

EXPLORING INFORMATION DESIGN: A THEMATIC ANALYSIS OF CONCEPTS, METHODOLOGIES, AND APPLICATIONS

EXPLORANDO O DESIGN DA INFORMAÇÃO: UMA ANÁLISE TEMÁTICA DE CONCEITOS, METODOLOGIAS E APLICAÇÕES

EXPLORACIÓN DEL DISEÑO DE LA INFORMACIÓN: UN ANÁLISIS TEMÁTICO DE CONCEPTOS, METODOLOGÍAS Y APLICACIONES

Bruno Ribeiro Bastos¹, Murillo de Oliveira Dias², Dércio Santiago da Silva Jr.³

DOI: 10.54899/dcs.v23i90.5538

Recibido: 10/04/2026 | Aceptado: 08/05/2026 | Publicación en línea: 15/05/2026.

ABSTRACT

Information design is an emerging area of study and practice within technical and professional communication. Although information design draws upon established theories of usability, established practices of document design, and an extensive body of research about human-information interaction, there is much yet to be done to consolidate the practices and theories across disciplines, sectors, and genres. This study uses thematic analysis to synthesize the current state of information design through a close reading of the literature, identifying the most frequently addressed themes, including concepts, frameworks, and applications. The study goes on to describe three key strands of information design practice, tracing influences on the field and the increasing uptake of digital technologies. The study also highlights the need for information design practices to align with user needs, accessibility, and ethics. This paper aims to contribute to the maturing of information design by undertaking a comprehensive thematic synthesis to inform future academic research and practice.

Keywords: Information Design, Thematic Analysis, Professional Communication, Document Design, Methodology.

RESUMO

O design de informação é uma área emergente de estudo e prática no âmbito da comunicação técnica e profissional. Embora o design de informação se baseie em teorias consolidadas de usabilidade, práticas estabelecidas de design de documentos e um extenso conjunto de pesquisas sobre a interação entre o ser humano e a informação, ainda há muito a ser feito para consolidar as práticas e teorias entre disciplinas, setores e gêneros. Este estudo utiliza a análise temática para sintetizar o estado atual do design de informação por meio de uma leitura minuciosa da literatura,

¹ MBA em Maintenance, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Rio de Janeiro, Brasil. E-mail: brunoribeirobastos@gmail.com

² Doctor of Business Administration, Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, Rio de Janeiro, Brasil. E-mail: agenda.murillo@gmail.com

³ Doutor em Gestão de Saúde, Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, Rio de Janeiro, Brasil. E-mail: derciosjr@gmail.com

identificando os temas mais frequentemente abordados, incluindo conceitos, estruturas e aplicações. O estudo prossegue descrevendo três vertentes principais da prática do design de informação, traçando as influências no campo e a crescente adoção de tecnologias digitais. O estudo também destaca a necessidade de as práticas de design de informação se alinharem às necessidades dos usuários, à acessibilidade e à ética. Este artigo visa contribuir para o amadurecimento do design de informação por meio de uma síntese temática abrangente para orientar futuras pesquisas acadêmicas e práticas.

Palavras-chave: Design de Informação. Análise Temática. Comunicação Profissional. Design de Documentos. Metodologia.

RESUMEN

El diseño de la información es un campo emergente de estudio y práctica dentro de la comunicación técnica y profesional. Aunque el diseño de la información se basa en teorías consolidadas sobre la usabilidad, en prácticas establecidas de diseño documental y en un amplio corpus de investigación sobre la interacción entre el ser humano y la información, aún queda mucho por hacer para consolidar las prácticas y las teorías en todas las disciplinas, sectores y géneros. Este estudio utiliza el análisis temático para sintetizar el estado actual del diseño de la información mediante una lectura detallada de la bibliografía, identificando los temas más frecuentemente abordados, incluidos conceptos, marcos y aplicaciones. El estudio continúa describiendo tres líneas clave de la práctica del diseño de la información, rastreando las influencias en el campo y la creciente adopción de las tecnologías digitales. El estudio también destaca la necesidad de que las prácticas de diseño de la información se ajusten a las necesidades de los usuarios, la accesibilidad y la ética. Este artículo pretende contribuir a la maduración del diseño de la información mediante la realización de una síntesis temática exhaustiva que sirva de base para la investigación académica y la práctica futuras.

Palabras clave: Diseño de la Información. Análisis Temático. Comunicación Profesional. Diseño de Documentos. Metodología.



Esta obra está bajo una [Licencia Creative Commons Atribución- NoComercial 4.0 Internacional](https://creativecommons.org/licenses/by-nc/4.0/)

INTRODUCTION

Thematic analysis is a common method across many academic fields for making sense of large amounts of dispersed information. Information design uses thematic analysis to organize theoretical backgrounds and information design practices. Information design is a multidisciplinary field, and thus thematic analysis is a structured method for uncovering its underlying structures and providing a coherent image of the field (Dias et al., 2026a, 2026b; Lopes & Dias, 2026a, 2026b; Quintão et al., 2026).

Information design has evolved dramatically from initial studies on legibility and readability to explore critical aspects of usability, document design, multimodality, and human–information interaction. Early studies on information design focused on how typography and layout affected print communication by optimizing readability (Greene 1933; Paterson & Tinker 1940; Tinker 1963). Subsequent studies of information design shifted their focus to examine rhetorical, cultural, and social aspects of written and printed information (Kostelnick 1990a; Schriver 1997, 2008; Waller 2020). Most recent research employing digital technologies has further examined the design, delivery, and experience of information across multiple communication modes (Jewitt 2009; Norman 2004; Rose & Turner 2023).

Information design has more than one parent, and different disciplines offer views of information design activities from very different perspectives. A perspective in usability research is how information design can support users' information needs. A perspective of document design scholarship is how rhetorical and cultural forces shape the design decisions made by information designers. A higher-level perspective than either of these is that of multimodality, in which information design is studied as a form of composition that uses not just language but a variety of semiotic modes, including visual images, fonts, and material textures. A perspective even higher than that is that of information behavior, where the user of information is an active, dynamic participant in an information ecosystem, affected by and affecting the information environment. Another perspective is that of designing documents and interactive information spaces, which require a technically sophisticated information designer and reflect the growing professionalization of technical writing, as well as its intersections and overlaps with many other disciplines and practices. Finally, important ethical considerations regarding accessibility and user experience must be addressed in information design. This study needs to be located within current practice and research. Information design is becoming increasingly important within our digital society. Information design involves more than simply making websites, wayfinding systems, or data visualizations more 'usable'. An information design approach is needed in the production, dissemination, and interpretation of information in general. The research on which this study is based draws on a variety of disparate disciplines and traditions of research, and positions information design as an important, coherent, and significant area of research (Albers, 2012; Carliner, 2000a, b; Horn, 1999; Pettersson, 2002; Waller & Delin, 2021).

Finally, this study serves three purposes. First, it traces the various conceptual bases of information design and sketches the field's history and relevant theories. Second, it examines

practices of information design and considers how scholars and practitioners of technical and professional communication use them. Third, this study maps current trends and future challenges, including the growing role of digital technologies, cultural diversity, and the moral bases for design.

BACKGROUND

Studies on information design have focused on both theoretical models and empirical studies of printed information. Research on the legibility and readability of printed communication established the foundation for information design practice and guidelines for good information design in terms of type, spacing, and layout (e.g., Greene, 1933; Paterson & Tinker, 1940; Tinker, 1963). Subsequent studies and commentaries on information design have shifted their emphasis from messages and visual space to the ways in which professional communication constructs meaning in a variety of contexts (Kostelnick, 1990a; Schriver, 1993; Waller, 2020).

The Usability of information movement provided an important context for information design. Understanding how information can be made usable for people performing specific information-seeking tasks and for specific purposes in specific contexts has influenced the design of products, interfaces, and documentation. The design guidelines and principles for information design, such as clarity, organization, accuracy, features, color, and images (positive and pictorial), have become a major focus in the field (Barnum, 2002; Gould & Lewis, 1985; Nielsen, 2000). Testing the usability of information for human information behavior and doing research on the usability of information to gain insight into how to design products that meet users' information needs, and then conducting usability testing, revising and improving the product through several cycles of testing and revision (Buxton, 2001; Lavallo, 2010).

As scholars and practitioners studied the usability of technical documents, other researchers began to investigate the texts' rhetorical and cultural dimensions. In addition to usability, documents can be designed to make effective rhetorical statements, to reflect aspects of culture, or to guide readers through information-rich materials, such as graphs, tables, indexes, and other organized data. Our understanding of information design has thus progressed from the technical act of using layout and typography effectively to recognize its role as a rhetorical act with cultural, professional, and ethical bases.

Jewitt (2009) states that meaning is produced from the interaction of text, image, etc., and other modes; thus, multimodal analysis of communication extends the remit of information design beyond clear text to the design of communication as a whole, comprising a number of different modes or semiotic resources. The growing relevance of digital technologies has raised new design challenges and opportunities for engagement with information (Norman, 2004; Rose & Turner, 2023).

In addition to inquiries into best practices in information design, there have been continued studies of the phenomenon of professionalization, applied to the history of technical communication as a profession in general and to information design in particular (Malone, 2011, 2015, 2019).

These studies examined the roles of professional organizations and educational programs as well as the work practices of information designers. Many studies examined ethics, accessibility, and user advocacy (Amare & Manning, 2013; Redish & Barnum, 2011; Rose, 2016).

Frameworks for information design have been developed to deal with a multitude of perspectives on design. In print media, Carliner (2000a) conceptualized information design as three components: physical, cognitive, and affective. Information design as a profession has also been described (Horn 1999), and the principles and guidelines for information design have been introduced (Pettersson 2002). This paper focuses on layout and graphic literacies and on how print-based design practices have survived into the digital age of information design. The second paper examines the application of design practices within the remit of science and scientific visualization.

Although significant advances have been made in information design over recent years, some cracks in the theoretical foundation remain to be addressed. The many traditions of information design have led to disciplinary fragmentation, preventing sufficiently integrated research across disciplines. This report examines the influence of usability research, document design, multimodality on design, and professionalization within the field, using thematic analysis to piece together the patchwork of research and practice and identify overall themes. 2026a; Dias et al., 2026b).

This study is situated within the emerging new landscape for information design in relation to communication theory, rhetoric, cultural studies, human-computer interaction, and design practice. While the study reports its findings thematically, information design as a field of

research resists easy categorization across disciplines. The study uses thematic analysis to synthesize current practices within information design and to draw theoretical conclusions to inform future research and practice within the emerging field.

METHODOLOGY

This study followed a methodological roadmap that used thematic analysis as the primary method for identifying and synthesizing themes, topics, and subtopics extracted from the information design literature. It guided the researcher beyond mere description and encouraged coding and theme development to synthesize information from various sources in the information design literature. The data was thematically analyzed in four stages: first reviewing the reference corpus to ensure all relevant sources, both foundational and contemporary, were included in the analysis; then applying coding procedures to the references to extract the concepts, techniques, frameworks and applications that were relevant to the analysis; organizing these codes into categories which served as a starting point for themes to emerge; and then refining the themes through further analysis of the literature to ensure all relevant aspects had been captured.

In developing the methodological tools for generating grounded theory, Strauss and Corbin (1998) laid the groundwork for qualitative research methods, including thematic analysis, systematic coding, and categorization. Increasingly, business and management research is conducted using qualitative research methods. Saunders et al. (2009) stressed the importance of methodological coherence in qualitative research and argued that research methods should be well aligned with the research objectives and the underlying theory. This study employed methods that systematically identified themes within the data, rather than the researcher's prior beliefs and concepts.

In addition to its rigor, the choice of thematic analysis was influenced by its flexibility. It enables findings to be synthesized from a variety of sources, including usability testing (Barnum, 2002), documents (Schriver, 1997), and from a multimodal perspective (Jewitt, 2009). Information behavior has an ecological orientation (Fidel, 2012), and, as such, thematic analysis provided a flexible yet structured approach to recounting the history of information design and to assessing the field's current state.

Despite the strengths of the methodology employed in this study, there are also certain limitations to consider. Thematic analysis is an entirely interpretive method and, consequently,

the themes developed and categorized are filtered through the researcher's interpretation. Whilst systematic coding procedures and methodological rigor have been adhered to as much as possible, there will always be a degree of subjectivity evident within the study. Furthermore, thematic analysis is not suited to producing statistical generalizations, and therefore, this study is not seeking to generalize to the wider population. However, the in-depth insights generated can have merit, particularly in such a diverse and increasingly interdisciplinary field.

In addition to the thematic analysis outlined above, the papers have also been amenable to coding using bibliometric and text-mining tools and methods. To support the qualitative coding process, VOSviewer 1.6.20 (Van Eck & Waltman, 2010) and Voyant Tools 2.0 (Sinclair & Rockwell, 2016) were also used to graphically represent thematic clusters and to provide numerous tools for analyzing texts. The output from these tools consists of a series of interactive, thematic visualizations that further support coding and bibliometric mapping of the document corpus. These enable the various themes to be viewed in terms of their distribution across the corpus.

FINDINGS AND ANALYSIS

To gain better insights into emerging thematic clusters in the literature, a bibliometric visualization was used to map connections among authors, keywords, and citations within a collection of information design articles. This network visualization (Figure 1) provides a view of the relationships among information design concepts, emerging ideas, and practices conceptualized across disciplines.

Figure 1: Network map

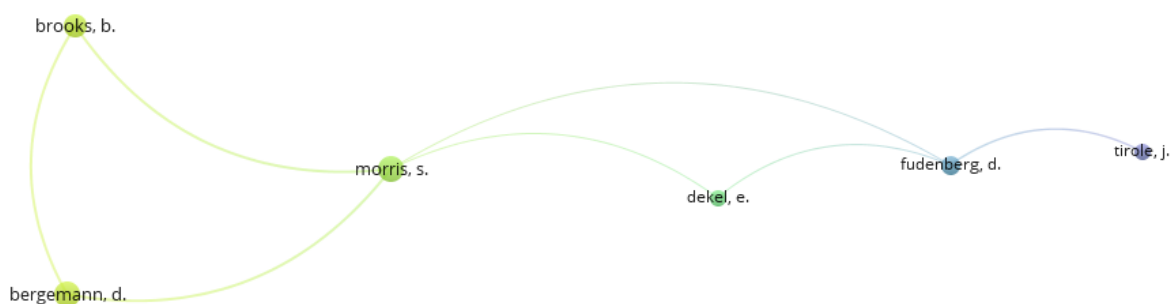


Source: VOSviewer (version 1.6.20). Adapted from van Eck and Waltman (2010)

Figure 1 shows a network map of co-authorship relationships among scholars who have authored works in information design. The map provides a view into the communities of practice that have contributed to this field over time. The clusters of nodes represent co-authors, and two

strong scholarly communities are revealed. One group of scholars and researchers, including Barnum, Gould, Lewis, Nielsen, and Fidel, focuses on topics such as usability and user and human-information interaction. The second group, consisting of Schriver, Kostelnick, Redish, and Carliner, focuses on topics related to document and information design from a rhetorical perspective. The map further reveals locations of interdisciplinary bridges between the different clusters. Some authors have been placed centrally between multiple clusters as their work connects traditions within these clusters. It is perhaps no surprise that many bridges between usability research and development and information design also span these areas and usability document design, given that good information design and effective usability documentation are already recognized as inherently interdisciplinary. Some of the bridges between these three areas are also locations where people actively connect the traditions of these areas; for example, Carliner and Redish, who also bridge this third area of documentation design. New contributors are represented as smaller nodes as they start to connect with others. The network has high density, indicating a lot of collaboration. It also has several clusters, indicating some fragmentation. Information design is an inherently multidisciplinary field, and while there are many interesting insights emerging within it, many remain confined to specific disciplines and methods. Based on the network map of co-authors, we want to show the possible cooperations and the different fields that are connected through information design, illustrated in Figure 2:

Figure 2: co-authorship network map

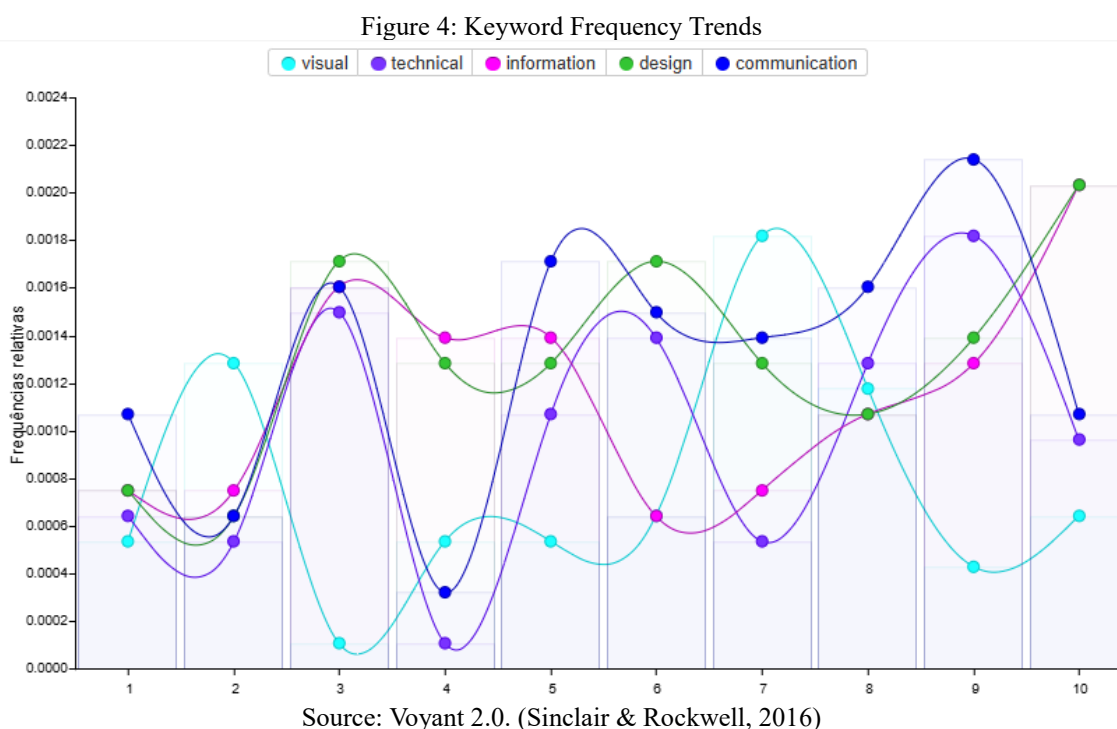


Source: VOSviewer (version 1.6.20). Adapted from van Eck and Waltman (2010)

The following conceptual word cloud (Figure 3) was developed using the online Voyant Tools 2.0 (Sinclair & Rockwell, 2016). The word cloud generated from the information design literature corpus highlights the most frequent and significant terms, thereby identifying the major themes and foci embedded in the corpus. The word cloud representing information design is to

Figure 4 shows the frequency of occurrence over time of five central information design concepts, which are compared with each other. The curves show the relative frequency distributions of the terms “visual”, “technical”, “information”, “design” and “communication” and thus provide an impression of their relative importance over time or within the database. A “word cloud” that reinforces the prominence of communication, design, and information is also visible. The fluctuations in “technical” indicate that it is more frequently associated with particular areas within the field of professional writing (i.e. technical communication, usability studies, professional practice) rather than being a standard term used to define the field as a whole. Note the relatively low frequency of the word “visual” until one considers the several spikes above average associated with certain aspects of multimodality, graphic literacy, and document design.

There are some striking similarities between these two diagrams, demonstrating where the boundaries between communication and design blur. Design is a communication discipline above all else, and that means that effective design begins with the organization and presentation of information. Note how information is the anchor concept in this diagram, and how the balance between technical and visual considerations shifts depending on the context and type of design. These terms are not part of the underlying structure of information design and should be used differently in other contexts.

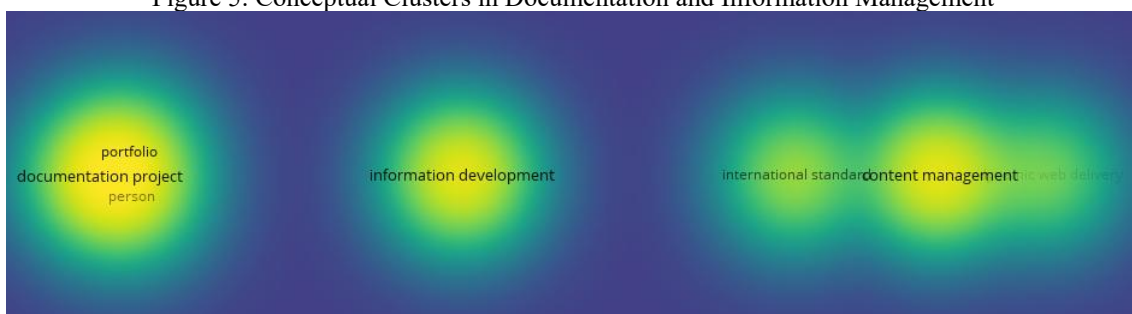


Four themes emerged over time, representing common practices and theories. The left cluster features terms that describe documentation from an individualized, project-based perspective on information design. Documentation is treated as a personal and professional artifact, often directly linked to specific projects or gathered and referenced in portfolios and case studies.

Information development is the core of the discipline and is represented as a central cluster on the map. The central cluster describes information development from the creation and organization of information to refinement for specific audiences and covers all methodological aspects of information design from a developmental perspective.

The right-hand set of international standards, content management, and dynamic web delivery focuses on a global, technology-oriented perspective. These areas draw on standards and the issue of interoperability across systems and formats, and are shifting increasingly to a digital environment with new media, platforms, and communication methods that challenge document designers in new ways. The content in this section explores information design methods in the context of globalized, digitally-driven communication. Figure 5: Illustrations of Multiple Perspectives in Information Design

Figure 5: Conceptual Clusters in Documentation and Information Management



Source: VOSviewer (version 1.6.20). Adapted from van Eck and Waltman (2010).

Theme One: Document Design & Rhetoric

Information design can be organized into three major themes. The first theme relates to information design from a document design and design rhetoric perspective. Early work on readability (Greene 1933), legibility (Paterson & Tinker 1940), and applications of readability (Tinker 1963) laid the groundwork for the technical aspects of this area of information design. Subsequent design rhetoric scholars approached the topic from a number of different perspectives, examining form and function, rhetorical theory, and cultural issues. From a

composing perspective, design rhetoric scholars such as Kostelnick (1990a, 1990b) have examined the composing process to achieve specific rhetorical goals. Schriver (1993, 1997) examined content, purpose, audience, and design/technical/visual issues. The work of Waller (2012, 2020) and Waller & Delin (2021) has particularly focused on ethics and cultural issues, as well as designer responsibility in the document design process. Two new books of mine discuss the evolution of document design from a design focus on typography and legibility to an interdisciplinary field that also draws on rhetoric, culture, and ethics.

Theme Two: Usability & Human-Centered Design

The second theme, usability and user-focused methods, examines methods for creating web documents and designs that are usable by others. Gould & Lewis (1985) were the first to describe an iterative approach to design that involved users in the process; their techniques have since become accepted methodologies for usability testing and other forms of user-centered design. Barnum (2002) applied the lessons of usability to the practices of technical writing, while Nielsen (2000) presented widely-used and tested usability heuristics for Web page design. Norman (2004) explored the nature of design from a psychological and experiential perspective, asking whether the user experience of products and interfaces is affected by how they are designed, even when users cannot articulate their experiences. Finally, Horn (1999) and Carliner (2001) explored the role of usability in the work of information designers. Usability is not simply another design method; it is a fundamental aspect of the discipline as a whole and thus an essential consideration for effective design.

Theme Three: Multimodality & Visual Communication

Designers have a growing set of concerns about quality in information design, moving beyond content quality and well-designed layout to include multimodality and visual communication. Multimodal analysis (Jewitt, 2009) examines how meaning is made using different semiotic modes – for example, text, image, sound, and gesture – while Designers have long treated written and visual modes as nothing more than a combination, asking questions about the quality of readers' interpretation as a result of the quality of the content and the quality of the design features. Waller (2020) and Rose & Turner (2023) address messages communicated via

digital channels, and Jarrett (2023) develops the principles of Schriver (1997) and Kostelnick (1990b) in this light.

Theme Four: Professionalization & Discipline Formation

The fourth theme of the historical overview is professionalization and consolidation of information design as a discipline. Books and papers such as Horn (1999), Carliner (2000a, 2000b, 2001) described the information design profession and practice. Another line of papers and books documented how information design as a field had become more recognized and legitimate. Examples include Malone (2011, 2015, 2019). A paper by Pettersson (2002) showed how information design could be viewed as an integrated discipline. The books and papers in this theme show how information design has matured from a loose collection of activities to a profession and discipline with its own organized activities, formalized education, professional practices, a growing body of information design theory, and increasing legitimacy.

Synthesis and Closing Remarks

The four themes of the publication—Document Design & Rhetoric, Usability & Human-Centered Design, Multimodality & Visual Communication, and Professionalization & Discipline Formation—each highlight a particular track information design has followed. Read together, however, the individual chapters and essays present a compelling and more complete narrative of the field's history and development. Designing documents with effective visual hierarchies and rhetorical organization remains a crucial concern. However, there is a growing emphasis on usability and a "human-centered" design approach that is process-oriented and iterative. The methodology is judged successful by user experience. In addition to these concerns, issues of multimodality and visual communication have grown in importance because of the unique ways in which meaning is made in a digital culture that combines static and interactive visual images with text. Finally, the field of writing studies/design studies has grown more professional, establishing itself within higher education through organizations, programs, and models of integration. Information design is an increasingly diverse field that draws on many disciplines and requires a balance between accurate information and effective design. Table 1 summarizes the findings and the emerging themes:

Table 1 Core Themes in Information Design: Focus, References, and Key Insights

Theme	Focus	Representative References	Key Insights
Document Design & Rhetoric	Heuristics, prospect theory, disposition effect, framing, overconfidence	Greene (1933); Paterson & Tinker (1940); Tinker (1963); Kostelnick (1990a, 1990b); Schriver (1993, 1997); Waller (2012, 2020); Waller & Delin (2021); Redish & Barnum (2011); Rose (2016)	The field evolved from early concerns with readability and typography to include rhetorical, cultural, and ethical dimensions, consolidating document design as a communicative and critical practice.
Usability & Human-Centered Design	User-centered design, usability testing, human-computer interaction	Gould & Lewis (1985); Barnum (2002); Nielsen (2000); Norman (2004); Horn (1999); Carliner (2001)	Usability became a central quality criterion, reinforcing iterative processes and adaptation to user needs and expectations.
Multimodality & Visual Communication	Integration of text, images, graphics, and multiple semiotic modes	Jewitt (2009); Rose & Turner (2023); Jarrett (2023); Kostelnick (1990b); Schriver (1997); Waller (2020)	Multimodality expands the scope of design, showing that meaning is constructed through multiple modes beyond text, particularly in digital environments.
Professionalization & Discipline Formation	Consolidation of the field as a profession and academic discipline	Horn (1999); Carliner (2000a, 2001); Malone (2011, 2015, 2019); Pettersson (2002); Carliner (2000b)	Information design established itself as a recognized discipline and profession, supported by associations, educational programs, and integrative models that provide coherence to the field.

Source: created by the authors.

Discussion and Implications

The four themed sections present recent research from the fields of document design and rhetoric, usability and human-centered design, multimodality and visual communication, and professionalization and discipline formation. Together, they contextualize information design and its practice within a wider interpretative framework.

Document Design and Rhetoric represent early studies and essays, such as Greene (1933), Paterson & Tinker (1940), and Tinker (1963). The work of Kostelnick (1990a, 1990b), Schriver (1993, 1997), and Waller (2012, 2020, 2021) in the area has emphasized the rhetorical, cultural, and ethical bases of “good” design decisions. Authors such as Redish and Barnum (2011) and Rose (2016) have highlighted that much current work focuses on workplace safety information. A recent example of studies focused on the national cultural level related to information design for workplace safety is Lafraia, Waller, and delin (2026). Integrating rhetorical awareness into an organization’s communication system may produce more persuasive messages, more culturally sensitive design, and more ethically responsible information. The

bottom line: more effective safety information.

Usability and Human-Centered Design are methodologies that encompass several stages. Such a methodology takes into account users' needs and expectations. In emerging markets across developing countries, where the Fintech wave is taking hold, new challenges and opportunities for growth are emerging. The studies by Barros et al. (2026) show that users' risk perception and trust are crucial factors in the adoption of Fintech services. Therefore, in the competitive financial services market, information design is crucial for the design of digital technologies that are transparent, usable, and cognitively and emotionally correct. Usability will be a crucial determinant of the adoption of digital technologies in the fast-growing financial market. Hence, the importance of Human-Centered Design for technological innovation (Barnum, 2002; Carliner, 2001; Gould & Lewis, 1985; Horn, 1999; Nielsen, 2000; Norman, 2004).

Multimodality and Visual Communication. One aspect of this is multimodal analysis. Developed by Jewitt (2009), multimodal analysis considers the interactions among semiotic modes (text, images, sound, and physical action) and how meaning is made from their combined use. However, traditionally, information designers have dealt with two modes: text and images, trying to ensure that the quality of the content and the individual design features translate to good interpretation by the reader.

Waller (2020) and Rose & Turner (2023) advocate for designers to explore messages across multiple modes, channels, and contexts. This evolution has increased, rather than simplified, disciplinary complexity. Earlier works by Schriver (1997) and Kostelnick (1990b) delineated effective practices in writing, visual elements, and organization. Currently, Jarrett (2023) extends these principles to multimodal design, emphasizing enhanced clarity, engagement, and organizational innovation (Jewitt, 2009; Kostelnick, 1990b; Rose & Turner, 2023; Schriver, 1997; Waller, 2020).

Professionalization and Discipline Formation need the formalization of knowledge and the institutionalization of practice and information. This process has started and evolved over the last two decades, and is further reflected in book chapters and articles which map the field of information design and its research and practice history (Carliner, 2000a, 2000b, 2001; Horn, 1999; Malone, 2011, 2015, 2019; Pettersson, 2002).

There are implications for other areas where it can make a difference, for instance, to design effective safety instructions (Lafraia et al., 2026), and how Information Design can affect

Fintech adoption, focusing on issues related to digital trust (Barros et al., 2026). Innovation at the organizational level (Dias et al., 2026a, 2026b), through the employment of design strategies to achieve competitive advantage, has been addressed by several studies. The use of design strategies in industrial energy systems (Bastos & Dias, 2026) illustrates the potential of such practices to technical communication in general and to engineering in particular. In the area of corporate training, the applications of serious games (Carvalho et al., 2026) demonstrate how design strategies are developed and guide learning and value-creation processes. Information design is not confined to the remit of communication studies but is an essential discipline for knowledge societies and, therefore, highly relevant to numerous fields and industries.

CONCLUSION

In conclusion, Information design in this article is viewed through the perspectives of four core themes: document design and rhetoric, usability and human-centered design, multimodality and visual communication, and professionalization and discipline formation. Information design is now a mature discipline, professional yet distinctive, and integrated yet interdisciplinary. Information design is more than just a technical skill. Information design also includes a rhetoric, user-centered methods, a variety of media and means of expression, and, finally, professional credibility. Information design can contribute to effective communication, ethical practices, and corporate success. The found themes thus reflect the growing significance of a discipline fundamental to knowledge societies.

This article is not just a collection of best-practice approaches and new research in the information design discipline. The article also explores the potential implications of effective information design for other research disciplines. Information design has rich theoretical, practical, and ethical implications for many areas of study and application. Therefore, information design is not confined to the field of Communication Studies. Its application and significance also extend to safety management, the application of information technology in finance, organizational change and innovation, industrial engineering, and corporate training and learning. Information design is an interdisciplinary practice that links theory and practice, tradition and innovation, and communication and technology. Information design is, therefore, one of the most important fields for creating, communicating, and understanding information.

FUTURE RESEARCH

There are many promising avenues for future research, but one direction I find particularly promising is an exploration of the intersections of document design and rhetoric in cultural contexts of globalized societies. Thus, a comparison of practices across industries in different countries could highlight how different rhetorical strategies are used to shape the purposes and messages of information design to accommodate cultural differences.

Future research could examine how usability and human-centered design can significantly influence the adoption of emerging technologies. While preliminary findings on Fintech adoption (Barros et al., 2026) identified risk perception and trust as predictors of adoption, understanding how usability can be used to increase the adoption of interfaces for artificial intelligence, health technologies, and communication systems for smart infrastructure could result in powerful information design solutions for tackling complex problems.

Further research into meaning-making in multimodality and visual communication within increasingly complex digital contexts would be valuable. In innovative organizations, communication strategies are instrumental to success. An investigation is warranted into how various communication modes generate meanings conducive to organizational innovation.

REFERENCES

- Albers, M. J. (Ed.). (2012). *Human-information interaction and technical communication: Concepts and frameworks*. IGI Global.
- Albers, M., & Mazur, M. B. (Eds.). (2003). *Content and complexity: Information design in technical communication*. Routledge.
- Amare, N., & Manning, A. D. (2013). *A unified theory of information design: Visuals, text & ethics*. Amityville, NY: Baywood Publishing Company.
- Barnum, C. M. (2002). *Usability testing and research*. Longman.
- Barnum, C. M. (2011). What we have here is a failure to communicate: How cultural factors affect online communication between East and West. In K. St.Amant, F. Sapienza, & C. Sides (Eds.), *Culture, communication, and cyberspace: Rethinking technical communication for international online environments* (pp. 131–156). Baywood.
- Barnum, C. M., & Li, H. (2006). Chinese and American technical communication: A cross-cultural comparison of differences. *Technical Communication*, 53(2), 143–166.
- Barros, S, Lopes, R., Dias, M. (2026) Extending UTAUT2 with risk perception to explain Fintech

- adoption in an emerging market: evidence from Brazil. *Revista de Ciencias Sociales*, 24(110), e715, <https://doi.org/10.23900/ra.v24i110.715>
- Bastos, B. & Dias, M. (2026). Um Estudo de Caso Aplicado em Turbinas Geradoras de Energia Elétrica em Indústria Brasileira de O&G. *Periódicos Brasil. Pesquisa Científica*, 5(2), 1007–1026. <https://doi.org/10.36557/2674-9432.2026v5n2p1007-1026>
- Carliner, S. (1986). Topping the text. *IEEE Transactions on Professional Communication*, 29(4), 72–74. <https://doi.org/10.1109/TPC.1986.6448993>
- Carliner, S. (1987b). List: The ultimate organizer for engineering writing. *IEEE Transactions on Professional Communication*, 30(4), 218–221. <https://doi.org/10.1109/TPC.1987.6449088>
- Carliner, S. (1990). Elements of editorial style for computer-delivered information. *IEEE Transactions on Professional Communication*, 33(1), 38–45. <https://doi.org/10.1109/47.49071>
- Carliner, S. (2000a). Physical, cognitive, and affective: A three-part framework for information design. *Technical Communication*, 47(4), 561–576.
- Carliner, S. (2000b). Taking cues from the culture: The case of network earth. *Journal of Business and Technical Communication*, 14(3), 264–288. <https://doi.org/10.1177/105065190001400302>
- Carliner, S. (2001). Emerging skills in technical communication: The information designer's place in a new career path for technical communicators. *Technical Communication*, 48(2), 156–175.
- Carliner, S. (2002). Designing better documents. *Information Management Journal*, 36(5), 42–51.
- Carliner, S. (2003). Modeling information for three-dimensional space: Lessons learned from museum exhibit design. *Technical Communication*, 50(4), 554–570.
- Carliner, S., Verckens, J. P., & de Waele, C. (Eds.). (2006). *Information and document design: Varieties on recent research*. John Benjamins Publishing Company.
- Carvalho, M.; Dias, M.; Schmitz, T. (2026) Value Creation and Destruction: Balancing Failure in Serious Games Applied to Online Corporate Training. *International Business Research*, 19(3), 35-53; <https://doi.org/10.5539/ibr.v19n3p35>
- Dawson, R. (2012). Receivers and information interpreters. Appalachian State University: CI-5636-376 Emerging Issues and Trends in Media and Technology – Topic: Information Design.
- Dervin, B. (1992). From the mind's eye of the user: The sense-making qualitative-quantitative methodology. In J. Glazier & R. R. Powell (Eds.), *Qualitative research in information management* (pp. 61–84). Englewood, CA: Libraries Unlimited.

- Dervin, B. (1999). Chaos, order, and sense-making: A proposed theory for information design. In R. Jacobson (Ed.), *Information design*. MIT Press.
- Dias, M., & Silva Junior, D. S., Oliveira, A.R. (2026). Innovation at the Core of Competitive Advantage: A Thematic Exploration of Emerging Organizational Pathways. *Veredas do Direito*, 23(6), e235771. <https://doi.org/10.18623/rvd.v23.5771>
- Dias, M., & Silva Junior, D. S., Oliveira, A.R. (2026a). Innovation at the Core of Competitive Advantage: A Thematic Exploration of Emerging Organizational Pathways. *Veredas do Direito*, 23(6), e235771. <https://doi.org/10.18623/rvd.v23.5771>
- Dias, M., & Silva Junior, D. S., Oliveira, A.R. (2026b). Paradigms and Frontiers in Entrepreneurship: A Systematic Literature Review. *The International Journal of Business Management and Technology*, 10(4), 1-17; <https://doi.org/10.5281/zenodo.19438545>
- Fidel, R. (2012). Human information interaction: An ecological approach to information behavior. MIT Press.
- Frankel, A., & Kartik, N. (2021). Improving information from manipulable data. *Journal of the European Economic Association*, 20(1), 79–115.
- Friess, E. (2010). The sword of data: Does human-centered design fulfill its rhetorical responsibility? *Design Issues*, 26(3), 40–50. https://doi.org/10.1162/DESI_a_00028
- Fudenberg, D., & Tirole, J. (1991). *Game theory*. MIT Press, Cambridge.
- Furnham, A., & Williams, C. (1987). Remembering commercials presented in different media. *Journal of Educational Television*, 13, 115–124.
- Gazzaniga, M. S. (1967). The split brain in man. *Scientific American*, 217, 24–29.
- Gentzkow, M., & Kamenica, E. (2017). Competition in persuasion. *Review of Economic Studies*, 84, 300–322.
- Goldstein, I., & Huang, C. (2016). Bayesian persuasion in coordination games. *American Economic Review*, 106, 592–596.
- Gossner, O. (2000). Comparison of information structures. *Games and Economic Behavior*, 30, 44–63.
- Gould, J. D., & Lewis, C. (1985). Designing for usability: Key principles and what designers think. *Communications of the ACM*, 28(3), 300–311. <https://doi.org/10.1145/3166.3170>
- Grafton, A. (2001). Leon Battista Alberti: Master builder of the Italian Renaissance. London: Allen Lane.
- Grant, J., Gorin, S., & Fleming, N. (2008). The archaeology coursebook: An introduction to themes, sites, methods and skills. London: Taylor & Francis.
- Grasha, A. F. (1996). *Teaching with style*. Alliance.

- Green, G. L. (2000). Imagery as ethical inquiry. *Art Education*, 19–24.
- Greene, E. B. (1933). The legibility of typewritten material. *Journal of Applied Psychology*, 17(6), 713–728. <https://doi.org/10.1037/h0071774>
- Griffin, M. (1992). Looking at TV news: Strategies for research. *Communication*, 2(13), 121–141.
- Griffith, J., Zarlengo, T., & Melonçon, L. (2024). A field wide snapshot of student learning outcomes in the technical and professional communication service course. *Journal of Technical Writing and Communication*, 54(1), 46–68. <https://doi.org/10.1177/00472816221134535>
- Gunnarsson, B.-L. (1982). Lagtexters begriplighet: En språkfunktionell studie av medbestämmandelagen. Stockholm, Sweden: Liber Förlag.
- Hackos, J. T. (1984). Teaching problem-solving strategies in the technical communication classroom. *IEEE Transactions on Professional Communication*, PC-27(4), 178–179. <https://doi.org/10.1109/TPC.1984.6448732>
- Hackos, J. T. (1985). Using systems analysis techniques in the development of standards and procedures. *IEEE Transactions on Professional Communication*, 28(3), 25–30. <https://doi.org/10.1109/TPC.1985.6448825>
- Hackos, J. T. (1988). Redefining corporate design standards for desktop publishing. *Technical Communication*, 35(4), 288–291.
- Hackos, J. T. (1994a). *Managing your documentation projects*. John Wiley & Sons.
- Hackos, J. T. (1994b). Publications and training: The challenge of working together. *Technical Communication*, 41(3), 424–431.
- Hackos, J. T. (1997). From theory to practice: Using the information process-maturity model as a tool for strategic planning. *Technical Communication*, 44(4), 369–380.
- Hackos, J. T. (2002). *Content management for dynamic web delivery*. John Wiley & Sons.
- Hackos, J. T. (2005). The future of technical communication: The perspective of a management consultant. *Technical Communication*, 52(3), 273–276.
- Hackos, J. T. (2007). *Information development: Managing your documentation projects, portfolio, and people*. Wiley.
- Hackos, J. T. (2015). Changing times-changing skills. *Communication Design Quarterly*, 3(2), 7–12. <https://doi.org/10.1145/2752853.2752854>
- Hackos, J. T. (2016). International standards for information development and content management. *IEEE Transactions on Professional Communication*, 59(1), 24–36. <https://doi.org/10.1109/TPC.2016.2527278>

- Hackos, J. T. (2018). ISO standards reinforce the role of the project manager. *Technical Communication*, 65(2), 131–135.
- Hackos, J. T., & Redish, J. C. (1998). *User and task analysis for interface design*. John Wiley & Sons.
- Hall, S. (1980). Encoding/decoding. In S. Hall, D. Dobson, A. Lowe, & P. Willis (Eds.), *Culture, media, language*. London, UK: Hutchinson.
- Hall, S. (1997). *Representation: Cultural representations and signifying practices*. London, England: Sage.
- Hancock, V. (1993). Information literacy for lifelong learning. *ERIC Digest*. ED 358870.
- Hannafin, M. J., & Peck, K. (1988). *The design, development, and evaluation of instructional software*. New York, NY: Macmillan.
- Hart-Davidson, W. (2023). Information. In H. Yu & J. Buehl (Eds.), *Keywords in technical and professional communication* (pp. 145–150). The WAC Clearinghouse; University Press of Colorado.
- Hartley, J., & Burnhill, P. (1977). Fifty guidelines for improving instructional text. *Programmed Learning and Educational Technology*, 14, 65–73.
- Hartson, H. R. (1998). Human-computer interaction: Interdisciplinary roots and trends. *Journal of Systems and Software*, 43(2), 103–118. [https://doi.org/10.1016/S0164-1212\(98\)10026-2](https://doi.org/10.1016/S0164-1212(98)10026-2)
- Hassner, R. (1977). *Bilder för miljoner*. Stockholm, Sweden: Sveriges Radio/Rabén och Sjögren.
- Head, A. J. (2000). *Design wise: A guide for evaluating the interface design of information resources*. Medford, NJ: Cyber Age Books.
- Heinich, R., Molenda, M., & Russell, J. D. (1982). *Instructional media and the new technologies of instruction*. New York: John Wiley & Sons.
- Hellspong, L. (1992). *Konsten att tala: Handbok i praktisk retorik*. Lund: Studentlitteratur.
- Hellwig, C., & Venkateswaran, V. (2009). Setting the right prices for the wrong reasons. *Journal of Monetary Economics*, 56, 57–77.
- Hering, A. (1925). Grundzuge der Lehre vom Lichtsinn. In *Handbuch der gesamten Augenheilkunde* (2nd ed., Vol. 3). Berlin, Germany.
- Hirshleifer, J. (1971). The private and social value of information and the reward to inventive activity. *American Economic Review*, 61, 561–574.
- Holmes, N. (1993). *The best in diagrammatic graphics*. Switzerland, Mies: Rotovision.
- Holmes, N., & DeNeve, R. (1985). *Designing pictorial symbols*. Watson-Guptill.

- Holsanova, J. (1999). Olika perspektiv på språk, bild och deras samspel: Metodologiska reflexioner. In I. Haskå & C. Sandqvist (Eds.), *Alla tiders språk. Lundastudier i nordisk språkvetenskap A 55* (pp. 117–126). Lund: Lund University Press.
- Hooker, J. N. (1992). Is design theory possible? Graduate School of Industrial Administrations.
- Horn, R. E. (1999). Information design: Emergence of a new profession. In R. Jacobson (Ed.), *Information design* (pp. 15–34). MIT Press.
- Horn, R. E. (1999). Information design: Emergence of a new profession. In R. Jacobson (Ed.), *Information design*. MIT Press.
- IDA (1997). The origins of the Information Design Association.
- idX. (2007). Information design: Core competencies. What information designers know and can do. Wien: IIID. Retrieved from www.iiid.net/PDFs/idxPublication.pdf
- Itten, J. (1962). *Kunst der farbe*. Ravensburg: Otto Maier Verlag.
- Jacobson, R. (1999). *Information design*. MIT Press.
- Jarrett, C. (2000). Designing usable forms: The three-layer model of the form.
- Jarrett, C. (2001). “How to” manual on forms design. *ACM SIGCAPH Computers and the Physically Handicapped*, 70(70), 4–ff. <https://doi.org/10.1145/501078.501080>
- Jarrett, C. (2007). Problems and joys of reading research papers for practitioner purposes. *Journal of Usability Studies*, 3(1), 1–6.
- Jarrett, C. (2015, November). Design at scale: Building a design community. *User Experience: The Magazine of the UXPA*.
- Jarrett, C. (2023). How design systems manage contributions: Panel at design system day.
- Jarrett, C., & Gaffney, G. (2009). *Forms that work: Designing web forms for usability*. Morgan Kaufmann.
- Jarrett, C., Redish, J., & Summers, K. (2013). Designing for people who do not read easily. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 39–65). Baywood Publishing Co.
- Jewitt, C. (2009). Introduction: What is multimodality? In C. Jewitt (Ed.), *The Routledge handbook of multimodal analysis* (pp. 14–27). London: Routledge.
- Johnson, R. R. (1998). User-centered technology: A rhetorical theory for computers and other mundane artifacts. SUNY Press.
- Jones, N. N. (2016). Narrative inquiry in human-centered design: Examining silence and voice to promote social justice in design scenarios. *Journal of Technical Writing and Communication*, 46(4), 471–492. <https://doi.org/10.1177/0047281616653489>

- Kajii, A., & Morris, S. (1997). The robustness of equilibria to incomplete information. *Econometrica*, *65*, 1283–1309.
- Kamenica, E., & Gentzkow, M. (2011). Bayesian persuasion. *American Economic Review*, *101*, 2590–2615.
- Kamenica, E., & Gentzkow, M. (2014). Costly persuasion. *American Economic Review*, *104*, 457–462.
- Kandinsky, W. (1912). *Über das Geistige in der Kunst. Insbesondere in der Malerei.* (Trans. Concerning the spiritual in art.) New York: Dover Publications (1977).
- Kandinsky, W. (1925). *Punkt und Linie zu Fläche: Beitrag zur Analyse der malerischen Elemente.* (Trans. Point and line to plane.) New York: Dover Publications (2012).
- Kartik, N., & Zhong, W. (2026). Lemonade from lemons: Information design and adverse selection. *Theoretical Economics*, *21*(1), 281-324.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratification research. *Public Opinion Quarterly*, *37*, 509–523.
- Kazu, I. Y. (2009). The effect of learning styles on education and the teaching process. *Journal of Social Sciences*, *5*, 85–94.
- Kearsley, G. (1999). Explorations in learning and instruction: The theory into practice database.
- Kelly-Gadol, J. (1969). *Leon Battista Alberti: Universal man of the Renaissance.* Chicago, IL: University of Chicago Press.
- Kepes, G. (1944). *Language of vision.* Chicago, IL: Paul Theobald.
- Kim, B. C. (2026). Information Design with Seller Manipulation. Available at SSRN 6072810.
- Kimball, M. (2023). Design. In H. Yu & J. Buehl (Eds.), *Keywords in technical and professional communication* (pp. 93–98). The WAC Clearinghouse; University Press of Colorado.
- King, D. B. (2005). *Max Wertheimer & Gestalt theory.* New Brunswick, NJ: Transaction Publishers.
- Kirkman, J. (2003). *Full marks: Advice on punctuation for scientific and technical writing.* Marlborough, UK: Ramsbury Books.
- Kirkman, J. (2005). *Good style: Writing for science and technology* (2nd ed.). New York, NY: Routledge.
- Klare, G. R. (1985). *How to write readable English.* Hutchinson.
- Klatzky, R. L. (1980). *Human memory: Structures and processes.* New York: W. H. Freeman.
- Kluckert, E. (1999). Emblematic. In R. Toman (Ed.), *Barock: Architektur, skulptur, malerei.* Köln, Germany: Könemann.

- Koblanck, H. (1999). *Typografi och grafisk design*. Stockholm, Sweden: Bonnier Utbildning.
- Kolotilin, A. (2017). Optimal information disclosure: A linear programming approach. *Theoretical Economics*. (Forthcoming).
- Kolotilin, A., Li, M., Mylovanov, T., & Zapechelnyuk, A. (2017). Persuasion of privately informed receiver. *Econometrica*. (Forthcoming).
- Kostelnick, C. (1989b). Process paradigms in design and composition: Affinities and directions. *College Composition and Communication*, 40(3), 267–281.
- Kostelnick, C. (1990a). The rhetoric of text design in professional communication. *The Technical Writing Teacher*, 17(3), 189–202.
- Kostelnick, C. (1990b). Typographical design, modernist aesthetics, and professional communication. *Journal of Business and Technical Communication*, 4(1), 5–24.
- Kostelnick, C. (2002). Cultural adaptation and information design: Two contrasting views. *IEEE Transactions on Professional Communication*, 38(4), 182–196.
- Kozma, R. (1991). Learning with media. *Review of Educational Research*, 61(2), 179–212.
- Ladd, P. D., & Ruby, R. (1999). Learning style and adjustment issues of international students. *Journal of Education for Business*, 74, 363–367.
- Laffont, J. (1989). *The economics of uncertainty and information*. MIT Press, Cambridge.
- Lafraia, J., Dias, M., Silva Junior, D. S. (2026) The role of national culture in safety practices: Brazilian perspectives on workplace and asset integrity. *Revista eduUCA*, 9, e204 <https://doi.org/10.54901/educa.v9-204>
- Lasswell, H. D. (1948). The structure and function of communication in society. In L. Bryson (Ed.), *The communication of ideas* (pp. 37–51). New York: Harper & Brothers.
- Lawson, L. (1968). Ophthalmological factors in learning disabilities. In H. Myklebust (Ed.), *Progress in learning disabilities* (Vol. 1). New York: Grune and Stratton.
- Lefferts, R. (1982). *How to prepare charts and graphs for effective reports*. New York: Barnes & Noble.
- Levy, D. M. (2001). *Scrolling forward: Making sense of documents in the digital age*. Arcade.
- Libgober, J., & Mu, X. (2021). Informational robustness in intertemporal pricing. *Review of Economic Studies*, 88(3), 1224–1252.
- Lidwell, W., Holden, K., & Butler, J. (2010). *Universal principles of design: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design* (2nd ed.). Beverly, MA: Rockport Publishers.
- Lipton, R. (2007). *The practical guide to information design*. John Wiley & Sons.

- Liu, Q. (2015). Correlation and common priors in games with incomplete information. *Journal of Economic Theory*, 157, 49–75.
- Lopes, R. & Dias, M. (2026a) Boards of Directors and Corporate Governance Outcomes: A Literature Review. *Advances in Social Sciences Research Journal*, 13(04), 46–66. <https://doi.org/10.14738/assrj.1304.20194>
- Lopes, R. & Dias, M. (2026b) Mapping the Themes of Gender Diversity in Boards: A Thematic Analysis. *Veredas Do Direito*, 23(5), e235738. <https://doi.org/10.18623/rvd.v23.5738>
- Lucas, R. (1972). Expectations and the neutrality of money. *Journal of Economic Theory*, 4, 103–124.
- Lupton, E. (2009). Why theory? In H. Armstrong (Ed.), *Graphic design theory: Readings from the field*. New York: Princeton Architectural Press.
- Lupton, E., & Miller, A. (1999). *Design writing research*. London: Phaidon Press.
- MacDonald-Ross, M. (1977). How numbers are shown: Review of research on the presentation of quantitative data in texts. *AV Communication Review*, 25(4), 359–409.
- Mackiewicz, J. (2004). What technical writing students should know about typeface personality. *Journal of Technical Writing & Communication*, 34(1–2), 113–131.
- Malone, E. A. (2011). The first wave (1953–1961) of the professionalization movement in technical communication. *Technical Communication*, 58(4), 285–306.
- Malone, E. A. (2015). Women organizers of the first professional associations in technical communication. *Technical Communication Quarterly*, 24(2), 121–146.
- Malone, E. A. (2019). “Don’t be a Dilbert”: Transmedia storytelling as technical communication during and after World War II. *Technical Communication*, 66(3), 209–229.
- Margolin, V. (1989). Introduction. In V. Margolin (Ed.), *Design discourse: History, theory, criticism* (pp. 3–28). Chicago, IL: University of Chicago Press.
- Margolin, V. (2002). *The politics of the artificial: Essays on design and design studies*. Chicago, IL: University of Chicago Press.
- Mas-Collel, A., Whinston, M., & Green, J. (1995). *Microeconomic theory*. Oxford University Press, Oxford.
- Maskin, E. (1999). Nash equilibrium and welfare optimality. *Review of Economic Studies*, 66, 23–38.
- Massoumian, B. (1989). Successful teaching via two-way interactive video. *TechTrends*, 34(2), 16–19.

- Mayer, R. E., Steinhoff, K., Bower, G., & Mars, R. (1995). A generative theory of textbook design: Using annotated illustrations to foster meaningful learning of science text. *Educational Technology Research and Development*, 43(1), 31–43.
- Mayzlin, D., Dover, Y., & Chevalier, J. (2014). Promotional reviews: An empirical investigation of online review manipulation. *American Economic Review*, 104(8), 2421–2455.
- McCombs, M. E. (2005). A look at agenda-setting: Past, present and future. *Journalism Studies*, 6(4).
- McCombs, M. E., & Reynolds, A. (2002). News influence on our pictures of the world. In J. Bryant & D. Zillmann (Eds.), *Media effects* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176–187.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: McGraw-Hill.
- McLuhan, M., & Fiore, Q. (1967). *The medium is the message: An inventory of effects*. New York: Random House.
- McQuail, D. (2000). *Mass communication theory*. London: SAGE Publications.
- Melonçon, L. (2009). Master's programs in technical communication: A current overview. *Technical Communication*, 56(2), 137–148.
- Mertens, J., & Zamir, S. (1985). Formalization of Bayesian analysis for games with incomplete information. *International Journal of Game Theory*, 14, 1–29.
- Milgrom, P., & Weber, R. (1982). A theory of auctions and competitive bidding. *Econometrica*, 50, 1089–1122.
- Miller, G. A. (1956). Human memory and the storage of information. *IRE Transactions on Information Theory*, 2(3), 129–137.
- Miller, G. A. (1977). Problems of communication. *Daedalus*, 106(4), 113–125.
- Mirel, B. (1987). Designing field research in technical communication: Usability testing for in-house user documentation. *Journal of Technical Writing and Communication*, 17(4), 347–354.
- Mok, C. (1996). *Designing business*. San Jose, CA: Adobe Press.
- Mok, C. (1997). *Designing business: Multiple media, multiple disciplines*. San Jose, CA: Adobe Press.
- Morris, S., & Ui, T. (2005). Generalized potentials and robust sets of equilibria. *Journal of Economic Theory*, 124, 45–78.

- Mullaney, T. S., Peters, B., Hicks, M., & Philip, K. (Eds.). (2021). *Your computer is on fire*. MIT Press.
- Mylovanov, T., & Troeger, T. (2014). Mechanism design by an informed principal: Private values with transferable utility. *Review of Economic Studies*, *81*, 1668–1707.
- New Mexico Tech pilots Master's in public engagement in science, design and communication this fall. (2022, April 22). *Los Alamos Reporter*.
- Neyman, A. (1991). The positive value of information. *Games and Economic Behavior*, *3*, 350–355.
- Nielsen, J. (2000). *Designing web usability: The practice of simplicity*. New Riders Publishing.
- Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism*. NYU Press.
- Norman, D. A. (2004). *Emotional design: Why we love (or hate) everyday things*. Basic Books.
- Novshek, W., & Sonnenschein, H. (1982). Fulfilled expectations Cournot duopoly with information acquisition and release. *Bell Journal of Economics*, *13*, 214–218.
- Ostrovsky, M., & Schwarz, M. (2010). Information disclosure and unraveling in matching markets. *American Economic Journal: Microeconomics*, *2*, 34–63.
- Palmer, J. S., & Killingsworth, M. J. (2002). Research and consulting in technical communication. *Technical Communication Quarterly*, *11*(4), 389–409.
- Paterson, D. G., & Tinker, M. A. (1940). *How to make type readable*. Harper.
- Pettersson, R. (2002). *Information design: An introduction*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Pettersson, R. (2007). *It depends: ID – Principles and guidelines*. Tullinge: Institutet för Infologi. Retrieved from <http://www.iiid.net/>
- Piccione, M., & Spiegler, R. (2012). Price competition under limited comparability. *Quarterly Journal of Economics*, *127*(1), 97–135.
- Porter, J. E. (2009). Recovering delivery for digital rhetoric. *Computers and Composition*, *26*(4), 207–224.
- Potts, L., & Salvo, M. J. (Eds.). (2017). *Rhetoric and experience architecture*. Parlor Press.
- Quintão, H., Dias, M., da Mata, R. & da Silva Jr., D. (2026). Artificial Intelligence in Alternative Dispute Resolution: A Literature Review on Guidelines, Best Practices, and The Role of Engineering Experts in Complex Construction Contracts. *International Journal of Advance Research*, *14*(3), 821-830, <https://doi.org/10.5281/zenodo.19161386>
- Rayo, L., & Segal, I. (2010). Optimal information disclosure. *Journal of Political Economy*, *118*, 949–987.

- Redish, J. (2000). What is information design? *Technical Communication*, 47(2), 163–166.
- Redish, J. (2000). What is information design? *Technical Communication*, 47(2), 163–166.
- Redish, J., & Barnum, C. (2011). Overlap, influence, intertwining: The interplay of UX and technical communication. *Journal of Usability Studies*, 6(3), 90–101.
- Redish, J., & Barnum, C. (2011). Overlap, influence, intertwining: The interplay of UX and technical communication. *Journal of Usability Studies*, 6(3), 90–101.
- Redish, J., Felker, D. B., & Rose, A. M. (1981). Evaluating the effects of document design principles. *Information Design Journal*, 2(3–4), 236–243.
- Redish, J., Felker, D. B., & Rose, A. M. (1981). Evaluating the effects of document design principles. *Information Design Journal*, 2(3–4), 236–243.
- Rockley, A., Kostur, P., & Manning, S. (2002). *Managing enterprise content: A unified content strategy*. New Riders.
- Rockley, A., Kostur, P., & Manning, S. (2002). *Managing enterprise content: A unified content strategy*. New Riders.
- Roesler, A., & Szentes, B. (2017). Buyer-optimal learning and monopoly pricing. *American Economic Review*, 107, 2072–2080.
- Rose, E. J. (2016). Design as advocacy: Using a human-centered approach to investigate the needs of vulnerable populations. *Journal of Technical Writing and Communication*, 46(4), 427–445.
- Rose, E. J., & Schreiber, J. (2021). User experience and technical communication: Beyond intertwining. *Journal of Technical Writing and Communication*, 51(4), 343–349.
- Rose, E. J., & Schreiber, J. (2021). User experience and technical communication: Beyond intertwining. *Journal of Technical Writing and Communication*, 51(4), 343–349.
- Rose, E. J., & Turner, H. N. (2023). The paradigm shift to UX and the durability of usability in TPC. *Technical Communication Quarterly*, 33(4), 463–474.
- Rowland, G. (1993). Designing and instructional design. *Educational Technology Research and Development*, 41(1), 79–91.
- Salvo, M. J. (2001). Ethics of engagement: User-centered design and rhetorical methodology. *Technical Communication Quarterly*, 10(3), 273–290.
- Salvo, M. J. (2014). What's in a name? Experience architecture rearticulates the humanities. *Communication Design Quarterly*, 2(3), 6–9.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow: Pearson Education.

- Schrivver, K. A. (1989). Evaluating text quality: The continuum from text-focused to reader-focused methods. *IEEE Transactions on Professional Communication*, 32(4), 238–255.
- Schrivver, K. A. (1990). Document design from 1980–1990: Challenges that remain. *Technical Communication*, 36(4), 316–333.
- Schrivver, K. A. (1991). Plain language through protocol-aided revision. In E. R. Steinberg (Ed.), *Plain language: Principles and practice* (pp. 148–172). Wayne State University Press.
- Schrivver, K. A. (1993). Quality in document design: Issues and controversies. *Technical Communication*, 40(2), 239–257.
- Schrivver, K. A. (1997). *Dynamics in document design: Creating texts for readers*. Wiley.
- Schrivver, K. A. (2000). Readability formulas in the new millennium: What's the use? *ACM Journal of Computer Documentation*, 24(3), 138–140.
- Schrivver, K. A. (2002). Taking our stakeholders seriously: Re-imagining the dissemination of research in information design. In B. Mirel (Ed.), *Reshaping technical communication: New directions and challenges for the 21st century* (pp. 129–152). Lawrence Erlbaum Associates.
- Shadrin, R. L. (1992). *Design & drawing: An applied approach*. Worcester, MA: Davis Publications.
- Sinclair, S., & Rockwell, G. (2026). *Voyant Tools* (Version 2.6.19) [Text analysis software]. Voyant Consortium. <https://voyant-tools.org>
- Smith, P. L., & Ragan, T. J. (2005). *Instructional design* (3rd ed.). Hoboken, NJ: Wiley Jossey-Bass Education.
- Spinuzzi, C. (2008). *Network: Theorizing knowledge work in telecommunications*. Cambridge University Press.
- Spinuzzi, C. (2015). *All edge: Inside the new workplace networks*. University of Chicago Press.
- Spinuzzi, C., & Zachry, M. (2000). Genre ecologies: An open-system approach to understanding and constructing documentation. *Journal of Computer Documentation*, 24(2), 95–128.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.
- Strunk, W., & White, E. B. (2000). *The elements of style*. Boston: Allyn and Bacon.
- Tebeaux, E. (1991). *The emergence of a tradition: Technical writing in the English Renaissance, 1475–1640*. Baywood Publishing Company.
- Tebeaux, E., & Killingsworth, M. J. (1992). *The substance of style: Instructional writing in English, 1650–1800*. Baywood Publishing Company.
- Tinker, M. A. (1963). *Legibility of print*. Iowa State University Press.

- Tufte, E. R. (1990). *Envisioning information*. Graphics Press.
- Tufte, E. R. (2006). *Beautiful evidence*. Graphics Press.
- Ui, T. (2001). Robust equilibria of potential games. *Econometrica*, 69, 1373–1380.
- Van der Meij, H., & Carroll, J. M. (1995). Principles and heuristics for designing minimalist instruction. MIT Press.
- Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538
- Waller, R. (1987). *The typographic contribution to language*. PhD thesis, University of Reading.
- Waller, R. (1991). Typography and discourse. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 341–380). Longman.
- Waller, R. (2012). Graphic literacies for a digital age: The survival of layout. *The Information Society*, 28(4), 236–252.
- Waller, R. (2017). *Typography and discourse*. Routledge.
- Waller, R. (2020). *Designing information for people: A guide to understanding and improving information design*. Routledge.
- Waller, R., & Delin, J. (2003). The influence of layout on the interpretation of tax forms. *Information Design Journal*, 11(1), 1–19.
- Waller, R., & Delin, J. (2007). Written documents. In T. van Leeuwen & C. Jewitt (Eds.), *Handbook of multimodal analysis* (pp. 145–160). Routledge.
- Waller, R., & Delin, J. (2014). Information design: From research to practice. In M. J. Albers & B. Still (Eds.), *Usability of complex information systems: Evaluation of user interaction* (pp. 65–86). CRC Press.
- Waller, R., & Delin, J. (2016). Information design. In C. R. G. Williams (Ed.), *The Routledge handbook of language and digital communication* (pp. 351–364). Routledge.
- Waller, R., & Delin, J. (2021). *Information design: Research and practice*. Routledge.
- Waller, R., & Delin, J. (2023). *Designing information for people: A guide to understanding and improving information design*. Routledge.
- Winn, W. (1993). Perception principles. In M. Fleming & W. H. Levie (Eds.), *Instructional message design: Principles from the behavioral and cognitive sciences* (2nd ed.). Englewood Cliffs, NJ: Educational Technology Publications.
- Young, M. (1989). *The technical writer's handbook*. Mill Valley, CA: University Science Books.