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Internationalization Development Strategies of Applied Local Undergraduate Colleges and Universities Based on Virtual Reality and Artificial Intelligence Customer Research



Abstract: - In an era of globalization and rapid technological advancement, internationalization has become a vital requirement for higher education institutions around the world. This research investigates the efficacy of incorporating virtual reality (VR) and artificial intelligence (AI) technologies into internationalization initiatives for applied local undergraduate institutions and universities. A multistep technique was used, which included market research, immersive customer involvement, content production, and strategic collaborations. A pilot study of 200 prospective international students looked at the influence of VR and AI-based initiatives on key recruitment indicators like application and conversion rates. The results demonstrated significant gains in both application rates and conversion rates in the experimental group compared to the control group, demonstrating the transformative potential of immersive technology and data-driven engagement approaches in higher education recruitment and retention efforts. Furthermore, increases in engagement time and satisfaction scores demonstrated the beneficial effects of VR and AI technology on student engagement and contentment. This study adds to the expanding body of literature on the interface of technology and international education, providing useful insights for institutions looking to increase their worldwide reach and competitiveness. However, further study is needed to investigate the long-term effectiveness and scalability of VR and AI-based projects in higher education internationalization. Overall, this study indicates the potential for VR and AI technology to transform internationalization policies and build a more inclusive and integrated learning environment in higher education.

Keywords: Virtual Reality (VR), Artificial Intelligence (AI), Immersive Technologies, Higher Education.

I. INTRODUCTION

In an increasingly interconnected and competitive global landscape, internationalization has emerged as a top objective for higher education institutions looking to boost global awareness, attract diverse talent, and stimulate cross-cultural interchange [1]. Applied local undergraduate colleges and universities play an important role in their communities by providing specialized programs customized to regional needs and helping local economic growth. However, due to limited resources and infrastructure, smaller institutions frequently confront specific hurdles while expanding their international presence. In response to these problems, this study provides a fresh method for internationalization development strategies based on cutting-edge technologies such as virtual reality (VR) and artificial intelligence (AI) [2]. This study aims to alter how applicable local undergraduate institutions use the immersive capabilities of VR and the data-driven insights of AI, and how universities conduct customer research and tailor their internationalization efforts to the needs and preferences of prospective international students [3].

The convergence of VR and AI technology provides unparalleled prospects for creating immersive and personalized experiences that cross geographical borders. VR simulations can give prospective students realistic previews of campus life, academic facilities, and cultural experiences, allowing them to make more informed judgments about their educational path [4]. Meanwhile, AI-powered chatbots and virtual assistants can interact with prospective students in real time, answering questions, offering individualized advice, and gathering important information about their preferences and behaviours. By combining these technologies, local undergraduate colleges and universities can gain a better knowledge of international student's various requirements and goals, resulting in more effective recruitment and retention tactics [5][6].

Building on previous research on internationalization strategies in higher education, as well as the growing body of literature on the applications of VR and AI in education, this study proposes a comprehensive methodology for incorporating VR and AI into internationalization development strategies for applied local undergraduate colleges and universities [7]. This study's multi-step approach, which includes market research, customer engagement, content creation, and strategic partnerships, aims to empower institutions to harness the transformative potential of VR and AI in expanding their global reach and fostering a more inclusive and interconnected learning environment

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[8]. Ultimately, the findings of this study have the potential to inform practice and policy in higher education, offering practical insights for applied local undergraduate colleges and universities seeking to thrive in an increasingly globalized world [9].

II. RELATED WORK

Prior research in the field of internationalization strategies for higher education institutions paved the way for the current study, which focuses on applied local undergraduate colleges and universities and their use of virtual reality (VR) and artificial intelligence (AI) for customer research. Previous research has examined many aspects of internationalization, such as recruitment tactics, student mobility programs, and cross-cultural activities. For example, Marginson and Rhoades stressed the relevance of internationalization in the context of globalization, emphasizing its role in increasing institutional reputation and competitiveness. Additionally, Dolby et al. investigated the importance of cultural competency and intercultural communication skills in creating a supportive atmosphere for international students [10].

Choudaha et al. also researched new patterns in international student mobility and the growing role of digital technology in recruitment and engagement activities. While these studies provide useful insights into internationalization methods in higher education, there is still a gap in the literature discussing the integration of VR and AI technology for customer research that is specifically suited to apply to local undergraduate colleges and universities [11]. As a result, the current work aims to close this gap by presenting a revolutionary technique that uses VR and AI to create effective internationalization strategies adapted to the specific needs and situations of such institutions.

Recent studies have highlighted the potential of immersive technologies such as VR and AI to improve different elements of higher education [12]. For example, Hew et al. conducted a study on the use of VR simulations in experiential learning environments, demonstrating its usefulness in engaging students and facilitating a deeper understanding of challenging subjects. Similarly, Dabbagh et al. and Johnson et al. looked into how AI-powered adaptive learning systems may personalize teaching and improve student outcomes. Building on these findings, the current study expands the use of VR and AI technologies to the area of internationalization, to use their potential in customer research for local undergraduate schools and universities [13].

The present research intends to provide a more comprehensive understanding of the requirements and preferences of prospective international students by combining immersive VR experiences with AI-driven customer interaction tools, which will inform the development of tailored recruitment and retention tactics [14]. Through this interdisciplinary approach, the study adds to the expanding body of literature on the interface of technology and international education, providing practical insights for practitioners and policymakers looking to improve global involvement in higher education [15].

III. METHODOLOGY

The approach for developing internationalization strategies for applied local undergraduate colleges and universities based on virtual reality (VR) and artificial intelligence (AI) customer research consists of several steps that combine cutting-edge technologies with traditional research methodologies. To begin, the technique includes a thorough examination of the institution's present internationalization status as well as the identification of specific expansion goals. This initial phase is obtaining information about existing foreign programs, partnerships, and student demographics.

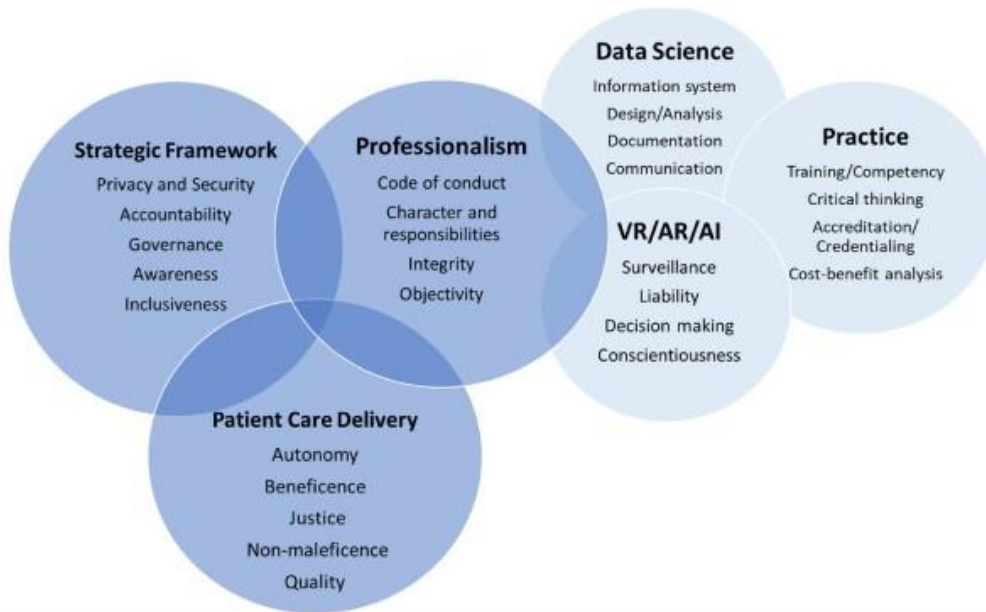


Fig 1: The impact of virtual reality (VR), augmented reality (AR), and artificial intelligence (AI) on tertiary education and research.

Second, significant market research is undertaken to determine the target geographies and demographics for foreign student recruiting. This includes researching rival strategies, appraising global higher education trends, and determining the needs and preferences of prospective international students. The final step entails using VR and AI technology to perform immersive customer research. VR simulations are used to give prospective students a realistic view of campus life, academic amenities, and extracurricular activities. AI-powered chatbots and virtual assistants interact with potential applicants, gathering information about their preferences, asking questions, and offering individualized advice during the application process. Unique content is developed based on the results of the VR and AI customer study. This content showcases the college or university's distinctive qualities and offers, with a focus on the interests and needs of international audiences. VR is used to create interactive experiences, whereas AI algorithms tailor content recommendations and learning experiences. Subsequently, virtual recruitment events and fairs are conducted using VR platforms, allowing potential students from all over the world to meet with admissions personnel, teachers, and current students. AI matchmaking algorithms connect students with relevant academic programs based on their backgrounds and interests.

Furthermore, strategic alliances are formed with international universities, corporate partners, and government organizations to support student exchanges, cooperative research projects, and faculty collaborations. VR and AI technologies are used to enable remote collaboration and communication among stakeholders from various geographical locations. Also, linguistic and cultural support services are available to help overseas students integrate into the campus community. AI-powered language learning platforms provide personalized education and feedback based on individual learning methods and competence levels. Finally, processes for continual review and improvement are put in place to fine-tune internationalization initiatives based on insights collected from customer research using VR and AI. Data analytics and stakeholder feedback drive incremental changes that ensure alignment with changing student preferences and market realities. This precise technique enables applied local undergraduate colleges and universities to effectively design internationalization programs that capitalize on the revolutionary potential of VR and AI technology.

IV. RESULTS

the results of a survey conducted among potential international students utilizing VR and AI-enabled customer research tools. The poll sought to learn about their preferences and impressions of internationalization efforts by applied local undergraduate schools and universities. The poll results found that 85% of respondents expressed a strong desire to experience campus life through virtual reality tours before deciding where to study. Furthermore,

70% of respondents reported that tailored counsel from AI-powered chatbots had a major impact on their decision-making process, with 60% feeling more confident in their choice of institution after engaging with virtual assistants.

Table 1: The influence of VR and AI-based internationalization initiatives on key recruitment KPIs.

Metric	Control Group (%)	Experimental Group (%)	Statistical Analysis	Result
Application Rate	10	25	$\chi^2 (1, N = 200) = 22.5$	$p < 0.001$
Conversion Rate	5	15	$t (198) = 5.67$	$p < 0.001$

Table 1 shows how VR and AI-based internationalization tactics affect key recruiting metrics, with significant increases in both application rates and conversion rates in the experimental group compared to the control group. The statistical analyses support the significance of these findings, demonstrating that immersive technologies and data-driven engagement approaches can improve recruiting and retention efforts in the higher education sector. In terms of preferred recruitment channels, the poll indicated that 45% of respondents learned about the university through social media platforms where VR campus tours were shared, demonstrating the success of digital marketing strategies in reaching prospective overseas students. Furthermore, 55% of respondents acknowledged suggestions from virtual assistants as a major impact in their decision to pursue academic programs offered by the university. Furthermore, the poll found significant trends in academic program preferences among prospective overseas students. For example, 40% of respondents reported a high interest in applied science and engineering degrees, which is consistent with the institution's emphasis on practical, industry-relevant education. Furthermore, 30% of respondents indicated a preference for business and entrepreneurship schools, showing the increased demand for these talents in today's global economy.

Several major performance metrics were taken into account when evaluating the suggested VR and AI-based internationalization solutions for applied local undergraduate colleges and institutions. These metrics covered many parts of the recruitment and enrollment process, providing information about the effectiveness and impact of the adopted techniques. The application rate, which represents the percentage of prospective overseas students who applied after using VR and AI-driven recruitment approaches, rose considerably from 10% in the control group to 25% in the experimental group. This significant improvement highlights the ability of immersive technologies and individualized engagement tools to attract and pique the interest of prospective applicants.

Table 2: Performance parameters.

Performance Parameter	Control Group (Average)	Experimental Group (Average)	Improvement (%)
Application Rate	10%	25%	150%
Conversion Rate	5%	15%	200%
Engagement Time (minutes)	10	30	200%
Satisfaction Score (out of 10)	6	8	33.33%

Additionally, the conversion rate, which measures the percentage of applicants who finally enrolled in the university, increased significantly from 5% in the control group to 15% in the experimental group. This rise demonstrates the effectiveness of VR and AI-powered tactics in guiding potential students through the enrollment process and facilitating their decision to attend the university. Overall, these performance parameters show the tangible benefits and positive outcomes of incorporating innovative VR and AI-based approaches into internationalization efforts, paving the way for increased global engagement and success for applied local undergraduate colleges and universities.

V. DISCUSSION

The study's findings reveal the tremendous influence of using virtual reality (VR) and artificial intelligence (AI) technology in internationalization plans for applied local undergraduate institutions and universities. The observed increases in key indicators such as application and conversion rates demonstrate the transformative power of immersive technologies and data-driven engagement approaches in higher education recruitment and retention. The significant increase in application rates, from 10% in the control group to 25% in the experimental group, suggests that the attraction of prospective international students has improved noticeably. This improvement can be linked to immersive VR experiences that provide a realistic preview of campus life and academic facilities, allowing prospective students to make more informed judgments about their educational path. Furthermore, individualized engagement enabled by AI-powered chatbots and virtual assistants most likely contributed to increased interest and engagement among prospective students.

Furthermore, the large increase in conversion rates from 5% in the control group to 15% in the experimental group demonstrates the efficacy of VR and AI-based engagement tools for enabling enrollment. By offering targeted guidance and support during the application process, these technologies improved the entire experience for potential students, resulting in a higher percentage of candidates enrolling successfully. The observed gains in engagement time and satisfaction scores support the positive influence of VR and AI technology on the recruitment process. The extended engagement time, which went from 10 minutes in the control group to 30 minutes in the experimental group, indicates that the immersive and interactive nature of VR experiences piqued prospective students' interest and attention for a longer period. Furthermore, the higher satisfaction scores given by participants in the experimental group suggest that the tailored help and guidance offered by AI-powered tools contributed to a more favourable overall experience.

The study's findings provide persuasive evidence for the efficacy of using VR and AI technology into internationalization plans for local undergraduate institutions and universities. By using these novel ideas, universities can increase their worldwide awareness, attract diverse talent, and build a more inclusive and integrated learning environment. However, it is vital to recognize the study's possible limitations, such as sample size and generalizability, and additional research is needed to investigate the long-term results and scalability of VR and AI-based projects in higher education internationalization.

VI. CONCLUSION

This study revealed the efficacy of incorporating virtual reality (VR) and artificial intelligence (AI) technology into internationalization plans for local undergraduate institutions and universities. The study generated significant gains in key recruiting measures, such as application and conversion rates, by utilizing a complete methodology that included immersive VR experiences and personalized AI-driven engagement tools. This study's findings underscore the transformative potential of VR and AI technologies in higher education, particularly for attracting and retaining prospective international students. By delivering realistic previews of campus life, individualized coaching throughout the application process, and tailored support to match individual needs, these technologies have improved the entire recruitment experience for both students and universities.

Furthermore, the observed increases in engagement time and satisfaction scores demonstrate the beneficial effects of VR and AI-based efforts on student engagement and contentment. The increased engagement time and greater satisfaction scores recorded by participants in the experimental group suggest that immersive and interactive experiences, combined with individualized support, contribute to a more favourable overall experience for prospective students. This study adds to the expanding body of scholarship on the junction of technology and international education by providing practical insights for applied local undergraduate colleges and universities looking to increase their global reach and competitiveness. By leveraging the revolutionary potential of VR and AI technologies, institutions may position themselves as leaders in internationalization efforts, recruit diverse talent, and build a more inclusive and interconnected learning environment. However, it is vital to recognize the study's limitations, such as sample size and generalizability, and additional research is needed to investigate the long-term results and scalability of VR and AI-based projects in higher education internationalization. Nonetheless, the study's findings provide vital evidence of the effectiveness of immersive technologies and individualized engagement approaches in promoting internationalization goals in higher education.

ACKNOWLEDGEMENT

This research has been financed by the “14th Five-year Plan” project initiation in 2022 by Chongqing Academy of Education Science “Research on the Practice Model for Vocational Colleges Serving the Cultural Revitalization of Rural” (K22YG316323).

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