 UAH5. If more data is needed, tables can be used. They directly affect the verbal system of the consumer and are therefore easily perceived. Tables are a good method to tell a story that contains data requiring rows and columns, such as a monthly inflation index.

Ultimately, the choice between short sentences and tables should be based on the communication goal, the nature of the data, and the intended audience. Short sentences are ideal for concise descriptions of events involving a small amount of data. However, tables and other visual tools become indispensable when more information needs to be conveyed and deeper analysis provided.

The main goal of data storytelling in economic journalism is to use data to reveal complex financial issues and processes to help readers better understand how the economy works, its trends, and the decisions that can be made.

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4 Knaflic, C. (2021), Storytelling with Data: A Data Visualization Guide for Business Professionals, translated from english Krzysztof Krzyżanowski, Onepress, Gliwice, p. 52

5 Bredikhina, H. (2023), «From June 1, we will pay almost twice as much for electricity: the Cabinet of Ministers has increased the tariff for the population», UNIAN, May. 30. URL: https://www.unian.ua/economics/energetics/v-ukrajini-pidvishchiili-tarif-na-elektriku-dlya-naselennya-12275715.html (accessed 5 July 2023).
The comprehensibility of publications on economic topics is one of the critical factors in attracting and retaining the audience. If magazines are written in simple language using simple and accessible examples, they can attract a wider audience. This can help increase interest in the topic and open doors for further research. Economic issues are critical but complex, so many people may feel uncomfortable not understanding complicated terms and concepts. Data storytelling is used to solve this problem in creating publications on economic topics. This helps make this science accessible to a broad audience and has several significant advantages: Helps understand complex concepts: Economic concepts can be very complex and technical, and if they are not explained clearly, people can feel confused and not understand what is happening. Comprehensibility of publications helps understand complex concepts and show how they affect the economy and people's lives.

Helps attract a larger audience: If publications on economic topics are written clearly, they can attract a larger audience. People who previously were not interested in economics may start to consider this topic with more interest if they understand what is happening.

Helps make decisions more justified: When people understand economic processes, they can make more justified decisions. This can apply to both personal decisions and decisions related to business, politics, and other areas of life.

Helps reduce local conflicts: Economic problems can lead to local conflicts. If people understand what is happening in the economy and what decisions can be made, they can reduce the level of conflicts and contribute to the development of local economies.

Therefore, the comprehensibility of publications on economic topics is very important because it helps make the economy accessible to a wide audience, understand complex concepts, attract a larger audience, and reduce local conflicts.

It is worth noting that the following properties characterize text written in the format of data storytelling for online platforms:

Hypertextuality. This allows for creating non-linear narratives in which the reader can choose which elements and in what order to view. Hypertextuality is the ability to move from one document to another using hyperlinks. Hypertext (in literary studies) is the organization of textual material in such a way that it turns into a system of text units presented not in a linear sequence but as a multitude of links and transitions. By following them, new linear texts can be formed, and the material can be read in any sequence.

Interactivity. Allows for creating stories and adding buttons through which the text seems to «come to life», but it is important to remember that good aesthetic design stands behind the information.

Modularity. Data storytelling can have a modular format, i.e., broken down into separate modules or blocks that can be viewed, edited, and used separately from each other.

Let’s consider a few examples of data storytelling in economic journalism:

«Macroeconomic Consequences of the COVID-19 Pandemic on the Global Economy»: this is an example of an economically-oriented material that reveals the impact of the pandemic on the economy. The article used various infographics, such as a bar chart

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to visually explain the pandemic’s impact on unemployment levels, making it clear without the need for additional text explanation.

The publication «How the Country’s Budget Changed Over Five Years and How Much is Now Allocated to Defense»⁸ starts with a headline lead and then immediately includes two large visualizations. This structure (incorporation of large visualizations into the publication) is a useful and effective way to help readers understand the full content of the text. Large images can visualize complex concepts and ideas that might be difficult to grasp through text alone. Moreover, large visualizations can make the text more attractive to readers and increase the publication’s interactivity. However, it’s important to remember that they must be well-selected and related to the text to avoid overburdening the perception and making the publication too overloaded. Large graphic arrays should also be of high quality and professional so as not to undermine the effort put into writing the text.

Figures are one of economic journalism’s most effective ways of presenting information. They serve as a data element and a necessary tool for understanding and interpreting financial trends and policies. They make it possible to assess economic activity’s efficiency, reveal market dynamics, and identify socio-economic challenges.

The importance of numbers in economic journalism lies in their ability to bring concreteness to narratives that can often seem abstract. When journalists use numbers to illustrate topics, they transform intangible concepts such as GDP, inflation, or unemployment into understandable indicators that can be compared and analyzed. This allows the audience to appreciate better and understand economic conditions and their impact on everyday life.

Correct selection and interpretation of numbers are essential. For example, GDP growth figures may indicate general economic prosperity, but additional figures, such as income distribution, are needed to get a complete picture of socio-economic equity. Journalists must skillfully choose the numbers that best fit the article’s topic and highlight the main points while considering context and potential bias.

The responsibility for accuracy and objectivity in the presentation of figures rests on the shoulders of journalists. Improper use of data can mislead readers and lead to incorrect conclusions. Therefore, economic journalists must be trained in statistical tools and deeply understand economic theory. Effective use of numbers in financial journalism increases the quality of journalistic material and contributes to increasing economic awareness and education in society. This opens the way to a more informed civil dialogue and a better understanding of economic policies and their impact on everyone’s life.

We can also say that numbers in data storytelling on economic topics play the role of language, ensuring the narrative’s accuracy and persuasiveness. Using numbers allows a data storyteller to transform abstract data sets into understandable, memorable, and compelling stories. However, the key is that the numbers are presented in a way that enhances the narrative rather than overwhelmed by it.

To begin with, choosing the correct numbers is critical. Each number should have a purpose and serve a specific purpose in the story. This can be a growth indicator, a statistic highlighting a problem, or comparative data that stands out between scenarios or contrasting periods. Choosing numbers that reinforce the narrative is essential, not ones

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that add noise. «Data is not valuable; the main thing is to filter and analyze it properly. Quick and superficial work with the data is the reason for false results, unreliability of information»⁹.

After choosing the appropriate numbers, it is essential to present them in an understandable format. This can be through data visualization, such as graphs and charts, or through interactive elements that allow the reader to interact with the data. Visual representation helps the audience to understand better and remember information.

Contextualizing the numbers is also crucial. Numbers only take on meaning when they are put into context. The storyteller should explain why these numbers are significant and how they affect the bigger picture. Without context, numbers can seem random or out of place.

The last factor is the story. The numbers should serve the story, not the other way around. A data storyteller should use numbers to reinforce his story but not let them dominate or distract from the bottom line. Figures should help conclude, not replace independent reasoning.

When numbers are used wisely and with an understanding of their strengths and limitations in the context of data storytelling, they can significantly enhance the persuasiveness and effectiveness of the narrative.

Economic storytelling through data is the art of turning dry numbers and statistics into a cognitive story accessible to everyone. The importance of such a narrative lies in its ability to inform, educate, and influence public opinion and policy decisions, so accessibility and comprehensibility of information are essential.

Each figure in the economic story should become a word in the plot that unfolds before the listener. It’s like putting a complex idea into simple terms without losing its essence. Economic data can be abstract, but when woven into a narrative, it comes to life and becomes comprehensible. For example, the enormous national debt can be presented as an unsustainable amount and a series of choices and decisions that impact every citizen.

It is also advisable to use whole numbers instead of decimal fractions in materials intended for a general audience, as this can significantly increase communication effectiveness. Real numbers are more intuitive and straightforward, making the information accessible to grasp and absorb. They provide simplicity and clarity, which are crucial in the limited attention span of the modern information consumer¹⁰.

Whole numbers eliminate the need to delve into the details and complexities associated with decimal fractions, allowing the audience to more quickly appreciate the magnitude and scale of an event or phenomenon. For example, when talking about economic growth, the information that Ukraine’s GDP grew by 9% in September 2023 is easier to understand¹¹.

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instead, GDP grew by 9.1% in September\textsuperscript{12}. Integers are also less vulnerable to extreme precision that may be irrelevant to the general understanding of the situation.

In a visible presentation of data, these numbers offer a clean design and clarity, which is a special place in the created infographic and chart. The absence of extra tens ensures aesthetic simplicity, which makes the materials more attractive and convenient for interpretation.

However, you should know that sometimes decimal numbers are not enough to convey important nuances and precision. In such situations, it is essential to balance the need for accuracy with comprehensibility. However, opting for integers is often the most efficient when the leading service is comprehensive communication.

The conclusion is that in materials that aim to reach a mass audience, the use of whole numbers contributes to better accessibility and assimilation of information. It simplifies understanding and increases memorability and effectiveness of communication of economic, scientific, and educational concepts.

Effective use of visualizations such as graphs, tables, and infographics can transform complex economic concepts into intuitive images. A well-designed chart can tell you about changing labor history or the cyclical nature of the economy faster than a series of better articles.

For the economic narrative through data to be understandable, the author should avoid jargon and complex terms, replacing them with simple explanations. Not only is this information available to a broad audience, but it also helps build trust between economic experts and the public. The numbers must be embedded in a story that resonates with the universal human experience. If we are talking about inflation, then showing it through the increase in the price of bread or milk will make this concept much closer and more understandable.

Ultimately, the economic narrative through these data should strive to convey information and create a dialogue between experts and society, stimulating informed economic perception and active participation in it. It successfully plays a crucial role in democracy, giving citizens the knowledge they need to make informed choices and participate in economic decisions.

Numbers can influence us, creating emotional effects that can be compared to the experience of watching an exciting movie or climbing a mountain. At first glance, numbers may seem purely objective and neutral, but they can touch our inner experiences, provoke reflection, or even weak, deep emotional reactions.

When we hear about the millions of people suffering from hunger or the staggering numbers of climate change, it can illuminate a sense of anxiety or spur us to action. These numbers paint a picture in our minds that can be as emotionally intense as a scene from a movie or a panoramic view from a mountain peak. They evoke responses in our imagination, make the heart beat faster, prompt reflection, or even change our worldview. Using numbers, we can draw out different emotions in the audience\textsuperscript{13}.


Just as a cinematic masterpiece can evoke a wide range of emotions – from joy to sadness, from delight to terror – numbers can play a similar role. The scale of the economic crisis, shown through a graph of job losses, can evoke a sense of urgency and solidarity. The report of a record increase in the number of people who have overcome poverty can inspire and instill pride in human achievement.

Numbers can also create a sense of personal involvement. Reading about vaccination success statistics or the reduction in crime in our city can bring a sense of security and peace. It’s like the feeling of reaching the top after a long climb up a mountain, where we feel part of something bigger.

In conclusion, numbers have the power to inform and affect our emotions, just like other forms of art. They evoke responses in our inner world, prompt thought and action, and sometimes even catalyze societal change. The ability to tell a story with numbers is an art that can strengthen or change our beliefs, just like a powerful film or an unforgettable adventure.

The results and prospects of further research are discussed. The prospects of researching materials written with the help of data storytelling are multifaceted and promise a significant impact on journalism, education, and analytics: improving the quality of journalism (with the development of data collection and analysis technologies, journalists can create more in-depth and reasoned materials. Data storytelling allows presenting complex materials, topics in an accessible form, contributing to better audience engagement and increasing the level of public awareness), development of analytical skills (analysis of materials written using data storytelling can contribute to developing critical thinking skills, especially in students and young researchers. It also paves the way for more deep understanding of how data can be used to tell a story and shape public opinion), innovation in how data is presented (as technology constantly evolves, there is great potential for innovation in how data is visualized and presented. This can include interactive visualization, the use of augmented reality and other advanced techniques) and improving public education (research results can be used to develop educational programs and courses that teach people to understand and interpret data, increasing the population’s general financial and economic literacy).

Conclusion. Data storytelling in economic journalism is a powerful tool to explain complex financial concepts and trends by turning data and statistics into understandable and engaging narratives. This helps not only to understand economic mechanisms better but also allows readers to understand current trends and assess the possibilities of the consequences of economic decisions.

The study of materials created using data storytelling opens the way for new approaches in journalism, where the importance of accurate and attractive presentation of information is critical. These are professional standards and ensure more effective communication with the audience.

In addition, this method changes the crucial role in forming public opinion and ensures a more informed and active civil society. Visualization of data within the storytelling framework provides a better understanding of economic processes and facilitates deeper analysis and discussion of financial issues.

Thus, data storytelling opens new opportunities for journalists, analysts, and educators, allowing them to use data not only to inform but also to inspire and influence public beliefs and behavior, thereby making a significant contribution to the development of the information society.
REFERENCES


СИСТОМ ЛІТЕРАТУРИ

ВІД ДАНИХ ДО НАРАТИВІВ: МИСТЕЦТВО СТОРИТЕЛІНГУ В ЕКОНОМІЧНІЙ ЖУРНАЛІСТИЦІ

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У статті проаналізовано використання data storytelling в економічній журналістиці, а також розкрито, як цей метод перетворює складні числові дані на зрозумілі наративи, забезпечуючи краще розуміння економічних процесів і тенденцій. Важливість цифр в економічній журналістиці підкреслено через їхню здатність конкретизувати абстрактні концепції, як-от ВВП, інфляція, безробіття та інші, роблячи їх зрозумілими для широкої аудиторії. Наголошено на відповідальності журналістів за точність та об’єктивність подання цифр, важливоності правильного вибору та їх інтерпретації, а також потребі у збалансованій точності з доступністю інформації. Вивчено перспективи використання data storytelling у журналістиці, освіті та аналітиці, включно з покращенням якості журналістики, розвитком аналітичних здібностей, інноваціями у візуалізації даних та поліпшенням освіти.

Основна мета дослідження полягає у визначенні способів, якими data storytelling може покращити розуміння складних економічних концепцій серед широкої аудиторії. У статті використано аналітичний підхід з акцентом на візуалізації, гіпертекстуальності, інтерактивності та модульності в рамках data storytelling. Проаналізовано вплив цифр на емоційне сприйняття інформації та їх роль у формуванні громадської думки. У статті висвітлено різні формати подання даних у журналістиці, включаючи візуалізацію, структурування інформації та адаптацію до потреб аудиторії. Особливу увагу приділено впливу візуалізації та вибору числових даних на зрозумілість і доступність матеріалів. Якщо розглядати data storytelling як інструмент для збільшення доступності та зрозумілості економічних матеріалів, то його можна вважати одним із найкращих способів. Встановлено, що ефективне використання цифр і візуалізації може покращити якість економічної журналістики, зробити її більш привабливою для аудиторії та сприяти розвитку обізнаного громадянського суспільства.

Ключові слова: медіа, data сторітелінг, наративи, економічна журналістика, інфографіка.