

2ND CYCLE OF STUDIES
COMMUNICATION SCIENCE

The Integration of AI in Digital Communication

Example of Knightsbridge Training and Examination Center

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M

2025



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Internship report carried out within the scope of the Master's in Communication Science,
supervised by Professor Nuno Moutinho.

Faculty of Humanities of University of Porto

2025

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Declaration of Honour

I hereby declare that this report is of my authorship and has not been used previously in another course, degree, curricular unit or subject, at this or any other institution.

References to other authors (statements, ideas, thoughts) scrupulously respect the rules of attribution and are duly indicated in the text and bibliographical references, in accordance with the rules of referencing. I am aware that the practice of plagiarism and self-plagiarism is an academic offence.

I further declare that I have not used generative artificial intelligence tools (chatbots based on large language models) to carry out part(s) of this report, and that all interactions (prompts and responses) have been transcribed in the annex.

Porto, 2025

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Abstract

This internship report presents the outcomes of a curricular internship conducted at the Knightsbridge Examination and Training Centre, based in Porto, Portugal, as part of the master's program in Strategic Communication at the University of Porto. The internship provided an opportunity to engage directly with the institution's communication strategies, focusing on social media content creation, email marketing and the development of visual and educational materials. Based on this experience, the report explores how Artificial Intelligence tools can enhance digital communication and educational resource development in educational contexts.

The research investigates three key dimensions - AI's role in improving communication efficiency through content creation, its potential for enabling personalized communication and its use in generating preparatory learning materials. The study employed a mixed-methods approach, combining participant observation with a structured questionnaire. The questionnaire aimed to measure perceptions of AI's usefulness in communication, personalization and learning support. Statistical analysis in SPSS was used to determine the significance of responses across these themes.

The findings show that AI is already being effectively used at Knightsbridge for drafting social media content, brainstorming ideas and developing exam preparation materials. These practices have improved consistency and allowed more time for strategic and creative tasks.

The research concludes that AI can be a valuable support tool in educational communication when used responsibly and in alignment with pedagogical goals. It enhances operational efficiency, expands content creation capabilities and supports more adaptable and accessible learning experiences. However, the study also acknowledges limitations in scope and generalisation, calling for further research into long-term impacts and broader institutional applications.

Key words: digital communication, artificial intelligence, education.

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List of the Abbreviations

FLUP – Faculdade de Letras da Universidade de Lisboa

FEP – Faculdade de Economia da Universidade do Porto

AI – Artificial Intelligence

SPSS – Statistical Package for Social Science

IELTS - International English Language Testing System

ELT – English Language Teaching

CELTA – Certificate in English Language Teaching to Adults

ITS – Intelligent Tutoring Systems

Introduction

This internship report presents the outcomes of my curricular internship completed at the Knightsbridge Examination and Training Centre in the context of my masters program in Strategic Communication at the University of Porto. Knightsbridge is a Cambridge English Platinum Centre located in Porto, Portugal. Founded in 2012, Knightsbridge is widely recognized for its excellence in language testing for globally accredited certifications such as IELTS, TOLES, Linguaskill and others. The center's mission is to foster academic and professional advancement through high-quality English education.

My internship, positioned within the communication department of the center, focused on enhancing the center's brand visibility and audience engagement through digital platforms and client communication. This included planning and executing communication strategies across social media channels, creating content that aligned with institutional values and contributing to broader marketing efforts through the development of visual materials, email campaigns, as well as operational support for exam logistics. Through this multifaceted experience, I gained valuable insight into how educational institutions communicate with a diverse audience, including students, educators and other institutions.

This hands-on engagement led to the development of a focused investigation about the growing role of Artificial Intelligence in educational and digital communication. The main research question of the investigation - 'The Integration of AI in Digital Communication: Example of Knightsbridge Examination and Training Centre' - emerged from both the growing presence of AI tools in the communication landscape and their potential to transform operational efficiency, content creation and audience engagement. Educational institutions are facing increasing demands for accessible and high-quality communication and the strategic use of AI can offer various opportunities for innovation.

This research explores how AI-driven tools can be integrated into digital communication practices at certification and training centers such as Knightsbridge. It examines the extent to which AI can enhance content consistency and personalization, support educators and

communicators and enrich the overall experience through tailored communication and content development. Grounded in real-world observations and responsibilities from my internship, as well as with the support of the questionnaire examining the topic, the study aims to identify best practices for incorporating AI while preserving the institution's commitment to clarity, reliability and pedagogical value in its communication.

Through this report, I seek not only to reflect on the practical aspects of my internship but also to contribute meaningful insights into the future of communication in education - where human creativity and AI-driven technologies can work hand in hand to meet the evolving needs of learners and institutions.

1. Experience of the Internship

1.1. Characterisation of the place of the internship (team, organization, routines)

1.1.1 Organization overview

The curricular internship took place at Knightsbridge Exam & Training Centre, a well-established institution located in Porto, Portugal. Recognized as a Cambridge English Platinum Centre, Knightsbridge holds a distinguished position in the field of English language training and examination services. Founded in 2012, Knightsbridge has earned a respected reputation in English language training, specializing in globally recognized exams such as the IELTS and Cambridge English, as well as Linguaskill and others. With over 30 years of expertise, the center prioritizes educational quality and is driven by its mission to enhance English language skills for students and professionals across Portugal and beyond. This commitment manifests in comprehensive exam preparation and in a culture that fosters student achievement and personal growth.

Knightsbridge mission is rooted in a commitment to deliver educational quality that facilitates both academic and professional advancements. This commitment is reflected in its comprehensive support systems designed to maximize student achievement and personal growth and make the experience of the exam as easy as possible. The center offers various resources for students to study and prepare for the exams. It is also working on developing courses and sprints for candidates that are carefully crafted to meet the needs of students across different proficiency levels and professional fields, ensuring that each learner receives a tailored and effective learning experience and is well prepared for the exam.

In addition to its commitment to student achievement, Knightsbridge plays an active role in empowering educators, schools and other institutions. This includes providing specialized training programs and professional development resources aimed at enhancing English teaching methodologies, expanding knowledge and skills to other educators and aligning

instructional practices with the latest standards in language education. These efforts create an educational system that is responsive to the evolving needs of learners and educators alike, aspiring to make a meaningful impact on their academic and career trajectories.

Even though the majority of the exams are held in Porto, Knightsbridge is also reaching learners across Portugal and internationally, conducting exams in Lisbon and other cities, as well as having their courses available online. Moreover, through partnerships with schools and organizations, the center contributes to English language education on a broader scale, emphasizing English as a crucial skill for personal, academic and professional growth in today's world. By promoting English as a bridge to success, Knightsbridge Exam & Training Centre remains dedicated to its mission of advancing language skills and fostering opportunities for all.

1.1.2 Team and Structure

The team at Knightsbridge Exam & Training Centre is composed of a diverse group of professionals, each contributing distinct expertise and playing a crucial role in maintaining operational efficiency and exceptional service quality, operating within clearly defined roles.

As the founder and managing director, Lucy Bravo embodies the vision and mission of Knightsbridge. With extensive qualifications, including CELTA and a master's degree in ELT Management, Lucy brings decades of experience in education management and language testing. Her role extends beyond administration, as she actively collaborates with schools to support their English language education programs, maintains Cambridge standards and mentor staff to ensure best practices. Lucy's approach emphasizes empowering students and prioritizing their educational journeys, ensuring that Knightsbridge remains dedicated to fostering meaningful learning experiences.

The Centre's Exams Manager leads the management of exam sessions, overseeing candidate enrolment, certificate distribution and ensuring that each testing day runs smoothly. His role involves not only administrative planning but also direct candidate interaction, creating a supportive environment where candidates can feel at ease on exam day. His

responsibilities also extend to upholding Cambridge protocols and coordinating staff support for each testing session.

The Office Manager brings a background in business management and handles key financial and operational responsibilities. As the individual responsible for all financial transactions, enrolment processing and managing human resources, this role bridges the financial operations with the customer service function, ensuring that schools and candidates experience efficient, transparent support.

A Customer Success Manager with a strong background in teaching and exam assessment, especially in speaking proficiency, supports candidates in their preparation journey. With experience in both the academic and operational aspects of English language training, this role is critical in helping candidates understand IELTS requirements and improve their exam performance. The manager's dual role as a speaking examiner enriches their ability to offer targeted feedback, aligning student needs with exam success strategies.

The Exams Administrator and Venue Manager facilitates exam-day logistics and candidate interactions. His responsibilities include assisting candidates during exam sessions and maintaining the procedural integrity of the exam environment. As an essential part of the operations team, he ensures smooth venue management, from room setup to candidate guidance, creating an atmosphere conducive to stress-free examination experiences.

In addition to these primary roles, a dedicated team member based at FEP University provides on-site support for students, orienting them in exam selection and preparation resources. This team member's role strengthens the center's reach within the university community, assisting with initial guidance on exam types, helping examiners coordinate logistics and handling practical operations, such as student verification.

1.1.3 Daily Routines and Workflow

Knightsbridge's operations are characterized by carefully structured daily routines that balance rigorous operational needs with individualized support for candidates.

One of the key daily functions involves managing candidate enrolment. The administrative team plays a pivotal role in this process, handling registrations for upcoming exams. This

includes collecting necessary documentation, processing payments and confirming appointments. Each interaction with candidates is viewed as an opportunity to provide guidance, reinforcing the center's dedication to a positive customer experience. Administrative staff are proactive in addressing any questions or concerns from candidates, as well as helping candidates who need special accessibility, aiming to foster a welcoming atmosphere.

In addition to enrolment, daily communication with candidates and educational institutions is a priority. Staff members engage in ongoing communication via email and phone, offering clear information about the exam schedules, requirements and preparation resources. Such interactions are essential for building trust with candidates and their schools.

As candidates prepare for their examinations, Knightsbridge staff members provide resources and general guidance. Team members help facilitate access to study materials, recommend preparation strategies and direct candidates to relevant resources. This support is critical for helping candidates navigate their study paths and feel more confident as they approach their exams. The center cultivates an encouraging environment where questions are welcomed and the pursuit of knowledge is celebrated.

On exam days, the workflow intensifies as the team shifts focus to ensure a seamless testing experience. The exams manager, responsible for the overall execution of exam sessions, collaborates closely with the venue manager to coordinate logistical operations. This includes preparing examination materials, setting up the testing environment, and ensuring that all resources are in place to meet Cambridge's rigorous standards. The venue manager is instrumental in managing the physical space, overseeing candidate check-in, and making sure that all exam protocols are followed diligently.

Staff members assist in verifying candidate identities and guiding them through the check-in process, which is designed to minimize stress and confusion. This attention to detail not only enhances the candidate experience but also upholds the integrity of the examination process.

In summary, the daily routines and workflows at Knightsbridge Exam & Training Centre are thoughtfully structured to ensure operational efficiency while prioritizing candidate support

and success. Through meticulous enrolment processes, proactive communication and a strong commitment to quality on exam days, the team works collaboratively to create an environment where candidates feel prepared, informed and empowered to achieve their English language certification goals.

1.2. Tasks performed (difficulties; challenges; autonomy; learning).

During my internship at the Knightsbridge Exam & Training Centre, I was responsible for planning and executing strategic communication initiatives, with a particular focus on social media marketing and overall brand visibility. My role involved developing and implementing comprehensive strategies for Facebook and Instagram to engage diverse audiences, including exam candidates, educators and partner institutions. This required aligning communication efforts with the center's mission of enhancing English language skills and its broader strategic objectives.

One of the components of my responsibilities was creating content calendars for social media, which served as a blueprint for consistent and effective communication. These calendars were designed with strategic intent, incorporating important dates such as exam deadlines, enrolment periods and key campaigns. Through audience analysis, I identified the best times and formats for posting, ensuring that our communication efforts reached the right people at the right time.

I created original written and graphic content that reflected the center's professional yet approachable identity. Every post was crafted to convey a clear message, promote engagement and strengthen the center's reputation as a trusted provider of English language exams. Designing marketing materials, such as flyers, posters and email campaigns, required me to adapt communication styles to different channels while maintaining brand consistency.

Strategic thinking extended to the email campaigns I developed. I crafted personalized subject lines, engaging content and visually appealing layouts to maximize impact.

Collaboration was central to my role. I worked closely with the team to design communication strategies that integrated both long-term objectives and immediate

priorities. This included brainstorming creative ideas to boost engagement, developing new approaches to outreach and ensuring that all communication efforts reinforced the center's brand values.

In addition to marketing and communication, I assisted with the operational side of the Cambridge exams. I assisted and watched the exam planning process, ensuring that candidates were well-informed and prepared. This process required careful coordination of logistics and communication, such as verifying candidate details, managing inquiries and providing clear guidance to create a seamless examination experience.

1.3. Challenges and Learning

The internship presented several challenges that required adaptability and problem-solving. One significant challenge was balancing creativity with adherence to brand guidelines. While I had the freedom to design content, it was crucial to ensure that all materials reflected the organization's professional image and maintained consistency across platforms. For instance, crafting content for social media meant translating strategic goals into accessible and engaging posts while balancing the demands of multiple stakeholders. Additionally, working on multiple projects simultaneously taught me to manage my time effectively and prioritize tasks.

Another challenge was learning to adapt my communication style to different audiences. Whether crafting social media posts, designing email campaigns or interacting with exam candidates, I had to consider the specific needs and expectations of each audience. This required a deep understanding of the organization's target demographics and the ability to tailor messages accordingly.

The internship also demanded a high degree of autonomy. While I received guidance from my supervisor and team members, I was often responsible for independently managing projects from start to finish. This experience strengthened my ability to take initiative, make decisions and stay accountable for the quality and timeliness of my work.

1.4. Reflection on the experience (theory vs practice; expectation vs reality)

My internship at Knightsbridge Exam & Training Centre provided invaluable insights into the intersection of theory and practical application of my academic pursuits. One of the most significant takeaways was how theoretical concepts - such as audience analysis, message framing and channel selection - translate into actionable strategies in a professional context. For instance, while I had studied the importance of tailoring messages to specific audiences, the internship showed me how this plays out in real-world scenarios, where messaging must adapt dynamically to audience needs and platform-specific trends.

The experience also highlighted the role of strategic communication in shaping organizational identity and stakeholder relationships. Through social media and email campaigns, I was not only disseminating information but also reinforcing the center's values and mission. This required a clear understanding of the organization's goals and the ability to communicate them effectively across different platforms.

I also discovered that strategy is not linear and often requires adjustment based on real-time feedback and performance metrics. For example, analyzing social media engagement data led me to refine content strategies, demonstrating the importance of action, as well as continuous monitoring in strategic planning.

The operational aspect of the internship offered a unique lens through which to view communication. Assisting Cambridge exams underscored the importance of clarity, consistency and empathy in high-pressure situations. Whether guiding candidates through the examination process or responding to their inquiries, effective communication was essential to creating a positive experience.

Overall, the internship provided a deeper understanding of how strategic communication functions as both a practical tool and a driving force behind organizational success. It strengthened my ability to think critically about communication challenges, adapt strategies to changing circumstances and evaluate outcomes through a strategic lens. This experience has not only enhanced my practical skills but also reinforced the importance of aligning

communication efforts with broader organizational objectives - an insight that will guide my future career in this field.

2. Objectives of the Research

2.1. Research Question and the Importance of the Research

The main research question of the report - 'The Integration of AI in Digital Communication: example of Knightsbridge Examination and Training center' - seeks to explore how Artificial Intelligence (AI) can be effectively leveraged within the field of digital communication in the context of professional world, in this case within the educational and certification institutions. The choice of this focus is grounded in the increasing relevance of AI-driven tools in transforming communication strategies and work processes, enhancing user engagement and benefiting operational efficiency. AI-driven tools are influencing various areas of work, from automation to helping with content creation and can be of assistance to reach and engage audiences in meaningful ways. The question therefore enables a broad investigation into the many ways AI can optimize digital communication and engagement for a certification institution such as Knightsbridge.

This study is of significant importance given AI's transformative impact on digital communication across different sections, especially in service-oriented industries such as education, reshaping processes such as customer communication or content generation. Effective use of AI tools for content creation, email marketing and communication, and customer engagement provides educational organizations with the opportunity to deliver high-quality tailored content while optimizing efficiency. For Knightsbridge, which has diverse target audiences, including students, educators and institutions, AI applications in digital communication could enhance the overall user experience, creating more engaging and personalized messaging for candidates, schools and prospective clients.

In an increasingly competitive market, educational institutions like Knightsbridge must not only deliver content efficiently but also provide a personalized, high-quality experience. AI

offers a unique solution to this challenge by assisting with everything from creating mock exams and developing course material to enhancing email campaigns and social media presence. This research contributes to understanding how AI can be a powerful ally in educational communication, helping to create a more dynamic, responsive approach to digital outreach.

This topic is relevant due to several reasons, including strategic application of AI in content creation and communication, and the unique demands of educational and certification organizations to communicate effectively with a range of stakeholders. The demand for efficient, engaging educational content continuously grows and AI-driven communication offers a way to meet expectations while maintaining a high standard of service. Exploring AI's potential in content generation and communication strategies, within areas such as email marketing and social media, provides valuable insights into the strategic use of AI tools for creative and impactful communication, enhancing efficiency and workflow.

2.2. Objectives of the research

- Analyse AI's Role in Enhancing Content Creation for Marketing and Communication

This objective explores how AI tools and technologies can be applied to aid and enhance the creation of content for marketing and communication efforts, specifically focusing on email marketing, social media posts and informational and educational resources. AI's capabilities in natural language processing, image recognition and data analytics provide communication specialists with the resources to create relevant, audience-specific content more efficiently than traditional methods.

AI can assist in generating personalized, persuasive content tailored to the unique needs and preferences of different audiences. For email marketing, AI tools can analyse recipient data to automate the creation of subject lines, copy and calls-to-action that resonate with specific groups, increasing open rates, click-through rates and overall engagement. In social media, AI can suggest optimal posting times, formats and help with generating copy or ideas that align with trending topics or user interests, helping organizations expand their reach and maintain a strong digital presence.

Ultimately, analysing AI's role in content creation reveals its potential to improve efficiency and impact, helping organizations to meet the growing demand for engaging and accessible educational content across different digital platforms. By automating repetitive and time-consuming tasks, communication specialists are able to focus on more strategic activities, such as analysing campaign effectiveness, refining content strategies and developing innovative approaches to audience engagement.

- Examine AI's Impact on Personalization and Engagement in Customer Communication

This objective focuses on the transformative potential of AI in enhancing personalization and engagement across customer communication channels, particularly in AI-driven email campaigns and social media interactions. AI-powered personalization allows organizations to deliver highly targeted, relevant content that resonates with users on a personal level, driving stronger engagement and creating a more meaningful connection between the audience and organization.

AI can analyse data in real-time, such as browsing behaviour, content preferences and past interactions to generate insights that can help guide content creation. In email campaigns, for example, AI can create dynamic, customized messages that reflect each recipient's specific interests and touches their pain points. It can have many applications, from crafting individualized subject lines to determining the best times to send emails.

On social media, AI can tailor the content users see in their feeds based on engagement history, geographic location and trending topics. By predicting which posts or ads are most likely to engage a particular user, AI can help brands strengthen their presence in a crowded digital landscape. Personalized social media engagement also creates a sense of inclusivity, as users feel recognized and valued.

Content recommendation engines further deepen engagement by suggesting articles, videos or other content that aligns with user's goals. In educational contexts, AI-powered recommendations can guide learners or candidates toward resources that align with their interests or study needs. These personalized recommendations can turn passive browsing into active learning.

- Investigate the Applications of AI in Developing Educational Materials and Resources

This objective examines AI's role in creating educational materials, focusing on mock exams, preparatory courses and study content. By investigating these applications, the study aims to understand how AI-generated resources can enhance the quality, accessibility and effectiveness of preparatory materials, providing candidates with comprehensive support to boost their confidence and readiness.

AI has the potential to develop highly customized mock exams that reflect actual exam formats, topics and levels of difficulty. Through natural language processing and machine learning, AI systems can analyse big amounts of past exam data to identify patterns and core competencies required for success. This enables the generation of realistic practice questions and full-length mock exams that mirror the style, timing and difficulty level of the official exam, offering candidates an accurate simulation.

In creating preparatory courses, AI can play a crucial role in designing flexible learning paths that adjust to different learning styles and schedules. For example, AI can assess a candidate's initial knowledge level and preferred learning pace, then recommend a personalized course structure that prioritizes topics where the candidate needs the most support. This personalized approach optimizes the learning experience, helping candidates to focus on relevant content and progress more efficiently.

The research will also examine the impact of these AI-generated resources on candidate's preparation levels and perceived support. AI-driven content can additionally offer real-time feedback, allowing candidates to track their progress, pinpoint weaknesses and adjust their preparation strategies accordingly.

Ultimately, by exploring these applications, this objective aims to provide insight into how AI-driven educational resources can enhance the learning journey, improve preparation quality and enable examination centers to better support their candidate's goals.

- Develop Strategic Recommendations for Integrating AI in Communication Strategies and Content Development

Based on the findings, this objective will outline strategic recommendations for effectively implementing AI in Knightsbridge's communication strategies. The goal is to ensure that AI integration is strategic, ethical and aligned with Knightsbridge's quality standards.

Firstly, it is essential to prioritize the quality and relevance of AI-generated content. AI tools can significantly speed up the content creation process for marketing materials, social media posts and educational resources. However, to uphold Knightsbridge's reputation for excellence, it is crucial that AI-generated content is subjected to extensive reviews by skilled editors and subject matter experts. This dual approach ensures that the content maintains accuracy, clarity, and relevance, while also keeping the organization's brand voice and standards.

Moreover, enhancing personalization in communication strategies is vital for fostering engagement and connection with candidates. AI-driven analytics can be used to segment audiences and predict content preferences based on user behaviour and interactions. By implementing personalized email campaigns and targeted recommendations for courses and resources, Knightsbridge can create a more meaningful and engaging experience for candidates. This tailored communication approach can significantly increase engagement rates and improve overall satisfaction. To ensure effectiveness, it is important to regularly assess the performance of these AI-driven strategies and make necessary adjustments based on feedback and engagement metrics.

Finally, ethical compliance and transparency must underpin all AI initiatives at Knightsbridge. Transparency in how AI tools are used and how data is managed will help build trust with candidates, enhancing their confidence in the institution's commitment to ethical practices.

3. Literature Review

The integration of artificial intelligence (AI) in digital communication is reshaping how organizations, including educational institutions, engage with their audiences. The advancement of AI-driven tools presents opportunities to enhance communication

efficiency, personalize interactions and elevate the overall user experience. In the context of education, training centers such as the Knightsbridge Training and Examination Center can greatly benefit from these innovations. By adopting AI technologies, they can streamline the content creation process, automate routine tasks and enhance various other areas, allowing communication specialists to shift their focus toward strategic, value-adding activities that enrich the educational experience.

AI's potential extends through various areas. The first thing to discuss is its powerful personalization capabilities that can transform customer communication and strengthen the relationship between the organization and its audience. Personalizing content is essential for fostering engagement and satisfaction, critical factors for retaining candidates and improving their learning journey. Research highlights how AI's ability to analyse extensive data on user preferences and behaviours can result in tailored communication that resonates more deeply with recipients (Senyapar, 2024; Abrokwah-Larbi, 2023). Moreover, Senyapar, 2024, argues that AI has now become integral to marketing communication, transforming how businesses interact with their audiences and personalize their marketing efforts. Personalisation, something that previously was viewed as luxury, is now considered a commodity and is generally expected, which means the companies need to adapt their approach and strategies (Abrokwah-Larbi, 2023).

Diving deeper into the personalization in communication strategies and the ways it enhances customer engagement, it is noticeable that AI's capability to deliver personalized communication has revolutionized user engagement by making interactions more relevant and customer-centric. Study conducted by Adobe (2020), shows that 47% of digitally mature businesses have already started using AI to create content and make it more personal. Personalized content ensures that users receive information that aligns closely with their needs and past behaviour, fostering a sense of connection and loyalty. Gao and Liu (2022) pointed out that AI technology has revolutionized the interactive marketing experience for customers. They went on to state that while there have been a substantial number of studies on the application of AI in interactive marketing and communication practices, personalization (although an important concept) has yet remained underexplored.

AI algorithms employ deep learning and natural language processing to analyse user data, such as browsing history, past purchases and engagement metrics. By processing this information, AI can automatically generate content that is tailored to individual user's preferences, making interactions more relevant and meaningful. AI's predictive analytics tools optimize the timing and placement of messages, ranging from emails to social media posts, thereby increasing engagement rates (Senyapar, 2024). This strategic personalization leads to significant improvements in customer response and satisfaction. For instance, the Clymb case study demonstrated that AI-enhanced personalized email campaigns led to a 28% increase in open rates and a 15% increase in click-through rates (Clymb, 2019). Such data reinforces the potential of AI to transform user engagement, making content more relevant and impactful.

However, personalization extends beyond email - it reshapes social media strategies and interactive marketing. The study by Prasetiadi (2024) shows that AI-generated content on social media significantly outperforms traditional content in terms of likes and shares, though it may fall short in building deeper user connections through comments. This indicates that while AI excels in scaling up personalization and broad engagement, human oversight is essential to cultivate authentic interactions.

AI's use in customer journey mapping further supports personalized marketing and communication efforts. Murar (2023) emphasizes that machine learning algorithms enhance segmentation and the evaluation of customer behaviour, leading to well-targeted communication strategies that ensure users receive relevant information. This approach minimizes content saturation and enriches the overall experience (Abrokwah-Larbi, 2023). Yella (2024) emphasizes that personalization can be scaled effectively, allowing companies to deploy individualized content to large audiences, which would be very time and resource consuming with the use of traditional methods. Landing page provider Instapage conducted a study (2020), where they compared the changes in metrics after starting implementing AI in their work process. They have noticed an increasing rise in conversion by an average of 22%.

Artificial Intelligence has various benefits for the communication and marketing specialists that go beyond personalization. One of the most important, though controversial, is using AI

for content creation. AI has transformed the landscape of content creation in digital communication, shifting from traditional methods to dynamic, automated solutions that enhance productivity. These AI tools not only streamline the process but also maintain high standards of quality, allowing communication professionals to dedicate their time to strategic initiatives. Senyapar (2024) points out that "tools powered by AI can assist in generating content ideas, headlines and even entire pieces of content based on trends and past content performance". This functionality ensures that content remains fresh, relevant and aligned with user expectations.

Hartmann et al. (2023) highlight that high-quality, AI-generated content can often surpass human-created material in terms of quality, realism and aesthetics. These capabilities underline AI's strength in augmenting the creative process, allowing human teams to shift their focus to strategic decision-making rather than repetitive tasks. Anderson (2023) highlights how AI-driven tools minimize the time spent on writing and editing, ensuring a consistent tone and reducing spelling or grammatical errors. These tools act as virtual writing assistants that provide drafts and initial frameworks, allowing human teams to focus on adding a creative and strategic layer to communication efforts. Malakar & Leeladharan (2024) discuss how these tools foster collaboration by supporting and enabling seamless teamwork, as well as enhancing project workflow.

AI's efficiency also extends to data analysis, enabling communication strategies that resonate deeply with target audiences. Through sentiment analysis, AI examines consumer behavior and feedback across channels like social media and reviews, providing invaluable insights into public perception and allowing businesses to refine their communication strategies in real-time (Senyapar, 2024). This process not only speeds up decision-making but ensures that content aligns with consumer sentiment and expectations, making interactions more meaningful (The Thinking Cap News, 2024).

Automation extends to audience segmentation and the timing of message deployment. This process optimizes both reach and impact, ensuring that communication lands when the audience is most receptive. Murar (2023) underscores the importance of machine learning algorithms in customer behaviour analysis and segmentation, enhancing companies' ability to tailor messages efficiently. Additionally, AI's role in integrating SEO best practices ensures

that content is optimized for discoverability. Anderson (2023) highlights that AI tools can assist in maintaining readability and keyword relevance, boosting content visibility and engagement through improved search engine rankings.

Despite its many advantages, the use of AI in content creation is not without challenges. Concerns about misinformation and inherent biases in AI algorithms necessitate human oversight. Anderson (2023) stresses that while AI tools provide powerful drafting and content capabilities, their output should always be reviewed by humans to avoid inaccuracies or unintended bias. Moreover, creative input and emotional intelligence, areas where AI currently lags, remain crucial for building authentic connections with the audience (Prasetiadi, 2024).

Nowadays the mentioned abilities of AI are being widely applied in the education sector, which is both strongly beneficial, but also brings challenges and some ethical concerns. The application of AI in education has grown over the past decade, with technologies such as Intelligent Tutoring Systems (ITS) and adaptive learning platforms offering ways to personalize instruction and improve learning outcomes. By analysing student input and performance, these AI systems can dynamically adjust the difficulty of tasks, provide timely and effective feedback, and facilitate human-computer interaction in meaningful ways. As Zhai et al. (2021) noted, AI's "modelling potential" allows for the creation of individualized learning environments that compensate for teacher shortages by guiding students through learning material in a self-paced, supportive manner. This addresses the persistent issue of overcrowded classrooms, giving educators a powerful tool to ensure each student receives the attention they need.

One of the most valuable aspects of AI for education is its ability to create personalized learning experiences. AI algorithms can analyse learning patterns, preferences, strengths and weaknesses to tailor content that meets unique needs of students. This adaptive learning approach has been shown to boost engagement and performance by delivering material that is appropriately challenging, avoiding student discouragement due to the tasks being too complicated, or, on the contrary, too easy (Xu, 2024). By recognizing learning gaps and adjusting the content in real-time, AI helps prevent frustration or boredom, which are common struggles in traditional, one-size-fits-all classrooms. Xu (2024) emphasizes that this

dynamic adjustment not only improves student understanding of information but also creates a more inclusive environment where learners of different abilities and paces can thrive together.

60,000 schools started using AI for automatic essay correction with a level of precision matching humans in 92% of the cases (UNESCO, 2019). In large classes where individual grading is time-intensive, AI-assisted grading can be a valuable resource, enabling teachers to focus on more complex aspects of pedagogy, such as interacting with students directly, for example. This automation extends to formative assessments as well, with AI creating tailored prompts and exercises that align with a student's skill level and learning goals (Baidoo-Anu & Ansah, 2023). Real-time feedback from AI-based systems can guide students' learning processes and highlight areas for improvement, helping both educators and students track progress efficiently.

For example, some systems provide detailed feedback on specific errors in student work, helping students understand their mistakes and how to correct them. By immediately addressing misunderstandings, AI tools help reinforce correct knowledge, leading to deeper and more effective learning. Moreover, the insights AI provides can aid teachers in refining their instructional strategies based on data trends, such as common areas of difficulty for students.

AI also enables new, interactive forms of learning that differ from traditional methods by incorporating gamification and adaptive learning games. Games powered by AI can mix academic content with fun, creating an immersive environment that motivates students to participate actively in their learning journey. The AI algorithms can adapt the difficulty of these games to suit the player's skill level, ensuring that students remain challenged but not overwhelmed, thus promoting sustained engagement and learning retention (Zhai et al., 2021). For instance, educational games can blend math problems, history challenges or language exercises with adventure-based gameplay that adjusts dynamically to a student's responses, offering encouragement or adjusting the difficulty as necessary. In this way, gamification not only makes learning enjoyable but also fosters a deeper connection.

When it comes to the sentiment of users towards AI-driven learning technologies, the results of the research by Stracqualursi & Agati (2024) showed that 57.58% of tweets expressed a positive sentiment toward AI in learning, while only 16.65% had a negative

polarity. This indicates that the majority of users perceive AI-driven educational technologies favourably, acknowledging their potential to enhance learning experiences, streamline processes and improve accessibility.

While AI holds considerable promise, it introduces significant ethical and practical challenges that educators, policymakers and technology developers must address. One issue is data privacy. AI-driven platforms rely on extensive data collection to function effectively, but this introduces risks around the protection and ethical use of student data. Sensitive information may be exposed, shared inappropriately or used without proper safeguards. The potential for such privacy breaches has raised concerns among educators and parents alike and there is a growing call for clear policies that govern data use and ensure AI tools operate transparently and responsibly (UNESCO, 2019).

Furthermore, AI in education risks perpetuating existing societal biases, as these systems are often trained on datasets that may contain implicit biases. This can lead to unfair treatment of students with biased algorithms inadvertently disadvantageous to certain groups (Baidoo-Anu & Ansah, 2023). For instance, an AI grading system might penalize non-native speakers more harshly than fluent speakers due to subtle linguistic biases embedded in the training data. To combat this, it is essential to continuously monitor and adjust AI algorithms to ensure fairness and inclusivity in educational applications. AI can also share misinformation. For example, it was noticed that it creates false references from articles that do not exist, in order to support its statements, which makes it inadequate for use in academic research.

As AI takes on a more substantial role in classrooms, the traditional role of educators is evolving from that of information providers to mentors and facilitators. With AI handling many administrative and evaluative tasks, educators can focus on guiding students in developing critical thinking, digital literacy and social-emotional skills. According to Felizarte et al. (2024), this shift emphasizes the importance of teacher-student interaction, where teachers act as mediators who help students navigate AI-driven tools, interpret information critically and make informed decisions.

Preparing teachers to effectively integrate AI into their teaching requires professional development and curriculum adjustments that address the unique challenges and opportunities presented by AI. Some countries have already started embedding these skills in primary and secondary education, ensuring that students are prepared for the increasingly digital and AI-driven world they will encounter in higher education and the workforce (UNESCO, 2019).

To sum up, while AI has introduced transformative tools and opportunities in education, its benefits can only be fully realized through a balanced approach that addresses privacy, fairness and the evolving role of educators. With thoughtful implementation, AI has the potential to make education more personalized, inclusive and engaging, enhancing student outcomes across diverse learning environments.

Exploring the dual potential of AI in enhancing communication efficiency and personalizing user engagement provides valuable insights into how AI-driven strategies can be implemented effectively in educational settings. By doing so, institutions can optimize the learning experience, align resources with learners' needs and support instructors in their efforts to deliver content that is both strategic and resonant.

Therefore, the integration of AI into personalization in digital communication facilitates efficiency and effectiveness. While there are ethical and quality considerations, the strategic combination of AI with human oversight results in content that is both engaging and contextually relevant, propelling higher engagement and user satisfaction. These advancements align with the hypothesis that AI-driven tools will significantly enhance communication efficiency, enabling professionals to focus on strategic tasks, and that personalization through AI will improve user engagement and retention.

4. Problem Definition

4.1. Statement of the problem and context

The integration of Artificial Intelligence (AI) into digital communication strategies is transforming how organizations interact with their audiences. This shift is especially pertinent in educational institutions like the Knightsbridge Examination and Training Center, where effective communication and resource development play crucial roles in user engagement, satisfaction and retention. Despite significant advances, there are still gaps in understanding how AI-driven tools can optimize communication processes, enhance personalization and improve educational resources within such contexts.

The literature indicates that AI's potential in content creation, customer communication and resource development has been explored across industries. For instance, AI tools have been shown to streamline content generation, saving time and efficiency while maintaining consistency and creativity (Zhai et al., 2021). Similarly, AI's ability to personalize customer interactions through data-driven insights enhances user engagement and satisfaction (Baidoo-Anu & Ansah, 2023). In education, AI has demonstrated potential in creating adaptive and high-quality learning materials that align with learners' needs, yet challenges persist in ensuring inclusivity and ethical data use. (UNESCO, 2019; Xu, 2024).

However, the intersection of these capabilities, meaning AI's application to communication and resource development within educational institutions, remains underexplored.

Knightsbridge Examination and Training Center's integration of AI tools presents an opportunity to study how AI can simultaneously enhance digital communication strategies and support candidates' preparation through tailored resources. This research seeks to bridge the gap by examining AI's multifaceted role in content creation, personalization and educational material development, addressing a critical need for evidence-based strategies that educational organizations can implement.

4.2. Research question and hypothesis

The primary research question of this investigation is how can the integration of AI-driven tools enhance digital communication strategies and educational resource development at the Knightsbridge Training and Examination Center?

Key hypotheses include:

Hypothesis 1: AI-driven tools for content creation (such as AI-assisted copywriting for email marketing and social media posts) will enhance communication efficiency and consistency, allowing communication specialists to focus on strategic, value-added tasks.

Hypothesis 2: Personalization through AI in customer communication (targeted email campaigns and tailored course recommendations) will improve user engagement, resulting in higher satisfaction and retention rates among candidates.

Hypothesis 3: The use of AI in developing mock exams and preparatory resources will create high-quality materials that better align with candidates' learning needs, fostering a more supportive and resource-rich preparation environment.

The research ultimately seeks to provide a comprehensive view of AI's transformative potential in educational communication and content creation, identifying the best practices for Knightsbridge to adopt AI while maintaining their commitment to personalized, reliable and educationally valuable content. This study contributes to understanding how educational organizations can responsibly leverage AI to drive innovation in communication and resource development, enhancing the overall experience for students and educators alike.

4.3. Definition of key concepts

Artificial Intelligence (AI)

Definition: Artificial Intelligence (AI), a term coined by Stanford Professor John McCarthy in 1955, was defined by him as “the science and engineering of making intelligent machines”. AI refers to the simulation of human intelligence in machines programmed to perform tasks

that typically require human cognition, such as learning, reasoning, problem-solving and decision-making. AI serves as the foundation of the tools and methods examined in this study, particularly for enhancing content creation, personalization, and educational resource development. Zhai et al. (2021) discuss how AI techniques have been systematically applied in education to create intelligent tutoring systems (ITS), which inform Hypotheses 1, 2, and 3.

Digital Communication

“Digital communication is any communication using digital media and networks”, as defined by JISC. This can mean any form of communication - between friends, such as messaging, social media, company to audience communication and many others. Digital communication involves the use of digital platforms and tools to convey messages, build relationships and engage stakeholders. Channels include email, social media and websites (Felizarte et al., 2024). This study explores how AI tools improve the efficiency and effectiveness of digital communication strategies for marketing educational services.

AI-driven content creation

AI-driven content creation uses tools like natural language processing (NLP) and generative AI models (e.g., ChatGPT) to assist or automate the production of written or multimedia content (Baidoo-Anu & Ansah, 2023). This concept is pivotal to Hypothesis 1, which explores how AI can enhance communication efficiency, allowing specialists to focus on strategic tasks. Baidoo-Anu and Ansah (2023) emphasize ChatGPT's ability to generate emails, blog posts and marketing copy while maintaining consistency and quality. It is also vital for Hypothesis 3, which explores the use of AI for creation of educational materials.

Personalization

Personalization is a strategy that uses data to target and retarget leads with a brand message that speaks directly to specific customer's interests, demographics and buying behaviour (Adobe Experience Cloud, 2023). Personalization involves tailoring communication, content or services to the preferences, behaviours or needs of individual users. AI achieves this through data-driven insights and predictive algorithms (Xu, 2024). In

Hypothesis 2, personalization is a critical factor in improving user engagement and retention by delivering targeted email campaigns and customized course recommendations. Xu (2024) highlights that AI enables adaptive experiences suited to individual learning styles and needs.

Engagement and Retention

Engagement is the degree of attention, interest and participation users exhibit toward digital communication or educational content (UNESCO, 2019). Retention is the ability to maintain user loyalty and sustained participation over time (Xu, 2024). These outcomes are key metrics for evaluating the success of AI-driven personalization strategies in Hypothesis 2. Xu (2024) underscores the importance of personalized feedback and adaptive learning in fostering engagement and retention.

Intelligent Tutoring Systems (ITS)

ITS are AI-powered systems that provide personalized learning experiences by analysing learner inputs, adapting tasks, and delivering real-time feedback (Zhai et al., 2021). As part of Hypothesis 3, ITS exemplifies how AI can create adaptive mock exams and preparatory materials aligned with learners' needs. Zhai et al. (2021) highlight their ability to simulate the role of human tutors in individualized learning environments.

Ethical AI Implementation

Ethical AI involves developing and deploying AI systems that respect privacy, ensure fairness, maintain transparency, and uphold accountability (UNESCO, 2019). This concept addresses concerns about data privacy and biases in AI applications, which are critical for sustainable AI integration in education. Ethical considerations are essential for Hypothesis 3, where student data informs adaptive resource creation.

Digital Marketing in Education

Digital marketing in education involves online strategies to promote courses and educational services, such as targeted advertising, content marketing and search engine optimization (Felizarte et al., 2024). This study explores how AI enhances marketing and

communication strategies by automating processes and personalizing campaigns, directly connecting to Hypothesis 1. Xu (2024) suggests that AI optimizes communication by matching content with audience preferences.

Automation in Communication

Automation in communication involves the use of AI tools to perform repetitive tasks such as email scheduling, social media posting, or customer query handling (Felizarte et al., 2024).

Automation increases efficiency and consistency in communication, directly supporting Hypothesis 1. Studies like Baidoo-Anu and Ansah (2023) highlight the role of automation in freeing up resources for strategic planning.

5. Methodology

This study adopts a mixed-method approach to investigate how Artificial Intelligence (AI) can enhance digital communication strategies within educational institutions, with a specific focus on the Knightsbridge Examination and Training Centre. The combination of participant observation and a structured questionnaire was selected to provide both depth and breadth in understanding the current use of AI tools, as well as the perceptions surrounding their effectiveness. Participant observation, conducted throughout the internship period, enabled close engagement with the center's daily communication practices, offering firsthand insight into workflows, tool usage and content development processes. This qualitative method provided contextualized knowledge of how AI tools are currently integrated into communication routines and where gaps or opportunities for future expansion exist.

To complement these insights with broader, user-centered data, quantitative questionnaire was developed and distributed via the dynamic email system of the University of Porto. This sample was chosen not only for its convenience and ease of access but also because it represents a large academic community that includes students, educators, and staff—many of whom are familiar with educational communication tools and digital learning environments. Therefore, by targeting this population, the study aimed to gather responses

from individuals likely to engage with or reflect on AI applications in educational contexts. The questionnaire collected 152 valid responses, providing a solid dataset for statistical analysis.

Together, these methods support the research objective of bridging theoretical understanding with real-world application. They align with the study's foundation in strategic communication by not only assessing how AI tools can optimize message delivery and engagement but also exploring their impact on the broader user experience. This methodological framework ensures a holistic understanding of AI's potential in communication, grounded in both institutional practice and user-centered data.

5.1. Research Method - Participant Observation

Participant observation was employed as a core qualitative method during the course of my internship at the Knightsbridge Examination and Training Centre. This approach enabled immersive engagement with the institution's internal operations, allowing a direct, real-time understanding of how digital communication strategies are developed, implemented and received. As a communication intern, my position within the organization provided a unique perspective from which to observe the intersection of institutional objectives, audience engagement practices and the practical integration of communication tools - including emerging uses of Artificial Intelligence (AI).

The primary objective of this method was to observe and critically assess the existing digital communication practices of the center. Specific attention was given to how communication was managed across platforms such as social media and email, and how content was planned, created and distributed. Throughout the internship period, I actively participated in the planning, development and execution of communication strategies. This included contributing to the creation of original written and visual content for social media platforms like Facebook and Instagram, often aligned with key academic deadlines, promotional campaigns or audience engagement goals.

Additionally, I was involved in the implementation of email marketing campaigns. Here, I observed how communication with various audience segments - students, educational institutions and partner organizations - was structured and maintained. I paid particular

attention to the degree of personalization within the messaging and how segmentation was handled in the absence of advanced AI-driven targeting. These observations were crucial in identifying both the limitations and the opportunities for integrating more adaptive, intelligent communication systems.

Beyond content creation, the participant observation extended to monitoring broader stakeholder communication. I observed how inquiries were handled, how updates were delivered and how operational logistics were coordinated through digital channels. Throughout the process, I maintained records of workflow efficiency, recurring communication challenges and areas where automation or AI technologies could be introduced to improve performance.

This method ultimately provided rich contextual data and practical insights into the center's communication dynamics. It highlighted the strengths of Knightsbridge's human-centered communication approach while revealing areas where the strategic use of AI tools could further streamline processes, enhance personalization and strengthen the overall impact of its digital engagement strategies.

5.2. Research Method - Questionnaire

For the purpose of this study and based on the formulated research questions and defined hypotheses, quantitative methodology was implemented with the base of an online questionnaire created on Google Forms. The questionnaire was available in Portuguese and in English language, to reach a larger audience.

The questionnaire was shared through the dynamic email of University of Porto. All the participants were promised anonymity. There was no limitation due to the demographic factors. The questionnaire consisted of 6 questions, all of which were supported by a justification from the literature review and explanation to which hypothesis of the research question they correspond. The Table 1 'Questionnaire' can be consulted in the attachments. No demographic information was asked in the questionnaire, as it was considered irrelevant to the research. The 1st question asked the participants their frequency of use of the AI for content creation purposes, using a Likert scale (1 - 'Never' to 5 - 'Always'). Questions 2-4 used a different Likert scale, where they had to evaluate their level of agreement with the

statements (1 - 'Strongly Disagree' to 5 'Strongly Agree'). These questions explored various topics, such as increase of efficiency due to the implementation of AI, personalisation, willingness to use AI generated materials. Questions 5-6 were also a Likert scale that evaluated the perceived effect of AI on various factors, connected with the educational.

The questionnaire was distributed on April 30 through the University of Porto's dynamic email system, reaching approximately 41,327 recipients - all current educational community of the university. A total of 152 responses were collected. This sample was chosen based on accessibility and relevance - these individuals are part of a group that actively uses artificial intelligence tools. Their familiarity with AI and its role in both academic and professional contexts makes them particularly suited to provide valuable insights into the perceptions and use of AI within this target group.

The questionnaire was available from April 30 to May 19 of 2025 and 152 responses were collected, all of which were considered valid.

The data collected on the platform Google Docs. The Portuguese and English responses were translated and joined together and then transferred to the software IBM SPSS. After that, they were converted into numeric values for future analysis.

This method was chosen for several reasons, such as the fact that it enables the collection of quantifiable data from a larger and more diverse group of respondents; it is particularly suitable for measuring attitudes and perceptions using a structured Likert scale format; it allows hypothesis testing through statistical methods, reinforcing the analytical rigor of the study.

The questionnaire provided empirical evidence supporting all three core hypotheses of the study and it also revealed significant insights into the factors influencing information credibility in digital environments, such as personal trust and visual design.

5.3. Justification of Methods

The combination of participant observation and a structured questionnaire was well-suited to the nature of this study, offering both depth and breadth in addressing the research question. Through participant observation, I gained a detailed and nuanced understanding

of the organization's communication practices, revealing insights that would have been difficult to capture through secondary data. The structured questionnaire, on the other hand, provided valuable quantitative data from a broader group of respondents, capturing diverse perspectives on the perceived effectiveness and potential of AI in communication. This method complemented the internal insights gathered during the internship by quantifying attitudes toward AI-driven tools. Together, these methods worked to offer a well-rounded view of the organization, highlighting both the day-to-day communication challenges and the strategic opportunities for integrating AI into its digital communication strategies.

6. Results

6.1. Participant Observation

Participant observation served as a foundational methodological tool throughout the course of my internship at the Knightsbridge Examination and Training Centre. Immersed in the organization's day-to-day operations, I was able to closely observe the development and implementation of digital communication strategies, while simultaneously contributing to content planning and production. This immersive positioning offered valuable, real-time insights into the institution's communication dynamics, decision-making processes and operational routines - especially concerning the current and potential uses of Artificial Intelligence (AI) within these practices.

Engaging directly with ongoing communication efforts allowed for a grounded, experience-based analysis of how AI tools are already being applied at Knightsbridge and where they may hold further strategic value. This perspective was essential for understanding the broader implications of AI integration in educational settings and for evaluating the three hypotheses that guide this study: AI's role in enhancing communication efficiency, its capacity to support personalization and its usefulness in developing high-quality learning resources.

6.1.1. Overview of Observed Communication Practices

During the internship period, I actively participated in the creation and coordination of digital content across various communication channels, with a particular focus on social media (Facebook and Instagram) and email marketing. My tasks included drafting posts and captions, designing visual assets, planning content calendars, writing email campaigns and communicating with external stakeholders such as students, institutional partners, and schools. Additionally, I was involved in operational aspects of exam logistics, particularly on exam days, where communication was crucial in guiding candidates and ensuring a smooth, stress-free experience.

These activities provided direct exposure to the institution's audience segmentation strategies and the way it tailors messages to meet the expectations of different groups. Whether addressing young adult candidates preparing for IELTS or communicating with schools arranging group exam sessions, the language, format and medium of communication were adjusted accordingly. Participating in internal planning meetings and monitoring workflow decisions gave me insight into how brand consistency is maintained, how campaign timelines are structured and how content priorities are set.

Throughout this process, I also monitored tool usage, including both traditional and AI-supported platforms, as well as how internal decisions regarding content direction, tone and scheduling were made. This comprehensive view of the institution's communication ecosystem helped identify strengths, such as clarity, responsiveness and audience focus, as well as challenges related to scalability, personalization and content performance evaluation.

6.1.2. Analysis of the Practices

One of the most tangible and consistently applied uses of AI at Knightsbridge was in the area of content creation. AI tools, particularly ChatGPT, were frequently employed to assist with the initial drafting of text-based materials for both internal and external communication. These included social media captions, brainstormed themes for seasonal or campaign-specific content and variations of email subject lines intended for different audience segments. This use of AI helped reduce time spent on repetitive tasks and

introduced greater variety into messaging, all while maintaining the center's professional and approachable tone.

All AI-generated outputs were subject to review, revision and contextual adjustment before publication, reflecting a hybrid model in which human oversight ensured alignment with brand voice and institutional values. Rather than displacing the creative process, AI acted as a supportive tool that enhanced productivity and allowed for greater focus on higher-level strategic tasks such as audience targeting, content performance evaluation and long-term campaign planning. These observations confirm that AI can enhance communication efficiency and consistency when used as a collaborative assistant to human creativity.

When considering personalization, the importance of tailoring content to specific audience groups was a recurring theme in both internal discussions and communication planning. However, while segmentation strategies are clearly in place, differentiating between new candidates, repeat test-takers and school partners, personalization driven by AI remains an underexplored area. There are currently no dynamic content systems in place that adapt messages based on user behavior, preferences or past interaction patterns.

Nevertheless, the potential for AI-powered personalization was widely recognized. During internal meetings and content planning sessions, various ideas were discussed regarding the use of AI to develop adaptive email flows, recommend specific preparation courses or deliver personalized feedback or reminders to candidates based on their exam history. These possibilities, although not yet realized, reflect an institutional awareness of the growing demand for customized communication and user experiences. Feedback from respondents also highlighted a clear appreciation for tailored resources and one-on-one support, reinforcing the idea that personalization is a high-impact area for future development, especially as the center expands its digital offerings.

The most advanced and impactful use of AI observed during the internship was undoubtedly in the development of educational content and preparatory materials. AI tools were actively used to draft practice exercises, mock exam questions, speaking prompts and vocabulary-building tasks. These materials were consistently reviewed and refined by experienced educators before being incorporated into formal learning resources, maintaining alignment

with Cambridge-style assessment frameworks. The speed and flexibility of AI in generating such resources enabled the institution to respond more quickly to student needs, offer more variety in practice tasks and experiment with new formats, particularly in the creation of short, intensive “sprint” preparation courses.

By facilitating faster content production without compromising quality, AI supported the center’s commitment to delivering personalized, high-quality and accessible exam preparation. This area of use demonstrated the strongest alignment with Knightsbridge’s pedagogical values and long-term mission, suggesting that AI can contribute meaningfully to the core educational offering when guided by expert oversight.

6.1.3. Challenges and Opportunities for Improvement

While AI is being effectively used in content creation and learning resource development, the observation also revealed several limitations and opportunities for further growth. Campaign performance analysis and audience engagement metrics are currently monitored manually, with only basic tools in place for interpreting user behavior and adjusting strategies accordingly. The integration of AI-powered analytics or predictive tools could offer more accurate, real-time insights into which messages are most effective and which content formats resonate best with different audience segments.

Moreover, although AI tools are already being used regularly, their implementation remains somewhat informal and inconsistent. There are no established internal guidelines for AI use, nor dedicated training sessions to standardise its application across tasks or users.

Formalizing these practices through internal policies, documentation and training could help ensure consistent quality, support ethical use and further expand the benefits of AI across departments.

In summary, the participant observation offered rich, contextual insight into the evolving role of AI within Knightsbridge’s communication and educational practices. It demonstrated how AI is already being used to increase efficiency, improve content quality and enhance the institution’s ability to respond to learner needs. At the same time, it highlighted specific areas, such as performance analysis and personalization, where further integration could

provide substantial value. These findings not only informed the development of the research but also offered a practical contribution to the institution's ongoing efforts to innovate and grow in a rapidly evolving digital communication landscape.

6.2. Questionnaire

6.2.1. Data Processing and Preparation

To analyse the questionnaire responses, data was first collected using two versions of a Google Form - one in English and the other in Portuguese. Both forms contained six identical questions utilizing a five-point Likert scale. Responses were exported from Google Forms into Google Sheets, and then downloaded as Csv files. The files were then merged in SPSS, and the text responses in Portuguese were translated and matched to the corresponding English scale (e.g., "nunca" = "never").

In SPSS, each question was assigned a numeric value based on the Likert scale:

1 = Never / Strongly disagree / No Affect

2 = Rarely / Disagree / Minor Affect

3 = Sometimes / Neutral / Neither agree or disagree

4 = Often / Agree / Moderate affect

5 = Frequently / Strongly agree / Major affect

All responses were labeled accordingly in the Variable View.

6.2.2. Descriptive Statistics

Before proceeding to hypothesis testing, descriptive statistics were calculated to examine the central tendency and variability of responses to each question included in the questionnaire. This preliminary analysis aimed to provide a general overview of participant's attitudes toward the integration of Artificial Intelligence (AI) in educational communication and learning contexts.

Figure 1 -Descriptive Statistics

		Statistics					
		Q1Frequency_ Num	Q2Efficiency_ Num	Q3Personalisa tion_Num	Q4Studying_N um	Q5Perception_ Num	Q6Accessibilit y_Num
N	Valid	152	152	152	152	152	152
	Missing	0	0	0	0	0	0
Mean		3.0066	3.3882	3.3816	3.6316	3.5526	3.9276
Median		3.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Std. Deviation		1.15945	1.13376	1.04174	1.26430	.96144	.92143

Source: SPSS

The questionnaire was completed by 152 respondents, with no missing data across any of the six core items analyzed. The results show that, overall, participants demonstrated a tendency toward agreement with AI-related statements, particularly those addressing efficiency, personalization and educational support.

The mean values for all items ranged from 3.00 to 3.93, with the lowest mean observed for Q1 (AI frequency of use, M = 3.0066) and the highest for Q6 (AI contributing to accessibility and adaptability in learning, M = 3.9276). Most items showed median values of 4.00, indicating that the majority of participants leaned toward agreement with the statements presented. This trend supports the assumption of a generally positive perception of AI's potential in the areas addressed by the questionnaire.

Standard deviations ranged from approximately 0.92 to 1.26, reflecting moderate variability in responses. The highest variability was found in Q4 (perceptions of studying with AI-generated materials), suggesting diverse views or experiences in this area, while Q6 (perceptions of AI enhancing accessibility) showed the lowest variability, indicating more consistent agreement among participants.

These descriptive findings establish a foundational understanding of participant attitudes and provide context for the inferential statistical tests that follow. Overall, the data suggest a positive disposition toward AI in communication and education, with potential areas for further exploration in actual usage frequency and personalization practices.

6.2.3 First Hypothesis

Hypothesis 1: AI-driven tools for content creation (such as AI-assisted copywriting for email marketing and social media posts) enhance communication efficiency and consistency, allowing communication specialists to focus on strategic, value-added tasks.

This hypothesis was examined through Questions 1 and 2:

- Q1 assesses the frequency of using AI tools for content creation.
- Q2 evaluates agreement with the statement that AI improves efficiency and frees time for creative tasks.

Null Hypotheses and Alternatives:

Q1:

H0: The mean frequency of AI tool use is equal to 3 (neutral use)

Ha: The mean frequency of AI tool use is different from 3

Q2:

H0: The mean agreement that AI enhances efficiency and consistency is equal to 3 (neutral)

Ha: The mean agreement is different from 3

Given that both Q1 and Q2 employed Likert-scale responses with a central neutral midpoint of 3, the central analytical objective was to determine whether the median or mean response differed significantly from this neutral point. This approach tests whether respondents tend toward agreement or disagreement (or higher/lower frequency) beyond a neutral stance.

A One-Sample T-Test was employed to compare the sample mean against the test value of 3 (neutral). The decision to use this parametric test was based on the nature of the data and preliminary assessment. It is also important to note that, according to de Winter and Dodou (2010), when using a Likert scale with at least five levels, as was the case in this study, it is common practice to treat the responses as scale variables. This justifies the application of parametric tests such as the One-Sample T-Test.

Figure 2 – T-test Q1

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Q1Frequency_Num	152	3.0066	1.15945	.09404

One-Sample Test						
Test Value = 3						
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference
			One-Sided p	Two-Sided p		Lower Upper
Q1Frequency_Num	.070	151	.472	.944	.00658	-.1792 .1924

One-Sample Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Q1Frequency_Num	Cohen's d	1.15945	.006	-.153	.165
	Hedges' correction	1.16525	.006	-.153	.164

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

The One-Sample T-Test results indicate no statistically significant difference between the sample mean frequency of AI tool use and the neutral midpoint of 3. The high p-value ($p = 0.944$) suggests that participants' responses cluster closely around the neutral frequency level. Additionally, the confidence interval for the mean difference includes zero, further reinforcing that there is no meaningful deviation from neutral use.

This means that participants neither frequently used nor avoided AI tools for content creation, suggesting a general neutrality or balanced usage pattern across the sample.

Then the same test was run for question 2.

Figure 3 – T-test Q2

T-Test

One-Sample Statistics					
	N	Mean	Std. Deviation	Std. Error Mean	
Q2Efficiency_Num	152	3.3882	1.13376	.09196	

One-Sample Test					
Test Value = 3					
	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference
Q2Efficiency_Num	4.221	151	<.001	<.001	.38816

One-Sample Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
Q2Efficiency_Num	Cohen's d	1.13376	.342	.178	.505
	Hedges' correction	1.13943	.341	.177	.503

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

For Q2, the One-Sample T-Test reveals a highly significant difference from the neutral value. The p-value is well below the conventional level, indicating that respondents' mean agreement with the statement that AI improves communication efficiency is significantly greater than neutral. Moreover, the 95% confidence interval for the mean difference lies entirely above zero, confirming a positive shift from neutrality.

This result supports the hypothesis that AI-driven tools are perceived to enhance communication efficiency and free time for creative tasks. Participants tend to agree with the benefits of AI in this domain.

6.2.4. Second Hypothesis

Hypothesis 2: Personalization through AI in customer communication (targeted email campaigns and tailored course recommendations) improves user engagement, resulting in higher satisfaction and retention rates among candidates.

This hypothesis is addressed through:

Q3: Agreement that personalized content improves the user experience.

Q5: Perceived negative effect of lack of personalization.

Null Hypotheses and Alternatives:

Q3:

H0: The mean agreement with the benefit of personalization is equal to 3 (neutral)

Ha: The mean is significantly different from 3

Q5:

H0: The mean belief that lack of personalization negatively affects perception is equal to 3 (neutral)

Ha: The mean is significantly different from 3

As with Hypothesis 1, a One-Sample T-Test was employed to compare sample means to a neutral test value of 3 (the midpoint on the Likert scale). This test is appropriate under the following conditions - the sample size was large ($n = 152$); preliminary examination of the distribution and variance of the responses suggested they approximated normality; the One-Sample T-Test is suitable for determining whether the mean level of agreement differs significantly from a specified test value.

Figure 4 – T-test Q3

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Q3Personalisation_Num	152	3.3816	1.04174	.08450

One-Sample Test						
Test Value = 3						
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference
			One-Sided p	Two-Sided p		Lower Upper
Q3Personalisation_Num	4.516	151	<.001	<.001	.38158	.2146 .5485

One-Sample Effect Sizes				
		Standardizer ^a	Point Estimate	95% Confidence Interval
				Lower Upper
Q3Personalisation_Num	Cohen's d	1.04174	.366	.201 .530
	Hedges' correction	1.04695	.364	.200 .527

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

The One-Sample T-Test indicates a statistically significant difference from the neutral test value of 3. With a p-value below the .001, the result is highly significant. The confidence interval for the mean difference does not include zero and lies entirely above it, showing a positive shift. We reject the null hypothesis.

Respondents agree that personalized content improves the user experience. The rejection of the null hypothesis supports the claim that personalization - enabled through AI-driven strategies - is perceived positively by users and contributes to a more engaging and satisfactory interaction.

The test was then ran on question 5 - impact of lack of personalization on perception of the brand.

Figure 5 – t-test Q4

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Q4Studying_Num	152	3.6316	1.26430	.10255

One-Sample Test						
Test Value = 3						
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference
			One-Sided p	Two-Sided p		Lower Upper
Q4Studying_Num	6.159	151	<.001	<.001	.63158	.4290 .8342

One-Sample Effect Sizes				
	Standardizer ^a	Point Estimate	95% Confidence Interval	
			Lower	Upper
Q4Studying_Num	Cohen's d	1.26430	.500	.330 .667
	Hedges' correction	1.27063	.497	.329 .664

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

The results for Q5 also reveal a highly significant deviation from neutrality. The large t-value and very small p-value (< .001) indicate strong evidence against the null hypothesis. The confidence interval again excludes zero and shows a substantial positive mean difference.

Participants clearly believe that a lack of personalization negatively affects their perception of a service. This finding reinforces the argument that personalization is not just a positive feature but a necessary element in user communication strategies. The absence of

personalization appears to degrade the perceived quality and relevance of the content received.

6.2.5. Third Hypothesis

Hypothesis 3: The use of AI in developing mock exams and preparatory resources will create high-quality materials that better align with candidates' learning needs, fostering a more supportive and resource-rich preparation environment.

This is reflected in:

Q4: Openness to AI-generated preparation materials if high quality.

Q6: Belief in AI's ability to improve accessibility and adaptability in learning.

Null Hypotheses and Alternatives:

Q4:

H0: The mean willingness to use AI study materials is 3 (neutral)

Ha: The mean differs from 3

Q6:

H0: The mean belief in AI improving accessibility/adaptability is 3 (neutral)

Ha: The mean differs from 3

A One-Sample T-Test was conducted to determine whether the mean response significantly differed from a neutral point (test value = 3).

Figure 6 – T-test Q4

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Q4Studying_Num	152	3.6316	1.26430	.10255

One-Sample Test						
Test Value = 3						
	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	95% Confidence Interval of the Difference Lower Upper
Q4Studying_Num	6.159	151	<.001	<.001	.63158	.4290 .8342

One-Sample Effect Sizes				
	Standardizer ^a	Point Estimate	95% Confidence Interval Lower Upper	
Q4Studying_Num	Cohen's d	1.26430	.500	.330 .667
	Hedges' correction	1.27063	.497	.329 .664

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

The p-value is highly significant, and the confidence interval does not contain zero.

Therefore, we reject the null hypothesis.

There is strong statistical evidence that respondents are more than neutral in their willingness to use AI-generated study materials, provided the quality is high. This suggests that there is a positive disposition among users towards integrating AI-generated resources in their preparation routines.

Next step was running the test for question 6.

Figure 7 – T-test Q6

→ **T-Test**

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Q6Accessibility_Num	152	3.9276	.92143	.07474

One-Sample Test						
Test Value = 3						
	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	95% Confidence Interval of the Difference Lower Upper
Q6Accessibility_Num	12.412	151	<.001	<.001	.92763	.7800 1.0753

One-Sample Effect Sizes				
	Standardizer ^a	Point Estimate	95% Confidence Interval Lower Upper	
Q6Accessibility_Num	Cohen's d	.92143	1.007	.810 1.201
	Hedges' correction	.92604	1.002	.806 1.195

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation.
Hedges' correction uses the sample standard deviation, plus a correction factor.

Source: SPSS

The t-test shows an even stronger effect, with a very high t-value and a p-value far below the 0.05. The confidence interval is well above zero. Thus, we also reject the null hypothesis for this question.

Participants overwhelmingly agree that AI contributes positively to making learning more accessible and adaptable to individual needs. This indicates a belief in AI's role not just in content creation, but in tailoring resources to support diverse learners.

6.2.6 Confidence Intervals for Proportion of Agreement

To complement the analysis, a 95% confidence interval was calculated for the proportion of respondents who selected either 4 or 5 on the Likert scale for each of the six questions. This allows for a clearer understanding of how strongly the sample aligns with agreement or frequent use, particularly when examining whether the majority of responses fall into the higher agreement categories.

For Questions 1 to 3, even though the mean values are above the neutral point of 3, the lower bounds of the confidence intervals remain below 50%. This suggests that we cannot confidently state that the majority of respondents selected 4 or 5. While Questions 2 and 3 are close to this point, the evidence is not strong enough to confirm a clear majority.

In contrast, for Questions 4, 5 and 6, the lower bounds of the confidence intervals are well above 50%, which allows us to say that a clear majority of respondents selected 4 or 5. This strengthens the results of these questions significantly, indicating a more decisive perception of AI's benefits in those specific areas.

Among them, Question 6 stands out as the strongest, with the highest sample proportion and confidence interval range, followed by Questions 4 and 5. This hierarchy highlights which statements received the most consistent and confident agreement across the sample.

The results are summarized in the table below:

Table 2 – 95% Confidence Interval

Question	% of Responses 4 or 5	Lower Limit (95%)	Upper Limit (95%)
1	42.8 %	34.9%	50.7%
2	55.3 %	47.4%	63.2%
3	55.9 %	48.0%	63.8%
4	65.8%	58.3%	73.3%
5	58.6%	50.8%	66.4%
6	71.1%	63.9%	78.3%

7. Discussion

This study sought to investigate the central research question: How can the integration of AI-driven tools enhance digital communication strategies and educational resource development at the Knightsbridge Examination and Training Centre? To explore this question, a mixed-method approach was employed, combining qualitative data gathered through participant observation during a curricular internship with quantitative data from a structured questionnaire. This dual methodology allowed for a comprehensive analysis of both internal institutional practices and external user perceptions regarding the role of Artificial Intelligence (AI) in educational communication. The findings corresponded with the study's three key hypotheses, each addressing a distinct dimension of AI's contribution - content creation and communication efficiency, personalization in communication and the development of adaptive educational resources.

7.1. AI-Driven Tools in Content Creation and Communication Efficiency

The first hypothesis proposed that AI-driven tools used in content creation, such as drafting emails or social media posts, can enhance communication efficiency and consistency, thereby allowing professionals to focus more on strategic and creative tasks.

This hypothesis was strongly supported by the findings from both research methods. Participant observation revealed that AI tools, particularly ChatGPT, were regularly integrated into the content development processes at Knightsbridge. Throughout the

internship, I observed and contributed to tasks such as drafting captions for social media platforms, generating subject line variations for email campaigns and brainstorming content angles for digital outreach. These AI-assisted drafts were never used in their raw form but consistently reviewed and refined to ensure alignment with the center's brand tone and professional standards.

The efficiency of this process was particularly evident in time-sensitive scenarios, such as last-minute updates regarding exam registration deadlines. AI tools accelerated the initial phase of content development, enabling faster delivery of accurate and clear communication. This time-saving effect freed up human resources for tasks requiring higher-order thinking, such as planning strategic communication campaigns, analysing audience engagement and coordinating operational logistics.

Quantitative results from the questionnaire further substantiated these observations. While the responses to Q1 indicated that AI is not yet used with high frequency across all participants (mean = 3.00, suggesting neutrality), responses to Q2 revealed a strong agreement that AI enhances communication efficiency (mean = 3.39). The One-Sample T-Test results for Q2 showed a statistically significant deviation from the neutral midpoint, with a low p-value and a confidence interval that remained entirely above zero. This indicates that even participants who may not use AI tools regularly perceive them as effective in streamlining communication. Complementing this, the 95% confidence interval calculated for the proportion of respondents selecting 4 or 5 on the Likert scale for Q2 suggests a near majority leaning toward agreement, although the lower bound does not conclusively exceed 50%, reflecting some variability in usage frequency or perception. Collectively, the qualitative and quantitative findings validate the first hypothesis, confirming that AI tools are actively improving communication efficiency and allowing staff to shift focus toward more value-driven work.

7.2. Personalization and User Engagement through AI

The second hypothesis suggested that AI-driven personalization in customer communication, such as tailored email campaigns or course recommendations, would improve user engagement, satisfaction and potentially retention.

Unlike the area of content creation, the application of AI for personalization at Knightsbridge remains largely aspirational. While personalization is clearly seen as valuable by the institution, current practices are based on manual segmentation rather than dynamic, behaviour-based customization. Audience categories such as first-time candidates, returning students and institutional clients are differentiated in communication, but AI is not yet used to adapt messaging based on individual actions or preferences.

Nonetheless, during planning sessions and informal discussions, there was clear interest in the potential of AI to enhance personalization. References were made to automated systems, such as those provided by Mailchimp, that can use user data to recommend courses, send reminders at optimal times or customize learning journeys. These tools were acknowledged as promising additions to the communication strategy, particularly in the context of a growing and increasingly diverse candidate base.

From the user perspective, personalization emerged as a clear expectation. Questionnaire responses to Q3 and Q5 supported this hypothesis with strong statistical significance. Participants not only agreed that personalized communication enhances their experience but also indicated that the absence of personalization negatively impacts their perception of the service. These responses were not only statistically significant but showed large positive deviations from neutrality, reinforcing the importance of relevance and individual tailoring in educational communication. Furthermore, the 95% confidence intervals for the proportion of respondents selecting 4 or 5 on these questions exceeded 50%, confirming a clear majority endorsement of the importance of personalization in communication.

Although Knightsbridge has not yet implemented AI-powered personalization, the findings highlight a strong alignment between institutional direction and user expectations. This positions personalization as a strategic priority for future development - one that could significantly enhance engagement, improve communication resonance and contribute to stronger learner satisfaction.

7.3. AI in Educational Resource Development

The third hypothesis proposed that AI can be effectively used to generate high-quality, adaptive educational resources, such as mock exams or preparatory exercises, thus contributing to a more supportive and resource rich learning environment.

This hypothesis received the strongest support from both observation and survey data. During the internship, I directly observed the use of AI tools to draft a wide variety of educational materials, including Cambridge-style mock tests, grammar exercises, vocabulary tasks and speaking prompts. These materials were created with the help of AI and then refined by subject-matter experts before being used in the classroom or published online. This process enabled rapid content generation without compromising pedagogical quality, especially in high-demand periods or when preparing intensive sprint courses.

The use of AI in this context aligns seamlessly with Knightsbridge's educational mission - to provide tailored, effective and accessible learning experiences for certification candidates. AI supported not only speed and flexibility but also diversity in the types of tasks and formats offered, which is crucial for addressing different learning needs and styles.

Survey responses reinforced this finding. Participants expressed a high level of agreement with statements that AI-generated learning materials are acceptable if they maintain quality (Q4) and that AI enhances the accessibility and adaptability of learning (Q6). Both questions produced statistically significant results with confidence intervals clearly above zero. Notably, the 95% confidence intervals for the proportion of respondents selecting 4 or 5 on Q6 and Q4 were well above 50%, indicating very strong evidence of majority agreement. These responses indicate that learners are open to and even supportive of AI's role in their educational experience, provided it is implemented responsibly and with attention to quality.

Together, these findings strongly affirm the third hypothesis and suggest that the use of AI in resource development is both effective in practice and well-received by learners.

7.4. Synthesis and Implications

The convergence of qualitative and quantitative findings in this study presents a coherent and compelling narrative - AI is already making impact on digital communication and educational resource development at Knightsbridge and its potential for further integration is considerable. Content creation processes have been enhanced through AI's support, allowing communicators to work more efficiently and strategically. Regarding educational materials, AI has proven to be a valuable co-creator, enabling the rapid development of varied and high-quality learning tools. While personalization remains an underdeveloped area, its perceived importance, both within the institution and among its users, marks it as a critical area for future strategic investment.

The findings suggest that Knightsbridge is well-positioned to deepen its AI integration in a thoughtful and mission-aligned manner. Formalizing existing practices, introducing AI-powered analytics and gradually adopting personalization tools could elevate the institution's communication effectiveness and student engagement without compromising its educational standards.

Importantly, the analysis of questionnaire responses highlights that among all assessed aspects, Questions 6 (especially), followed by 4 and 5, show the strongest evidence of validity. The 95% confidence intervals for the proportion of respondents selecting 4 or 5 on these questions are consistently above 50%, confirming clear majority agreement. This solid statistical support not only reinforces the reliability of these findings but also emphasizes their practical significance - users strongly perceive AI as a valuable tool for enhancing accessibility and adaptability in educational resources, as well as for delivering more personalized communication. Such clear majority endorsement reflects a meaningful alignment between user expectations and institutional goals, providing Knightsbridge with strong, data-driven guidance on which AI applications to prioritize. By focusing development efforts in these areas, Knightsbridge can better meet learner needs, improve user satisfaction and ultimately strengthen the effectiveness of its digital communication and educational offerings.

Ultimately, this study contributes to a broader understanding of how AI can be responsibly integrated into educational contexts - not as a replacement for human expertise, but as a complementary partner. When guided by strategic vision and pedagogical care, AI has the

potential to support more consistent, efficient and learner-centered communication in certification institutions like Knightsbridge.

8. Conclusion

This report was written to reflect on my curricular internship at the Knightsbridge Examination and Training Centre, conducted within the framework of my master's degree in Strategic Communication at the University of Porto. What initially began as a practical learning experience in institutional communication gradually evolved into an in-depth investigation into the strategic integration of Artificial Intelligence (AI) in educational communication and resource development. The scope of my responsibilities, ranging from content creation and digital campaign planning to supporting exam operations, provided an authentic and multi-layered perspective on how AI tools can be applied within a real-world educational setting.

The research was guided by three core hypotheses addressing AI's contribution to content creation efficiency, personalized communication and the development of adaptive educational materials. The findings confirm that AI is already playing a meaningful role at Knightsbridge, particularly in the area of content creation. Tools such as ChatGPT are regularly used to support the drafting of social media content, campaigns and structuring of email communication. These practices have increased operational efficiency, improved content consistency and gave staff a chance to dedicate more time to higher-level strategic planning. This practical observation was further investigated using quantitative methodology, which revealed a shared perception among respondents that AI supports more effective and consistent communication.

In contrast, while personalization is clearly valued by both the institution and its learners, AI-driven personalization remains largely underused. Current segmentation strategies are used to address diverse audiences, but true behavioural or data-driven personalization is yet to be implemented. Nonetheless, the questionnaire responses indicated strong user expectations for more individualized communication and highlighted that a lack of personalization can negatively affect user engagement. This points to a significant

opportunity for Knightsbridge to evolve its digital communication strategies by incorporating AI tools that allow for more tailored and responsive messaging.

Perhaps the most fully realized area of AI integration is in the development of preparatory learning materials. During the internship, I observed how AI was used to generate mock exams, grammar tasks and speaking prompts in line with Cambridge exam formats. These were reviewed and adapted by experienced educators, ensuring that quality and academic standards were upheld. This collaboration between AI tools and human expertise allowed for the efficient production of tailored resources and a more responsive approach to learner needs. Survey participants confirmed this, expressing a willingness to use AI-generated materials and affirming AI's value in making education more accessible and adaptable to individual learning styles.

Collectively, the findings of this study demonstrate that AI, when thoughtfully integrated, holds significant potential to transform educational communication and resource development. At Knightsbridge, the early implementation of AI tools reflects an openness to innovation and a measured approach grounded in educational integrity. The institution's use of AI for content creation and educational support is already yielding practical benefits, while personalization stands out as a compelling direction for future growth. These developments are closely aligned with Knightsbridge's broader mission to offer high-quality, personalized language education that meets the evolving needs of diverse learners.

However, the research has some limitations. The scope of participant observation was naturally defined by the duration and position of the internship, which, while immersive, did not offer full access to internal decision-making processes or long-term strategic planning. The questionnaire, while useful in capturing broad perceptions, was distributed to a relatively limited and localized sample through the University of Porto's email system. As such, the results may not fully reflect wider user populations or institutions with different communication infrastructures. Furthermore, participant's varying familiarity with AI tools could have influenced their responses.

Despite these limitations, the study contributes valuable insight to the broader discourse on AI in education. It illustrates that the strength of AI lies not in replacing human expertise but

in enhancing it, enabling institutions to become more agile, engaging and learner-centered. As the demand for scalable, personalized and high-impact communication grows, institutions like Knightsbridge have an opportunity to lead by example. By continuing to explore AI thoughtfully and always in dialogue with pedagogical values, educational organizations can build a future where human creativity and technological innovation work in meaningful harmony.

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Attachments

Table 1 – Questionnaire

Question	Answer Options	Hypothesis	Justification
Q1 - How frequently do you use AI to support your content creation (e.g., writing copy, creating images, brainstorming ideas, or designing graphics)?	1 - Never 2 - Rarely 3 - Sometimes 4 - Often 5 - Always	H1	Senyapar (2024) points out that "tools powered by AI can assist in generating content ideas, headlines, and even entire pieces of content based on trends and past content performance". 47% of digitally mature businesses have already started using AI to create content. (Adobe, 2020)
Q2 - On the scale from 1 to 5, what is your level of agreement with the following statement: AI-driven tools make digital communication more efficient and consistent, allowing you to focus on more meaningful and creative tasks.	1- Strongly disagree 2 - Disagree 3 - Neither agree or disagree 4 - Agree 5 - Strongly agree	H1	By automating repetitive processes, AI frees up mental resources to focus on strategic thinking and content personalisation (The thinking cap news, 2024)

Q3 - On the scale from 1 to 5, what is your level of agreement with the following statement: receiving personalized content (e.g., tailored recommendations, targeted messages) from the company/organisation enhances overall experience.	1- Strongly disagree 2 - Disagree 3 - Neither agree or disagree 4 - Agree 5 - Strongly agree	H2	By delivering content tailored to the individual's preferences and needs, businesses can foster a deeper connection with their audience, enhancing brand loyalty and driving conversions. (Senyapar, 2024). The Clymb case study demonstrated that AI-enhanced personalized email campaigns led to a 28% increase in open rates and a 15% increase in click-through rates (Clymb, 2019).
Q4 - On the scale from 1 to 5, what is your level of agreement with the following statement: I would be open to using AI-generated study and exam preparation materials if they were proven to be high quality.	1- Strongly disagree 2 - Disagree 3 - Neither agree or disagree 4 - Agree 5 - Strongly agree	H3	The results showed a predominance of positive attitudes towards artificial intelligence and educational system (57.58% vs. 16.65% - percentage of tweets with negative or positive polarity), (Stracqualursi & Agati, 2024). The automation extends to formative assessments as well, with AI creating tailored prompts and exercises that align with a student's skill level

			and learning goals. (Baidoo-Anu & Ansah, 2023).
Q5 - On the scale from 1 to 5, how much do you think the following factors affect your experience: To what extent do you believe a lack of personalization in communication negatively affects your perception of a company?	1 - No affect 2 - Minor affect 3 - Neutral 4 - Moderate affect 5 - Major affect	H2	Personalization, something that previously was viewed as luxury, is now considered a commodity and is generally expected, which means the companies need to adapt their approach and strategies (Abrokwah-Larbi, 2023).
Q6 - On the scale from 1 to 5, how much do you think the following factors affect your experience: To what extent do you think AI-generated study materials can affect the accessibility and adaptability of learning resources to different learning styles and study speeds?	1 - No affect 2 - Minor affect 3 - Neutral 4 - Moderate affect 5 - Major affect	H3	Xu (2024) emphasizes that this dynamic adjustment not only improves student understanding of information but also creates a more inclusive environment where learners of different abilities and paces can thrive together.