

A QUALITATIVE STUDY ON INFOGRAPHICS AND THEIR EFFECTIVENESS IN VISUAL COMMUNICATION

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ABSTRACT

An infographic is a presentation of information. Stories can be told with infographics through the use of imagery. Ideas can be expressed, or problems can be explored with infographics. Most media outlets use infographics today to allow readers to underset, and a topic or problem quickly and clearly. There is always supposed to be a topic, story or message behind an infographic. When creating infographics, the designer must consider what the infographic's goal is and what it can highlight. This paper looks into what infographics are, how they allow people to share information, and what problems come when designing them. It will look at the history of displaying information from ancient drawings to today's modern books. It will look at how effective infographics are in news, schooling, and business. There will also be information on how to look at infographics, and tips that can help better infographics using words, typography, imagery, and moving graphics that play a role in how informative any infographic is.

Keywords: Infographic, Text, Typography, Design, Visual Communication, Animation, Data Visualisation.

INTRODUCTION

Scholars have noted that information design has been around for quite some time when it comes to communication. Since ancient cave drawings, people have used pictographs to communicate ideas, record history, and share knowledge with future generations (Murray, 2020). As society has evolved, the average human is exposed to more and more data on a daily basis. This influx of information being thrown at people has created an immediate need to sort, simplify, and make sense of what people are reading and hearing. The act of sending a clear message to an audience has become one of the biggest challenges in communication in modern times. Our audience is no longer waiting patiently to receive whatever information viewers feel they should know. They are busy searching for what they want to know and ignoring irrelevant data or information that takes too long to consume and underset, and.

When too much data needs to be communicated at once, printed infographics often fail to meet audience expectations. The ability to relay information to an audience quickly is becoming increasingly valuable (Murray, 2020). Words, tables, figures, and values are all examples of tools people use to communicate data. However, when these tools are confined to being displayed through stationary text, they often fall flat. For this reason, whenever possible, infographics should push the boundaries of what is considered average to strong impact, and stand out from the crowd. In a world where our audiences are drowning in media, an infographic must be remarkable, beautiful, and memorable enough to stop them in their tracks.

An infographic at its simplest is information. People use cartoons, symbols, and graphics to form infographics. Storytelling with infographics allows us to create stories, share concepts or break down challenges in a format that is easy to read. News outlets, advertisements, and social media platforms frequently use infographics to enhance a reader's understanding of a

topic or problem that may be difficult to describe using words alone. In addition to appearing in newspapers and magazines, infographics are being created by more public and commercial sectors to be used as part of their publishing strategy (Rick & Steven 2014). Information design is not a new concept that was born with the age of the internet. Although it may seem that way when seeing how many infographics are distributed across social media each day. People have been using symbols, drawings, and pictures to communicate stories and information to others since the dawn of civilisation. Ancient Egypt showed information through hieroglyphics, and Leonardo Da Vinci created drawings of the human anatomy in the 1500's.

This paper will cover the history of information design and move into how effective infographics can be as a tool for visual communication. It will break down each core design element: text, typography, visuals, and animation. Each of these aspects is what determines if an infographic is good or fails at what it was designed to do. The study will discuss what the biggest obstacles designers face when creating infographics and share tips that should help to improve future information designs.

HISTORY AND EVOLUTION OF INFOGRAPHICS

Below is a timeline Mark Smiciklas created that displays how infographics evolved from drawings on cave walls to books (Smiciklas, 2012).

As can be seen, some think information design can be traced back fifty thousand, and to sixty thousand years. Archaeologists have discovered pictograms in rock caves similar to this one, found in Bhimbetka in modern-day Madras, India.

There are many graphs, diagrams, and drawings throughout history made by famous philosophers, artists, and engineers that helped popularise visual information design. Leonardo Da Vinci was born in 1452 and died in 1519. If it hasn't heard of Leonardo, he was an artist who also took the time to underset, and human anatomy. So he could better draw people, he dissected them. He even made sketches of the inside of our bodies (Rick & Steven 2014).

Florence Nightingale was born in 1820 and died in 1910. She is known for making nursing a profession and for her infographics known as polar area diagrams. Not only were Florence's infographics pretty, but they were powerful. They helped improve the way hospitals were run during the Crimean War and helped decrease the number of soldiers dying from disease. To this day, Florence is used as an example of how one visual diagram can help change policy and save lives.

Infographics have been around for centuries, but have only been popularised in media for decades. Using visual aids to help teach information has been around for quite some time (Smiciklas, 2012). Maps, charts, and mind maps are all examples of infographics that are commonly used in schools and educational books.

Infographics didn't become popular in the news until the 1980s. Newspapers began using images to represent statistics and events so readers could get the gist of a story quickly because they were often busy (Siricharoen, 2015). During this time, many rules were established that are still used today. Things are taken for granted when designing infographics, such as titles, colour-coordinating categories, and using simple icons to convey information.

Once social media and digital publishing became popular, infographics evolved from just being used in print media to becoming a form of communication itself. Infographics are quick

to read and are eye-catching. This means they are great pieces of content to be shared across platforms (Uyan Dur, 2014).

EFFECTIVENESS OF INFOGRAPHICS IN VISUAL COMMUNICATION

Business has evolved rapidly. Companies have adapted to the world of media in order to better serve their target consumers and employees. An infographic is defined as a visual solution for modern-day problems. They are graphic visual representations of knowledge, information, and ideas. Putting it all together allows one to organise dull, uninteresting, and complex information in an aesthetically pleasing way. It can come in the form of maps, charts, timelines, and more. What's important to remember is that infographics allow to create an impact. An impact that can trigger a response from the audience. Sometimes words, facts, numbers, and figures can lose their power when compared to well-designed pictures and visuals. The right visuals can make any information accessible and appealing to its target audience.

Studies have been done that prove storytelling with pictures allows the audience to remember data for longer periods of time. Also increases engagement with the information more than text and numbers can (Segel & Heer 20). Storytelling is why infographic use has been successful in numerous fields. Whether it be educating the public through health care campaigns or annual company reports. Teachers have used infographics in classrooms to spark critical thinking by having students ask questions about what data is portraying instead of memorising trivial facts (Lamb & Johnson 2014). News outlets use infographics to help readers underset, and large numbers and stories. Election data, unemployment rates, and earthquakes are all examples of this. As newspaper consumption moves to smartphones and other digital platforms, infographic use has become more prevalent in the news.

Data accuracy is important when creating an infographic. No matter how aesthetically pleasing the design is, if the information is wrong, the designer loses the audience. As a designer, it's very crucial to break down the message and make it less complicated for the target audience to understand, all while not losing the message's focus (Cairo, 2016). Take schools, for example. When a student is learning about something through an infographic, it will usually not cover what the designer wants to talk about. Instead, the infographic covers what the teacher wants the students to learn. When a person can write about what he/she wants, as a designer, they have creative control over the infographic. But before the designer can show the audience a specific topic, the designer must first understand it. When creating an infographic, a person has to keep in mind where it will be viewed and who will be viewing it. Whether it be children, high school students, career training adults or college students.

CORE ELEMENTS OF INFOGRAPHIC DESIGN

Every infographic has certain elements that help portray information to an audience. If an infographic is missing one or more of these elements, it is considered incomplete. Four elements will be discussed: Text, typography, visuals, and animation.

TYPOGRAPHY

Typography and text allow an infographic to flow better and look more engaging. To a designer, typography can mean many things, but picking the right typefaces that will match the purpose of the infographic is key. Take a moment and think about that. Before computers were a thing, not many people knew about fonts. Except for those who knew about calligraphy or handwritten manuscripts.

A fact is that Steve Jobs, Apple cofounder and CEO, was inspired by calligraphy. Inspired enough that he went up to his team of computer developers while working on Apple's Macintosh computer, and gave a talk. He asked the team which typefaces would be available to Macintosh customers. When he was told the answer, he repeated his question. He asked if the team meant to inform him that they had created a cutting-edge word processor but failed to take into consideration fonts. (Angel & Ana 20). The Apple design team forgot about typefaces, but Steve Jobs knew how important typography is to an infographic. Jobs would not let his computer ship without a variety of typefaces. His nieces became Apple icons inside the office. (Angel & Ana 20) When a person looks back at his reaction, it makes sense. Typography is not a small detail in an infographic. Typography is how the readers learn and remember what data is being portrayed.

Here is a question for the designers. If typography is that important, does how a designer arranges font or choose font create impact how a reader learns and remembers data? Both designers and researchers believe it does. A good designer wants the design to stand out from the rest. By picking the right font that matches the context and content as well. Also, by properly arranging the typography, the designer can leave a lasting impression on the audience. It's very important to remember that when creating an infographic, the main goal is to inform the audience, and communication must be error-free. That is what makes an infographic good.

If anyone wants to design a timeline. A good tip is to title the infographic something like "Our Timely Events" at the top of the page, which not only draws the attention of the viewer. But they will know exactly what the designer plans to display. From there, the designer can place subtitles in a smaller font. To emphasise each bullet point on the specific timeline. This is just one example of how typography can make the design pop and keep the target market engaged. As a designer, a person should think outside the box. Apply storytelling techniques when finding the right font or arranging the graphics. Everything a designer puts on the infographic should be in a font that matches the context of what it's talking about. An infographic that doesn't utilise text or typography is incomplete. Even if the visual game is strong.

VISUALS

Visuals have been a part of the human experience since the beginning of communication. From early humans drawing on cave walls to today's infographics. Pictures allows to display large amounts of information to the viewer. A single visual can sum up what would take multiple paragraphs to describe.

Humans process visuals in the brain much faster than large bodies of text. This is great if the designer wants to share ideas. Like maybe have some data that the designer wants to display to the general public. A designer doesn't want to lose their audience by making them decipher what their graphics mean. Visuals allow the viewer to grasp the concept quicker. Enabling to get to the main point faster and in a more effective way. By utilising visuals, it allows the reader to stay engaged with what the featured information has to say. Once the designer grabs their attention with a strong visual, they can place text next to it to drive the point home. Also, when branding the business, the visuals must portray who a brand is as a company. Whether it is releasing a new product, discussing new ideas or hosting an event.

Studies have shown that when information is paired with relevant and thought-out visuals, it allows the viewer to remember more than just text. Images that display the data nicely, along with good graphics, are another step towards a great infographic. As a designer, a person

doesn't want to be afraid to use visuals. He/she wants to use as many different types of visuals as can. As long as the visuals match the design and they don't clutter the work. Data shows that using graphics that the designer has chosen to represent the featured data. The designer is more likely to create a well-rounded plan of communication. The sender and receiver are more likely to benefit from images and visual elements being added to text.

Along with information, visuals can convey emotion. The right image or icon can make someone feel something that raw data can't. This emotional drive is what will determine if someone will read the infographic. Remember it, and share it with others.

ANIMATION

Ever looked at a painting of animals and thought they looked like they were moving? Animal art has been around long before movies were invented, but that doesn't mean people weren't telling animated stories before film (Beckerman, 2003). Shadow puppetry is another great example of animation before animation existed. In certain parts of Southeast Asia, shadow puppetry has been around for centuries. Audience members would sit on one side of a screen. A screen where bright light would be displayed on a lit surface, casting shadows. A master puppet artist could use paper cutouts on sticks to show characters walking, dancing, natural disasters, and many other motions.

Infographics are like giving life to data and sheets of information. Or lifeless numbers. By putting information into a graphical diagram that can be viewed as a one-time picture. Humans tend to remember more information when it's displayed visually to them. Animation gives the designer who makes infographics an alternative to expensive video production. If the organisation is looking to add moving visuals into the communications but doesn't want to invest in a video.

The infographic doesn't need a budget, studios, cameras, and professional lighting. The brand or company can hire someone to make their data into artistic visual representations. The organisation can even take advantage of the many software programs out there and create an animated infographic by themselves.

Another benefit of using animated infographics is their file size. Due to this, the designer won't have to use other platforms like YouTube to host their information. They can directly upload infographics to their own site. One of Jacob O'Neal's more popular infographics is shown below. This infographic on cheetahs is animated. What would normally be a static picture in a textbook. Now comes to life in this animated form. As people watch, they can appreciate the beauty of nature's fastest land animal. A speedometer pulses in correlation to the acceleration of high-calibre sports cars for comparison. There are many scientific and zoological facts that have been displayed as animated infographics.

Here is an example of an animated infographic that displayed facts about Saturn. As can be seen, each animation brings its own flavour and personality to how the information is displayed. Showing just how versatile animation can be as a medium of communication.

CHALLENGES IN DESIGNING EFFECTIVE INFOGRAPHICS

Even though there are proven advantages to using infographic media to get a point across, they can be difficult to construct correctly. Creators have faced difficulties while making these graphics. Creating accurate data is the first problem. If one piece of data is, and incorrect, the entire infographic can fall apart. When false data is easily noticed by the consumer, it can cause the reader to lose trust in what else is portrayed on the graphic.

Verifying sources and double-checking that numbers add up is now a time-consuming process.

Determining how much detail to provide can also be difficult. The brand doesn't want to provide too little information so that the audience misses the point. However, if the designer tries to fit too much on one graphic, it will clutter the design and be overwhelming. Deciding what information should stay and what should go is difficult and varies depending on the audience and their knowledge of the subject. Understands the material.

Not everyone interprets visual information in the same way. Colours, icons, charts, and formatting can all be interpreted differently based on one's culture or education. background. This is why it is difficult to create graphics that everybody will understand. Graphic designers must be mindful of the symbols they use and ensure they will be clear to their specific audience. They should also know what not to use, as something that may be positive in one culture could be offensive in another.

Maintaining consistency is another challenge that organisations may face. Let's say a brand wants all of the infographics to have a uniform look. If the brand or organisation is making a series of infographics to use for branding or presenting information to others. The designer will want to use the same colours, fonts, and even icons throughout the pieces created. This can be difficult when there are multiple people creating infographics for a company. There will have to be a design system and set of guidelines that everyone follows.

The last problem is accessibility. Many infographics use colours that may be difficult to see if a person is colorblind. They may use small details that can't be seen if someone has vision impairments. Some information might not be accessible to those who use screen readers or other technologies to help them access content. Graphic designers should keep this in mind when creating new infographics. Provide description text when it can, use colours that contrast, and pick formats that will be accessible to everyone. Accessibility should be considered before the designer begins designing, not after.

RECOMMENDATIONS AND FUTURE OPPORTUNITIES

Based on the above discussion, some useful tips for creating entertaining and engaging infographics can be suggested. Group similar information with the help of borders, lines, or shapes to allow the eye to flow throughout the design. Instead of using that one colour as the primary colour for the entire design, reserve it for the information that it needs others to pay attention to. Use no more than 3 different fonts when creating the infographic to clearly define the text hierarchy. Use images, symbols, and simple drawings to reinforce ideas the designer wants the reader to remember after viewing the infographic.

In terms of where infographics will go in the future, it is clear that as animated infographics become more popular, they will begin to move away from static, newspaper-esque designs. Instead, they will take on more dynamic shapes that can respond to data passed into them and update in real-time. There is also an opportunity for infographics to be used as a teaching tool for statistics and data science. If students are taught how to create their own infographics that incorporate real data, they will better know how to spot misleading or false infographics. Research should be done to provide some empirical data as to what design decisions impact how well an infographic is read. Things like color, layout, animation speed, etc. Much of what people "know" about infographic design is still based on gut feeling and previous case studies.

CONCLUSION

Visuals allow us to display information, data, and statistics in a way that will have maximum impact. The information being provided should be easy to understand, and without having to trudge through pages of text. As shown through this discussion of infographics, data visualisation can take many forms. As long as it is used to supplement information in an easy-to-understand way, it will better equip the viewer to remember what they have read. Using a combination of graphics such as icons, symbols, photos, illustrations, and text allows the audience to feel connected to the subject are explaining. The designer can gain the audience's trust and pique their interest using infographics to break down the strategy, idea, or research. Good infographics tell a story through their use of text, visuals and data. They can attract a reader's attention and hold it there as well. If anyone is looking to design infographics that their audience will enjoy reading and find useful. The designer should follow guidelines that have been laid out by the professionals before them. Group related information together using colour or contrast. Don't go overboard. Stick to two or three font styles and use pictures that will reinforce the message, not distract from it. As people continue to be flooded with information and shy away from reading large bodies of text, the ability to create clean, factual, and interesting infographics will be vital. Whether a person is a journalist, educator, or business owner, everyone can benefit from understanding how to create quality infographics.

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