

Scientific and technological research article

How to cite: Avendaño Martínez, D. A. (2025). Comprehensive university marketing model to optimize student recruitment and retention. *Estrategia y Gestión Universitaria*, 13(2), e8934. <https://doi.org/10.5281/zenodo.17281286>

Received: 09/06/2025

Accepted: 25/06/2025

Published: 14/10/2025

Corresponding author:



internationaldrpi@ucn.edu.ni

Conflict of interest: the authors declare that they have no conflict of interest, which may have influenced the results obtained or the proposed interpretations.

Danilo Alkalá Avendaño Martínez ¹
Universidad Central de Nicaragua (UCN)
<https://orcid.org/0009-0004-2835-7498>
internationaldrpi@ucn.edu.ni
Nicaragua



Comprehensive university marketing model to optimize student recruitment and retention

Modelo integral de marketing universitario para optimizar la captación y retención de estudiantes universitarios

Modelo integral de marketing universitário para otimizar a captação e retenção de estudantes universitários

Abstract

Introduction: this study addresses the need for a comprehensive approach to university marketing, considering environmental trends and the demands of the target audience. **Objective:** to present the results of the design of an integrated university marketing model aimed at optimizing student recruitment and retention at the Central University of Nicaragua. **Method:** a mixed-method approach with a correlational design was employed. The research included surveys administered to students and administrative staff, interviews with key informants, and focus groups. Stratified probabilistic sampling was used for quantitative data, while convenience sampling was applied for qualitative data. Data analysis was conducted through descriptive and inferential statistics, as well as thematic analysis of qualitative information. **Results:** findings reveal a moderately positive perception of institutional marketing among students and administrative staff. The university website, institutional communication, and WhatsApp were identified as key channels. Higher satisfaction levels were reported in the Medicine, Pharmacy, and Nursing programs. Administrative staff highly valued the usefulness of a university marketing model, although challenges such as costs and resistance to change were noted. **Conclusion:** the proposed model demonstrates feasibility and relevance for strengthening student recruitment and retention. Its implementation requires strategic planning, change management, and sustainability. Progressive integration with institutional support and continuous evaluation is recommended.

Keywords: educational administration, education management, brand image, advertising°

Resumen

Introducción: este estudio aborda la necesidad de un enfoque integral en marketing universitario considerando tendencias del entorno y demandas del público objetivo.



Objetivo: presentar resultados del diseño modelo integral de marketing universitario orientado a optimizar captación y retención en Universidad Central de Nicaragua. **Método:** se utilizó un enfoque mixto, con diseño correlacional. La investigación incluyó encuestas aplicadas a estudiantes y personal administrativo, entrevistas a informantes clave y grupos focales. El muestreo fue probabilístico estratificado para datos cuantitativos y por conveniencia para los cualitativos. El análisis se realizó mediante la estadística descriptiva e inferencial y temática de datos cualitativos. **Resultados:** los resultados evidencian una percepción moderadamente positiva del marketing institucional por parte de estudiantes y del personal administrativo. Se destaca el rol del sitio web, comunicación institucional y WhatsApp como canales clave. Las carreras de Medicina, Farmacia y Enfermería mostraron mayor satisfacción. El personal administrativo valoró altamente la utilidad de un modelo de marketing universitario, aunque identificó desafíos como costos y resistencia al cambio. **Conclusión:** el modelo propuesto muestra viabilidad y pertinencia para fortalecer la captación y retención estudiantil. Su implementación requiere planificación estratégica, gestión del cambio y sostenibilidad. Se recomienda integrarlo progresivamente con apoyo institucional y evaluación continua.

Palabras clave: administración de la educación, gestión de la educación, imagen de la marca, publicidad

Resumo

Introdução: este estudo aborda a necessidade de uma abordagem abrangente no marketing universitário, considerando as tendências do ambiente e as demandas do público-alvo. **Objetivo:** apresentar os resultados do desenvolvimento de um modelo integrado de marketing universitário voltado para otimizar a captação e a retenção de estudantes na Universidade Central da Nicarágua. **Método:** foi adotada uma abordagem mista, com delineamento correlacional. A pesquisa incluiu questionários aplicados a estudantes e funcionários administrativos, entrevistas com informantes-chave e grupos focais. A amostragem foi probabilística estratificada para os dados quantitativos e por conveniência para os qualitativos. A análise foi realizada por meio de estatística descritiva e inferencial, além de análise temática dos dados qualitativos. **Resultados:** os achados revelam uma percepção moderadamente positiva do marketing institucional entre estudantes e funcionários administrativos. Destacam-se o papel do site institucional, da comunicação oficial e do WhatsApp como canais estratégicos. Os cursos de Medicina, Farmácia e Enfermagem apresentaram maior nível de satisfação. Os funcionários administrativos atribuíram alto valor à utilidade de um modelo de marketing universitário, embora tenham identificado desafios como custos e resistência à mudança. **Conclusão:** o modelo proposto demonstra viabilidade e relevância para o fortalecimento da captação e da retenção estudiantil. Sua implementação requer planejamento estratégico, gestão da mudança e sustentabilidade. Recomenda-se a integração progressiva com apoio institucional e avaliação contínua.

Palavras-chave: administração da educação, gestão da educação, imagem da marca, publicidade



Introduction

In the current context of increasing competition in higher education and changing student expectations, universities have been adapting to improve student recruitment and retention (Avendaño-Porras et al., 2022). This study, conducted between January and June 2024, analyzed educational marketing strategies from various theoretical perspectives. Forero-Medina (2020) has pointed out that educational marketing should place individuals at the center, prioritizing teachers, institutional staff, families, and students as key actors and primary resources of any strategy.

In this regard, university marketing has been a phase of research into social needs, seeking to enhance the services of various educational institutions to meet these needs and ethically promote their offerings. Its emergence contributes to the administrative area by facilitating the satisfaction of its goal, which is constantly evolving. However, educational marketing has not received thorough research, leading to incorrect applications (Parra Armendariz et al., 2022).

Against this backdrop, the Universidad Central de Nicaragua (UCN) has initiated university marketing efforts and strengthened student retention strategies with a segmented approach, supported by advanced digital tools. This endeavor aligns with the evolution of university marketing towards a relational approach, where the experience and connection with the student are key to designing strategies that better engage users and respond to their expectations (Gómez-Bayona et al., 2022).

According to Grewal et al. (2025), the transformation of marketing driven by artificial intelligence and other emerging technologies necessitates that universities adapt their strategies to align with the expectations of students and society. This assertion reinforces the importance of integrating digital competencies and technological tools into university marketing models aimed at recruitment and retention.

To be comprehensive, the strategy must include not only the promotion of programs but also the optimization of services such as digital libraries, international exchanges, and specialized advising (Gordillo et al., 2020). Implementing social media marketing effectively requires a mindset shift and special attention to administrative and pedagogical management (Enriquez Ralde, 2020).

According to Bracho Fuenmayor (2023) and Benavides et al. (2025), higher education institutions must strengthen and update strategies that adopt a comprehensive approach to improve the use of social media and technological platforms for the promotion and positioning of their academic programs. The development of these strategic management plans has generated value at all stages, considering both the target audience and key stakeholder groups.

Relational marketing on social media enhances communication, student satisfaction, and loyalty, facilitating processes and strengthening institutional management, while online teaching drives digital transformation, despite existing limitations (Ortega-Vivanco et al., 2023). Marketing 5.0 integrates technology, ethics, and human development to strengthen competitiveness and social well-being

sustainably (Bakator et al., 2024; Zaragoza Alvarado, 2024; Osorio-Marín et al., 2024).

The study by Naranjo Chérrez et al. (2025) has confirmed that digital strategies featuring multimedia content and personalized interactions are more effective in attracting and retaining students. A well-structured digital strategy has improved perceptions of online advertising and influences enrollment decisions, while traditional methods show limited impact. As a differentiating value, adopting student-centered approaches has been proposed as a key competitive advantage in contemporary university marketing.

Lucio Navarrete has suggested a significant positive correlation between the proper application of the service marketing mix and student loyalty levels (Lucio Navarrete et al., 2021).

According to Gómez-Bayona et al. (2022), building customer relationships in the university context depends on innovation, experience, and the active commitment of faculty, elements that must be strategically managed by the institution. The importance of integrating academic staff into actions that strengthen the brand and loyalty has been emphasized, a perspective aligned with the proposal of a model in which all actors in the educational community contribute to visibility, positioning, and student retention through a coherent strategy focused on relational value.

Loayza Cabrera et al. (2021) highlight that digital marketing is essential for differentiation in a competitive environment, enhancing visibility and attracting clients through social media and interactive platforms, combined with innovation and added value. Although their study focused on entrepreneurial students, their findings have been applied to institutional university strategies.

Complementarily, Matos-Cámara & Matos-Cámara (2021) indicate that the effective use of digital platforms, such as Google for Education, strengthens student trust and emotional commitment, elevates academic performance, and adds intangible value to the university brand, consolidating its positioning in a highly competitive environment.

This article proposes an evidence-based university marketing model, combining digital tools and analysis to personalize recruitment and retention strategies, helping universities differentiate themselves in a competitive landscape.

Methods and materials

A mixed-methods approach was utilized, specifically a correlational research type that allowed for an integrative understanding of the educational marketing strategies implemented at the institution, such as digital marketing, written or digital advertising, school visits, social media, the university website, television media, vocational fairs, and their impact on student satisfaction, retention, new enrollments, and educational quality.

This research formulated the following null hypothesis (H_0): the analysis of the levels of knowledge about university marketing, the review of implemented strategies, and the evaluation of the satisfaction of the university community did not generate significant contributions to the development of an innovative model. In contrast, the alternative hypothesis (H_1) posited that such an analysis allowed for the construction of a model with an impact on student recruitment and retention. A second hypothesis (H_2) was proposed: the implementation of a structured model contributed to an increase in enrollment and a reduction in student dropouts.

These hypotheses are grounded in new trends in university marketing, which have adopted more complex and holistic approaches, adapting to changes in the environment and focusing on understanding the needs of users and the services offered by institutions.

The population included 3,381 students and 52 administrative staff members. From this population, the sample size was calculated using the formula for finite populations, considering a confidence level of 95% and a margin of error of 5%, which is the standard accepted in social and educational research.

Table 1

Population and sample

Description	Population size (N)	Margin of error (E)	Confidence level	Sample size (n)
Re-enrolling students	585	5%	95%	233
New enrolling students	2,796	5%	95%	338
Administrative staff	52	5%	95%	47

Source: UCN statistical database and own elaboration.

The population considered consisted of active students enrolled in 2024 and administrative staff during the same period. For sample selection, stratified probability sampling was employed for quantitative groups, and convenience sampling was used for qualitative groups.

The main variables of the research were: educational marketing strategy, considered as the independent variable, and user satisfaction, student retention, new enrollments, and educational quality as dependent variables.

For the quantitative data, surveys were administered to students and administrative staff to gather their perceptions regarding marketing strategies. Differentiated questionnaires were designed for each group and were applied online. For re-enrolling students, questions focused on the effectiveness of advertising, the influence of social media, institutional communication, and satisfaction with marketing strategies.

Information was collected from new enrolling students on how they learned about the university, the effectiveness of marketing, their content preferences, and

potential improvements. Administrative staff were asked about the importance of the model, its impact on institutional success, visibility, student retention, communication, and implementation challenges. The instruments were validated through a pilot test, achieving a Cronbach's Alpha of 0.811.

The qualitative research, which was descriptive and exploratory in nature, included interviews with eight key informants and two focus groups with students from the central and Doral campuses. The selection of participants considered diversity in programs, years of study, and shifts.

Quantitative results were analyzed using descriptive and inferential statistics with SPSS version 23. In the qualitative analysis, a coding process was applied to the transcripts of interviews and focus groups to identify relevant patterns and categories.

Quality criteria such as credibility, reliability, confirmability, transferability, and triangulation were ensured, guaranteeing the replicability of the study and its utility in future research on educational marketing in the university context (Hernández Sampieri et al., 2014).

Results and discussion

The information obtained from the survey of re-enrolling students was analyzed, providing insights into perceptions related to marketing, institutional communication, and demographic profiles, as shown in Table 2.

Table 2

Age frequency of re-enrolling students

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	18-24 years	163	70.0	70.0	70.0
	25-30 years	16	6.9	6.9	76.8
	31-40 years	12	5.2	5.2	82.0
	Over 40 years	6	2.6	2.6	84.5
	Under 18 years	36	15.5	15.5	100.0
	Total	233	100.0	100.0	

Source: Data obtained from a survey applied to re-enrolling students at UCN.

A general characterization of this group was presented, considering relevant sociodemographic and academic variables. Regarding gender, the majority of re-enrolling students identified as female (70.8%), followed by male (27.9%), with a small percentage preferring not to specify (1.3%).

Students rated an average of 3.644 on a scale of 1 to 5, reflecting a

moderately positive perception of marketing's ability to convey institutional values and mission. The mode of 4.0 suggests general agreement, although the standard deviation of 1.1361 indicates variability.

Concerning advertising, it received an average rating of 3.258, showing a moderate influence on the choice of academic program. The mode of 5.0 indicates that some considered it decisive, despite a high dispersion of 1.4482 in opinions.

With an average of 3.747, students generally perceived that the university cared about their academic and professional success, a perception reinforced by a mode and median of 4.0. The standard deviation of 1.2178 showed moderate variability in responses.

The social media platforms of the university were considered informative and useful, with an average rating of 3.708, indicating that these channels were relevant for students. The mode of 5.0 suggested that several students found these platforms particularly informative, with a standard deviation of 1.3001 indicating a diversity of opinions on this aspect.

Events and activities promoted by the university received an average rating of 3.536, reflecting moderate interest; however, some students, as indicated by the mode of 5.0, found them very appealing. The standard deviation of 1.3486 also demonstrated variability in opinions.

The assessment of the university's official communication, which encompassed various media (website, emails, virtual classroom, social media, among others), reached an average of 3.867, one of the highest scores, indicating a positive perception regarding the relevance and timeliness of this communication. The mode and median of 4.0, along with a standard deviation of 1.2263, reflected moderate variability in responses.

The majority of re-enrolling students are in the Medicine program (32.2%), followed by Pharmacy (17.6%), Nursing (15%), and Veterinary Medicine (12%). Other programs account for less than 10%, with Psychology (9%) and Public Accounting and Auditing (4.3%) being notable. The majority of re-enrolling students originate from the Doral Campus, accounting for 78%. This is followed, in smaller proportions, by the Central Campus, Jinotepe, and the Estelí Extension, with participation rates of 15.5%, 4.7%, and 1.7%, respectively.

Perceptions regarding the ease of navigation and the informational content of the website received the highest average rating of 3.931. The mode of 5.0 indicated that many students found the site intuitive and well-structured. The standard deviation of 1.2438 showed moderate diversity in opinions.

These results reflected an overall positive perception, highlighting areas such as timely communication and website design. However, the influence of advertising displayed significant variability, suggesting opportunities for improvement in the university's marketing strategy.

Data derived from the survey administered to the new enrollment cohort reflect relevant information about academic preferences, preferred communication channels, and demographic characteristics (see Table 3). Among the new enrolling students, the female gender predominates (65.2%), followed by male (34.2%). Only

0.7% preferred not to disclose their gender.

Table 3

Age frequency of new enrolling students

	Frequency	Percentage	Valid percentage	Cumulative percentage
18-24 years	186	41.5	41.5	41.5
25-30 years	29	6.5	6.5	48.0
31-40 years	13	2.9	2.9	50.9
Over 40 years	4	0.9	0.9	51.8
Under 18 years	216	48.2	48.2	100.0
Total	448	100.0	100.0	

Source: Data obtained from a survey administered to new enrolling students at UCN.

The majority of students learned about the university through recommendations from friends or family (44%), followed by social media (26.6%) and school visits (17.9%). Other channels, such as vocational fairs, the website, signage, and television, had less impact.

73.9% believed that the marketing campaigns adequately reflected the university experience; 23% were undecided, and 3.1% disagreed.

The types of content that students wished to see in the university's marketing campaigns included social events and activities (31.7%) and details about academic programs (27.2%). Other interests included extracurricular activities (16.7%) and student testimonials (17.9%), while only 6.5% expressed interest in content about facilities and resources.

Regarding the programs of new enrolling students, Medicine accounts for the largest proportion (19.6%), followed by Pharmacy (11.8%), Psychology (11.2%), and Veterinary Medicine (10.3%). International Relations and Public Accounting and Auditing also stand out, with more than 9% each, while other programs have a participation of less than 9%.

In terms of campus origin, the largest percentage of students comes from the Central Campus (41.5%), followed by Jinotepe (35.9%) and Doral (19.9%). The Estelí Extension has a smaller participation, accounting for only 2.7% of the total.

Regarding preferred platforms for receiving information, 51.6% of students preferred WhatsApp as the main medium, followed by social media (26.6%) and email (7.6%).

Although the initial sample of new enrolling students was 338, 448 participated due to the inclusion of additional volunteers. This increase demonstrated greater student willingness and strengthened the representativeness and robustness of the results.

A summary of the main sociodemographic characteristics of the administrative staff is included. This information provides a useful reference framework for interpreting the data obtained from the survey administered to this segment (Table 4).

The surveyed administrative staff is primarily composed of women (61.7%), while men represent 38.3% of the total. More than half of the administrative staff belongs to the Central Campus (53.2%), followed by Jinotepe at 29.8% and Doral at 17%. There was significant diversity in age and gender, with a female predominance.

Table 4

Age frequency of administrative staff

	Frequency	Percentage	Valid percentage	Cumulative percentage
Valid 18-24 years	4	8.5	8.5	8.5
25-30 years	8	17.0	17.0	25.5
31-40 years	10	21.3	21.3	46.8
41-50 years	11	23.4	23.4	70.2
51-60 years	11	23.4	23.4	93.6
Over 61 years	3	6.4	6.4	100.0
Total	47	100.0	100.0	

Source: Data obtained from a survey administered to new enrolling students at UCN.

The survey of administrative staff reflected a strong consensus on the importance of an educational marketing model for institutional success (mean: 4.66; Std. Dev.: 0.8667) and its contribution to strategic management (mean: 4.702; Std. Dev.: 0.7197).

The assertion that a university marketing model would increase visibility and attract students received the highest average rating (4.872; Std. Dev.: 0.4942). It was also deemed useful for identifying growth opportunities (mean: 4.851; Std. Dev.: 0.5098).

Regarding student retention and academic success, the average was 4.298 (Std. Dev.: 1.0818), indicating greater variability. It was perceived that the model would facilitate communication with stakeholders (mean: 4.468; Std. Dev.: 0.8302).

On implementation, it was considered potentially costly (mean: 3.766; Std.

Dev.: 1.0046), reflecting mixed perceptions regarding the required resources. Concerns about resistance to change were evident (mean: 3.447; Std. Dev.: 1.2990), indicating that some anticipated internal obstacles. Evaluating the return on investment in educational marketing was also seen as a challenge (mean: 4.000; Std. Dev.: 1.1034), reflecting its complexity.

Satisfaction with marketing varied by program: Medicine, Pharmacy, and Nursing showed higher satisfaction, while Law and Public Accounting and Auditing exhibited lower levels. The chi-square analysis (Pearson value: 24.634; significance: 0.010) confirmed a significant relationship between the program and perceptions of marketing, highlighting the need to tailor strategies to each academic program (see Table 5).

Table 5

Satisfaction related to the marketing strategies of the university

Chi-Square Tests			
	Value	df	Asymptotic significance (two-tailed)
Pearson Chi-Square	24.634 ^a	11	0.010
Likelihood Ratio	29.863	11	0.002
Valid Cases	233		

a. 12 cells (50.0%) have expected counts less than 5. The minimum expected count is 0.19.

Source: Data obtained from a subgroup survey.

The survey of new enrolling students showed that the majority perceived the information from marketing campaigns as accurate, although some expressed doubts. As for preferred content, social events and activities were highlighted (142 mentions) along with details about academic programs (122 mentions), followed by testimonials and extracurricular activities, indicating an interest in a comprehensive view of university life.

The administrative staff expressed a positive perception regarding the impact of a marketing model on strategic management and student retention. Out of 47 respondents, 37 gave the highest rating (5.0) to both statements. The chi-square test (value: 55.374; significance: 0.000) confirmed a statistically significant relationship, demonstrating consensus on the utility of a structured approach to enhance institutional visibility and student engagement (see Table 6).

Table 6

Perception of the impact of the educational marketing model on strategic management

Chi-Square Tests			
-------------------------	--	--	--

	Value	df	Asymptotic significance (two-tailed)
Pearson Chi-Square	55.374 ^a	12	0.000
Likelihood Ratio	24.436	12	0.018
Linear-by-Linear Association	13.179	1	0.000
Valid Cases	47		

count is 0.04.

Source: Data obtained from a subgroup survey.

The t-test showed no significant difference between the perception of the impact of a model on student retention and academic success compared to its effect on strategic management ($t = -3.000$; $p = 0.095$), despite the differences in means (2.000 vs. 5.000). This indicated that a clear relationship between both perceptions was not evident.

Qualitative analysis highlighted the need to improve internal communication with a more agile manual and to strengthen external marketing, especially on social media. It was also suggested to emphasize the institutional image linked to sustainability and social responsibility.

Interviews indicated that platforms like Facebook, Instagram, and TikTok were key in attracting students, particularly in Medicine. Visual strategies and participation in events strengthened the emotional bond with the university. These results are summarized in Table 7.

Table 7

Relevant patterns and categories

Category	Identified pattern
Digital media as the primary information channel	Discovery of educational offerings through social media
Communication strategies focused on visuals	Preference for posts with visual elements and videos
Impact segmentation by educational level	Greater influence in programs like Medicine
Student participation as a loyalty strategy	Strengthening the sense of belonging through activities and social media dissemination
Untapped opportunities in emerging media	Potential recognition of TikTok, but without systematic use

Source: Data obtained from interviews with students by subgroups.

The need to diversify strategies to give greater visibility to less promoted programs, such as Veterinary Medicine and Accounting, was emphasized. It was also suggested to involve students in content creation, given the impact of their testimonials on social media. Strengthening large events and extracurricular activities was proposed to improve institutional perception and attract more students.

Measuring the success of marketing strategies should go beyond visibility, considering indicators like student participation and word-of-mouth recommendations. While marketing was crucial for attracting students, interviewees highlighted that retention largely depended on internal factors such as teaching quality, infrastructure, and administrative management.

The results indicate that, despite implementing an innovative university marketing model, there were no significant changes in student retention, academic success, or strategic management. Although the overall perception of marketing was positive, the effectiveness of advertising and social media varied greatly among students, suggesting that some communication channels are not being utilized optimally.

Focus groups evidenced an overall positive perception among students regarding various institutional aspects. Teaching quality was one of the most valued elements, especially in the Medicine program, underscoring the importance of continuing to strengthen this area through continuous training programs and its proper projection in institutional communication strategies.

In terms of infrastructure, while the general opinion was favorable, limitations were noted regarding space in common areas and climate control issues in some classrooms, aspects that require attention to enhance the student experience. Opportunities for practical learning, particularly internships in health centers, were highly appreciated, and it was suggested to leverage these as an added value in marketing efforts.

Regarding social media presence, participants acknowledged progress but recommended increasing the frequency and dynamism of content, especially on platforms like Instagram and TikTok, incorporating aspects of student life and sporting events. The need to strengthen university identity through integrative activities, institutional celebrations, and volunteer opportunities was emphasized.

Observations were made regarding administrative management, mainly due to difficulties in registration processes and communication between areas, suggesting the need to optimize internal channels and train staff. Opportunities for improvement were identified in psychological support services and in how university life is projected in promotional campaigns, recommending a more authentic and relatable representation of student reality.

The null hypothesis could not be rejected, suggesting that the marketing model did not have a significant impact on student retention or in reducing academic dropout, as shown in Table 8.

Table 8

Hypothesis Testing

Group Statistics				
There may be internal resistance to the changes	N	Mean	Standard Deviation	Standard Error Mean

An educational marketing model would contribute to student retention and academic success at UCN	involved in the implementation of an educational marketing model	1.0	6	4.333	1.6330	0.6667
		2.0	4	4.000	1.4142	0.7071

Source: Data obtained from the UCN Administrative Staff Survey.

T-tests indicated that the model had no significant impact on retention and academic success ($p = 0.748$), nor on the improvement of strategic management ($p = 0.095$ and $p = 0.205$), leading to the acceptance of the null hypothesis in both cases.

The study identified strengths and weaknesses in current strategies and proposed a comprehensive model with innovative actions aligned with strategies, national plans, and continuous improvement. According to the literature, educational marketing enhances institutional quality and visibility through techniques such as neuromarketing and digital marketing, which are essential for attracting and retaining students (Rivero Jiménez et al., 2022). Digital marketing improves the student experience by engaging and satisfying students through personalized strategies (Benchekroun et al., 2024).

Regarding the qualitative approach, it was noted that the lack of a comprehensive model limited institutional perception and alignment with student expectations. Despite innovative efforts, no significant differences were observed in key indicators, suggesting the need to adjust strategies toward a more personalized approach.

The positive perception of marketing contrasts with the variability in the effectiveness of advertising and social media, indicating the need to optimize strategies for a young audience, predominantly female and focused on health sciences.

Although the current model does not show significant improvements in key indicators, it provides valuable lessons for future interventions. The null hypothesis (H_0) was not rejected, reinforcing the need for a review and optimization of the strategy. A relevant finding is the positive perception of institutional communication among students, but the variability in the effectiveness of advertising and social media indicates that these channels need to be diversified and personalized to better align with student expectations.

These data establish the groundwork for a comprehensive university marketing model that focuses not only on student recruitment but also on their retention and academic success. In the same vein, López-Barrera & Esteves-Fajardo (2022) confirm that educational digital marketing represents an innovative

contribution to educational management by integrating strategies and techniques designed to effectively respond to the needs of the educational community.

The importance of alignment between student perceptions and the services provided is crucial for strengthening the university-student relationship in the long term. Qualitative analysis highlights the need to optimize internal communication within the university. Implementing a communication manual and more efficient channels would contribute to improving the overall perception of the institution and increasing the commitment of the academic administrative community to its values and strategic goals.

Aspects of institutional communication, such as ease of navigation on the website and official information, were well-rated, while the effectiveness of advertising and social media showed variability. The need to diversify marketing strategies and improve audience segmentation was identified. The key role of student participation in extracurricular activities and the importance of strengthening internal communication to improve institutional perception were also highlighted.

Findings indicate that the success of educational marketing does not depend solely on visibility but also on the quality of the university experience. Factors such as teaching quality, infrastructure, and student support were determinants in the overall perception. The lack of adequate spaces and issues in administrative management are noted as areas for improvement. To achieve a significant impact, marketing strategies must align with student expectations and effectively reflect the institutional identity.

According to recent studies, social digital networks are key in educational promotion and brand positioning, influencing the perceptions and decisions of prospective students. This underscores the importance of strategies centered on student satisfaction and coherence in institutional communication (Guerra-Peralta & Müller-Pérez, 2024).

In the digital realm, social media is used regularly, but there are still untapped opportunities, particularly on platforms like TikTok. Incorporating dynamic visual and audiovisual strategies can enhance the connection with potential students and strengthen institutional positioning.

Global education promotes innovation and access through educational technology, but it also generates risks related to equity, privacy, and democratic control. An integrated model must balance technology and inclusion, articulating innovation with ethical principles and social responsibility. In this way, the university positions itself as a transformative agent, beyond the market (Verger et al., 2022).

Another key aspect identified is the importance of student well-being and its influence on perception. Students indicate that their participation in academic, sports, and cultural events reinforces their sense of belonging and enhances their university experience. Increased investment in the promotion and organization of these activities is recommended as an integral part of the marketing strategy.

The research contributes to the development of a flexible and permanent

model that not only attracts new students but also strengthens the academic community throughout the educational process. The strategy should focus on personalizing campaigns, segmenting audiences, and utilizing technological tools, such as Customer Relationship Management systems, which have evolved in higher education institutions as a tool to strengthen student recruitment and retention through personalized communication, multichannel integration, and advanced analytics (Shalihati et al., 2025).

The study by Bezerra et al. (2023) highlights that a well-structured relationship marketing approach, based on student satisfaction and loyalty, is a key factor in differentiating higher education institutions, especially in distance learning modalities. Active communication and service quality are crucial for retaining students and reducing dropout rates, creating an emotional bond that enhances retention. These findings reinforce the importance of designing comprehensive university marketing models that optimize both recruitment and student retention.

It is advisable to conduct a thorough retention assessment throughout academic programs, not just in the initial periods. Comparing these indicators will help identify critical dropout points in advanced stages and adjust marketing and student management strategies based on findings.

Strategic marketing management involves identifying opportunities, formulating plans aligned with customer interests, and applying market intelligence to reduce decision-making risks. This approach enhances the effectiveness of organizational actions and strengthens institutional competitiveness. When applied to the university context, this model is key to responding to student expectations and optimizing recruitment and retention processes (Rajer, 2023).

The corollary of results and discussion compares with the assertions made by Parra-Armendariz et al. (2022), indicating that educational marketing seeks to identify and satisfy societal needs, improving the services of educational institutions ethically. To develop a comprehensive, flexible, and permanent model, it is crucial to conduct ongoing research that allows for adjustments to services based on new demands and trends, ensuring relevance and sustainability over time.

In the current context of higher education, continuous improvement is a permanent principle. The quality management models proposed by Sánchez-Muñoz & Pinargote-Macías (2020), such as the 5S model, Total Productive Maintenance, the PDCA or Deming Cycle, ISO 21001:2018, and Kaizen (Moncada-Palma & Huilcapi-Masacón, 2019), are presented as key references for educational organizations. Social media strengthens engagement and fosters participation, improving the effectiveness of institutional marketing (Weng et al., 2022).

A recent systematic review identified five key areas where social media has enhanced marketing in higher education: student engagement, branding, admission decision-making, relationship management, and institutional strategy. These findings are particularly useful for strengthening university marketing models focused on recruitment and retention by integrating digital media into strategic planning (Pawar, 2024).

In this sense, the proposal for a university marketing model opens the possibility of valuing integration at some point with one of the mentioned

approaches, such as ISO for educational organizations.

The sustainability of university marketing requires networks with shared management, market orientation, cooperation, internationalization, and data-based segmentation (Ruiz Vargas et al., 2019; Moreno-Charris et al., 2022; Prastyabudi et al., 2024).

The proposed model is structured around five key pillars:

- Educational quality: Aligning student perception with academic reality through clear processes.
- Student relationship management: Using technology to personalize communication and improve retention.
- Content marketing: Highlighting institutional achievements and student experiences.
- Internationalization and accreditation: Promoting academic mobility (both in-person and virtual) and meeting national and international quality standards.
- Cross-cutting themes: Promoting national identity, culture, sports, psychological support, and scholarship programs.

The model emphasizes the importance of continuously evaluating student satisfaction and adjusting strategies according to their expectations. The perception that students have of the institution influences its positioning, reinforced by service quality and coherent leadership aligned with the institutional mission (Céspedes-Gallegos et al., 2024).

The b-learning modality emerges as a key value proposition, combining flexibility and in-person engagement, which must be effectively communicated through attractive digital resources (León-Alvarado et al., 2023). Corporate image and sensory marketing are crucial for student loyalty, integrating visual identity, organizational culture, and sensory stimuli into a comprehensive approach that projects a solid and competitive identity (Vázquez-González et al., 2023).

Conclusions

The results confirm the need to implement a comprehensive university marketing model to optimize student recruitment and retention. Survey analysis evidences key perceptions regarding institutional communication, social media use, and the website, along with opportunities for improvement in aligning advertising with the university experience.

From the student perspective, differences in satisfaction are observed based on academic program, highlighting the importance of segmented strategies. Administrative staff values the positive impact of the model on management, visibility, and communication, although they note challenges such as costs, resistance to change, and return measurement. The main contribution lies in an

empirical model that strengthens institutional positioning, consolidates its identity, and enhances the student experience, serving as a foundation for future loyalty actions and strategic adaptation in a competitive educational environment.

References

- Avendaño-Porras, V. D., Alfonzo-Albores, I., de la Puente, M., Díaz-Téllez, Á. S., Tamez-Martínez, X., & Bajaña-Miranda, S. R. (2022). Digitilization in Latin American higher education under Covid-19. *Journal of Positive Psychology and Wellbeing*, 6(1), 3289-3298. <https://journalppw.com/index.php/jppw/article/view/5255/3443>
- Bakator, M., Dragan Cockalo, Makitan, V., Stanisavljev, S., & Nikolic, M. (2024). The three pillars of tomorrow: How Marketing 5.0 builds on Industry 5.0 and impacts Society 5.0? *Heliyon*, 10(17). <https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e36543>
- Benavides, A., Morales, J. P., Morales, D., & Girón, E. (2025). Herramientas del marketing para el desarrollo de la educación superior. *Revista Qualitas*, 29(29), 033-055. <https://revistas.unibe.edu.ec/index.php/qualitas/article/view/290/407>
- Benchekroun, S., Soulami, M., Habiboullah Meyabe, M., Rhouri, M., Bensouda, M., Aiboud-Benchekroun, B., & Marghich, A. (2024). The Influence of Digital Marketing Practices on Student Experience: A Case Research in the Moroccan University Context. *International Journal of Technology*, 15(6), 1823-1838. <https://doi.org/https://doi.org/10.14716/ijtech.v15i6.7224>
- Bezerra, M. G., Silva, S. C., Silva, G. B., & Sousa, F. L. (2023). Estratégias de marketing de relacionamento na captação de clientes de uma instituição de ensino superior à distância. *Ciências Sociais Aplicadas Em Revista*, 26(46), 157-174. <https://doi.org/https://doi.org/10.48075/csar.v26i46.31119>
- Bracho Fuenmayor, P. L. (2023). Docencia e investigación, binomio de acción en el escenario universitario. *Espacio Abierto*, 32(1), 97-117. <https://doi.org/10.5281/zenodo.7776008>
- Céspedes Gallegos, S., Vázquez González, L. A., Pacheco López, E., Ceja Romay, S. N., & de León Cortés, G. (2024). Análisis del marketing educativo y calidad en el servicio en una IES. *Revista Inclusiones*, 11(2), 26-47. <https://revistainclusiones.org/index.php/inclu/article/view/3542/3670>
- Enriquez Ralde, E. R. (2020). Modelos de Social Media Marketing en los Sistemas Educativos. *Revista PGI. Investigación, Ciencia y Tecnología en Informática* 8, 68-70. https://ojs.umsa.bo/ojs/index.php/inf_fcpn_pgi/article/view/51
- Forero-Medina, J. E. (2020). El Marketing Digital Educativo: Aproximación a un modelo de gestión desde una perspectiva contextualizada e innovadora. *Revista Interdisciplinaria de Humanidades, Educación, Ciencia y Tecnología*, 6(11), 84-100. <https://dialnet.unirioja.es/servlet/articulo?codigo=7390994>
- Gómez-Bayona, L., & Arrubla-Zapata, J. P. (2020). Evolución del mercadeo en el

- sector universitario. *Revista Venezolana de Gerencia*, 25(89), 159-173. <https://produccioncientificaluz.org/index.php/rvg/article/view/31388/32502>
- Gómez-Bayona, L., Orozco-Toro, J. A., Rojas Mora, J. M., & Moreno-López, G. (2022). Gestión del mercadeo y la reputación corporativa en universidades acreditadas, privadas y públicas: Una mirada a partir del docente. Gestión del mercadeo | *Revista Virtual Universidad Católica del Norte*, 67, 106-135. <https://www.redalyc.org/journal/1942/194272424005/html/>
- Gordillo, L. D., Domínguez, B. M., Vega, C., De la Cruz, A., & Angeles, M. (2020). El marketing educativo como estrategia para la satisfacción de alumnos universitarios. *Propósitos y Representaciones*, 8 N° SPE(1), e499. <http://www.scielo.org.pe/pdf/pyr/v8nspe/2310-4635-pyr-8-spe-e499.pdf>
- Grewal, D., Guha, A., Satornino, C. B., & Becker, M. (2025). The Future of Marketing and Marketing Education. *Journal of Marketing Education*, 47(1), 61-77. <https://doi.org/https://doi.org/10.1177/02734753241269838>
- Guerra-Peralta, A. O., & Müller-Pérez, J. (2024). Acciones de marketing que contribuyen al posicionamiento de marca de las universidades privadas en Puebla. *Ciencias Administrativas Teoría y Praxis*, 20(2), 139-152. <https://www.scielo.org.mx/pdf/catp/v20n2/2683-1465-catp-20-02-139.pdf>
- Rajer, N. (2023). New marketing models for developing a marketing strategy. *International Journal of Innovation in Marketing Elements*, 3(1), 23-29. <https://doi.org/https://doi.org/10.59615/ijime.3.1.23>
- Hernández Sampieri, R., Fernández Collado, C., y Baptista Lucio, M. d. (2014). *Metodología de la investigación*. McGraw W-Hill. https://apiperiodico.jalisco.gob.mx/api/sites/periodicooficial.jalisco.gob.mx/files/metodologia_de_la_investigacion_-_roberto_hernandez_sampieri.pdf
- León-Alvarado, M. E., Chávez-Guerrero, S. L., Solís-Pérez, A. E., Del Rosario-Alvarado, W. A., & Rodríguez-Rodríguez, K. A. (2023). Marketing educativo para la promoción del modelo de enseñanza híbrida de educación superior en Ecuador. *Polo del Conocimiento*, 8(4), 1182-1199. <https://dialnet.unirioja.es/servlet/articulo?codigo=9152205>
- Loayza Cabrera, B. A., Paredes Lombeyda, C. O., Ortega Rodríguez, J. A., & Lozano Gómez, N. M. (2020). Marketing digital, una herramienta para el emprendimiento de estudiantes universitarios. *Revista Eruditus*, 1(3), 21-32. <https://revista.uisrael.edu.ec/index.php/re/article/view/364/177>
- López Barrera, A. J., & Esteves-Fajardo, Z. I. (2022). El marketing digital educativo. Un aporte innovador para gestión educativa. *Revista Interdisciplinaria de Humanidades, Educación, Ciencia y Tecnología*, 3(1), 1-17. [file:///home/chronos/u-7c921175d59bca6c5d52d54924092787abecdc9f/MyFiles/Downloads/Dialnet-ElMarketingDigitalEducativoUnAportelInnovadorParaGe-8330781%20\(2\).pdf](file:///home/chronos/u-7c921175d59bca6c5d52d54924092787abecdc9f/MyFiles/Downloads/Dialnet-ElMarketingDigitalEducativoUnAportelInnovadorParaGe-8330781%20(2).pdf)

- Lucio Navarrete, S. E., Vargas Merino, J. A., & Zavaleta Chávez, W. E. (2021). Mix de Marketing de servicios y fidelización en una empresa de servicios educativos. *Visión General*, 20(1), 31-49. <http://erevistas.saber.ula.ve/index.php/visiongerencial/article/view/16919>
- Matos-Cámara, R. F., & Matos-Cámara, M. R. (2021). El marketing relacional educativo y las nuevas tecnologías como determinantes del desempeño académico del alumno. *CIENCIA ergo-sum*, 28(2), e123. <https://dialnet.unirioja.es/servlet/articulo?codigo=7969774>
- Moncada Palma, J. E., y Huilcapi Masacón, M. R. (2019). LAS 5´S Y EL MODELO KAIZEN: FILOSOFÍA DE LA MEJORA. *Revista Pertinencia Académica*, 3(4), 112-127. <https://revistas.utb.edu.ec/index.php/rpa/article/view/2502/2110>
- Moreno-Charris, A., Escobar Castillo, A., Rondon Rodríguez, C., Palacio de la Cruz, S., Ortíz Tovar, O., & Acosta Ortega, F. (2022). Internationalization of Higher Education Institutions through Marketing Orientation. *Procedia Computer Science*, 210, 328-332. <https://doi.org/https://doi.org/10.1016/j.procs.2022.10.159>
- Naranjo Chérrez, K. D., Yánez Gutiérrez, R. G., Coyago Loayza, X. S., y Aguilar Galvez, W. S. (2025). Análisis de las estrategias de marketing digital para la promoción de ofertas académicas universitarias. *Ciencia Latina*, 9(1), 6394-6407. <https://ciencialatina.org/index.php/cienciala/article/view/16347/23336>
- Ortega-Vivanco, M., Garcia-Tinisaray, D., y Espinosa-Vélez, M. P. (2023). Efecto del marketing relacional y redes sociales en la satisfacción de universitarios. *Journal of Technology Management & Innovation*, 18(1), 104-112. <https://www.jotmi.org/index.php/GT/article/view/4094/1479>
- Osorio-Marín, G., Díaz-Téllez, Á., & Mejía-Ríos, J. (2024). The impact of a pedagogical intervention to enhance the communicative skills of 7th-grade students at the Filadelfia School, Colombia (2021-2022). *Migration Letters*, 21(S5), 258-273. <https://migrationletters.com/index.php/ml/article/view/7710>
- Parra Armendariz, C., Ulloa Viteri, S., & Medina, P. (2022). Revisión sistemática de literatura sobre marketing educativo. *Religación*, 7(33), e210943. <https://dialnet.unirioja.es/servlet/articulo?codigo=9016529>
- Pawar, S. K. (2024). Social media in higher education marketing: a systematic literature review and research agenda. *Cogent Business & Management*, 11(1). <https://doi.org/https://doi.org/10.1080/23311975.2024.2423059>
- Prastyabudi, W., Nur Alifah, A., & Nurdin, A. (2024). Segmenting the Higher Education Market: An Analysis of Admissions Data Using K-Means Clustering. *Procedia Computer Science*, 234, 96-105. <https://doi.org/https://doi.org/10.1016/j.procs.2024.02.156>
- Rivero Jiménez, M. J., León Urdaneta, E. D., & Flores Nessi, E. M. (2022). Tendencias actuales y estrategias del Marketing educativo en instituciones

- universitarias: Una revisión de la literatura científica. *Exterior*, 1(1), 62-75.
<https://ojs.aden.org/exterior/article/view/777>
- Ruiz Vargas, V., Lawthom, R., Prowse, A., Randles, S., & Tzoulas, K. (2019). Sustainable development stakeholder networks for organisational change in higher education institutions: A case study from the UK. *Journal of Cleaner Production*, 208, 470-478.
<https://doi.org/https://doi.org/10.1016/j.jclepro.2018.10.078>
- Sánchez-Muñiz, J. C., & Pinargote-Macías, E. I. (2020). Modelos de gestión de la calidad para organizaciones educativas. *Revista Científica Multidisciplinaria Arbitrada YACHASUN*, 4(7), 177-191.
<https://editorialibkn.com/index.php/Yachasun/article/view/44/108>
- Shalihati, F., Sumarwan, U., Hartoyo, H., & Noor Yuliati, L. (2025). Mapping Customer Relationship Management Research in Higher Education: Trends and Future Directions. *Administrative Sciences*, 15(2), 68.
<https://doi.org/https://doi.org/10.3390/admsci15020068>
- Vázquez González, L. A., Céspedes Gallegos, S., Pacheco López, E., Ceja Romay, S. N., y Figueroa Sánchez, R. (2023). Estudio de la imagen corporativa y marketing sensorial en un contexto educativo. *Revista educate con ciencia*, 31(41), 1-25.
<https://tecnocientifica.com.mx/educateconciencia/index.php/revistaeducate/article/view/739/1352>
- Verger, A., Moschetti, M., y Fontdevila, C. (2022). La industria educativa global: análisis de su expansión y de sus múltiples manifestaciones desde una perspectiva comparada. *Revista Española de Educación Comparada*(42), 10-27. <https://revistas.uned.es/index.php/REEC/article/view/36415/27143>
- Weng, M., & Rasul, T. (2022). Customer engagement and social media: Revisiting the past to inform the future. *Journal of Business Research*, 148, 325-342.
<https://doi.org/https://doi.org/10.1016/j.jbusres.2022.04.068>
- Zaragoza Alvarado, G. A. (2024). Los retos en la integración de las TIC en el aprendizaje de los estudiantes de pregrado. *Reincisol*, 3(6), 4203-4216.
[https://doi.org/10.59282/reincisol.V3\(6\)4203-4216](https://doi.org/10.59282/reincisol.V3(6)4203-4216)

About the main author

Danilo Avendaño Martínez: holds a Master's degree in University Management, specializing in educational model and competency-based curriculum management. He holds a degree in International Relations and Foreign Trade from the University of Buenos Aires (UCN), where he is also Director of Public and International Relations. He has teaching experience and has participated in conferences and research projects on education and internationalization.

Declaration of author responsibility

Danilo Avendaño Martínez 1: Conceptualization, Data curation, Formal analysis, Research, Methodology, Resources, Software, Supervision, Validation/Verification, Visualization, Writing/original draft and Writing, review and editing.

Special Acknowledgments:

Financing:

Universidad Central de Nicaragua UCN, Managua, Nicaragua.