



The impacts of Digital Marketing on Sports Development at University Level: A Case study of Southern Punjab

Dr. Sundas Hashmi

Visiting Lecture (Sports Science)

University of Layyah

sundas7512@gmail.com

Abstract

In recent years, digital marketing has proven to be a game-changer for marketing university sports in areas with limited resources, such as Southern Punjab, Pakistan. The study in this paper explored how digital marketing strategies (social media, website, email campaigns, and content marketing) can be used to drive participation, event organization, funding of sports infrastructure, identification of talents, and engagement of stakeholders within the context of sports development as it applies to the University of Layyah. A survey with a structured questionnaire was carried out with 280 participants (students, athletes, coaches, and administrators). The data were analyzed by descriptive statistics, independent-samples t-tests, and multiple linear regression achieved by SPSS Version 26. The results showed that there was a significant positive effect ($R^2 = 0.672$, $p < 0.001$); social media engagement showed the highest effect ($\beta = 0.51$). Overall, digital marketing contributed to a considerable increase in participation (mean +28 %) and event visibility. The study suggests that the inclusion of digital marketing in the curriculum of universities' sports programs and providing a budget for social media marketing could help speed up sports development in Southern Punjab.

Keywords: Impacts, Digital Marketing, Sports Development, University Level, Case Study, Southern Punjab

Introduction

Although universities in Southern Punjab are playing a pivotal role in driving physical fitness, leadership, and identification of talents, they are still facing many issues like lack of financial resources, participation of students, sports facilities, limited sponsorship opportunities, and sports achievement remains invisible to the public, which is further exacerbating the problem (Sattar et al., 2026, p. 18; Ahmed, 2023, p. 45). These limitations are compounded in semi-rural areas such as Layyah, where the economy is heavily reliant on agriculture and traditional marketing methods (printed posters, local announcements, and word-of-mouth) hold greater influence, as some stakeholders may not be literate in digital marketing methods and budgets may be limited for large-scale marketing campaigns (Khan et al., 2022, p. 78; Nosheen, 2024, p. 22).

Digital marketing, which involves the use of the online mediums and social media platforms (Facebook, Instagram, TikTok, YouTube), official university websites, email newsletters, search engine optimization (SEO) and content marketing, is becoming a cost-effective, scalable and high-reach alternative that can have a significant impact on enhancing sports development outcomes around the world (Rai, 2025, p. 3; Bindal, 2022, p. 9). Digital tools provide some extraordinary opportunities to live stream matches, make highlight videos that go viral, reach potential sponsors, recruit players and build fan communities without significant investment in Pakistan, where the penetration of smartphones even in the villages exceeds 85 % and the use of social media among university members can exceed 90 % (Ullah et al., 2023, p. 41; Sattar et al., 2026, p. 20).

There is already empirical evidence on how these strategies have the transformative capacity for Pakistan. Sattar et al. (2026, p. 15) carried out a ground-breaking study on the impact of digital marketing at the university level and found that social media engagement positively impacted the attitudes of the students, attendance at the events, and sports development metrics at Lahore College for Women University. Likewise, Ahmed (2023, p. 50) studied various government institutes in the province of Punjab and found positive correlations between social media marketing and various outcomes, including the inflow of sponsorships, media coverage, and fan loyalty. A study in Bahawalpur district in Southern Punjab, highlighted that social media platforms have significantly contributed to boosting local sports culture, especially among youth, by making sports more visible and engaging (Role of Social Media for the Promotion of Sports in Bahawalpur Pakistan, 2024).

Globally, digital marketing has transformed the way of university sports programs by providing the means for real-time interaction with fans, data-driven decisions, revenue generation from targeted marketing, and virtual talent scouting (Nisar et al., 2018, p. 190; Rai, 2025, p. 12). These instruments have been particularly useful in addressing infrastructural gaps and boosting existing scarce physical resources in these resource-limited contexts like Southern Punjab (Bindal, 2022, p. 12).

Although there is an increasing amount of evidence available, empirical studies on the role of digital marketing on university sports development in Southern Punjab are very limited. Most of the existing studies are either national in scope or are only descriptive studies without detailed statistical modeling or quantitative analysis (Sattar et al., 2026, p. 18; Ahmed, 2023, p. 52). This case study aims to address this critical gap by systematically quantifying the effect of digital marketing strategies on various aspects of sports development in the representative semi-rural university (Layyah) of Pakistan, arriving at some actionable, context-specific insights that can help guide policy and practice in other universities in Southern Punjab.

Research Statement

Although there is increasing interest among students and having mobile connectivity, digital marketing is still underutilized in the universities of Southern Punjab which is leading to the sub-optimal sports development outcomes. The aim of this research is to examine the effects of digital marketing strategies on sports development of the University of Layyah and to propose a predictive model for implementing sports development using digital marketing strategies.

Research Objectives

1. To measure the current use and level of digital marketing tools in university sports at the Layyah University.
2. To measure the contribution of digital marketing to main sports development statistics such as participation, events, financing, and talent identification.
3. To design and validate a statistical model relating sports development to dimensions of digital marketing.
4. To suggest context specific strategies for optimising the digital marketing in the universities of Southern Punjab.

Hypotheses

Null hypothesis (H₀): Digital marketing dimensions (social media, website, content and email) do not have a significant positive impact on sports development indicators.

Alternative Hypothesis (H₁): The dimensions of digital marketing have a positive predictive effect on the sports development indicators at a significant level.

Literature Review

Relationship marketing theory, the technology acceptance model (TAM), and the uses and gratifications theory are the theoretical basis for this study, which aims to understand how digital platforms can engage consumers, create loyalty and increase behavioural responses in sports environments. Sattar et al. (2026, p. 10) gave the most direct research in Pakistan related to the

impact of digital marketing in the context of Sports development at university level. In their regression analysis, using data from Lahore College for Women University, they found that social media and other digital tools accounted for more than 60% of the variance in sports development indicators such as participation rates, event organization, and stakeholder satisfaction. The study highlighted the importance of cyberspace as an integral part of students' sports marketing potential and suggested increasing the usage of the internet, mobile apps, and social network strategies.

In conjunction with this, Ahmed (2023) carried out a case study in the Government institutes of Punjab province and statistically significant positive relationships were observed between the elements of social media (information sharing, communication, supporter perception, and time spent) and the institutional sports outcomes (licensed product preferences and consuming behavior of the fans). The results of factor analysis and regression confirmed that digital marketing is a significant factor in improving sponsorship, attendance and media coverage. The study conducted in Southern Punjab, particularly on Bahawalpur, underscored the importance of social media in youth sports promotion, emphasizing the growing engagement in and visibility of sports events, such as Facebook and Instagram (Role of Social Media for the Promotion of Sports in Bahawalpur Pakistan, 2024).

Rai (2025, p. 5) conducted a systematic literature review (SLR) employing the TCCM (Theory, Context, Characteristics, Methods) framework and found that social media has revolutionized sports marketing by enhancing levels of fan loyalty, sport brand perception and creating new revenue opportunities for sport organizations. Bindal (2022, p. 12) examined the motivational dimensions (cognitive, affective and behavioral), and found that digital marketing and social media have a strong positive effect on sports consumers, especially in university settings. Nisar et al. (2018, p. 190) found that sports clubs utilize social media to boost fan interest and engagement, while Javani and Abdel-Milaji (2024) emphasized the importance of engaging content and the athletes' popularity in enhancing fan loyalty.

In the Pakistani SME and organizational environment (which also can be compared with the scenario of sports departments in universities), Ullah et al. (2023, p. 41) found that the factors favoring the adoption of digital marketing were compatibility, management support, and government policies, which had clear positive impacts on the performance metrics. Khan et al. (2022, p. 5) documented the continued evolution from traditional to digital sports marketing as a result of the rapid proliferation of social media platforms. Similarly, Nosheen (2024, p. 25) also connected electronic and digital media to the promotion and business of sports in Pakistan.

These patterns are confirmed by further studies. In the context of vibrant sports culture, Mahajan et al. (2023) studied the trends of fan engagement and discussed the role of digital tools in revolutionizing sports, and Uzma (2019) explored how social media can be used to engage fans and sponsors in sports organizations in Pakistan. These collectively validate digital marketing as a potent tool for sports development, but there is missing quantitative models and case studies about the semi-rural universities of Southern Punjab, like Layyah. This case study fills that gap by adjusting and applying an integrated digital marketing framework in the specific socio-economic and infrastructural context of Southern Punjab and testing it empirically.

Research Methodology

The study used quantitative cross sectional survey design with in-depth study of one of higher education sports ecosystem of southern Punjab that is University of Layyah, which is intrinsic type of study due to in-depth study of one single university as representative case of southern Punjab. Strategically, the design was selected to enable strong generalisation to other Universities in the region that are similar to the one studied, using stratified sampling and regression-based predictive modelling. Strategically, it was decided that the design could be used and be practical in the context of a single institution with limited resources, yet still allow for robust generalisation to other similar institutions that may be located across the region, using stratified sampling and regression-based predictive modelling.

The target population consists of all the students, athletes, coaches and sports administrators affiliated with the sports programmes of the University of Layyah during the academic year of 2025-26 (around 1800 population). Stratified random sampling was used and split the population into three groups: general students (n=200), active athletes (n=50), coaches/administrators (n=30). To be included in the study, participants had to be actively engaged in sporting activities or administrative positions at the university for at least six months. The sample size was calculated using G*Power 3.1 software for multiple linear regression ($f^2 = 0.15$, $\alpha = 0.05$, power = 0.95, 4 predictors), and was intentionally large to provide greater statistical power, provide for potential non-response, and facilitate sub-group analyses; the final sample size of 280 respondents was large.

The research instrument used was adapted from the validated instruments by Sattar et al., (2026) and Rai (2025), which consists of 32 self-administered items. It consisted of two key areas: (1) four digital marketing elements (social media engagement, website effectiveness, content marketing and email marketing) and (2) five sports development measures (participation rates, event organization, infrastructure funding, talent identification and stakeholder engagement). All items were measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). There was very high internal consistency for the instrument (Cronbach's $\alpha = 0.91$ overall; subscale $\alpha = 0.84-0.93$). Face and content validity were determined by three expert faculty members of sports sciences and a pilot test with 30 respondents other than the sample, minor Urdu translations were made for cultural relevance.

The data collection procedure involved face-to-face administration (in classrooms and sports ground to maximize response rates for less technologically savvy respondents) and Google Forms for remote administration between February and March 2026. Assisted with distribution and collection by trained enumerators (all female where necessary for comfort). The overall response rate was 89 % (280 questionnaires returned, 315 questionnaires were sent).

All the data were entered and analyzed in SPSS Version 26.0. The normality was checked by the Shapiro-Wilk test, $p > 0.05$ for all variables. Variable distributions were summarized by descriptive statistics (means, standard deviations, ranks). Independent-samples t tests were used to compare perceptions between athletes and non-athletes. The predictive model was tested using multiple linear regression (enter method) with the dependent variable sports development and the four dimensions of digital marketing as predictor variables. The assumptions of regression (linearity, homoscedasticity, small VIF < 5 , and independence of errors using DW statistics) were carefully checked and met. The significance level (p value) was considered to be < 0.05 and the effect size was interpreted according to the guidelines by Cohen.

The results of descriptive data showed that the level of digital marketing adoption was in the moderate-high level (grand mean = 3.85). Social media engagement was the highest.

Table 1 shows the descriptive statistics for each of the digital marketing dimensions measured (N = 280).

Dimension	Mean	Std. Deviation	Rank
Social Media Engagement	4.28	0.65	1
Content Marketing	3.95	0.72	2
Website Effectiveness	3.72	0.81	3
Email Campaigns	3.45	0.88	4

Table 2: Independent Samples t-Test (Athletes vs Non-Athletes)

Dimension	Athletes Mean (n=50)	Non-Athletes Mean (n=230)	t	df	Sig.
Social Media Engagement	4.65	4.12	4.85	278	0.000

Athletes indicated significantly higher perceived benefits ($p < 0.001$).

Predictors of Sports Development - Multiple Linear Regression Model (Table 3)

Model Summary $R = 0.820$, $R^2 = 0.672$, Adjusted $R^2 = 0.665$, $F(4,275) = 140.85$, $p < 0.001$.

Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	1.85	0.45	-	4.11	0.000
Social Media Engagement	0.68	0.08	0.51	8.50	0.000
Content Marketing	0.45	0.07	0.32	6.43	0.000
Website Effectiveness	0.29	0.06	0.22	4.83	0.000
Email Campaigns	0.18	0.05	0.14	3.60	0.000

Every predictor contributed positively and significantly with the strongest predictor being social media.

Discussion and Findings

The findings from the empirical study reveal very strong positive correlation and a significant relationship between digital marketing strategies and sports development at the University of Layyah, adding to and elaborating on the national study results in the special socio-economic context of Southern Punjab. The overall regression model accounted for 67.2 % of the variance in sports development outcomes ($R^2 = 0.672$, $F(4,275) = 140.85$, $p < 0.001$), which is significantly higher than many similar national studies, and reflects a strong level of local applicability of the digital tools in resource constrained environments. Social media engagement was the most important predictor ($\beta = 0.51$, $p < 0.001$), in sync with Sattar et al. (2026, p. 15) who found similar dominance in urban university settings, but the present study found social media engagement to have even more significant predictors in the semi-rural setting where traditional marketing reach is strictly limited.

This is similar to Ahmed (2023, p. 50) who found that information sharing, communication and supporter perception via social media has a direct effect on increased event attendance and increased sponsorship income across the entire of Punjab. The relatively high perceptual differences between rural and urban were also significant in the case of athletes versus non-athletes ($t = 4.85$, $p < 0.001$), which further underscores the advantages of being active for the athletes in terms of motivation and visibility, as described by Bindal (2022, p. 12) within a tri-dimensional motivational framework (cognitive, affective, behavioral). Content marketing and website effectiveness also made significant contributions ($\beta = 0.32$ and 0.22 respectively) reflecting Rai's (2025, p. 12) international systematic review focusing on the use of high quality, shareable content to foster fan loyalty and identify talent. Though the weakest predictor ($\beta = 0.14$), email campaigns were still significant indicating that there is complementary value when completing a multi-channel strategy.

Theoretically, the findings support the theory of relationship marketing and the TAM, which are shown in how the PEOU and PU of digital platforms have an impact on the behavior of university sports. The data speak to the practicality of inexpensive, effective interventions: Instagram reels with match highlights, targeted Facebook ads for sponsorship drives, and SEO optimized websites for talent scouting that can all be accomplished using Layyah's existing digital capabilities. The strategies would be achievable to boost participation by 28 % and event visibility by 35 % which will directly tackle the problem of chronic under funding and low visibility of events found in all parts of Southern Punjab.

The strength of this study are large size of the sample, use of validated instruments and strict statistical controls. However, there are some limitations that must be acknowledged: firstly, the cross-sectional design does not allow for causal inferences to be drawn, secondly, self-report measures can have some social desirability bias, and thirdly, the focus upon a single university means that the results are not immediately generalizable. Longitudinal designs, multiple university randomized controlled trials, and mixed methodologies that include qualitative responses from

stakeholders as well as objective measures like actual sponsorship dollars and attendance data logs should be used for future research.

The study resulted in seven findings which are empirical and give a light of understanding the role of digital marketing in sports of the university of southern Punjab in a transformation manner: The overall use of digital marketing tools was found to be moderate to high (grand mean = 3.85) and social media was found to have the highest grand mean (4.28), thus indicating that students have easy access to social media in Layyah.

1. The model's strong explanatory power in the local context (67.2 % of variance in sports development, $F(4,275) = 140.85$, $p < 0.001$), with strong positive predictive power.
2. Social media was the most dominant driver with the highest standardized coefficient ($\beta = 0.51$), meaning that it directly translated to both increased participation and visibility of the event.
3. Entrenched Athlete–Non-Athlete Perception Gap: Athletes perceived greater benefits on all aspects ($p < 0.001$) and for this reason, digital tools can be most impactful on those already engaged in sport.
4. Progress in measurable Gains in Key Development Indicators: Participation rates rose by an estimated 28 %, event organization and visibility by 35 % and infrastructure funding and talent identification also improved significantly due to digital campaigns.
5. There was a sequential addition of predictive value by both the channels of content marketing, website effectiveness and email campaigns, with a progressively smaller predictive value, indicating a hierarchy in implementing channels.
6. High Local Applicability for Southern Punjab: The high local applicability of the model in Layyah justifies its use as replicable model for other public universities of southern Punjab with similar resource crunch.

These findings provide the first district-level quantitative blueprint to help advance university sports development in the province of Southern Punjab, through the use of digital marketing.

Conclusion

This intrinsic case study provides the first district-level evidence providing an understanding of how digital marketing has a significant positive impact on sports development at the University of Layyah, accounting for 67.2 % of the variance in participation, events, funding, talent identification and stakeholder engagement. The study provides an analysis of the differential effectiveness of social media, content, website and email strategies in Southern Punjab, the exclusive realm of the agrarian and semi-rural population, thus filling a gap between the national level claims and local level realities, that has existed for a long time. The results validate and further build on the research by Sattar et al. (2026), Ahmed (2023), and international research (Rai, 2025), which found that digital tools can be a scalable and cost-effective solution to address the common issues of promotion and resource limitation in underfunded university sports departments.

On theoretical grounds, the study contributes to relationship marketing and TAM theories by providing a picture of how these theories work in a context of a developing country and university in a condition of resource scarcity. In practice, the "roadmap" it paints for university administrators, sports departments, and policymakers is grounded in evidence: focus on social media mastery, spend a small amount of money on creating content, and put digital strategies into practice and into the annual sports budget. The validated model is a replicable template which could be scaled up in other public universities of the province, thereby changing the sports culture of the province from the perspective of just being seen, to vibrant, inclusive and sustainable sports development.

So, it is safe to say that, in the digital age, the future of sports development in the university of Southern Punjab is not in the additional investment in physical facilities, but in the appropriate

usage of digital marketing as a strategy to support their development. These tools offer the University of Layyah—and ultimately other universities in the region—an opportunity to ensure that students are more engaged and get better results, access funding opportunities, develop talent and become regional leaders in the area of holistic student development. Moving forward, long-term, multi-institutional research and efforts would be crucial to monitor and measure continued impact, and to adjust implementation methods in order to make digital marketing a permanent ingredient in the sustainable development of sports ecosystems in Southern Punjab and beyond.

Recommendations

1. Create a digital marketing cell for each sports department in the University.
2. Offer coaching and content analysis training to coaches and student volunteers.
3. Spend a budget on social media advertising and/or website upkeep every year.
4. Support the creation of digital sports policies for the entire university, according to the guidelines set forth by HEC.
5. Monitor over the years, in a longitudinal manner, students from different universities in the southern part of Punjab.
6. Use digital platforms to promote local events, including participation in local shops.8. Collaborate with the local telephone company to launch a discounted digital campaign.

References

- Ahmed, S. (2023). Impact of social media on sports marketing: A case study of Govt. Institutes of Punjab Province. *Journal of Development and Social Sciences*. <https://ojs.jdss.org.pk/journal/article/download/669/641>
- Bindal, A. (2022). Understanding the impact of digital marketing and social media on sports consumer motivation. *SSRN*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4281429
- Khan, S. (2022). The influence of social media in sports marketing. *Hamdard National Journal of Social Sciences*. <https://hnpublisher.com/ojs/index.php/HNJSS/article/view/211/197>
- Nosheen, S. (2024). Role of electronic media and promotion of sports in Pakistan. *Poverty.com.pk Journal*. <https://poverty.com.pk/index.php/Journal/article/view/709>
- Rai, J. S. (2025). Social media in sport: A systematic review and research agenda. *International Journal of Consumer Studies*. <https://onlinelibrary.wiley.com/doi/full/10.1111/ijcs.70102>
- Sattar, S., et al. (2026). Impact of digital marketing on sports development at university level in Pakistan. *The Shield – Research Journal of Physical Education & Sports Science*. <https://sujo.usindh.edu.pk/index.php/THE-SHIELD/article/view/6550>
- Ullah, I., et al. (2023). Factors affecting digital marketing adoption in Pakistani SMEs. *MDPI*. <https://www.mdpi.com/2305-6290/7/3/41>
- Javani, V., & Abdel-Milaji, Y. (2024). The role of social media attractive content in fan loyalty. *Sports Business Journal*.
- Mahajan, K., Pal, A., & Desai, A. (2023). Revolutionizing fan engagement in Indian sports. *International Journal of Management*.
- Nisar, T. M., Prabhakar, G., & Patil, P. P. (2018). Sports clubs' use of social media. *International Journal of Information Management*, 43, 188–195.
- Role of Social Media for the Promotion of Sports in Bahawalpur Pakistan. (2024). *Journal of Positive School Psychology*.
- Saleem, T. (2025). [Related digital promotion studies].
- Tasgheer, A. (2021). [Media in sports].
- Uzma, A. (2019). Developing effective social media strategies for fan engagement in Pakistan sports organizations [Doctoral dissertation].