

# Research on Multimedia Animation Elements in Information Transmission in the Era of Big Data

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## ABSTRACT

In the era of big data, information transmission has undergone profound changes, with multimedia animation elements playing an increasingly important role. This study comprehensively analyzes the application, influencing factors, and communication efficiency of multimedia animation in information dissemination. The paper discusses the types, components, and advantages of multimedia animation, as well as how the evolving nature of information transmission in the big data era impacts its demand. It further explores the effects of animation creativity, content relevance, and other factors on communication effectiveness. By uncovering the laws and values of multimedia animation in information transmission, this study aims to optimize its application, enhance communication quality, and support innovation in the field. The findings provide a theoretical basis for improving the quality and impact of information dissemination in the big data context.

## KEYWORDS

The Era of Big Data, Information Transmission, Multimedia Animation Elements, Communication Effect

## INTRODUCTION

In the contemporary digital landscape, the unprecedented growth of data, combined with rapid advancements in data processing technologies, has fundamentally transformed the dissemination of information (Budakoğlu et al., 2023; Kumar et al., 2023). We now inhabit an environment inundated with information, often referred to as the era of “information overload.” The pervasive influence of big data has reshaped our information ecosystem, significantly altering communication methods and efficiency across all sectors. As the volume and complexity of data continue to rise, traditional modalities of information dissemination struggle to keep pace with the sheer abundance of content produced. This data explosion presents new challenges for individuals and organizations as they navigate, interpret, and effectively communicate intricate information (Tian, 2021).

In response to these challenges, multimedia animation has emerged as a powerful tool for enhancing information transmission. Its dynamic and visually engaging characteristics allow it to capture attention, simplify complex concepts, and convey messages in ways that traditional media often cannot (Tarish et al., 2023). From eye-catching advertisements on social media to interactive tutorials on educational platforms and engaging visual reports in news applications, multimedia animation

DOI: 10.4018/IJeC.375008

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has become an indispensable component of modern communication strategies. By integrating visual and auditory elements along with interactivity, animated content effectively cuts through the clutter of information, thereby enhancing the message's impact (Guo, 2023). This multimedia approach not only supports clearer understanding but also fosters active audience engagement—a critical factor given the shrinking attention spans and the fragmented consumption of information we observe today (Mujtaba et al., 2023).

The aim of this study is to explore the role of multimedia animation in the context of information transmission during the era of big data. Specifically, it will investigate the current applications, influencing factors, and communication efficiency of multimedia animation elements across various fields. By systematically analyzing these aspects, the study seeks to uncover the fundamental principles governing the effectiveness of multimedia animation in disseminating information. Moreover, the research aspires to provide both theoretical insights and practical recommendations for optimizing animation usage across different sectors, empowering information producers to communicate more efficiently. In an increasingly complex and information-saturated environment, multimedia animation has the potential to deliver messages that are more vivid, accurate, and engaging. The findings from this study will not only enhance the value and influence of information but will also contribute to the ongoing innovation and evolution of information dissemination practices. Through this research, the study aims to inform strategies that promote more effective communication, ensuring that information reaches its intended audience in a compelling and impactful manner.

## **LITERATURE REVIEW**

In the era of big data, multimedia animation has firmly established itself as an invaluable tool for effective information transmission across various domains. This modality transcends traditional media formats by simplifying complex concepts, capturing attention, and engaging viewers in ways that are increasingly necessary in today's fast-paced information landscape. Particularly, in fields, such as advertising and marketing, multimedia animation has become indispensable (Rahayu et al., 2024; Rahim et al., 2023). Traditional communication channels often struggle to convey intricate details and maintain audience engagement over extended periods. In contrast, multimedia animation provides a dynamic alternative that can transform abstract ideas, data, and narratives into visually compelling content, making complex information not only accessible but also enjoyable (Yeni Lestari et al., 2024).

The advantages of multimedia animation are significant, yet its impact is highly contingent upon its thoughtful application. Poorly executed animation or excessive use can inadvertently detract from the core message, leading to viewer fatigue or disengagement. For instance, animations that are overly complex or lack clarity can confuse audiences rather than aid comprehension. Therefore, understanding the optimal conditions under which to integrate animation into communication strategies is vital to maximizing its effectiveness. Thoughtfully designed animation can effectively capture attention while enhancing information retention, making content more memorable and interactive (Razali et al., 2023).

Extensive research has demonstrated that incorporating multimedia elements can greatly enhance comprehension and retention, particularly in educational contexts. Studies indicate that students exposed to animated explanations often achieve better learning outcomes compared to those who receive information through static formats (Lee et al., 2024). This is especially pertinent in an age where educational institutions and organizations are seeking innovative ways to engage learners amid overwhelming information overload. The rise of personalized content in information dissemination highlights the critical need for tailored multimedia strategies that align with individual audience preferences and behaviors (Tang, 2023). Such customization is crucial in environments characterized by abundant information, where individuals increasingly seek content that resonates with their specific interests and needs.

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