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Augmented Reality–Enhanced Proposal Experiences (ARPE): Reimagining B2B Marketing Through Immersive Proposal Design

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Abstract

Business-to-business (B2B) proposals are traditionally structured, compliance-driven documents, often criticised for being static and text-heavy despite their strategic role in procurement decisions. This study introduces Augmented Reality–Enhanced Proposal Experiences (ARPE), a novel approach that integrates immersive and interactive content into proposal submissions. Grounded in Media Richness Theory and the Elaboration Likelihood Model, ARPE is proposed as a means of enhancing comprehension, emotional engagement, credibility, and purchase intent among decision-makers. Using a mixed-methods experimental design, the study compared traditional proposal formats with ARPE-enabled submissions incorporating three-dimensional product visualisations, holographic testimonials, and interactive return-on-investment simulations. A controlled trial involving 60 B2B decision-makers revealed that ARPE significantly improved comprehension (42%), emotional engagement (35%), and perceived credibility (27%) relative to conventional formats. Qualitative interviews reinforced these findings, with participants describing ARPE as more engaging, innovative, and professional. The results indicate that ARPE not only strengthens brand differentiation but also increases the likelihood of proposals being shortlisted in competitive procurement contexts. This paper extends the literature on proposal development by introducing a framework for immersive proposal design and contributes to marketing practice by offering strategic recommendations for integrating augmented reality into sales enablement.

Keywords: Augmented Reality, B2B Marketing, Decision-Making, Immersive Marketing, Interactive Proposals, Proposal Development.

Introduction

In a saturated and fast-paced B2B marketplace, firms continually seek new ways to differentiate themselves during the proposal stage of the sales cycle. Proposals are often regarded as compliance-driven documents that convey value propositions, technical capabilities, and pricing information, but they have remained largely static in design despite the growing complexity of buyer expectations (1, 2). Existing scholarship notes that while modern marketing communications emphasize personalization, interactivity, and visual storytelling, most proposals continue to prioritize completeness and clarity over creativity and engagement (3, 4). This gap between innovative marketing practice and static proposal formats highlights an underexplored opportunity for transformation.

Recent advances in immersive technologies have reshaped customer engagement across industries. Augmented reality (AR), in particular, has emerged as a tool capable of overlaying digital information on physical environments in real time (5). Its applications in retail, tourism, and education demonstrate its ability to improve recall, foster brand loyalty, and stimulate sensory engagement (6, 7). Yet in B2B contexts, research has largely focused on AR for training and industrial use rather than in customer-facing proposals (8). The integration of AR into proposals therefore represents an important but unstudied application.

The theoretical foundation for ARPE lies in Media Richness Theory, which suggests that rich communication channels are more effective for complex tasks because they convey multiple cues, offer immediate feedback, and reduce ambiguity (9). Similarly, the Elaboration Likelihood Model explains that immersive content can promote central-route processing by motivating evaluators to engage deeply with proposal information (10). Together, these perspectives suggest that ARPE may enhance comprehension, credibility, and

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persuasion in high-stakes decision-making environments.

Emerging scholarship further underscores the importance of visual and experiential content in B2B marketing. Studies show that tools such as infographics, explainer videos, and interactive demonstrations improve understanding and evoke emotional responses, yet they are seldom used in formal proposals (11). The concept of "proposal experience" is increasingly discussed in industry practice but remains absent in academic research. By bridging marketing technology, business communication, and sales enablement, this study introduces ARPE as a framework for immersive proposal design and empirically examines its effectiveness in comparison with traditional proposal formats. The objectives of this study are threefold: to conceptualize and define ARPE for B2B marketing, to empirically test its impact on comprehension, engagement, credibility, and purchase intent, and to provide strategic implications for practitioners seeking to incorporate immersive technologies into proposal development. By doing so, the paper contributes to both theory and practice by reimagining proposals not as static compliance documents, but as dynamic marketing assets capable of shaping buyer decisions.

Methodology

This study employed a mixed-methods experimental design to evaluate the effectiveness of Augmented Reality–Enhanced Proposal Experiences (ARPE) compared with traditional proposal formats in business-to-business (B2B) marketing. A randomized controlled trial was used to capture quantitative outcomes, while semi-structured interviews provided qualitative insights into participant perceptions. The analysis focused on three outcome variables: comprehension and retention of proposal content, emotional engagement and perceived credibility, and intent to award a contract or shortlist the vendor. These dimensions were selected because they align closely with key decision-making criteria in B2B procurement (12, 13).

A total of 60 participants were recruited, all of whom held decision-making roles such as procurement managers, business development leads, or proposal evaluators in medium-to-large B2B organizations. Industries represented included information technology, manufacturing, and marketing services. Participants were randomly assigned to either the control group (n=30), which received a conventional text-based PDF proposal, or the experimental group (n=30), which received an ARPE-enabled proposal accessible via smartphone or tablet. Demographic data on industry, years of professional experience, and familiarity with AR were collected to control for extraneous variables.

The stimulus materials were designed for a fictional service provider offering an artificial intelligence–based customer relationship management platform. The traditional proposal contained text, infographics, and static visuals, while the ARPE proposal included identical content enhanced with three-dimensional product demonstrations accessed via QR codes, holographic testimonials featuring client case studies, and interactive overlays simulating return on investment. All AR components were developed using Unity and Vuforia, optimized for mobile devices to ensure cross-platform accessibility (14). Quantitative data were gathered through a standardized post-exposure survey. Comprehension was measured through multiple-choice recall questions, emotional engagement using the Positive and Negative Affect Schedule (PANAS), credibility and trustworthiness using seven-point Likert scales, and decision intent through likelihood-to-shortlist ratings. These instruments were drawn from validated scales widely used in marketing and communication research (15, 16).

Qualitative data were collected from a subset of 12 participants, evenly split between the control and experimental groups. Interviews explored participants' experiences in navigating the proposals, their perceived strengths and weaknesses, and suggestions for improvement. Interviews were recorded, transcribed, and analyzed thematically to capture recurring patterns related to usability, emotional impact, and perceptions of innovation.

Quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS). Independent-samples t-tests compared group means, while analysis of variance (ANOVA) assessed interaction effects based on industry type and AR familiarity. Effect sizes (Cohen's d) were calculated to determine the magnitude of differences. Qualitative data were coded in NVivo,

allowing dominant themes to be extracted and triangulated with survey results.

Internal validity was ensured by holding proposal content constant across conditions, with only the presentation format differing. External validity was strengthened by recruiting participants across diverse industries. Reliability was assessed through Cronbach's alpha, with thresholds of 0.80 or higher indicating acceptable internal consistency.

All participants provided informed consent prior to participation, and anonymity and confidentiality were assured. The study was conducted in compliance with institutional research ethics standards, with no personally identifiable information collected.

Results

The study compared Augmented Reality–Enhanced Proposal Experiences (ARPE) with traditional proposal formats across comprehension, emotional engagement, perceived credibility, and purchase intent. The findings demonstrate significant advantages for ARPE in each of these dimensions.

Participants in the ARPE group achieved notably higher comprehension scores than those in the traditional group. On a 10-point scale, the ARPE group averaged 8.6, compared with 6.1 for the traditional group ($t(58)=5.27$, $p<0.001$, Cohen's $d=1.35$). This large effect suggests that AR's visual and interactive features promoted deeper cognitive processing and improved recall, consistent with prior evidence that immersive media enhances knowledge retention and learning outcomes (6, 14, 17).

Emotional engagement, measured through the Positive and Negative Affect Schedule (PANAS), was also significantly higher in the ARPE condition. The ARPE group reported a mean positive affect score of 38.2 out of 50, compared with 28.6 in the control group ($t(58)=4.14$, $p<0.001$, Cohen's $d=1.06$). Interview data supported this finding, with participants describing the proposals as "immersive," "engaging," and "more enjoyable than any proposal I've reviewed." This aligns with earlier work highlighting AR's potential to generate affective involvement and brand attachment in consumer contexts (5, 7, 18).

Credibility ratings further reinforced ARPE's advantages. On a seven-point Likert scale, the ARPE group reported a mean credibility score of 6.1 versus 5.2 for the traditional group ($t(58) = 3.03$, $p=0.003$, Cohen's $d=0.78$). Interview participants frequently described ARPE as more "professional," "innovative," and "clearer in demonstrating value." These findings echo past studies showing that interactive media can signal innovation and professionalism, thereby increasing perceived trustworthiness in digital communications (19, 20).

Purchase intent was also significantly stronger for ARPE proposals. In the experimental group, 87% (26 of 30) indicated they were "very likely" to shortlist the vendor, compared with 57% (17 of 30) in the control group ($\chi^2(1,N=60)=7.11$, $p=0.008$). This demonstrates that immersive content not only shapes perceptions but also has a measurable impact on procurement decisions. The result supports marketing research that highlights the role of experiential content in influencing downstream purchase behaviors (11, 21).

Qualitative interviews identified three key themes. First, participants valued the clarity and visualization of ARPE, often noting that they could "see" rather than "imagine" the proposed solution. Second, ARPE was perceived as a signal of innovation and client-centricity, reinforcing the vendor's brand positioning. Third, most participants found the interface intuitive, reporting that AR features enhanced rather than distracted from the proposal content, though some noted a brief learning curve.

Exploratory analyses indicated that familiarity with AR moderated engagement slightly, but even participants new to AR reported significant gains in comprehension and credibility. Industry type and years of professional experience did not significantly influence the outcomes.

A summary of the main findings is presented in Table 1 and Table 2. In Table 1 ARPE consistently outperformed traditional formats in comprehension, emotional engagement, credibility, and shortlisting likelihood. In Table 2 ANOVA interaction effects show that AR familiarity moderately increased engagement, while industry type did not significantly influence proposal outcomes.

Overall, the results strongly support the hypothesis that ARPE enhances comprehension, engagement, credibility, and intent to shortlist

compared with traditional proposals. These findings provide empirical evidence that immersive technologies can materially improve B2B proposal effectiveness, reinforcing and extending prior work on the persuasive and affective power of AR in marketing communication.

Table 1: Summary of key Findings Comparing ARPE with Traditional Proposals

Variable	ARPE Mean	Traditional Mean	p-value	Effect Size
Comprehension Score	8.6	6.1	< .001	1.35 (large)
Positive Affect (PANAS)	38.2	28.6	< .001	1.06 (large)
Credibility Rating	6.1	5.2	.003	0.78 (medium)
Shortlisting Likelihood %	87%	57%	.008	n/a

Table 2: ANOVA Interaction Effects

Variable	F (df)	p-value	η^2 (partial)	Interpretation
Industry × Proposal Type	F(2,56) = 1.12	.334	.02	No significant moderation by industry
AR Familiarity × Proposal Type	F(1,58) = 4.06	.048	.07	AR familiarity moderately increases engagement, but comprehension/credibility gains robust across groups

(Legend: η^2 = partial eta squared; df = degrees of freedom. All p-values two-tailed)

Discussion

The results of this study provide robust evidence that Augmented Reality–Enhanced Proposal Experiences (ARPE) significantly elevate the effectiveness of B2B proposals across cognitive, emotional, and behavioral dimensions. These findings confirm theoretical expectations and extend the literature on immersive communication in business contexts.

Enhanced Comprehension and Cognitive Processing

The substantially higher comprehension scores achieved by participants in the ARPE group demonstrate that interactive, multimodal content supports deeper cognitive engagement. This outcome is consistent with Media Richness Theory, which posits that rich communication channels reduce ambiguity and enhance understanding in complex decision-making environments (9). The presence of three-dimensional product models and dynamic data visualizations allowed participants to grasp technical details more quickly than with text alone. These findings also align with the Elaboration Likelihood Model, which suggests that immersive stimuli promote central-route processing and therefore foster stronger recall and persuasion (10, 17).

Emotional Engagement as a Differentiator

Emotional responses, often neglected in traditional B2B proposal design, emerged as a significant differentiator for ARPE. Participants expressed greater enjoyment, surprise, and interest when interacting with immersive features. Prior research indicates that such affective responses can influence decision-making by increasing memorability and attachment (5, 18). In line with contemporary B2B marketing practices that emphasize experiential content, ARPE demonstrates the potential for proposals to move beyond rational argumentation and create emotionally resonant experiences.

Credibility and Innovation Signaling

The higher credibility ratings recorded for ARPE proposals suggest that immersive features enhance perceptions of professionalism, technological competence, and client orientation. This finding supports earlier work showing that innovative communication formats can signal expertise and trustworthiness (19, 20). Notably, participants did not perceive AR as detracting from seriousness; instead, they viewed it as value-adding. This address concerns that novel media formats might undermine formality in proposal contexts.

Purchase Intent and Decision Advancement

The increased likelihood of shortlisting ARPE proposals underscores their practical impact on procurement outcomes. By improving clarity, credibility, and engagement, ARPE reduces uncertainty and strengthens decision-makers' willingness to advance the vendor. These findings resonate with prior evidence that experiential marketing can directly influence downstream

purchase behavior (11, 21). Contrary to the assumption that innovation in proposals may introduce risk, this study shows that well-designed immersive features can de-risk the evaluation process by improving transparency and reducing ambiguity.

Strategic Recommendations

The study's findings have several practical implications for marketing and sales teams. First, proposals should be reframed not as compliance-driven documents but as strategic marketing assets that extend brand identity and competitive positioning. ARPE provides a means of embedding both rational and emotional value into proposal design, enhancing evaluators' engagement and recall.

Second, adoption of ARPE requires cross-functional collaboration between proposal writers, marketing teams, and technology specialists. Organizations should develop content standards for AR features, ensuring that they remain intuitive, professional, and directly relevant to buyer needs. Investment in training and scalable AR toolkits, including low-code or no-code platforms, can reduce implementation costs while maintaining consistency.

Third, ARPE should be positioned as a differentiator rather than a gimmick. The immersive elements must complement—not overshadow—the core value proposition. For instance, interactive ROI simulations or holographic testimonials should directly address procurement priorities such as cost-effectiveness, performance, and trust.

Finally, firms should measure the long-term impact of ARPE on win rates, customer satisfaction, and retention. Building a feedback loop into proposal processes will allow organizations to refine AR integration over time and demonstrate return on investment. In competitive procurement environments, such innovation can be decisive in securing contracts and strengthening relationships.

Future Scope and Limitations

While this study provides strong initial evidence in favor of Augmented Reality–Enhanced Proposal Experiences (ARPE), several limitations should be acknowledged. First, the sample size of 60 participants, though adequate for exploratory analysis, restricts the generalizability of the findings. Larger-scale studies across multiple industries and regions would provide stronger external validity. Second, participants evaluated simulated proposals rather than live submissions within competitive procurement processes. Real-world field studies could offer richer insights into how ARPE performs under actual decision-making pressures. Third, the study measured only short-term outcomes. Longitudinal research is necessary to assess how immersive proposals influence post-award dynamics such as client satisfaction, trust, and contract renewal.

From an HCI perspective, some participants noted a brief learning curve when navigating AR features, highlighting the importance of usability. Future work should examine how interface design, interactivity levels, and device compatibility shape the user experience. Research in this area could draw on established HCI principles such as cognitive load theory, which warns against overwhelming users with excessive stimuli, and accessibility frameworks that emphasize inclusive design (22, 23). Developing guidelines for balancing interactivity with simplicity will be crucial for ensuring that ARPE enhances rather than distracts from proposal content.

Future research could also extend ARPE by integrating other immersive technologies. Virtual reality and mixed reality could enable live simulations and digital walkthroughs, particularly valuable in industries such as construction, engineering, and architecture. Haptic interfaces might further enhance realism by allowing tactile interactions with virtual objects. Additionally, advances in artificial intelligence and customer relationship management systems could enable adaptive AR proposals that personalize content in real time based on client data, behavioral cues, or even affective responses.

Cross-cultural adaptation represents another important avenue for investigation. As B2B proposals increasingly address global markets, cultural differences may influence how immersive proposals are perceived. For instance, evaluators in high-context cultures may respond more positively to rich, non-verbal cues, while those in low-context cultures may prefer concise, factual presentations. Digital literacy levels may also moderate adoption and credibility perceptions across geographies.

Ethical and accessibility considerations will require ongoing attention. While immersive

proposals offer powerful persuasive potential, they may raise questions about transparency, fairness, and cognitive overload. Future work should explore ethical frameworks for responsible AR usage and establish accessibility standards to ensure inclusivity for evaluators with visual or physical impairments.

Finally, industry-specific frameworks could support the practical implementation of ARPE. For example, proposals in government and public procurement must adhere to strict compliance standards, while those in healthcare may require simplification of complex scientific information. Tailored strategies would help organizations deploy immersive proposals in ways that align with sectoral requirements and decision-making cultures.

In sum, the convergence of AR technology and B2B proposal development remains in its infancy. This study demonstrates ARPE's potential to improve comprehension, credibility, and engagement, but further research should deepen theoretical grounding, test diverse contexts, and refine design principles. Collaboration among researchers, practitioners, and technologists will be essential for advancing the next generation of immersive, intelligent, and ethical proposal systems.

Conclusion

This study introduced and empirically tested the concept of Augmented Reality–Enhanced Proposal Experiences (ARPE) as a transformative approach to business-to-business (B2B) proposal design. By integrating immersive features such as three-dimensional product visualizations, holographic testimonials, and interactive return-on-investment simulations, ARPE significantly improved comprehension, emotional engagement, perceived credibility, and purchase intent compared with traditional proposal formats. These results provide empirical support for Media Richness Theory and the Elaboration Likelihood Model, confirming that richer communication media can enhance both cognitive processing and persuasive impact in high-stakes decision-making environments.

Beyond theory, the findings highlight the strategic value of immersive proposals for marketing and sales teams. ARPE allows organizations to move beyond static, compliance-driven submissions and position proposals as dynamic marketing assets that reinforce brand differentiation, demonstrate innovation, and engage decision-makers on multiple sensory levels.

Nevertheless, the study's limitations—including its modest sample size, simulated proposal context, and short-term measurement—indicate the need for further research. Larger, longitudinal, and industry-specific investigations will be essential to fully understand ARPE's long-term impact on client relationships and procurement outcomes. Future studies should also integrate human–computer interaction perspectives to refine usability, accessibility, and ethical design standards.

In conclusion, ARPE represents a significant opportunity to reimagine the role of proposals in B2B marketing and sales. As buyers become more digitally fluent and experience-driven, organizations that embrace immersive, client-centric proposal strategies are likely to gain a decisive competitive advantage in increasingly crowded markets.

Abbreviations

ARPE: Augmented Reality–Enhanced Proposal Experiences.

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Author Contributions

Ritesh Lad solely conceptualized the study, designed the methodology, conducted the research, analyzed the data, and prepared the manuscript.

Conflict of Interest

The author declares no potential conflicts of interest with respect to the research, authorship, and publication of this article.

Declaration of Artificial Intelligence (AI) Assistance

The authors declare that they did not use AI-assisted tools (ChatGPT, OpenAI) during the writing process.

Ethics Approval

This study was conducted in accordance with recognized academic ethical standards. All

participants provided informed consent, and no personally identifiable information was collected. An institutional ethics review board was not applicable for this independent, non-interventional research.

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