


Trust and Openness in Visual Communication: An Augmented Reality Analysis

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| Article Info | ABSTRACT |
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| Keywords: Augmented Reality, Communication Visual, Trust, Openness, E education, Presentation Business | Augmented Reality (AR) is a technology that integrates virtual elements into the real world, creating a more immersive, interactive experience. This technology is increasingly used in various fields, including education, business, and communications. This study, entitled "Augmented Reality and Its Effect on Trust and Openness in Visual Communication," aims to determine the impact of augmented reality technology on visual communication. reality (AR) on trust and openness Visual communication. A qualitative approach was used in this study, with the participation of 20 students from Sultan Syarif Kasim State Islamic University, Riau. Observations and interviews were conducted to obtain empirical data. This study shows that AR can increase trust through more realistic visualizations and more personalized interactions. Furthermore, AR also increases openness by enabling more transparent and emotional information delivery. This technology has proven effective in improving understanding and involvement, especially in environment education and business presentations. Therefore, these results confirm the great potential of AR in improving the quality of visual communication and making a positive contribution in various fields of application. |
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INTRODUCTION

Augmented Reality (AR) is a technology that has experienced rapid development in recent decades. This technology enables the integration of virtual objects with the real world in real time, creating a rich and immersive interactive experience for users (D'Orazi, 2021). AR applications have It has penetrated various fields, from entertainment and education to marketing. One of the interesting aspects of AR is its ability to innovate visual communication, which is a crucial element in human interaction (Billinghurst et al., 2014).

One of the challenges in visual communication is building trust and openness between the parties involved. Trust is the foundation of interpersonal and professional relationships. Without it, communication can be hindered and the goals of the interaction difficult to achieve. Openness, on the other hand, encompasses transparency and clarity in message delivery, which is essential for avoiding misunderstandings and strengthening relationships (Wu et al., 2013).

In context This, AR offer potential Which significant for influence and increase trust and openness in visual communication (Sugiono, 2021). This technology can provide users

with clearer and more informative views through detailed and realistic visual representations. For example, in the business world, AR can be used to provide product presentations that more interactive and transparent, thereby increasing consumer confidence in the product. Research shows that AR has the ability to improve user engagement and strengthen their perception of the information conveyed (Radu, 2014)

Furthermore, AR can also play a significant role in education. Using AR in learning can make subject matter more engaging and understandable, which in turn can increase openness and trust between teachers and students (Wu et al., 2013). AR's ability to present information in three-dimensional and interactive formats allows students to be more engaged in the learning process, thereby building their trust in the material being taught and the instructors who deliver it.

This research aims to explore how AR can influence trust and openness in visual communication. Particular focus is given to analyzing the interactions generated by AR applications and how this technology can transform perception and experience users. With understand influence AR In visual communication, it is hoped that effective strategies can be found to utilize this technology in various fields, especially those that require a high level of trust and openness (Küçük et al., 2016).

METHODOLOGY

This study uses a qualitative approach with the aim of gaining a deeper understanding of the impact of augmented reality (AR) on trust and openness. visual communication. The method used is a case study with phenomenological approach, which aims to investigate in detail and in depth the experiences of research subjects. The research population is Islamic University students Country Sultan Sharif Eunuch Riau (UIN Suska Riau) Which amount to 388 student. Retrieval sample done with technique purposive sampling, with choose 20 students who have experience using AR technology in virtual communication. This method was chosen because it aims to obtain informants who can provide relevant information. comprehensive and relevant about the phenomenon that investigated (Creswell, 2013). Data collected through interview deep and observation participants.

The interviews were conducted using a semi-structured interview guide that enabled the researcher to exploring themes that emerged during the interviews. Participatory observation was conducted to observe student interactions and actions when using AR technology for visual communication. The interviews and observations were recorded, and the transcripts were analyzed using thematic analysis techniques. Thematic analysis allows researchers identifying, analyzing, and reporting patterns (themes) in qualitative data (Braun & Clarke, 2006). The analysis process begins by repeatedly rereading interview transcripts and observation notes to understand the context and content in which the data is placed. Next, the data was coded to identify key emerging themes. To increase data reliability and validity, triangulation methods were used to compare interview and observation data. Member checks were also conducted, where participants reviewed the transcribed interview results.

In addition, researchers also provide critical reflection to ensure data interpretation is

free from personal bias. Data analysis focuses on how AR technology influences authenticity and openness in visual communication. The theme that identified include honesty, emotional engagement, and a sense of comfort in sharing information. The results of this study are expected to provide new insights into the potential of AR in improving the quality of visual communication and its implications for the use of technology. AR in education and other fields.

Basis Theory

Augmented Reality (AR)

Augmented Reality (AR) is a technology that incorporates virtual objects into real-world environments in real time. AR creates an interactive experience in which digital objects, such as images, videos, and sounds, are placed within the user's physical context. AR technology uses a variety of devices, including smartphones, tablets, and specialized headsets, to display virtual content that enriches the user's experience (Billinghurst et al., 2014). AR is used in various fields, including the gaming industry, education, and medicine. Example AR applications that popular is Pokémon GO. Pokémon GO allows players to use the device for see character Pokémon appear in environment

real world around them. In education, AR is used to enhance learning in an interactive and engaging way by visualizing interactive 3D models of complex objects and concepts. AR software encompasses several key elements that work together to create an integrated user experience. Examples include image and video processing algorithms to recognize objects and physical environments, as well as algorithms that combine digital elements with the real world in real time.

AR hardware includes a camera that displays the real world, motion sensors that detect user movement, and other sensors such as accelerometers and gyroscopes that measure the device's orientation and position. A simple example of AR is face filters in social media apps that add digital elements such as glasses, hat, or animal on face users when they take pictures self However, the application of AR is not limited to entertainment applications alone; this technology has expanded its scope to various industries, including education, health, gaming, tourism, and many more (Arifitama & Syahputra, 2018). Using AR in virtual communications can increase trust and openness in several ways.

1. Interactivity, AR allows users interact directly with digital content, making the experience more personal and increasing openness of communication.
2. Reality, AR enriches physical reality with digital elements, making it easier for users to understand and remember the information. served.
3. Openness, AR allows users to exchange information and content more effectively, increasing openness virtual communication.

Trust

Trust in virtual communication is a crucial element in communication, especially in virtual contexts where direct physical interaction is limited or nonexistent. Trust in virtual communication can be defined as confidence in the honesty, competence, and good intentions of others. other parties involved in the communication. This trust plays a crucial role in the effectiveness and quality of virtual interactions (Billinghurst et al., 2014). Augmented reality (AR) has great potential to increase trust and openness in virtual

communication. Some ways AR can increase trust and openness:

1. Increasing the Confidence of Visual Experience, AR allows users see the product visually, increase trust towards the product and increase purchase intention.
2. Presenting your product visually allows users to better understand it and make more informed decisions.
3. Openness in Communication Virtual

Openness in communication refers to the extent to which individuals honestly and transparently share their information, thoughts, and feelings. In the context of communication virtual, openness important for build connection Which powerful and effective that allows participants to better understand each other and reduce misunderstandings.

1. Increased openness of real-time feedback, AR allows users to receive real-time feedback, increasing openness and interaction with your product. AR allows users to receive faster and more accurate feedback. accurate, thus increasing openness and interaction with the product You. Example application AR that popular covers e-commerce applications where users can see products visually and receive real-time feedback about them.
2. Personalized experiences, AR allows users to get experiences tailored to their needs, increasing user openness and satisfaction. With AR, users can enjoy experiences tailored to their needs, thereby increasing user openness and satisfaction. Examples of popular AR applications includes marketing applications that provide experiences tailored to user needs.
3. Example use 4 AR in TikTok Filter AR: TikTok use filter AR to allow users to interact more with content and increase trust AR filters allow users to have a more interactive experience and increase trust in your content. A popular example of an AR application is face filters for social media apps. These add digital elements such as glasses, hats, and animals to users' faces when they take photos of themselves. This gives users a a more interactive and trust-enhancing experience to your content.

Influence Augmented Reality to Trust

AR technology can make virtual communication more reliable by providing a more immersive and realistic experience. AR allows users feel the presence of other participants more realistically, even though they are on the same location different. This helps break down psychological barriers and increases perceptions of the trustworthiness and worthiness of others (Billinghurst & Kato, 2002). Augmented reality (AR) allows users interact with physical objects in an environment enriched with 3D content interactive. In communication context, AR can be used to create virtual meetings and conferences where participants from different locations different feel like you're in the same place. This helps break down psychological barriers caused by location differences and increases perceptions of others' trustworthiness and values. Here are some uses of AR in visual communication:

1. Meeting Virtual, AR allows users for participate in more realistic virtual meetings. In virtual meetings, AR can display additional data about the interlocutor, such as biographical or job information, this helps increase trust and openness in

communication.

2. Product Presentations: AR can be used for more interactive presentations of products and ideas. In presentations, AR can display more detailed and interactive visual information, thereby increasing awareness and confidence in the product or idea being presented.
3. Mental Health Therapy: AR is used in therapy to address mental health issues such as anxiety, phobias, and PTSD. Users can practice handling difficult situations in a safe environment. increase trust and openness in communication.
4. Interactive Education, AR takes learning to a new level by creating more interactive and fun learning experiences. In the field of education, AR can be used to make learning materials more more interactive with add element visual, animation, or multimedia content that can be accessed through AR applications.

Influence Augmented Reality towards Transparency

AR can foster openness in communication by creating interactive environments that encourage active participation and self-expression. AR experiences that rich and interesting make users feel more comfortable and encourage them to share information more openly and honestly. In addition, visualizing data and information through AR improve understanding and reduce misunderstandings (Quandt et al., 2020).

Benefits of Augmented Reality (AR) through Greater Openness Augmented Reality (AR) allows users to interact with physical objects in an environment enhanced with 3D content Interactive. In the context of communication, AR can be used to create a more interactive environment and enable active participation and self-expression. Here are some of the benefits of AR in increasing openness:

1. Interactive Environment: AR creates a more interactive environment where users can actively participate in communication. In this environment, users can share information more openly and honestly, thereby increasing transparency. communication.
2. Rich and engaging experience, Rich and engaging AR experience makes users feel more comfortable and sharing information more openly and honestly. This increases users' willingness to share information and increases openness in communication.
3. Data and Information Visualization, AR allows users visualize data and information in a more interactive and easy-to-understand format. this contributes to increased understanding, fewer misunderstandings, and more open communication.

According to (Sugiono, (2021) analysis and implications AR is as following:

1. AR can be used in various communication applications, such as virtual meetings, product presentations, and mental health therapy. In any application, AR can help increase transparency by creating a more interactive environment and enabling active participation and self-expression.
2. How AR influence trust, AR Also influence Trust. By increasing transparency, AR helps build trust between communicating parties. This is because users feel more comfortable and encouraged to share information more openly and honestly.
3. AR Development to Increase Openness, Development of additional technologies required for increase openness through AR. This development must consider the interactivity and usability aspects of AR. so that users can share information with

more easy, open, and honest.

Theory Media Richness

Media richness theory states that communication media differ in their capabilities facilitate the understanding of complex messages. Rich media, such as face-to-face meetings and video conferencing, are considered effective in conveying complex and emotional messages. AR can be considered a very rich medium with the ability to add layers of visual and interactive information, thus potentially increasing trust and openness in virtual communication (Daft & Lengel, 1986).

Media richness theory explains that communication media have different capabilities that facilitate the understanding of complex messages. Rich media, such as face-to-face meetings and video conferencing, are considered effective in conveying complex and emotional messages. In the context of communication, rich media allows users interact directly and receive more detailed and interactive information (Sugiono, 2021). Augmented Reality (AR) as Rich Media Augmented Reality (AR) can be viewed as a very rich medium with the ability to add layers of visual and interactive information. In communications, AR allows users to interact with physical objects in an environment enhanced with 3D content. interactive. Therefore, AR has the potential to increase trust and openness in virtual communication. Augmented reality (AR) allows users interact with physical object in the environment that enriched with 3D content interactive. In the context of communication, AR can be used to create a more interactive environment and enable active participation and self-expression. AR has the potential to improve the quality of visual communication by increasing trust and openness. By Because That, AR can become a tool that effective for increase trust and openness in visual communication.

RESULTS

Description General

This study aims to explore how augmented reality (AR) influences trust and openness in visual communication. Data were obtained through in-depth interviews and participant observation with 20 students at Sultan Syarif Kasim State Islamic University, Riau, who have used AR technology in virtual communication. The interviews and observations provided in-depth insights into students' experiences, perceptions, and interactions when using AR technology.

Findings Main

Trust in Communication Visual with AR

1. Improvement Trust through Visualization Which Realistic

The majority of respondents stated that AR increased their trust in the information presented. Visualizing products or information with AR provides a clearer and more detailed picture, giving them greater confidence in the authenticity and quality of the information.

2. The interaction that More Personal

AR allows interaction Which more personal and deep with Digital content. Respondents felt that the ability to see and interact with virtual objects in a real-world context increased their confidence in the message being conveyed, both in

educational and business contexts.

Openness in Communication Visual with AR

1. Transparency in Delivery Information

Respondents acknowledged that using AR helps increase transparency in communication. AR allows for more transparent and clear information delivery, reducing the potential for misunderstandings. Three-dimensional and interactive visualizations help clarify complex concepts.

2. Involvement Emotional that Tall

AR's ability to deliver interactive and immersive experiences fosters greater emotional engagement. Respondents felt more comfortable and open to sharing information and their feelings when using AR technology.

Influence AR in Context Education

1. Increase Interest and Student Engagement

2. AR makes learning materials more engaging and easier to understand. Most respondents stated that using AR in learning increased their interest and engagement, as well as strengthening their trust in the material and the instructor.

3. Facilitating Understanding The concept that Complex

4. AR helps students understand complex concepts in a way that easier and more visual. Respondents felt that three-dimensional and interactive representations allowed them to better understand the subject matter, thereby increasing openness in class discussions.

5. Interactivity: AR allows teachers to combine real and virtual objects, making the learning process more interactive and engaging.

6. Concept Visualization: AR makes abstract concepts easier to see and understand, so students can better understand them.

7. Skill Development: AR can help students think critically and participate in learning activities; it can improve their skills in analysis and synthesis.

8. Raising Awareness: AR can help students understand natural phenomena and make physics concepts like waves more clear and interactive.

9. Increase Participation: AR allows students to participate directly in learning activities, increasing their awareness and engagement.

10. Increase Effectiveness: AR can help student more understand the concept.

11. Enhancing Experience Immersion: AR can enhance students' understanding and engagement with events in their environment.

12. Increasing Environmental Awareness: AR can help students understand and visualize their surroundings, increasing their awareness and engagement in their environment.

Influence AR in Context Business

1. Presentation Product Which More Interactive

In the business world, AR is used to provide more interactive and transparent product presentations. Student respondents working part-time in marketing felt that AR helped them build consumer trust in the products they offered.

2. Increase Buying decision
Product visualization with AR allows consumers to see and understand products in greater detail before deciding to purchase. Respondents acknowledged that the use of AR in product presentations increased their confidence in their purchasing decisions.
3. Increased Sales: AR allows consumers to see goods in real time. interactive, increase awareness product, and push them to buy. For example, IKEA uses AR to allow consumers to choose furniture that fits their space.
4. Improving Customer Experience: AR allows customers to see products directly, increasing awareness and satisfaction. MAYBELLINE, for example, uses AR to increase customer awareness and satisfaction when purchasing cosmetics.
5. Improving Marketing Effectiveness: AR allows businesses to better promote products and increase consumer awareness of them. For example, SHOPEE using AR to increase consumer awareness about cosmetics.
6. Increase Awareness and Pleasure Customer: AR AR allows customers to view products interactively, increasing customer awareness and enjoyment. One example is the use of AR in the retail industry, which increases customer awareness and enjoyment when purchasing products online.
7. Increase Awareness and Pleasure Customer: AR AR allows customers to experience products directly, increasing customer awareness and enjoyment. In the retail industry, for example, the use of AR increases customer awareness and enjoyment when purchasing goods online and in-store.

Analysis Thematic

Through thematic analysis, some of the main themes identified from interviews and observations include:

1. Honesty, the use of AR increases the perception of honesty in visual communication due to realistic and detailed visualizations.
2. Emotional Involvement, AR encourages higher emotional engagement, so users feel more involved and open in sharing information.
3. Feeling of Comfort, experience interactive with AR making Users feel more comfortable sharing information, increasing openness and trust in communication.

Triangulation And Validity Data

To increase data reliability and validity, method triangulation was conducted by comparing interview and observation data. Member checks were also conducted by involving participants to check the results. the interview that transcribed. Researchers also provide reflection critical to ensure that data interpretation is free from personal bias.

Implications Study

The results of this study indicate that AR has great potential to increase trust and openness in visual communication, both in educational and business contexts. These findings can be used as a basis for developing effective strategies in utilizing AR technology to improve the quality of visual communication. This study also highlights ^{the} importance of interactivity and transparency in visual communication with AR, which can be a focus in the development of AR applications in the future. By understanding the influence of AR on trust and openness, it is hoped that new ways can be found to improve the quality of interaction

and communication in various fields.

CONCLUSION

This study shows that augmented reality (AR) has great potential to increase trust and openness in visual communication. Through a case study with students at Sultan Syarif Kasim State Islamic University in Riau, we found that AR providing more realistic and detailed visualizations, ultimately increasing user confidence in the information presented. Furthermore, the interactivity provided by AR can create a more personal and immersive experience, increasing user openness and emotional engagement. In educational settings, AR has proven effective in making learning materials more engaging and understandable, increase student interest and involvement, and improve confidence towards course materials and instructors. In the business world, AR helps provide a more interactive and transparent product presentation, increase consumer confidence and influence purchasing decisions positive. Thematic analysis This study shows that AR increases perceptions of honesty, emotional engagement, and comfort when sharing information, all of which contribute to improved visual communication quality. These results are supported by triangulation and member checking methods, which ensure data reliability and validity. Suggestion Development 9 kasi app AR. In the field of education, developing more interactive and interesting AR applications can increasing student interest and engagement in learning. Incorporating AR into the curriculum can be used as a strategy to improve understanding of complex concepts. Bringing AR to Business: Businesses can use AR technology for more effective product presentations and marketing. AR allows for more detailed and interactive product visualizations, increase consumer confidence and influence purchasing decisions. Further research is needed to consider the use of AR in other areas such as healthcare, tourism, and the creative industries. Additional research can help us better understand How AR can improve the quality of visual communication and develop more effective strategies for using AR. Training and Socialization: Training and socialization on the use of AR in visual communication should be conducted to improve users' understanding and skills in using this technology. This helps maximize the benefits of AR in various communication contexts. Development Technology, development technology AR must focus on increasing interactivity and ease of use so that users can share information more easily, openly and honestly. These aspects are important to increase trust and openness in visual communication. By implementing these proposals, AR technology will be utilized more optimally, improving the quality of visual communication in various fields, creating more effective interactions, and increasing trust and openness between users.

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