

An Interdisciplinary Approach to Understand Infographics

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Abstract

This paper exploratorily organizes the necessity of an interdisciplinary approach for an integrated understanding of infographics, which are variously used to visualize information. Fundamentally, an interdisciplinary approach and understanding is needed to understand infographics from the perspective of the information provider and information user, marketing communication planner and consumer, ad strategist and the public, producer and media environment, sociocultural background and etc.

Following this, functions and traits of infographics related to the fields of communication, marketing, design, media, consumer behavior, social culture, advanced technology, information receiver psychology, education, advertising/public relations and etc. have been introduced. In addition, related theories from related fields such as the superiority effect of visuals, the gestalt theory, the viral effect, value expectation, rhetoric, semiotics and etc. and their connection with infographics has been introduced.

Though exploratory, this approach first arouses the necessity of integrated negotiation with related fields in future research about the effect of infographics from an interdisciplinary perspective. Second, this approach suggests the necessity of being aware about considered strategic factors to planners and producers from the aspect of enhancing communication efficiency through infographics. Third, this approach is expected to newly remind the social, cultural, educational meaning of shared value through application of infographics from the aspect of education and public advertisement efficiency.

Introduction

Infographics are a sensory form of expressing information that encompass the logicity of text information and the sensory symbolism of visual information. In general complex information is simplified and conveyed through text, numbers, signs, images and etc. Thus infographics is meaningful in that the visual code structured by the message planner is directly connected to the efficiency of sharing the meaning through communication. Such a visual code must be planned, structured, and spread from the perspective of the message recipient. This aspect suggests that infographics must function as an empathic sharing point in communication that connects the information provider and receiver from a structural perspective and must function as cognitive content that effectively satisfies expected values from present and potential information users from a contextual perspective.

When considering that infographics originally function as a vehicle to convey information messages, the messages of infographics must be planned, produced, expressed, and shared strategically. When considering that participation, sharing, and spreading of information from information recipients is a phenomenon that has led recent social communication activity, this is because the application of infographics must be a medium that strategically aids communication and empathy with information recipients.

The Necessity of an Interdisciplinary Perspective in Viewing Infographics

To understand infographics, which combines information and graphics, from the perspective of the information provider and user, marketing communication planner and consumer, ad strategist and the public, producer and media environment, sociocultural background and etc. an interdisciplinary approach and understanding is needed.

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This is because infographics are expressed as charts, graphs, diagrams, icons, illustrations and etc., and sending and persuasion of the message requires a strategic combination of text information and visual information. Thus it requires an integrated perspective about and from various fields.

Infographics are visualization of data [1] from a structural aspect and function as efficient media [2] from a media role aspect. As a visual expression that helps consumers quickly understand messages [3], infographics contribute to enhancing the attentiveness of information recipients [4] from a consumer-centered perspective.

To accurately understand infographics, the connection with interdisciplinary theories like the following can be considered. First, the fact that infographics uses sensory images and visual graphics to aid understanding of information implies that it can be connected to the superiority effect of visuals [5] compared to text, which is actively discussed in the design business field. This is because the superiority effect of visuals increases the potential practicality and efficiency of applying infographics, which are differentiated as visual information.

Second, the fact that infographics can evoke cognitive participation from information recipients can be connected to the gestalt theory from psychology. This is because it induces voluntary cognitive

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Interdisciplinary Connection with Theories from Related Fields		Context
Design Business	Superiority Effect of Visuals	Increases potential practicality and efficiency of applying infographics, which are differentiated as visual information.
Psychology	Gestalt Theory	Infographics induce voluntary cognitive projection from information recipients and aids vitalization of communication and long-term memory of information.
Marketing Communication	The Viral Effect	Following the rapid development and increase in practicality of social media, infographics are spread through social media, and the efficiency of sending messages and communication have increased.
Consumer Behavior	Value Expectation	Infographics aim to satisfy value expectation of information recipients. They visually plan, structure and convey information so that utilitarian value expectation, hedonic value expectation, and relational value expectation are all satisfied.
Rhetoric	The Rhetoric, Ambiguous Expression of Visual Language	Focuses on how text language uses the inherent trait of visuals to become visual language and the selection, positioning, visualization and persuasive effect of information through this process.
Semiotics	Signified and Signifier	Visualized information and the ambiguity of visual messages in infographics is closely related to the influence of semiotics.

Table 1: The connection with interdisciplinary theories that help understand infographics.

Interdisciplinary Perspective	Context
Communication	Contributes to effective communication of shared values by using universal/general clues that anyone can recognize/ understand because it is user-based. Contributes to instant and reciprocal interaction by using simple and clear visual messages in modern society's congested communication environment. Provides information concisely and clearly through strategic integration of specific text information and abstract visual information. Supports obtaining optimal necessary information with a minimal perception input in the sea of information.
Marketing	Functions as an empathy-oriented marketing tool that naturally evokes a primary common point between target recipients of information and intended information tailored to the provider's goal. Contributes to improving the usefulness and efficiency of goals and result analysis and visually confirming and managing the marketing process by using sensory visual clues considering the situation and environment.
Business	Includes conveying graphicalized information, news, etc., a business trait. Utilizes implicative visual clues excluding unnecessary factors. Strategic business that contributes to attitude changes in recipients intended by planners.
Design	Provides ideal information using a clear design that is sensory and considers practicality Expresses logical messages using visually simplified graphics, helping everyone understand the information easily.
Media	Functions as a media that shares meaning between the information provider and recipient. Has a balanced integration between the specificity of text information and sensory trait of visual information. Functions as a new form of value sharing interface. Helps rapidly spread information through connections with other social media
Consumer Behavior	Contributes to consumers' efficient information processing Helps reduce time to understand and acquire complicated information
Social Culture	Contributes to efficient acquisition and application of public information amidst hectic modern life Contributes to confirming and strengthening a social and cultural sense of belonging and a mindset to share values of members of society by structuring, spreading, and applying valid visual information. Possible for different understandings and interpretations due to cultural traits. → Needs planning and strategies considering the corresponding society's culture and customs, values, religion and etc. Possible to communicate with information users anytime, anywhere because of its ubiquity
Advanced Technology	Possible to use interactive animations and motion graphics applying advanced technology → Contributes to practicalization of information communication, acquirement, and spreading applying advanced technology Reproduces text information and visual information into relational images by applying advanced technology
Information Recipient Psychology	Functions as an efficient tool that appeases the defense mechanism of information recipients that attempt to avoid exposure to excessive information Contributes to enhancing memory by using sensory images that can induce fun and interest Contributes to expanding empathic intersections through changes in message form in accordance with the diversification of information consumers' desire to naturally access and easily use various information anytime, anywhere
Education	Conveys rational information based on text and numbers into intuitive graphics that are easy to understand Contributes to the education and guidance of information recipients Combines public messages with visual images customized to the environment and perspective of users. Contributes to constructing, maintaining, improving, and strengthening ideal relationships among education/campaign planners and learners
PR	Provides relational clues that help create, maintain, improve, and strengthen relationships among groups and the public.

Table 2: The functions and traits of infographics from an interdisciplinary perspective [6].

projection and voluntary participation in completing information from information recipients and aids vitalization of communication and long-term memory of information.

Third is the connection with the viral effect that is receiving attention in the marketing communication field. Following the recent practical development of social media, opportunities for infographics to be spread through social media are increasing. This is because of the viral effect using advanced media, or in other words having a big influence in increasing efficiency of sending messages and communication.

Fourth is the connection with value expectation in the consumer behavior field. Value expectation is an integrated concept that combines expectation before purchasing actions take place and value from the consumers' perspective. Thus, this perspective means that infographics visually plans, structures, conveys and shares information so that the information recipient can satisfy their value expectation.

Fifth is the connection with rhetoric. Infographics are closely related to the process of making text language into visual language. Thus, it focuses on how text language uses the inherent trait of visuals to become visual language and is related to the process by which persuasive effects are enhanced through the selection, positioning, and visualization of information.

Sixth is the connection with semiotics. When considering semiotics consists of signified and signifier, visualized information and the ambiguity of visual messages in infographics is closely related to the influence of semiotics.

Table 1 organizes the connection with interdisciplinary theories that help understand infographics.

From an interdisciplinary perspective, it is necessary to give attention to the functions and traits of infographics through related fields.

Table 2 organizes the functions and traits of infographics from an interdisciplinary perspective [6].

It must be considered from this table that interdisciplinary concepts related to infographics appear independently and overlap depending on the situation.

Conclusion

Infographics are a communication tool and media that help reciprocal sharing of information through visual expression of text messages. As infographics are closely related to the fields of communication, design, psychology, social culture, advanced technology, marketing, education, advertising, media and etc., in order to properly understand infographics from a macroenvironmental perspective, an interdisciplinary approach for accurate message planning, execution, sharing, and evaluation from a micropractical perspective is necessary.

The significance of this study is as follows. First, from an interdisciplinary, integrated perspective, this study arouses the necessity of integrated negotiation with related fields in research about the effect of infographics. Second, from a micropractical perspective, this study suggests the necessity of strategic processes to

planners and producers of infographics to enhance communication efficiency. Third, from a macroenvironmental perspective, this study newly reminds the social, cultural, educational meaning of sharing value that infographics has.

In future research, it will be necessary to examine various variables related to the effect of infographics, use a quantitative approach about the relationship and influence among these variables and etc.

Competing Interests

The author declare no competing interests.

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