



Analysis Of Infographics Usage In Leading Indian Newspapers

Ranjit Singh Chopra^{1*}, Ashutosh Mishra², Gitanjali Kalia³, Ripudaman Singh⁴

¹* ^{2, 3, 4}Chitkara School of Mass Communication, Chitkara University, Punjab, India
Email: - Ashutosh.mishra@chitkara.edu.in², Gitanjali.kalia@chitkara.edu.in³,
Ripudaman.singh@chitkara.edu.in⁴

***Corresponding Author:** - Ranjit Singh Chopra

*Chitkara School of Mass Communication, Chitkara University, Punjab, India,
Email ranjitsingh.chopra@chitkara.edu.in

<p>CC License CC-BY-NC-SA 4.0</p>	<p style="text-align: center;">Abstract</p> <p>Infographics or the visual representation of data is a method to explain the written content in fast and effective way. It is more enriched means of communication. The newspapers in India use infographics to effectively deliver information along with providing design aesthetics to its readers. Use of infographics in Indian newspapers is increasing but nothing can be said assuredly without a scientific study. This study aims to scrutinize the usage pattern of infographics in leading Indian newspapers. For this study six leading newspapers according to Indian readership survey 2019 Quarter 4 have been selected. Three Hindi and English newspapers each have been selected and their usage of infographics has been analyzed. Results of this study points to usage of simple text-based infographics on the front page of most newspapers. When we compare English newspapers with Hindi newspapers on usage of infographics English newspapers take the lead. Hindi newspapers are slowly adapting to the demands of the present age media designs.</p> <p>Keywords: - Infographics, Visual Data, Newspaper, Statistics, Maps, Charts</p>
--	---

INTRODUCTION:

Infographics are visual representations of information or data. It is used to tell stories, communicate ideas and explore concerns through a variety of images. Info graphics are often used in mainstream media to generate interest or improve the reader's understanding of a particular topic or issue. In the 1980s, infographics were employed to aid in reporting. Newspapers, periodicals, newsletters, and reports. (Waralak V. Siricharoen, 2013). These images convey complex information efficiently and effectively. Readers frequently become attracted to a particular news site through visualization (Smit, de Haan, & Buijs, 2014). The bulk of news organizations work with competent designers who choose the visualizations positioning, visual elements, size, and tone. Their understanding of what "works best" in terms of how readers of news use and value the graphic representation mostly guides this.

Cognitive processes are enhanced by info graphics, providing in-depth knowledge of the subject matter. In the digital age due to changes in lifestyles, speeding up and simplification of data and information processing is required. Users scan your content for headlines and images that grab their attention. It takes less time to

decide if it's worth reading more. Consideration should be given to data visualization for numerous reasons. It not only has the potential to be breathtakingly attractive and attention-grabbing but it also takes use of a significant cognitive advantage. The processing of visual information accounts for more than half of what the human brain can do. The highest-bandwidth path to the mind is used when presenting an information visual to a user. Well-designed data visualization may get right to the point in a complex story while leaving readers with a quick and lasting impression. Visualizations are regarded of as attention-getters since visuals can influence news readers' interest and news choice (Bucher & Schumacher, 2006; Holsanova, Holmberg & Holmqvist, 2008). Users are thought to be encouraged to read news articles and subsequently process information when graphics are included.

Several goals are served by graphics, including displaying data, preventing distortion, presenting a high number of statistics in a condensed area, bringing a vast data set together, and encouraging readers to consider the contents. Visuals must be more than just decorative. It should describe or explain a particular phenomenon. A significant portion of a graphic's print should show data-information, with the ink changing in tandem with the data. Best possible graphics are essential for making quantitative or information-related arguments, and are frequently the most effective way to explain, investigate, and condense a collection of numbers.

Despite the appearance that Info-graphics have only recently become popular due to the internet. The truth is that throughout history, we have shared information and told tales through icons, graphics, and photographs. Info graphics are often used to show the weather in newspapers, but they are also used for site plans, maps, and graphs of statistical data for notable events. The increasing use of maps, charts, and other visual aids in the 21st century continues to influence the way stories are presented and told. Info-graphics can be found in numerous digital publishing channels alongside traditional media such as newspapers and magazines, and more and more public and private sector organizations are producing info-graphics as part of their publishing strategy. Newspapers and internet news media have both seen an extraordinary increase in visualizations. (Behkit, 2009; Weber and Rall, 2012; Smit, de Haan, & Buijs, 2014). The extreme transformation of journalism in the digital era has created new forms of visual storytelling custom-made to the needs of digitally smart news readers (Weber & Rall, 2012; Franklin, 2014).

Gruszynski, A., Damasceno, P., Sanseverino, G. G., & Bandeira, A. D. R. (2016) have concluded that there is slow integration of design into print journalism as well as the professional abilities required for multiplatform publication and modern journalistic convergence. This research examines journalistic design for print newspapers that have transitioned to multiplatform versions. It begins by highlighting the historical occurrences that have influenced news reporting and journalistic endeavors. The paper then examines how design made the transition from workshops to newsrooms, where it eventually found a home and was included into graphic displays and editing procedures as a part of journalistic discourse. The article continues by pointing out aspects of digital technology that have been incorporated into newspaper design, which undermines the principles that guided the experts' efforts. In order to identify and analyze the professional abilities required to provide newspaper content its material form in a convergence scenario, this study relied on bibliographical and documental research.

According to Schoenbach, K. (2004) Newspapers have two options, like all media that are threatened by more effective forms of communication: they either copy their successful rivals, like television or magazines, or they make every effort to set themselves apart by highlighting their "unique selling proposition."

The findings of Schoenbach, K., & Lauf, E. (2002) attempt to provide some insight into how the declining trend in newspaper reading in the US and Germany could be reversed, or at least slowed down. Local daily newspapers in Germany and the US are contrasted in an exploratory secondary analysis. By utilizing secondary analysis data from Germany and the US, the researcher was able to examine the effects of five key principles related to newspaper content and presentation on the growth of circulation as an indicator of success. The internal organization of articles, increased visualization, and improved information retrievability are characteristic of US improvements. At least not on their front pages, German newspapers do not always provide more localized information than American ones. With so many items on the front page, they appear to be a little more varied. In the US, in the late 1980s and early 1990s, circulation increased as a result of expenditures made in information display. However, in Germany, the content had a little greater significance.

Survey by Beam, R. A. (1998) reveals that while top editors often report greater engagement with departments outside the newsroom, such as the advertising department, conventional journalistic ideals are still valued at market-oriented publications. Market-oriented journalism raises the possibility that newspapers may print more of what critic's view as frivolous material and less of what they view as public-affairs content, which is a potential problem.

Three studies on the usage of infographics were published by Utt and Pasternack. According to their 1989 study, the majority of periodicals changed their layouts to include more color and graphics. Over half of daily newspapers published three to six infographics a day, many of which were colored.

For this study, Utt, S. H., & Pasternack, S. (2003) looked at newspaper design, both the print front page and the internet version. The second goal is to investigate editors' perspectives on look and how significant they believe design is to newspaper readers. It is said that a modular framework is used by practically all daily. In 46.9 percent of the publications, photographs and other visuals dictate the front page's appearance, whereas news dominates 46.2 percent of the time. Within the previous five years, over half of the publications have undergone redesigns. The majority of editors expressed satisfaction with their newspaper's attention to the front-page design quality and with the front page's real look. When choosing a newspaper to read, over three-quarters of respondents believe that visual design and layout are important considerations for the average reader.

Infographics help with comprehension and memory. Stark and Hollander (1990) provided examples of how infographics can improve learning and broaden readers' knowledge and comprehension of both the story's setting and complex global events. The study of Siskind, T. G. (1979) focuses on how reader preferences and readership are affected by newspaper design components. This research makes the assumption that readers turn to newspapers for amusement and knowledge. It is assumed that a newspaper's circulation would increase with reader satisfaction. Consequently, reader preferences show whether or not readers' and newspapers' goals are being met. In sum, the findings of this research study lead to the tentative conclusion that in order to appeal to reader preferences, newspaper owners and staff members should be concerned with quality of design as well as contemporaneity.

The article by Eapen, K. E. (1967) explores the problems of Indian newspapers after independence. The early Indian journalists were composed of social reformers nationalists' During British administration, there was a clear dichotomy in the Indian press. The wealthy and influential magazines that were controlled, edited, and owned by foreign business interests and frequently acted as abettors of colonialism were on the one hand. On the other hand, there were journals founded by Indian interests, such as the Hindu in Madras, the Leader in Allahabad, the Bombay Chronicle, and the Amrita Bazar Patrika in Calcutta. They quickly became as the British-owned press's rivals. In the early 1950s, the larger towns were home to two-thirds of the English-language daily and two-fifths of the Indian-language periodicals. There is a dearth of readership surveys that indicate the majority of Indian readers are urban. Male readers predominate in India. A growing proportion of Indian readers are between the ages of 21 and 35.

Interest in newspaper begins in most cases during early adolescence, a little earlier in girls than in boys. Study by Murthy, C. S. H. N., Ramakrishna, C., & Melkote, S. R. (2010) examines the four major newspapers' first page reporting priorities—The Hindustan Times, The Indian Express, The Times of India, and The Hindu—critically. Many intriguing changes in the paradigms of news reporting and values are shown by this investigation. An understanding of how the first page news coverage deviates from traditional news values was provided by the analysis, which looks at the headlines, content type, images, and adverts. According to the survey, there is an increasing tendency towards first reporting and investigative reporting, which treats news as a mass-market good. According to an analysis of the top four English newspapers' first pages, the Indian print media has also adopted the characteristics of market-driven journalism, which first appeared in the US as a result of globalization and privatization in the post 1990s.

Haneefa, M., & Nellikka, S. (2010) in their research paper that the design, coverage, and content of Indian English-language online publications follow a consistent pattern. The most common choices in these publications are content availability and content access. The purpose of this paper is to present a summary of the design and content of Indian online English newspapers.

Ghode, R. (2013) has emphasized the importance of infographics in newspapers. According to him when infographics are used effectively, people are drawn in and complicated information is explained in a simple and concise manner. Additionally, Indian newspapers utilize a variety of infographics, mostly to display statistical data through the use of tables, maps, lists, charts, diagrams, and graphs. In order to survive in the expanding media landscape and the new media era, newspapers must also employ a variety of tactics and experiments. Infographics are essential in meeting the needs of modern media consumers who want to absorb a lot of information in a short amount of time. Infographics are now widely used by several Indian media to provide news and informational material in addition to statistics. In actuality, infographics are a prime illustration of media convergence, since they are heavily utilized in print media, websites, television, mobile devices, and iPods.

Stone, G. C., Schweitzer, J. C., & Weaver, D. H. (1978) have identified twenty-two variables related to newspaper design. The study is based primarily on the traditional versus modern design concept. The main goal is to examine the data to identify which contemporary visual methods are most frequently utilized in sample papers and which are thought to be essential components of contemporary newspaper design. The study concludes that rather than making newspapers more pleasant, contemporary newspaper design is a strategy utilized to draw readers. The other important perspective that adds even more context is that contemporary design is linked to higher city zone circulation, indicating that larger cities are where current newspaper design is being implemented.

TYPES OF INFOGRAPHICS:

Depending on the information you wish to present, you can develop one of three types of info graphics that are successful:

Statistical:

A template for info-graphic based on statistics and is one of the most widely used ones. Each info-graphic has engaging narrative. It goes beyond just charts. you can seamlessly integrate icons, illustrations, and text to provide context and enhance the understanding of your statistical data. Whether you need to highlight key data points, compare trends, or present complex relationships, Statistical infographics gives you the flexibility to create meaningful and engaging visual representations with relevant facts to support it, and eye-catching images to draw attention to the text. Large, bold text will be used in a statistical info-graphic to display the facts in the order. Data might be tedious to read, but when presented in a unique way, audience will be interested in the figures.

Text Based:

This type of infographic is equally popular, but uses text-based data instead of numeric data. Information visualization has a subset called text visualization. Information visualization is the process of augmenting cognition through interactive, computer-supported visual representations of abstract data. A broad range of extra templates are covered since text is emphasized. This includes instruction manuals, brochures, and even brief presentations. The best way to include text in templates is via lists. Consumers expect brief lines, bullet points, and data to be read quickly. When designing your infographic, take into account the reading preferences of your target audience and select the most logical plot. All of the content will be read and comprehended by the audience with the right preparation. Texts and images were arranged in a linear fashion in the early years, meaning that they were searched from start to finish. However, it's clear that this is not the most effective method of information organization. The saying "A picture is worth a thousand words" is well recognized.

Process:

A particular kind of infographic called a process infographic is made to illustrate, consolidate, and make processes easier to understand. They're ideal for mapping out customer journeys, product manuals, recipes, onboarding new hires, marketing plans, and more. In this type of infographic points are presented in a linear order that represent a process. The reader is guided through each of these phases with the use of icons and numerical lists. You can clearly and visually explain the complete process using a process infographic. You can ensure that everyone will understand by using charts, and symbols. They simplify a task into a series of simple steps. For some people, deconstructing a complicated notion or procedure might be a nightmare. Also, many people find it difficult to understand explanations that are heavily text-based. However, you may utilize images in a process infographic to simplify even the most complex processes. This type of infographic aims to simplify complicated information of any kind into concept that are simple to comprehend. The ability to clearly label instructions so that a consumer can simply follow all phases is essential for process info-graphic to be successful.

OBJECTIVES:

This study focuses on identifying the types of infographics used in major Hindi and English newspapers. Another aim of this study is to compare infographics from English and Hindi newspapers. The study also focused on infographic usage patterns on front page, business page, sports page, opinion page, and international page. Based on literature and a first sample of major Indian newspapers, the following questions were asked to test the current usage of infographics in leading newspapers in India.

RESEARCH QUESTIONS:

- Q1. What type of infographics are used on front page, business page, sport pages, opinion page, and international page in leading Hindi and English newspapers?
 Q2. Which Section in the newspaper has maximum infographics?
 Q3. What is the difference between Hindi and English newspapers regarding the use of infographics?

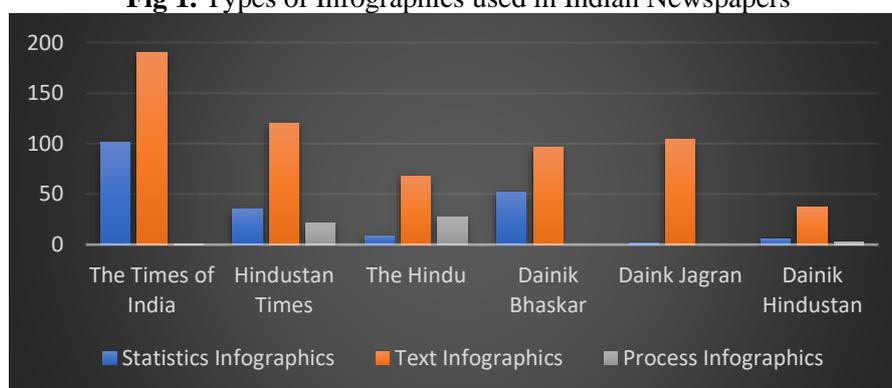
RESEARCH DESIGN:

Analysis of infographics of leading Hindi and English newspapers was conducted to answer above mentioned research questions. For this study three leading English and three Hindi newspapers were selected according to Indian Readership Survey 2019 Quarter 4. These are The Times of India, Hindustan Times, The Hindu, Dainik Jagran, Dainik Bhaskar and Dainik Hindustan. Newspapers for period of three months i.e. August-October, 2020 were gathered. Out of ninety-two newspapers each, sample of thirty newspapers were selected by systematic random sampling. For this study e-paper of selected newspapers were used.

Important sections that appeared in all the selected Newspapers on regular basis were considered for collecting the data. The sections selected were Front page, International page, Opinion Page, Business page and Sports page. Data was collected for categories of infographics appearing in all the sections selected for the study. Data for the study was arranged in tables using microsoft excel. Results were conceptualized by calculating the percentages for each category of infographic used on every section of the newspaper.

FINDINGS:

Types of Info-graphics: The study found out that mostly used info graphic in Indian newspapers were text-based info graphics (70.52 %) followed by statistical info graphics (23.50 %) and process-based info graphics (6%). The text-based info graphics were most commonly added elements in order to enhance the appearance of the page. It also assists in understanding of the news. The results also demonstrate the prevalence of easy-to-create type-based visuals, such as pulled quotations.

Fig 1. Types of Infographics used in Indian Newspapers**Front Page:**

On the front page The Times of India has 102 text infographics which is highest in the selected sample. There are 34 statistical infographics which are simple to understand bar and pie charts which are added to the news stories to explain the mathematical figures involved in a news story. The graphs are made simple keeping in mind that readers from all walks of life can understand them.

Table 1. Usage of different types of infographics on front page in Indian Newspapers

Newspapers	Statistics Infographics	Text Infographics	Process Infographics
The Times of India	34	102	0
Hindustan Times	26	41	1
The Hindu	7	22	0
Dainik Bhaskar	31	28	0
Dainik Jagran	0	71	0
Dainik Hindustan	4	19	0

Hindustan Times has considerable number of text as well as statistical infographic on the front page. In the entire sample there are 41 text infographics majority of which are pulled Quotes which are used to grab reader's attention. Pulled Quotes serve as entry points on the front page besides highlighting a particular news story. The Hindu among the english newspaper is one newspaper which has more of text infographics and very few statistical infographics. Only seven statistical infographics are seen in the entire sample. The focus of this newspaper is clearly on the text. Among the Hindi newspapers Dainik Bhaskar has maintained balance between statistical infographics and text infographics. It is the only newspaper in the sample which has a greater number of statistical infographics than text infographics. So, more graphs are seen on the front of Dainik Bhaskar. It shows the willingness of the newspaper to explain the story in detail and depth. On the other hand, Dainik Jagran only uses text infographics on the front page and there is no visual representation of the data.

Dainik Hindustan uses very few statistical infographics but usage of infographics is more than Dainik Jagran. In case of text infographics, the usage is least among selected newspapers. On the front page of Dainik Hindustan there is very less visual representation of data which enriches the news story.

Business Page:

On the Business page The Times of India has almost equal number of statistical and text infographics but no process infographic. Among the selected sample The Times of India has the maximum usage of infographic on business page. So, every business story on the page provides some kind of visual representation of data to understand the story properly. Hindustan Times also provides enough infographics for its readers. In fact, it goes one step further by giving substantial number of process infographics. Process infographics are detailed explanation with the help of charts, maps, diagrams and graphs of the whole process. Hindustan Times uses very few statistical Infographics and instead uses higher level of infographics on business page.

Table 1. Usage of different types of infographics on business page in Indian Newspapers

Newspapers	Statistics Infographics	Text Infographics	Process Infographics
The Times of India	67	65	0
Hindustan Times	6	14	20
The Hindu	0	27	27
Dainik Bhaskar	18	14	0
Dainik Jagran	0	14	0
Dainik Hindustan	2	6	0

The Hindu also has same usage patterns of infographics as Hindustan Times. The Hindu does not use any statistical infographic on business page and in its place uses process infographics. Equal number of Text and process infographics are present on the business page. In Hindi newspapers, Dainik Bhaskar uses only statistical and text infographics and there is no usage of process infographics. Very few stories have visual representation of data if compared to English newspapers. Most of business stories are plain text only. On the business page of Dainik Jagran only text-based infographics are present which do not provide any additional information to its readers. No charts or graphs are used. This make business page text only page which may be not very interesting appearance for most of the readers. Dainik Hindustan also, does not uses much of infographics on the business page. It has least usage of infographics in the selected sample.

International Page:

On the International page The Times of India does not use much of Infographics. Only one process infographic is present in the entire sample. This shows that there is policy to not use any infographic unless very necessary. Hindustan Times on the other hand does use infographics but only text type. Only one statistical infographic is present in the entire sample.

Table 3. Usage of different types of infographics on international page in Indian Newspapers

	Statistics Infographics	Text Infographics	Process Infographics
The Times of India	0	0	1
Hindustan Times	1	42	0
The Hindu	0	0	0
Dainik Bhaskar	3	32	0
Dainik Jagran	0	0	0
Dainik Hindustan	0	6	0

The Hindu does not use any infographic on the international page. The stories are purely text in this section. Same pattern is followed by Hindi newspaper Dainik Jagran where no infographic is seen on the International page. Dainik Hindustan is little better and uses some text infographic. Dainik Bhaskar among the Hindi newspapers is somewhat different. Text infographics are frequently used they are comparable to the English newspapers like Hindustan Times. Few statistical infographics are also seen.

Opinion Page:

On the Opinion page none of the newspapers use infographic. Dainik Hindustan is exception which has some text infographics.

Table 4. Usage of different types of infographics on Opinion page in Indian Newspapers

Newspapers	Statistics Infographics	Text Infographics	Process Infographics
The Times of India	0	0	0
Hindustan Times	0	0	0
The Hindu	0	0	0
Dainik Bhaskar	0	0	0
Dainik Jagran	0	0	0
Dainik Hindustan	0	6	0

Sports Page:

The sports page of all the newspapers has good number of text infographics.

Table 5. Usage of different types of infographics on Sports page in Indian Newspapers

Newspaper	Statistics Infographics	Text Infographics	Process Infographics
The Times of India	0	23	0
Hindustan Times	2	23	0
The Hindu	2	19	0
Dainik Bhaskar	0	22	0
Dainik Jagran	2	19	0
Dainik Hindustan	0	0	3

They include the scores and other details of the game. It adds to the excitement of reading this page. Few statistical infographics are seen on all the newspapers.

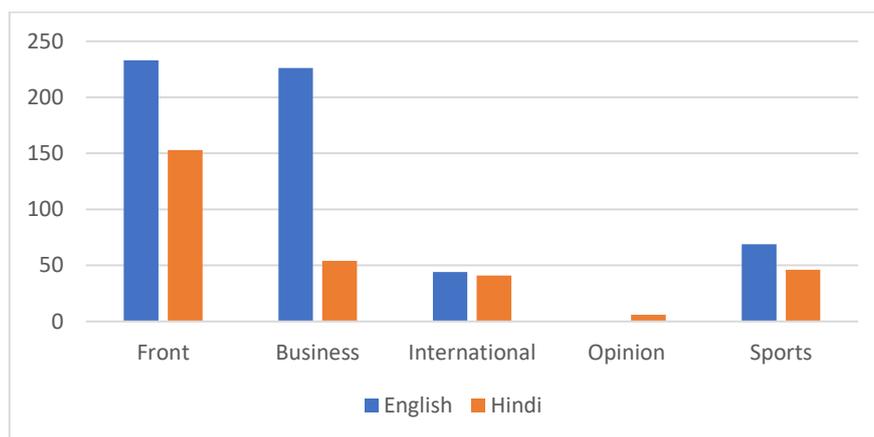
Comparison between English and Hindi Newspapers:

According to the research, there are big differences in how infographics are used in English and Hindi publications. In business news, where details are conveyed through tables, graphs, fact boxes, etc., English newspapers utilize more forms of info graphics than Hindi publications. The Times of India has maximum

info graphics among all the selected newspapers. It has maximum info graphics on the Business and front page. The info graphic used are mainly text or statistical which can be made with minimal efforts. Usage of Progress info graphics is almost negligible which takes hard efforts to make. On the other hand, HT & The Hindu uses more of process and text info graphics.

In Hindi newspapers, few info graphics are seen as compared to English newspapers. Among Hindi newspapers Dainik Bhaskar leads by having maximum info graphics. It also uses more of statistical and text info graphics and there are no process info graphics. Dainik Jagran comes at second place but it uses only text info graphics. Dainik Hindustan comes at third place. It has usage pattern similar to Dainik Jagran.

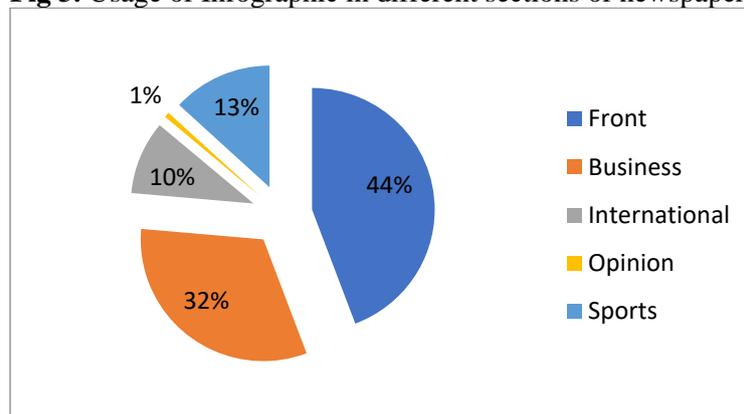
Fig 2. Comparison of Infographics usage in English and Hindi Newspapers



Location of Info graphics section wise:

The study found out that most info graphics were published on the front page (44.26%), Business page (33.11%), sports page (13.8%), and International page 9.71% and opinion page (.68%). In all the newspapers more, info graphics were found on front page and business page. The International page and sports page had considerable number of info graphics. In the opinion section no info graphics were found in English as well as Hindi newspapers.

Fig 3. Usage of Infographic in different sections of newspapers



The only exception was Dainik Hindustan where text info graphics were found. According to the research, many infographics were placed at the top of the pages. In order to display complicated information rapidly and enable readers to absorb a lot more information in a short period of time, infographics are frequently used at the top of pages.

CONCLUSION:

The study has found that there is ample use of info graphics in Indian newspapers. The English newspapers use more info graphics as compared to Hindi newspapers. But, Hindi newspapers not far behind. The sections in which more info-graphics are used are front page and Business page. On the front-page usage of visual elements enhance the design which satisfies visual craving besides taking explanation of story to next level.

Talking about the type of info-graphics, the text-based info-graphics are used more in all newspapers as they are integrated with least efforts. They add to the visual expression of the page and also enriching the overall reading experience. Hindustan times mainly focuses on text based info-graphics and that too the pulled quotes. Pulled quotes have become an essential part of HT design.

Statistical info-graphics are also used by most of the newspapers, but their usage depends on the requirement of the new story. If news requires more visual explanation then only statistical info-graphics are provided. All the newspaper has limited usage of process info-graphics. It is evident from the study that no extra efforts are wasted by the news organizations in the production of info-graphics. The usage and production of info-graphics depends on the importance of a particular new story.

REFERENCES:

1. Bekhit, E. (2009). Infographics in the United Arab Emirates newspapers. *Journalism*, 10(4), 492–508. <https://doi.org/10.1177/1464884909104952>
2. Damyranov, I., & Tsankov, N. (2018). The Role of Infographics for the Development of Skills for Cognitive Modeling in Education. *International Journal of Emerging Technologies in Learning (IJET)*, 13(01), 82. <https://doi.org/10.3991/ijet.v13i01.7541>
3. de Haan, Y., Kruikemeier, S., Lecheler, S., Smit, G., & van der Nat, R. (2017). When does an infographic say more than a Thousand words? *Journalism Studies*, 19(9), 1293–1312. <https://doi.org/10.1080/1461670x.2016.1267592>
4. Ghode, R. (2013). Infographics in News Presentation: A Study of its Effective Use in Times of India and Indian Express the Two Leading Newspapers in India. *Journal of Business Management & Social Sciences Research*, 1(1), 35–43.
5. Gynnild, A. (2019). Visual Journalism. *The International Encyclopedia of Journalism Studies*, 1–8. <https://doi.org/10.1002/9781118841570.iejs0274>
6. Indian readership survey 2019 Q4 - bestmediainfo.in. (n.d.). Retrieved October 29, 2021, from <https://bestmediainfo.in/maier/nl/nl/IRS-2019-Q4-Highlights.pdf>.
7. Jeffrey L. Griffin & Robert L. Stevenson (1996) The influence of statistical graphics on newspaper reader recall, *Visual Communication Quarterly*, 3:3, 9–11, DOI: 10.1080/15551399609363328
8. Kumar, A., & Mishra, A. (2021). Accountability in Print Media: An Analysis of Regulatory Mechanism with Reference to Newspaper Reporting in India. *SPAST Abstracts*, 1(01).
9. Kalia, G., & Mishra, D. A. (2016). Effects of online Advertising on Consumers. *IOSR Journal of Humanities and Social Science*, 21(9), 35-41.
10. Lee, E. J., & Kim, Y. W. (2016). Effects of infographics on news elaboration, acquisition, and evaluation: Prior knowledge and issue involvement as moderators. *New Media & Society*, 18(8), 1579–1598. <https://doi.org/10.1177/1461444814567982>
11. Pasternack, S., & Utt, S. H. (1986). Subject Perception of Newspaper Characteristics Based on Front Page Design. *Newspaper Research Journal*, 8(1), 29–35.
12. Schindler, J., Kramer, B., & Muller, P. (2017). Looking Left or Looking Right? Effects of Newspaper Layout Style on the Perception of Political News. *European Journal of Communication*, 32(4), 348–366.
13. Schoenbach, K. (2004). A Balance Between Imitation and Contrast: What Makes Newspapers Successful? A Summary of Internationally Comparative Research. *Journal of Media Economics*, 17(3), 219-227.
14. Siskind, T. G. (1979). The Effect of Newspaper Design on Reader Preferences. *Journalism & Mass Communication Quarterly*, 56(1), 54–61.