

Engaging Students in the Digital Age: A Communicative-Pragmatic and AI-Driven Analysis of Online Prospectuses

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Abstract: The shift from printed to digital university prospectuses has transformed higher education marketing, integrating artificial intelligence and interactive technologies to improve communication. As institutions adopt AI-driven personalization, chatbots, and automated content structuring, the linguistic strategies used in prospectuses evolve to maintain clarity, engagement, and persuasion. However, little research has explored how digitalization influences the communicative-pragmatic aspects of these materials. This study examines how universities implement various linguistic strategies to structure digital prospectuses, ensuring they remain informative, persuasive, and accessible. By analyzing contemporary digital formats, the research identifies key trends in content presentation, engagement techniques, and AI-enhanced communication. The findings suggest that while automation improves accessibility and responsiveness, human-centered linguistic frameworks remain essential for maintaining credibility and trust. This study contributes to the understanding of digital prospectuses as adaptive, multimodal texts that merge traditional rhetorical techniques with AI-driven engagement tools. The results highlight the need for universities to balance technological innovation with effective communication strategies, ensuring that digital prospectuses remain user-friendly, persuasive, and aligned with prospective students' expectations in an increasingly digital landscape.

1 INTRODUCTION

Higher education institutions have traditionally used prospectuses to provide essential information about academic programs, campus life, and admissions. These materials were originally distributed in print, offering prospective students a tangible resource to explore their options. However, with the rise of digital technologies and the growing reliance on online platforms, universities have largely replaced printed prospectuses with digital versions available on their official websites [1]. This transition has improved accessibility, allowed for real-time updates, and introduced interactive features that enhance student engagement [3].

In this digital environment, the communicative-pragmatic aspect of university prospectuses has become a key focus of research. Language choices, such as direct address, persuasive techniques, and

interactive elements, are crucial in engaging prospective students and influencing their decisions [5, 7]. That's why active usage of AI-powered tools such as chatbots, automated recommendations, and interactive multimedia and understanding linguistic and communicative strategies is essential for making university marketing materials accessible but also engaging and persuasive.

2 RELEVANCE AND ANALYSIS OF THE TOPIC AREA

Existing studies highlight key differences between printed and digital prospectuses. Printed materials offer a static, text-heavy experience that some students prefer for its tangibility and structured presentation [10]. In contrast, digital prospectuses incorporate real-time updates, multimedia elements,

and personalized content, enhancing engagement [1, 9].

AI-powered tools such as chatbots and recommendation systems have introduced new levels of interactivity, allowing students to receive instant responses and tailored suggestions [11]. Universities also use Natural Language Processing (NLP) techniques to refine the wording of their prospectuses, ensuring clarity and relevance [6]. While these advancements improve accessibility, they also raise new questions about how digital environments influence language use and whether persuasive strategies differ from those in traditional printed formats.

The communicative-pragmatic approach offers a valuable framework for examining digital prospectuses. Drawing on Speech Act Theory and Discourse Analysis, this study systematically identifies and categorizes specific linguistic features – such as directive speech acts (e.g., imperatives), lexical items signaling institutional authority, and rhetorical devices like repetition and contrast – that are commonly used in digital university prospectuses. Unlike traditional printed materials, digital prospectuses allow for dynamic, interactive communication, making it essential to understand how linguistic strategies evolve in these contexts.

This study explores how AI and digitalization influence the linguistic aspects of university prospectuses. Unlike previous research, which has mainly focused on technical functionality and student engagement metrics, this analysis considers how language use, discourse structures, and persuasive techniques evolve in digital contexts. By bridging linguistic and technological perspectives, this study provides insights into how universities can optimize their communication strategies to effectively engage students in the digital age.

3 METHODOLOGY

This study employs a mixed-methods approach, integrating linguistic analysis and survey-based research to examine communicative-pragmatic strategies in digital university prospectuses. The rationale for this approach lies in the need to investigate both the structural and functional aspects of language in prospectuses and the engagement patterns of prospective students interacting with these materials.

3.1 Survey Participants

The study collected responses from over 150 participants, primarily targeting prospective university applicants. The demographic composition was dominated by undergraduate students, who comprised 74% of the sample, followed by high school students (23%) considering university enrollment (Fig. 1). A smaller proportion consisted of postgraduate students and individuals in other categories. As shown in Figure 1, the majority of participants were undergraduate and high school students actively considering university enrollment.

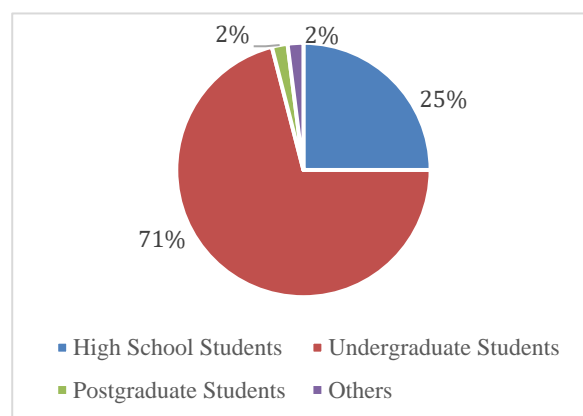


Figure 1: Students' current academic status.

3.2 Corpus Selection

This study analyzed a corpus of 20+ digital university prospectuses from British higher education institutions, collected from their official websites. The following criteria were applied in corpus selection:

- 1) Institutional Diversity: A mix of highly-ranked and mid-tier universities to reflect variations in communicative strategies.
- 2) Prospectus Format: Inclusion of both static PDFs and interactive digital prospectuses incorporating multimedia elements (videos, chatbots, AI-driven recommendations).
- 3) Field Accessibility: Prospectuses were selected from publicly available sources, ensuring transparency and replicability in the analysis.

By limiting the dataset to British universities, this study provides a focused examination of communicative-pragmatic strategies within a specific

educational and cultural context. This approach allows for a detailed linguistic comparison while aligning with the broader aim of evaluating AI-driven engagement techniques in UK higher education marketing.

3.3 Research Design

This study employs a mixed-methods approach, integrating linguistic analysis and survey-based research. This approach enables a comprehensive examination of both the linguistic features embedded in university marketing materials and the actual engagement patterns of prospective students interacting with these digital resources.

A mixed-methods approach is particularly suitable for this study because:

- 1) The linguistic analysis focuses on identifying and coding instances of direct address, modal verbs, personal pronouns, and evaluative adjectives to determine how these features are used to construct persuasive and engaging messaging across different universities.
- 2) Survey responses validate these linguistic features by assessing their impact on student engagement and perception, offering empirical support for textual findings.
- 3) The combination of computational text analysis and user perception studies bridges the gap between theoretical linguistic frameworks and real-world digital engagement metrics.

By integrating these methods, this study advances the understanding of how language, technology, and user experience intersect in modern university marketing, contributing to the broader discussion on digital transformation in higher education.

4 RESULTS

While this study's linguistic analysis examined how language is used in digital prospectuses, the survey responses provide complementary insight into which language features and interactive elements students find most engaging. While official university websites remain the most trusted and widely used resource, other channels, such as social media, AI-driven tools, and personal recommendations, also play a crucial role in shaping perceptions and decision-making.

The findings confirm that digital platforms dominate the university research process, with official university websites serving as the primary

information source. While social media plays an increasing role in shaping perceptions, traditional formats such as printed brochures have become largely secondary, reinforcing the shift toward online-first recruitment strategies (Fig. 2). These findings emphasize that universities must adopt a multi-channel approach, integrating persuasive digital content, AI-enhanced tools, and social engagement strategies to ensure that prospectuses remain a relevant and effective recruitment tool.

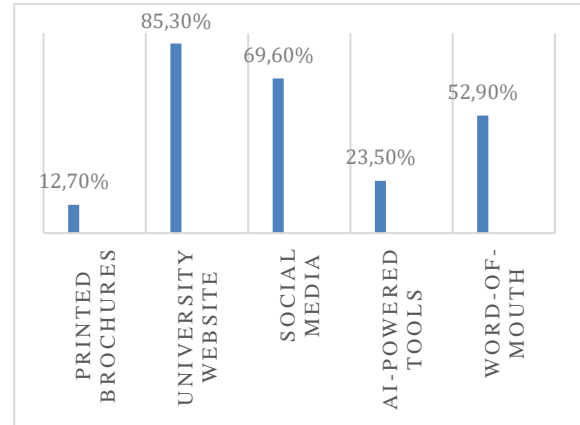


Figure 2: How students typically research universities.

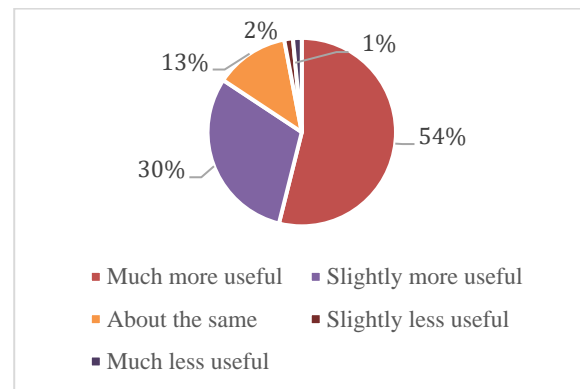


Figure 3: Comparative usefulness of digital and printed university prospectuses.

The findings confirm a clear shift toward digital-first university communication, as illustrated in Figure 3. The preference for digital formats is driven by greater adaptability, accessibility, and interactivity, reinforcing previous results that printed brochures are the least utilized source of university information. While a small portion of students still value physical copies, their role in recruitment is diminishing as universities prioritize dynamic and up-to-date digital resources.

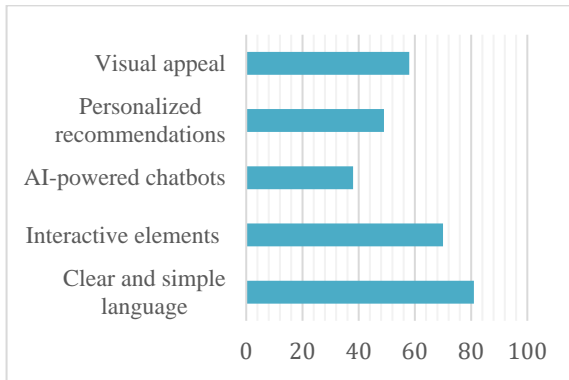


Figure 4: Most engaging features of digital prospectuses.

Students identified clarity of language as the most important factor in engagement (Fig. 4), highlighting the need for well-structured, accessible content in university marketing. Interactive elements, high-quality visuals, and AI-driven personalization were also valued, reflecting an increasing demand for engagement beyond passive reading. These results reinforce the importance of a user-centered approach, where universities combine clear, persuasive language with digital interactivity to enhance engagement and influence decision-making effectively.

The shift to digital university prospectuses has transformed how institutions communicate with prospective students. The integration of AI-driven tools, interactive elements, and data-driven personalization further enhances the following strategies:

- 1) The **informative strategy** ensures that university prospectuses provide concise, structured, and factual content, a crucial aspect in digital communication where students seek quick, easily navigable information. This strategy is realized through several tactics that are increasingly shaped by digital tools:
 - 1.1) **Nominative Tactic.** Reinforces institutional identity through strategic university naming, aiding in brand recognition in search algorithms and digital marketing. The University of Manchester prominently features its name and achievements on its undergraduate prospectus homepage, reinforcing its brand identity: *"At Manchester, we've always been about pushing forward. Since 1824, great minds have come here to challenge assumptions, create the exceptional, and change the world [15]."*

- 1.2) **Detailing Tactic.** Structured course descriptions help in SEO optimization and AI-driven content summaries for personalized recommendations. The University of Cambridge offers detailed descriptions of its undergraduate courses, providing prospective students with comprehensive information: *"We offer over 30 undergraduate courses at Cambridge, covering more than 65 subject areas [16]."*

- 1.3) **Regulative Tactic.** Directs students through hyperlinks, AI chatbots, and interactive navigation tools, making information retrieval seamless. The University of York employs interactive navigation tools in its digital prospectus, directing students to relevant information efficiently: *"Our prospectus magazine gives you a deeper insight into what life on campus is really like, from the students already here [22]."*

- 2) The **argumentative strategy** strengthens a university's appeal by using data-driven arguments, testimonials, and rankings, elements that are increasingly automated and personalized in digital spaces. 39% of students prioritize data-driven language, indicating that AI-driven personalization and dynamic statistic updates enhance credibility:

- 2.1) **Recommendation Tactic.** Testimonials and alumni success stories are frequently used in AI-driven chatbots and social proof elements on university websites. The University of Sussex showcases its global recognition and alumni achievements to enhance its appeal: *"We're highly ranked in the UK and world league tables, with our research, teaching and outreach recognised internationally [20]."*

- 2.2) **Quality Assurance Tactic.** Employment statistics and rankings are now delivered dynamically through personalized dashboards and automated recommendation systems. Harper Adams University emphasizes its strong graduate employment rate: *"With cutting-edge facilities, the highest graduate employment rate in the UK (99.2%) and purpose-led education, Harper Adams is the perfect university for any applicant determined to make a lasting impact [12]."*

- 3) The **positioning strategy** establishes a unique institutional identity, crucial in a highly competitive digital space where universities must stand out. 69% of students engage more with interactive digital prospectuses, emphasizing the importance of AI-driven visual storytelling:
 - 3.1) **Value Orientation Tactic.** AI-generated content can dynamically adjust mission statements and value propositions based on user interest.
 - 3.2) **Differentiation Tactic.** Machine learning models analyze student preferences to highlight unique features dynamically. For instance, if a prospective student frequently explores environmental science topics, the university's website might prominently feature its cutting-edge sustainability programs and research initiatives.
 - 3.3) **Pictorial Visualization Tactic.** VR campus tours, infographics, and interactive media enhance engagement and reinforce branding. Many institutions offer virtual tours that provide immersive experiences. University of Cambridge offers a comprehensive virtual tour featuring 360-degree views of its historic architecture, libraries, and student accommodations, allowing prospective students to explore the campus remotely [17]. University of Warwick provides a 360° virtual tour that includes interactive panoramas of academic buildings, social spaces, and accommodation options, complemented by student ambassador videos [21].
- 4) The **persuasive framing strategy** subtly shapes student perceptions, and in digital formats, this is enhanced through AI-driven engagement tools, adaptive content, and behavioral targeting. While 33% of students prefer direct address, 39% favor neutral descriptions, suggesting that AI-generated engagement needs a balance between personalization and credibility:
 - 4.1) **Intrigue Creation Tactic:** Personalized email campaigns use automated intrigue-based messaging to boost engagement. The University of Dundee provides guidance on the use of AI in teaching and assessment, reflecting a commitment to integrating advanced technologies into their educational framework [18].
 - 4.2) **Authority Appeal Tactic:** AI curates expert-driven content to reinforce institutional credibility. The University of Liverpool provides comprehensive guidance on the appropriate use and referencing of AI in research, demonstrating leadership in the ethical application of AI technologies [19].
 - 4.3) **Intimization Tactic:** Chatbots and personalized video messages create a sense of direct connection. For instance, the University of Oxford employs chatbots to provide instant support to prospective students, enhancing their engagement with the institution. Additionally, personalized video messages from faculty or current students can create a welcoming atmosphere, making prospects feel valued and connected.
- 5) The **regulative strategy** focuses on directing student engagement, a role increasingly played by AI-driven tools. AI improves accessibility and engagement, but its effectiveness depends on the accuracy and relevance of recommendations:
 - 5.1) **AI Chatbots for Instant Assistance:** 73.8% of students find chatbots useful but require improvements in context-aware responses. Lancaster University introduced "Ask L.U.," a voice and chatbot interface that assists students with information about timetables, grades, and campus activities. This digital companion is accessible via mobile applications and Amazon Echo devices, enhancing the student experience through real-time assistance [14].
 - 5.2) **Personalized AI-Driven Recommendations:** 60.2% value program and scholarship recommendations, reinforcing the need for adaptive AI-driven engagement. Collaborating with over 600 higher education institutions, including the University of Cambridge and Imperial College London, Unibuddy connects prospective students with current students and alumni. This peer-to-peer engagement platform utilizes data-driven insights to match users based on interests and queries, facilitating personalized interactions [23].
 - 5.3) **Automated Summaries and Virtual Tours:** AI-generated content summaries and interactive campus tours enhance information processing. Keele University

developed an interactive campus map using ThingLink, incorporating audio introductions and 360-degree videos. This virtual tour enables prospective students to familiarize themselves with the campus layout and facilities, enhancing their decision-making process [13].

AI and digital tools have significantly enhanced the effectiveness of linguistic strategies in university prospectuses. Clear structure and organization are improved through AI-generated summaries, while credibility is reinforced with real-time data and testimonials. Personalized content and interactive storytelling help universities stand out, making digital prospectuses more engaging. AI-driven adaptation also allows for more responsive and targeted communication. However, AI should support rather than replace human-driven linguistic strategies, ensuring that digital prospectuses remain clear, trustworthy, and engaging for prospective students.

5 CONCLUSIONS

The shift from printed to digital university prospectuses has transformed how institutions communicate with prospective students. This study highlights how AI-driven personalization, interactive design, and linguistic strategies work together to optimize engagement and influence decision-making. Digital prospectuses are not just informational tools but dynamic, adaptive platforms that integrate clear structure, persuasive content, and personalized recommendations to enhance accessibility and credibility.

The findings confirm that students value clarity, interactivity, and data-driven content, with AI-powered tools playing an increasing role in guiding their choices. However, while AI enhances navigation, personalization, and engagement, it should complement rather than replace human-driven linguistic strategies. Universities must balance automation with authentic, persuasive communication, ensuring that their prospectuses remain informative, engaging, and responsive to student needs in the digital age.

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