



The Role of Digital Transformation in Enhancing the Pakistan Super League

A Study on Fan Engagement, Financial Growth and Economic Impact

Attia Saher

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Saher, Attia

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Abstract

The effect of the advanced technology in enhancing the Pakistan Super League (PSL) was examined with a focus of fan engagement, financial growth and economic impact. It looks into the ways digital platforms like mobile apps, social networks and online services are influencing the way Pakistani cricket fans stay connected to the league and how this change helps the league make new income and run successfully.

Using a quantitative approach, built hypotheses with technology acceptance theory and then surveyed PSL fans to examine them. According to the results, the easier a site is to use, the more involved fans become and usefulness and understanding both contribute to fans wanting to keep using the digital platforms. It also turned out that fan involvement greatly influenced profits, stressing that engaging and well-made digital content is useful for companies. Peers, culture, marketers and technology on the internet were said to strongly influence the choice to use new technologies. According to the research, generating success in mobile and cultural involvement initiatives will help PSL attract fans and make more money in the future.

The point of this thesis is that the PSL's digital transformation has become very important, since both engaging groups of fans and achieving economic gains now depend on making technologies easy for all and closely connected to social trends.

Keywords

Technology Innovation, Sports Promotion, PSL, Fan Involvement, Economic Growth, Digital Platforms

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1 Background

Cricket began in Europe, along with other popular team sports. However, due to the fact that it is a unique game, it developed into other areas of the world as well (Malcolm et al., 2009). It became especially popular in the South Asia area. In countries like India and Pakistan, cricket is better loved and more popular than the official national sport (Admin, 2024). People in both countries are incredibly passionate about cricket. The PSL (Pakistan Super League) started in 2015 and is now regarded as one of the best T20 Leagues. Teaming up with prestigious leagues from other countries like the IPL from India or BBL from Australia, it is very popular with people in Pakistan and even other countries as well. There is excitement in the matches but there is also an important part to be played in identifying new cricket players and also for the economy of Pakistan (Pakistan Cricket Board, n.d.).

The digital transformation has overtaken the rules of the game in the sports scene during the last decade. This aforementioned change that can be characterized as technological transformation both formally and informally is one in which electronic digital-technology is being fused into various domains of industry, a process that is in turn leading to the essential reforms in the very nature of business operations and value delivery. For sports industry, digitalization has changed how leagues, teams, players and fans engage with each other, creating unprecedented opportunities for fan engagement, revenue creation and economic growth. New platforms that audiences experience on a daily basis, such as Facebook, Twitter and Wikipedia, have changed the way audiences interact with the web, facilitating a movement toward an interactive, user-led and driven web (Westerman et al., 2014).

The digital revolution has brought a whole new meaning to the way the Pakistan Super League (PSL) fans are linked to their favorite teams. On one hand, the changes have turned out to be a real financial goldmine for the stakeholders; on the other hand, the innovation has created challenges, some of which have not been addressed until now. Some of the key point digital platforms, social media, and virtual reality are greatly responsible for the shift in the fan experience, match analysis, and promotion. In the previous years, only a few ways of fan communication were available i.e. the fans had to either leave their homes to watch the games in the stadium or watch TV. These days, the development of technology and the resulting enhancement in fan-club interaction have turned it into a vibrant, globally interactive phenomenon. The other initial source of funds such as the sale of

rights and tickets were not yet so much known as they are now. Through these advancements, the league has become a major player in the sports economy of today and has been the engine for the growth of youth in sports alongside the corresponding economic segments (Larsen & Kumar, 2019).

This research seeks to investigate the connection between the technology integration and the PSL. It looks at how the implementation and development of digital technologies, strategically, have been affecting and can even more be beneficial to the industry as fan engagement, financial growth, and the economic impact have been adding up as key factors here. It is designed to find out, in the process of technological change, how technology, changing fans and economic factors contribute to the Pakistan's super league's ecosystem, and the technology usage that follows. With this cricket-based research, the main idea is to recognize the application of tech-based and predictive analysis that make a great impact on strengthening the team strategies, player performance, and the fan involvement. It gives insights on how advanced tools can be used for fan interaction so that they can contribute to income generation. This study is a useful resource for the Pakistan super league to take advantage of similar digital developments for fan involvement, money income through financial growth and supporting the leagues (Mahajan et al., 2023). Since cricket is the main armature of sports sector in Pakistan, examining the result of tech-based transformations on the rise of leagues is inevitable (Vishwarupe et al., 2022).

Recently, the way fans interact with sporting events has undergone a seismic transformation due to modern technology, primarily in the cricket world, and more specifically in the PSL. At present everyone will likely acknowledge that the fans prefer mobile apps that offer them live scores, balls-by-balls updates, players' statistics, and even fantasy cricket leagues. These applications are no longer just for the fans who have become more engaged in the sport, but they also allow the younger segment to get the game's main points rather quickly. The children-chosen product of this might be those evolving fantasy leagues that have not only been embraced by many youths, but those that have become fans of both the sport and the industry through commitment (Sheikh et al., 2023). Furthermore, technology modernization is so important for PSL's success especially for getting more fans involved. As the digital media, fantasy sports, and new technology are changing the way fans interact with sports. By using these tools, we can help sports leagues grow financially, attract more fans, and create new business opportunities (Coombes & Osborne, 2022). Modern innovations i.e., the virtual-reality (VR) & augmented-reality (AR) environment are responsible of reaping the benefits of the fandom's fan experience, making them feel apart of the ground--when in fact they are

actually at home. This is indeed a game-changer for the PSL leagues, whose fans find it difficult to attend matches in the stadium even on the important occasions (Justham et al., 2004).

The increasing use of AR in sports has made it easier for fans to get connected with games at the stadium. Through AR-enabled mobile devices, fans can access player data, replay main scenes, and switch between different camera views, thus watching the game live becomes more interactive and informative. Furthermore, it is seen that the combination of AR-elements is the depiction of the fan engagement that has been revolutionized and the sports league's digitalization (Yang, 2024). Cricket, which has once an area where data-driven changes were not in favor, has now completely accepted the new tech trends to attract a new fan base that is not only passionate about the game but also tech-savvy too. Thus, ball movement tracking, pitch analytics, and real-time performance monitoring are the systems that not only elevate the quality of fan attachment but also provide to the league's financial progress and economic impact. Besides, the growing trend in sports analytics content creators, especially among the youngest, helps them become explainers for data, get new fans by doing so, and thus, they are contributing to the sports development. This type of future ready technology and data analysis has a necessity in the PSL's sports entertainment market and growth (Dhawan et al., 2016).

Fan engagement is the most important aspect of a sports league's success. Sports organizations can interact with their followers in a personalized and engaging manner through social networking-sites like Facebook, Instagram, Twitter & YouTube. Thus, such a strategy allows fans to actively participate in the conversations, which increases their loyalty to their favorite clubs and players. The digital fan engagement arena includes not only fantasy leagues, mobile applications, and live encounters, but also a variety of behind-the-scenes material and gamification strategies (Billings et al., 2017). The PSL has begun to engage its audience through digital media more often today than in the past, and it is mostly done through hashtags, online campaigns, and live match commentaries. The PSL's official mobile app gives fans the ability to check out game schedules, live scores, team news and the latest merchandise. The digital viewership of PSL 10 went through the roof, racking up over 100 million views in just the first 3 matches and thereby providing the might of digital platforms (Dawn, 2025). PSL season 10 has been seen on WALEE's streaming network by 75 million users, showing a tendency to consume sports online (Shery, 2025). However, the range of digital transformation is still smaller than other league's. The constant growth of the league is dependent on having the

knowledge of digital transformation that can trigger fan following, result in increased online participation and also create a worldwide PSL community to followers.

In sports leagues, digital transformation is a great way to find many possibilities to increase the financial side of things. E-commerce platforms allow fans to buy merchandise and souvenirs directly, tapping additional revenue opportunities beyond traditional stadium sales. Digital ticketing systems save the time of the staff, prevent fraud and provide tracking fan vs game schedules. specially designed for events, it helps you cut costs and in this case increase revenue due to the possibility of offering further tickets. The PCB has exceeded its revenue by Rs 12.5 billion in 2023 (Niazi, 2025). The PSL could equally be affected by the use of newfangled digital-technologies i.e, 5G and Artificial-Intelligence as these capable of not just reviving the cricketing spirit but also completely changing its meaning. The upcoming technologies can bring the spectators the best in industry engagement together with faster, more interactive, and better personalized services. This advancement not only reinforcing fan loyalty and online interaction but also at the same time providing players, coaches, and officials with high-grade tools for performance tracking and strategic planning (Ahmed, 2025).

PSL focuses on identifying and nurturing young cricket players with the help of Artificial Intelligence-driven (AI) analysis, wearable trackers, and video analytics. These tools enable coaches to evaluate and track the player's performance and to come up with a personalized plan for training. Moreover, digital platforms, social media, and online communities become the place where the potential cricket stars grab their inspiration, seek mentorship, and communicate with the old-timers (Anderson & Sally, 2013).

Cricket has always been in the heart of the Pakistani people, and it is the Pakistan Super League that has become the major platform which envisages the passion of the nation. Lately, the tech-based advancement has fully adapted the ways through which the fans are participating in the PSL event and the money is being generated for this league, and the way it is contributing to the broader economy. Even with these shifts, there is no clear idea of the extent and way digital technologies have affected the PSL's ecosystem to date. Despite the fact that the league has done things such as creating the official apps and working with the online broadcasters, the league still doesn't have the digital strategy that would be a perfect fit for the goals to increase the number of fans who are involved, to increase the volume of the economy, and to help spawn the grassroots. Furthermore,

the low digital literacy, lack of infrastructure, and the threat of cybersecurity are the still pressing issues and remain the barriers setting back digital transformation to its full potential (Khan, 2024).

Hence, this research is meant to conduct the role of technological upgradation in the shaping of fan engagement, financing development, and other related issues, like the use of interactive media, mobile apps, and emerging technologies. The primary motive the research stays within is a study of the change of technological shifts on the various perspectives of the PSL, including fan engagement and the potential for economic growth. The study is going to dedicate to analyzing how digital technology has changed over time both spectator's involvement in cricket and the generation on new income and models for development without which the league would not have been able to continue in a sustainable way.

Focused research inquiries are being pursued:

1. The use of internet tools, live production tools, handheld apps, and networking web outlets for boost new fan engagement, interaction, and viewing in the Pakistan Super League.
2. The application of data analytics, AI, and innovation such as (VR/AR) in need of fan experiences, business decisions, and revenue creation in the PSL ecosystem.
3. The digital revenue sources growth—including online ticket sales, e-commerce, and item sales and their influence on PSL franchise income creation as well as on the economy of Pakistan as a whole.
4. The possibilities and difficulties technology presents in assisting the sustainable development of the PSL, of particular relevance with youth engagement, reaching out to rural youth, and sustainably growing the PSL long term.

This study undertakes a significant gap in the present research and highlights digital transformation as a priority to Pakistan super League. It's looking at how the game uses digital technology to engage its fans, make profit, and affect the economy. Despite the increased role of the sports industry in technology, which has been seen the digital transformation of the PSL, there is still little knowledge of the particular impact of this digital transformation. Through exploring these areas, the intension of the study is not only to give PSL managers, marketers, and policymakers with valuable insights but also to identify the extent to which digital technology is effectively used by them to create fans' richer experiences, to ensure that the league's financial performance is on the rise, to be the catalyst

for the wider economic contributions. This knowledge will be the main force in the growth and prosperity of PSL; therefore, it is essential in a new era of quick digital transformation within professional cricket. The results of the research are foreseen to be the roadmap for them to tread in their quest for a deep understanding of how to use advanced digital innovation to rise fan involvement, make do with inadequate economic situations, unleash broader economic participation. Furthermore, being in a period of rapid digital evolution, it is certain that this understanding will be targeted at Pakistan Super League's long-term success and sustainability.

Technology has widely found its application to all spheres of cricket and this has had a more significant effect on the game's experience. The Decision-Review system (DRS), auto-no-ball and Hawk-Eye are a few examples of tools that are on the field and that help with more accurate decisions regarding the outcome result of the game. Either the gameplay or the TV watching process has been positively affected by the digital innovations that include Ultra-HD cameras as well as spider-cams that are used in broadcasting high-end technologies (Dawn, 2025). Furthermore, not only social-media portals, online-streaming tools, and interactive mobile-applications grown in popularity but these also have made available the new ways on how to engage spectators of sports which could lead to the sport's growth through several touchpoints that are more fun. Using these technologies, it becomes possible to communicate the content to the user instantly, to target the content to the right user, and also seeing passive users become the active ones (Filo et al., 2015). To comprehend the insight of PSL fans through these modern tools is very vital bearing in mind that Pakistan's population is young and more tech-knowledgeable, and they are cricket lover. This type of research can show the changes in fan behaviour, their content preferences, and the ways PSL franchises and related organizations can attract their attention and gain economic through digital platforms.

The PSL has introduced new tools in the recent years, yet it's not as good as other big cricket leagues, to be more precise, only certain games use DRS and Hawk-Eye, and they are not across the board spectacular. Although there are excellent TV telecasts, the broadcasts carry less coverage and only use spider-cam, leaving much room for improvement in viewership (Stanton, 2023). Virtual and Augmented-Reality (VR/AR) are such technologies that are hardly used, which results in ordinary people not getting the most out of the shows they are viewing. A few teams only perform data analysis but these data are not used in marketing. More or less big part of the fanbase does not receive any personalized content because the majority of the AI-related tools like chatbots or apps are not still

available. There are digital ticketing and online shopping facilities, but the services offered are normal and no lucrative loyalty programs are available (Pakistan Cricket Board, 2025). The PSL at least gives us a way to have a fantasy league, However, neither its promotion nor its interactivity is comparable to IPL's. Thus, its social media visibility might be good enough, still it is void of innovative content or campaigns that would stir up talk about the PSL and thus lure more followers. As PSL considered to move in the right direction, but for its global competitiveness need to possess more digital tools at a higher level.

Hence, this research is intended to bridge the prevailing discrepancy by performing a careful assessment of the way digital transformation is influencing fan engagement, financial growth and economic impact with in the PSL. The findings of this research help in providing theoretical content for the sports and policymakers to make use of digital technologies in getting more fans, and higher revenue in cricket in Pakistan.

2 Theoretical Basis

The theoretical framework ensures that the study has a core on which to base the research process and includes a well-defined set of ideas and theories. This perspective helps to get over the findings of an investigation, and understand the links between the various elements. It is of utmost importance that a carefully-selected and vividly-explained theoretical framework be established, for it will not only direct the research to go in a certain way but will also have an effect on the interpretation and the effect of the results (Salawu et al., 2023).

There are several applicable theoretical tools that are used to comprehend the tech-based driven change of impact on follower's involvement, and improved cash flow in the Pakistan Super League. "The *Diffusion of Innovation model*" by (Rogers, 1962) is a good modal that explains the process of adopting and transferring innovative technologies and ideas throughout the society in time. Such a theory has great potential when it comes to the improvement of digital strategies which are aimed at a bigger number of people. The "*Fan Engagement Ladder theory*" (Funk & James, 2013) is a good example of a model that shows how the fans grow and the depth of their involvement-it can go from mere recognition of a team or a league to the levels like emotional attachment, advocacy, and active promotion. This path enables to catch the changes in fans which are facilitated by the digital chain. "*The Uses of Gratifications Theory*" (Katz et al., 1973) gives a direction of the way PSL fans employ digital media to satisfy their needs different from others, may it be for entertainment, information, social, or team affiliation.

Most important standards are the "*Technology Acceptance Model*" (TAM) formulated by Davis (1989), defines the casual connection between apparent usefulness, perceived user friendly, attitude-towards using and real usage pattern. These are the primary drivers that determine whether individuals will agree and take advantage of new technologies. Researchers have shown continued interest in studying and enhancing the TAM, with the two major updates being the TAM-2 (Venkatesh & Davis, 2000) and TAM-3 (Venkatesh & Bala, 2008). The TAM-2 goes over social impact, user satisfaction, and cognitive activity; thus, it can be said that they represent those from a more comprehensive perspective. A TAM 3 developed in the area of online commerce besides trust and perceived risk having been mentioned as the key drivers of system use. These could be of a high interest in the PSL context from where it can be found that fans not only their usage but also other factors like peer influence are the determinants of engaging with the various mobile applications,

streaming services, or loyalty platforms allowing them to benefit in addition to the user-friendly condition.

The next important theory "*Unified Theory of Acceptance & Use of Technology*" (UTAUT) (Venkatesh et al., 2003) emulates TAM by including expected predictivity, task ease perception, societal impact, and supportive environment as part of the approach. Within the service-learning environment, UTAUT is very useful in illustrating the relationship between several factors of the users' behavioral intentions and their actual use of e-learning digital tools. The "*Resource Based View*" (RBV) (Barney, 1991) is indeed an important subject for the inquiry in the research. This particular theory of strategic management shows that a firm's internal resources are the most important. According to this essence, the assets of the company such as digital infrastructure, fan data analytics, and media content capabilities are the internal resources without which it would be impossible to achieve a sustainable competitive advantage. The PSL franchises have an opportunity to apply this model to check which of the digital resources are effective in engaging fans and at the same time profitable to increase the revenue.

Finally, the *Value Co-Creation theory* (Perhalad & Ramaswamy, 2004) is a crucial concept, which asserts that the creation of value is not the exclusive domain of firms, it is the result of interaction among producers and consumers. This view of the theory also highlights the significance of including PSL supporters in the processes of various ways of communication, the loop for any feedback, and participatory experiences, thus increasing their engagement. All in all, these theories offer an all-encompassing structure indicative of how digital transformation is changing the PSL regarding fan experience, revenue-generation and economic influence.

2.1 Fan-Engagement Ladder Framework

The thesis uses a fan-engagement modal advanced by Funk & James (2013) alongside a theoretical framework that maps the different stages of fan involvement with the PSL, starting from mere awareness and going up to the fullest fan loyalty and even not shying away from the sponsorship. This categorization is very suitable for this research, since it demonstrates the way digital transformation-using new and advanced platform and participation tools can facilitates fan promotion in the ladder of engagement. The more engaged the fans get, the more does the PSL grow its fan base and at the same time, it gets the opportunity to accomplish business goals.



Figure 1: Fan-Engagement-Ladder Theory. (Adapted from Wolstenholme, n.d.)

This theory consists of 5 stages and provides an organized perspective of how fans of the PSL gradually develop and reach the state of being active promoters of the league. The **awareness** stage is the first and foundational step where fans firstly hear about the PSL. It incorporates plans such as social-media-advertising, new online-stories, and viral video clips to make brand known to the new generation. In the absence of awareness there is no way engagement would happen so the efforts of the campaigns are on developing visibility and the introduction of the league's identity, teams and players to local and global audiences. Once users are aware of the initial facts, they may start to develop real curiosity about the league or the team. The **interest** stage is appreciated by interacting with particular features such as famous player, unforgettable game moments, or league achievements. It's the digital sphere that takes care of these aspects. This stage gets improved by broadcasting understandable and pleasant visuals attractively like match highlights and interviews, interactive starts, behind the scene that make the difference, which take the fans involved. When fans enter the **desire phase**, their interests progress from passive to the active achievement of engagement. They will start to attend live matches, buy team shirts, take part in discussions of fans online, join fantasy leagues, and the PSL hashtags on social media. The league's role is to build on these activities through direct customer engagement via digital channels and interactive experiences that awake more active fan participation in the match. In the **loyalty stage**. fans build deep connections either with one team they love to follow passionately or with the league they adore in general. The digital evolution of the organization can also enhance loyalty by offering targeted content, giving backstage passes, giving loyalty rewards, and offering exclusive membership benefits to the fans. Finally, the **advocacy stage** is actually the point where the fans expose the brand to a

variety of groups. They are posting the brand content to their social media, recommending the league to their friends, publishing it on fan blogs, or shooting the videos and engaging in user-generated campaigns. This is where digital tools come into play; they enable the fans to share and tag the leagues, and reach the PSL, thus providing them drivers in expanding the fans organically as well as spearheading the league's financial and social impact.

The Fan-Engagement Ladder is a useful starting point for getting to know the ways technology and the sports industry can create a stronger fan base. It illustrates the role of digital channels in bringing about such a change at various stages, for instance, widespread awareness, engaging emotions on the deeper level, and eventually, fostering a strong and enduring loyalty and advocacy. By depicting these events, the source supports the idea that enterprises can be able to manage the progression of technology in a better way, not exclusively through fan engagement but also through the extension of the brand's relationship and thus the yielding of steady money investment (Funk & James, 2013).

2.2 The Diffusion innovation Theory

The Diffusion-of-Innovation framework, illustrate how innovative ideas and advancement get put into use, why, and at what rate. This theory is a rich source of information because it shows how digital platforms, social media tools, and interactive technologies are utilized in the PSL. The theory act as guide for understanding the influence of new fan engagement method, the pace at which the fans are adopting to the same digital experiences, and how this uptake is instrumental in the creation of positive societal consciousness (Rogers, 1962).

Applying the theory of five elements, it becomes clear that the process of adopting the innovation passes through necessary stages. Firstly, it is the step of **searching**, which consists in people's or groups becoming aware of the innovation and its potential application. Subsequently, is the stage of **Formation of Attitude**, where people establish a positive or negative disposition towards the innovation. The next phase is the **Decision-making** stage when they logically pick out or refuse the innovation after deep consideration of the matter. To conclude, the stage of **reinforcement** is the point where consumers receive their final and long-term reward or sometimes revoke their purchasing decision because of their additional experiences and consequent outcomes.

The theory highlights various important aspects which are very useful to the PSL case. *Innovation* here denotes any new idea, practice, or object that the target audience sees as fresh. *Communication-channels* are the conduits through which information about the innovation is transported among members, and peer influence. The *social-system* reflects the broader community of individuals and organizations that are participating and that with their collective decisions and behaviors are the ones that are deciding on and shaping the methods of adoption. To sum up, *time* is also a very significant feature of the process because innovations usually do not find their way to the market in a day thus leading through possible step-by-step activities for a particular period of time.

Applying this theory makes our thesis have a clear framework to explain how the innovation in the environment of the Pakistan Super League, especially digital and technological innovations, spread among the fans, increased engagement, and consequently, grew the league.

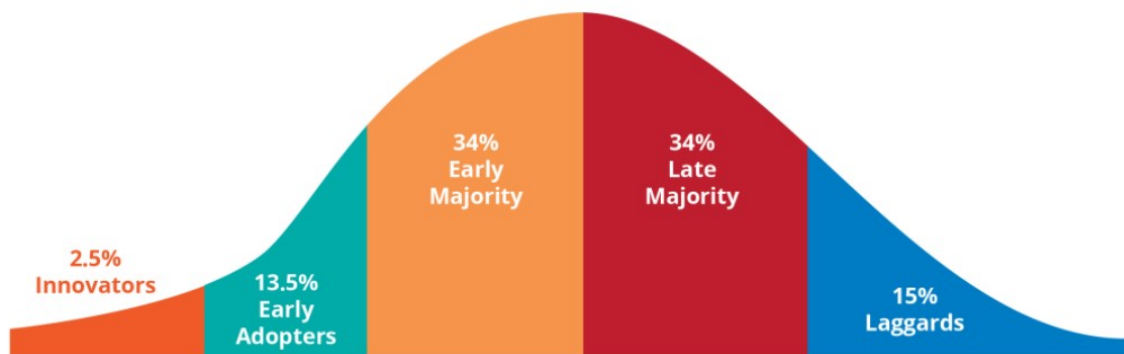


Figure 2: The diffusion innovation Theory. (Source: Health Communication Capacity Collaborative, 2015)

2.3 The Uses & Gratification-Theory

This study is based on UGT (the Uses & Gratifications-Theory), as it was introduced by (Katz et al., 1973), which is very valuable tool in deciphering the reasons behind and the ways in which people would gladly interact with the media so that they could get their particular needs met or have a desired experience. UGT is a theory by which the audience is at the center of the focus and it is brought out that the audience is the one who is active in deciding what content to choose and how to interact with it. It states that it is the people that do not watch TV in a passive way but that their actions are selective and have a goal that is influenced by their personal drives. In the UGT model, it is proposed that people consume media content in order to get some gratifications or benefits they are looking for, which are also called as psychological (e.g. raising self-esteem), emotional (e.g.

love or connection with someone), social (e.g. higher recognition or sense of belonging) and practical (e.g. one's data needs) gratifications.

In the PSL research we investigated here, we find that uses and gratification-model provides explanations for the active stance of PSL supporters towards digital platforms, social-media, and other media channels while or merely receiving the information but actively and consciously doing so- looking for fun, identity validation, social bonding, or useful information. In contrast to the traditional idea that the audience was quite passive and could be manipulated the uses and gratifications-theory provides a new image of PSL fans as the independent, critical individuals who mold their media world intentionally to satisfy a particular demand and for enjoyment. Here is the basic points for the theory which enrich our understanding of PSL fan behaviour:

Active Audience Role

PSL fans are not passive receivers of media messages; conversely, they are the major participants in picking, interacting with and using the media they are interested in or is meeting their needs.

Awareness of Media Choices

PSL followers know the sheer amount of time and attention they invest in different media and can also explain why they choose particular platforms or types of content over others.

Motivation-Driven Consumption

The utilization of the internet, social-media, and other PSL-related materials by fans is purposeful and goal-driven, including the following roles, namely, for mere pleasure, social binding, information, or and identity reinforcement, that are at least partially conscious and intentional.

Personal & social Influence

The decision to participate in PSL media is influenced by personal needs, the social environment, cultural origin, and individual psychology. Together these different factors not only impact how fans perceive the league's digital ecosystem but also how fans engage with the ecosystem.

Perceived Benefits and Rewards

The media use of PSL fans very much depend on gratifications or the benefits the person is getting such as excitement, belonging status, or connection with their most favourite teams.

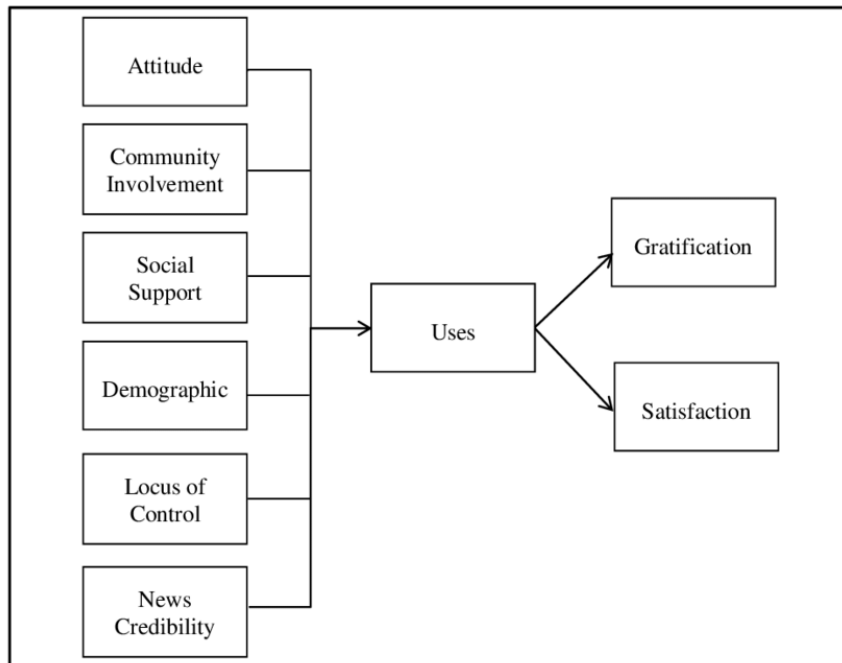


Figure 3: The-uses & gratification Theory. (Source: Sutrisno et al., 2021)

In relation to the Pakistan Super League, the implementation of Uses & Gratification Theory is helpful to understand the motivation behind PSL fans to use different media and digital tools. Precisely, UGT us in knowing:

- How fans are so attracted by PSL content in social media like Facebook, Instagram and Twitter.
- How fans use smartphones, apps, and other digital devices to process PSL information, and how consumer behaviour is related to that.
- How fan's interaction with gaming elements, such as fantasy leagues, and interactive match features are motivated by them.
- How the nature of virtual fan experience (like online watch parties or VR stadium tours) make more enjoyable to the people so the people participate more in them.
- Why fans select digital platforms as an option to foster connection with teams, players, and the wider PSL-community.

2.4 The Resource-Based-View Model

One of the models of strategic management, the Resource-Based-View (RBV) model (Barney, 1991), looks at how an organization's internal resources are used to gain a competitive advantage. As per the model, firms are able to retain a long-fought edge in a market by getting, nurturing, adding value to and applying the helpful, uncommon, unique, and incomparable assets and skills.

Our research delves into how the RBV strategy facilitates the appreciation of the complex way by which the PSL can exploit the core resources within it (a strong brand, enthusiastic fan base, and advanced digital technologies) for the purpose of enhancing fan commitment, increasing the revenue and establishing competitive position in the sports market. The RBV theory has engaged academic and professional communities to an extent that it is regarded as a material of market edge elucidation and application. The framework has been a key tool in various sectors including corporate direction, structural designs, and Human Resource-management. The RBV model stands as a useful instrument to uncover in what ways the PSL is in a position to get the best out of its resources in order to improve the engagement of fans and simultaneously increase revenues using that as a strategic plan.

The PSL sports is very well recognized in the market, thus it can deliver a more loyal and numerous fan base and dynamic team followers are the big foundation of the most significant news proceeds not only from tickets but also from purchasing of goods and services as well as from sponsors. Furthermore, a good digital strategy that includes social platforms, interactive applications, and digital services, have performed a crucial share in the league's efforts to further build relationships with the audience, as well as develop more new online income streams thus more sustainable. The RBV model's application of the (Valuable, Rare, Inimitable, Non-substitutable) VRIN-criteria to the PSL's resources confirms that the industry can gain a continuous competitive grow and prosper in the current digital-sports environment. In addition to detailing single resources, the RBV-strategy also underscores the role of organizational capabilities, which the PSL refers to as the capability to control and make assets, in the delivery of strong, eco-friendly outcomes.

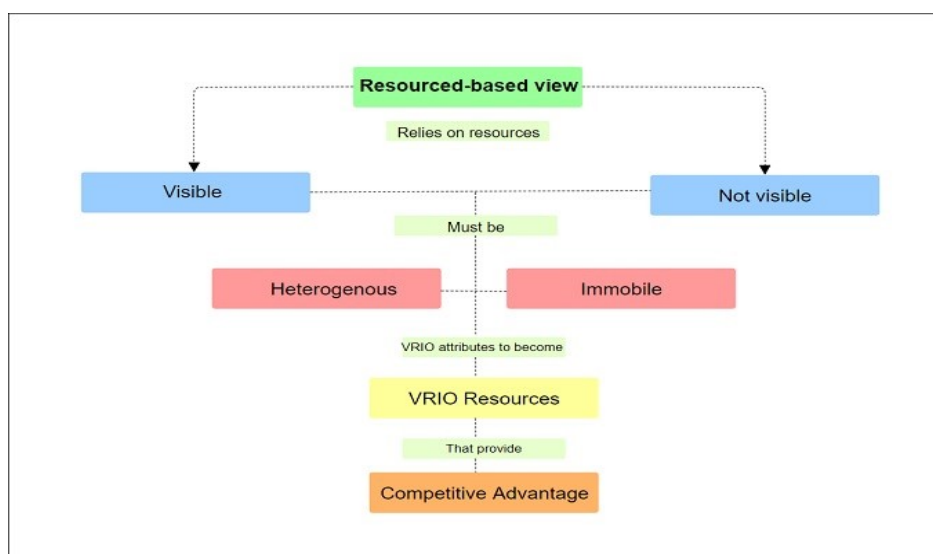


Figure 4: RBV Model Diagram (Source: Opinaldo, 2022)

2.5 UTAUT Model

This comprehensive tool UTAUT (“Unified Theory of Acceptance and Use of Technology”) built by Venkatesh et al. (2003), is an extensive approach that not only investigates how people accept and use technology but also concentrates on a few of the crucial factors, that is, expected utility, required effort, community effect, and system support. UTAUT is very influential in technology acceptance research by examining the latest technology acceptance models and allowing the reader to compare them, ones that usually relate to deeply or scarcely corresponding contradictory paradigms. It presents the four main determinants behind the acceptance and technology:

As *Performance Expectancy* explains, what extent a person is of the opinion that are use of particular equipment will be beneficial in doing some work or in improving their experience. The second step is *effort expectancy*; it refers to how simple the instrument is seen a user-friendly. The *social influence* tells the extent of a person’s understanding if significant others feel compelled to use the technology. *Supportive conditions* that the view of company and technological setup as quite adequate becomes the one that help in technology implementation.

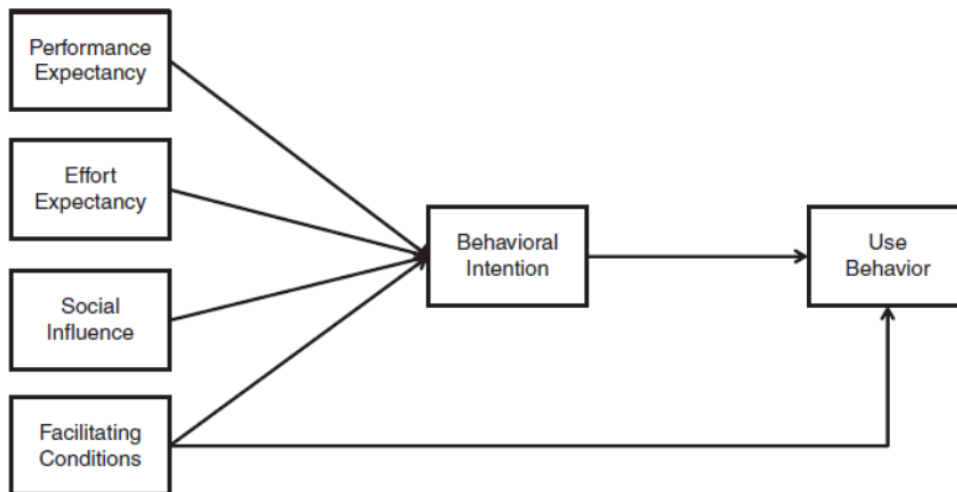


Figure 5: UTAUT Model (Source: Suki & Suki, 2018)

The UTAUT approach in PSL is adopted to explore how PSL fans accept and utilize digital platforms is utilized (for instance the PSL mobile app, streaming services, social media, and online ticketing systems to engage with the league). More specifically, the model helps us to explore:

- Whether supporters find digital tools useful for their PSL experience (performance expectation).

- Whether fans find digital sites simple or difficult to use (effort-expectations).
- Whether fans are persuaded by their surroundings or peers to use these channels (social-influence).
- Whether fans can function properly without adequate guidance from PSL (facilitating conditions).

Being acquainted with and adopting these UTAUT elements, our research is able to dissect the ways PSL's digital transformation initiatives can be seamlessly managed to create a stronger relationship with the fans, increase the user satisfaction, and consequently have an impact on the financial and social standing. The model also enables you to propose fit-for-purpose techniques (e.g. by improving user training, making interfaces easier, and stepping up social campaigns) that directly relate to the blockers and enablers of each fan category.

2.6 Value Co-Creation-Model

The concept of Value Co-Creation Model (Prahalad & Ramaswamy, 2004), which is mostly related to marketing and service management, suggests that rather than adopting the traditional version of passive consumers created by the company, a dynamic process occurs within which the customers or fans contribute significantly to the creation of the firm's value. Both sides are involved in this model - the company and their customers - and they both provide resources, knowledge, and experience for a result that is much more valuable and meaningful to all participants. The model differs from a "provider-consumer" perspective to a "cooperative partnership" perspective in which the clients are not only the purchasers but also the co-makers.

Key Components

The main key terms of the model are included:

Interactive-Dialogue

The PSL should open up and establish interactive and open communication with the fans of the sports league. Strategies might include feedback instruments, interactions through social networks, as well as fan committees and discussions through various kinds of fora.

Enhance Fan Access

Engaging fans beyond the product launch can be a series of activities that are doable and can be done like creating backstage content, interview players, holding virtual meetings as well as conducting polls and enrolling in decision-making (e.g., picking the color of the T-shirt).

Shared Ownership of Risk

Recognizing that both the experiences of PSL and its fans have been equally contributed to by the two parties. So, take an example of PSL trying a new digital platform or new fan experience, fans contribute with their time and emotions, and the league supplies resources and reputation.

Commitment of Transparency

Communicating the truth about PSL operations, updates, and decisions, in that case, fans are able to feel that they are acknowledged and provided with the opportunity for contribution.

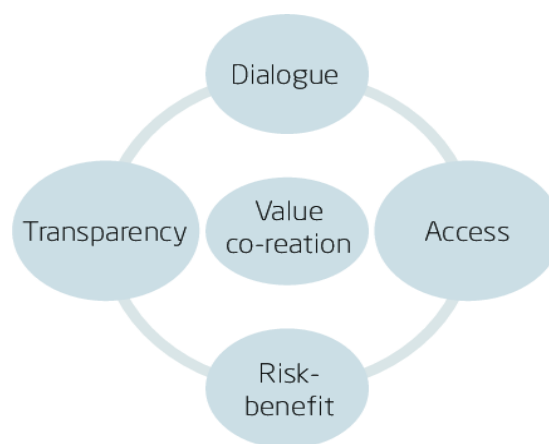


Figure 6: Value co-creation theory (Source: Rodrigues et al, 2021)

In our research about PSL, this model is used to demonstrate how digital transformation has helped the PSL's fans' engagement be solidified by fans not just being viewed as users but also as active participants in the formation of the experience. For example, the PSL can employ a range of activities to co-create content with the fans; they may ask fans to make their videos, photos, or stories and to share them on social media, and the PSL can be the one to highlight the materials on their official platforms. Fans can talk to each other through live chats, participate in online contests, or play prediction games, which will lead them to feel that they are not only the audience but also the

event's contributors. As an additional means, interactive tools such as digital surveys, fan voting systems, or mobile apps not only make the fans interconnected but also, they have the chance to sway some of PSL's decisions in the form of choosing the "Fan Player of the Match" or the "Most Exciting Moment," thereby creating a deeper bond between the league and its fans.

Being in the lead of fans allowing them to be co-creators who are thus not just receiving but also giving resources, PSL has changed the mission from being a source of amusement to becoming an inspiration for the creation of loyalty, the evolution of the connection, and at the end even the beginning of merchandising, digital services, and sponsorship partnership revenue.

2.7 The TAM Model

TAM "Technology Acceptance Model" is a known conceptual framework that is very useful to understand and possibly even forecast which factors can lead to the technology acceptance. Designed by Fred Davis in 1989, it says that PU(perceivedUsefulness) & PEOU(perceivedEase-ofUse) are the major determinants of embracing digital tools. The TAM is very reliable for determining the effect of different variables on the adoption of media tools. The model's significance in measuring variables originates in its central elements—PU "Perceived Usefulness", PEOU "Perceived Ease of Use", and the way it is related to ATU "Attitude-Toward Use" and BIU "Behavioral-intention to use". PU means the level of confidence a person has that a certain setup could improve their work output. PEOU is the that a person is convinced that operating a setup will be without efforts.

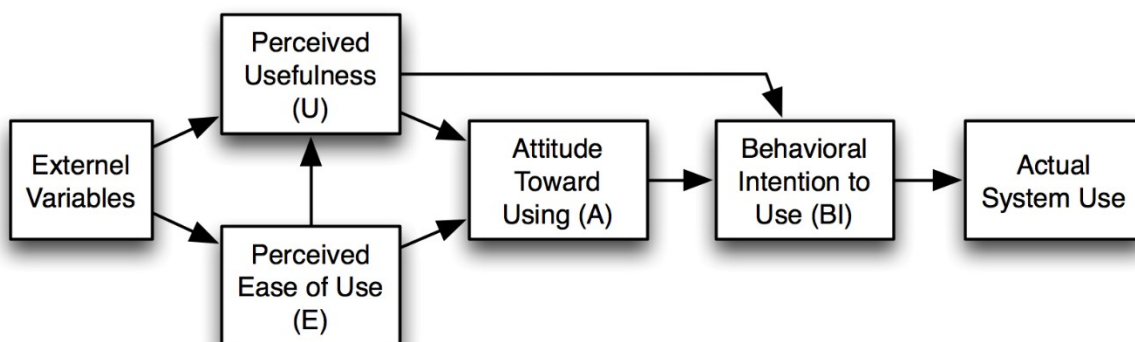


Figure 7: The TAM Model. (Source: Ma & Liu, 2004)

An excellent approach to the study of consumer adoption of technology through APL is the use of the TAM. With specific reference to the TAM, it is the combination of user accessed usefulness and ease of operation that have the most impact on the acceptance and utilization of innovation. In our case, the application of TAM could allow us to determine the attitude of fans towards the latest digital applications such as online tickets, live streaming, fantasy leagues, or interactive fan platforms besides the game. The identification of product features that fans perceive as improvements that enrich their enjoyment and involvement in the game as well as finding them easy to get around is the main source of adoption and retention. If TAM is integrated into our study, we have an opportunity to understand customer perceptions of the new product performance, possible obstacles (for example, complexity or poor usability) which might inhibit the adoption of the product, and how PSL can make the best of its digital offers in raising fan satisfaction, and at the end, the realization of commercial success.

Furthermore, the PSL fans are much more willing to download and use the application when they feel satisfied with it, for example, they can get exclusive information, instant and real updates or have the chance to meet other fans. On the other hand, if the technology looks complicated to operate or is just pointless, fans have low chances that they will use it and consequently, the app will not be able to create a fan base that will keep the league on a growth path and in a good state. Since the TAM has been modified and extended several times. The most important addition of TAM2 was features like social influence and cognitive-processes being involved which helped in better understanding of how users accept technology, and TAM3 extended these features by adding such elements as perceived-enjoyment, anxiety, and behavioral-control. These updates make it especially for the examination of the matter, how the PSL organization come up with fan acceptance of digital-innovations.

2.8 The TAM-2 Model

TAM-2 revision represents the work of Venkatesh & Davis (2000), who built on the original technology-Acceptance-Model and inserted peer pressure and information mechanism to store information on why persons like to accept and use technology. An environment of user accepts benefits and convenience is further included to indicate the idea that folks transact with technology they deem effective and simple to use. When employed in this research, TAM2 contributes to sharing the methods and tools that PSL fans use on the digital platforms of PSL, which will help to increase

and prolong the effect of PSL's fans interaction with the platforms and the digital transformation of PSL to be successful.

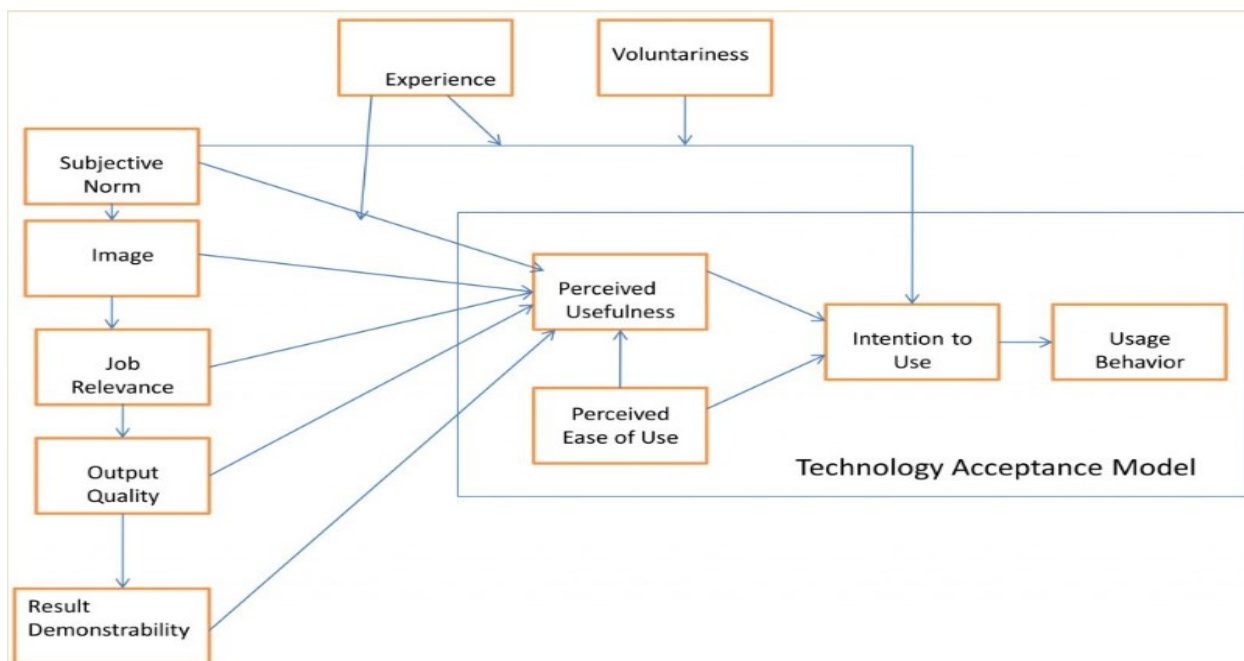


Figure 8: TAM-2 Model (Adapted from Venkatesh and Davis, 2000)

TAM-2 further extends the technology adaption through the introduction of factors as "subjective-norm, image, job-relevance, output-quality, result-demonstrability, experience and voluntariness of use". **Subjective-norm** indicates the effect of one's social context and the potential conformity of PSL followers to the use of PSL electronic tools on the basis of the example of family, friends and peers. **Image** stands for the way that consumers think that the technology can help to upgrade their status or experience. It is very important for a **job to be relevant**; this shows how significant fans consider the technology for their connection or satisfaction. **Quality of output** is about the fan's linking of the website's operation and the trust that its usage brings them to more satisfying results. **Visibility or results** mainly represents the issue of whether fans are capable of expressing that they can identify the benefits of the technology. **Experience** denotes the knowledge and comfort that fans have with related technologies, which is a primary factor conditioning their engagement. **Voluntariness** of use finally, determines how much fans have the freedom of choice inners of sing the new digital offerings of PSL. The concept together forms the essence of a comprehensive model to explain PSL clues of their strategies leading to the greater acceptance of and engagement with the fans.

2.9 The TAM-3 Model

The most recognized and modified version referred as TAM-3 (Venkatesh & Bala, 2008), is actually designed to be a framework for predicting the assessing elements affecting the implementation and usage of innovation by individuals. In our research, TAM3 is extremely effective in showing a possibility of technology progress contributing to fan engagement and consequently to the increase of commercial revenue in the Pakistan-Super-League. Here, thus, it opens up a whole new way of diving into the change of technology, behaviour by consumers, and ultimately, effects on the organization in a structured way.

The main idea behind the TAM-3 is that people's acceptance of and use of a particular technology depend mainly on only two key factors, which are the user's view of technology as being useful and the user's innovation outlook as being easy to use.

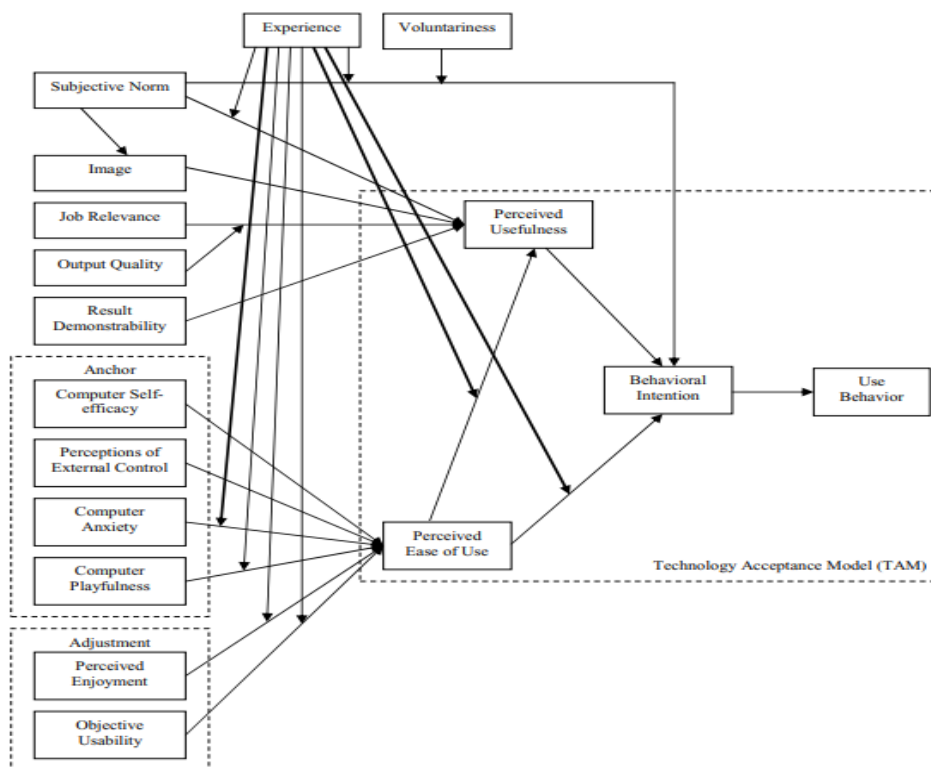


Figure 9: TAM-3 Model. (Source: Venkatesh & Bala, 2008)

Perceived-enjoyment is concerned with the amount of pleasure and amusement a fan assumes to find on using a certain technology. In the case of PSL audiences, it may mean the enjoyment of watching live matches on a broadcast, being part of a fantasy league, or going through games with the help of VR. **Output quality** is the extent to which the fan is convinced that the content provided

by the technology is good, e.g. the digital services is rendered, clarity of online feeds, the breadth of live analysis, or the believability of VR-simulations. **Result advantage** ability refers to fan recognition of the app characteristics or the utility it brings about in a simple and clear way, such as checking the performance of their fantasy league, distributing highlight moments with the help of social media or revealing the peculiar VR experiences to the friends. The term **image** refers to the notion of social status and coolness the fans associate with PSL digital tools and, thus, the strengthening of their social identity as technologically advanced or committed supporters. Finally, **computer-self-efficacy** is level to which a fan is confident in his/her ability to use technological apparatus or devices, which, in turn, can positively determine the level by which they engage and accept advanced personal sports league platforms, specifically those that demand technical expertise.

This work uses the TAM-3 model to look at the way fans of the PSL use and interact with various innovative new tools. The model is useful for fans in getting to know the main things that have an impact on fan adoption and usage, that is, perceived -usefulness, perceived- easeof use, and also percieved-enjoyment, results standards, result-demonstrability, image, computer-self-efficacy, social pressure, and supporting elements are the main driving factors of technology uptake in the settings t of sport online communities.

The research results are a good source for PSL organizers, marketers, and stakeholders who are looking to get closer to their fans, and the same time to find a new way to market and generate income in the internet society. Thus, for example, the conducted work outlines that the feeling of enjoyment and the possibility of showing the result are the most significant aspects of technology acceptance among PSL fans. This shows that PSL has to give priority to the production of interactive, entertaining content that is in sync with fan interests and at the same time encourages them to share their achievements and experiences in the community. However, it is worthwhile to state that the use of TAM3 that offers a systematic way of understanding the effect of innovative tools on fan behavior, involvement, and revenue opportunities is well-justified for the PSL scenario.

3 Execution

3.1 Technology's Contribution to Sports Development

The relationship between technology and sports has been greatly modified from the beginning of the 21st century in line with the expansion of the whole technological trend, and digitalization across almost all areas of life. The networked society and mobile technology have made Sports Technology a necessary partner for a better experience (Frevel et al., 2022). The purpose of this research is to illustrate the effects of technology-led strategies on the PSL and their audience connection, capital growth, and other economic impacts. The digital progression has changed the social side of sports and made known to the general public that watching sports is just the beginning of entertainment. However, it has done much more than just enhance the interaction of the fans with the clubs; today, the sports industry has become a vehicle of the invention. This review of the literature sets out with the intention of examining the ways in which the PSL is employing a variety of advanced technologies and digital approach to elicit interest from fans who are the main source of revenue for the league, and in turn those technologies will help the PSL to generate new revenue streams and hence the league can be sustainable in terms of finance and economy.

The sports area springs to mind when talking how technological progress has affected three major segments of the community positively-athletes, fans and managers. For the athletes, the technology becomes a useful resource in their endeavors to be the best in the world and reach the furthestmost point of success. More and more fans are making use of numerous digital channels and media to convey their own personalities in a manner different from the past. However, sports managers are confronted with changing situations that always need professionals with modern skills to constantly deal with the high technological state in which they operate. Based on the sociological predictions of the development of sports to the upcoming years after 2026, the emergence of technology and its effects on the game will not be exhausted, but even the given sports challenges (Haake, 2009).

Bringing in tracking devices, computers and new visual tools has altered the manner in which athletes perform for the better. These machines enable the simple, fast, and clear evaluation of an athlete's skills, posture and execution performance, thus aiding the athletes in learning and training faster (Fuss et al., 2008).

Research has indicated that changing between the real and the virtual environment with high frequency can lead to memory recall in a disadvantageous way, thereby the context and experiential reality relationship becomes one of the key research areas (Halder et al., 2023). While some studies have indicated VR to be a feasible instrument for memory checking not much research has been done on the effect of moving from real world to virtual one and vice versa in sports on the audience's attachment and recall based on it (Maarten, 2021). Technological changes have brought an overhaul in the cricket industry through their process of boosting players' efficacy, thus making the use of player-monitoring systems and computerized tools indispensable in the PSL. Criteria like cost, simplicity of use, and the effect on both player training and the fan experience need to be factored in before the introduction of these technologies. To meet these difficulties, the PCB which is tantamount to FIFA to football has a central task to undertake in controlling and steering the use of innovative technologies in such a way that the choices adhere to the various needs and viewpoints.

Tech innovation implemented in training programs goes a long way to indirectly boost the conditioning of players through the provision of additional support in such realms as health, fitness, and motivation. Yet, the scenario that often occurs is technology becoming more of a direct substitution of traditional methods than an indispensable vehicle driving the transformation of learning and training. The findings from the study reveal that technology-aided training is useful in achieving better results not only through video analysis and performance judgment but also by promoting the new culture of player development. Still, the knowledge we have about the participating role of technology in improving social connections, teamwork, or enjoyment is inadequate, especially in sports like cricket (Omarvo et al., 2024). Through tech shifts in PSL we can take the league to the next level of success by increasing the performance of players and at the same time involving fans and entertaining them, can lead to valuable insights for the league's growth and long-term success.

Evidently, the contribution of modern methods is a major factor in sports as games are played fairly and honestly which is one of the positive effects. The Video Assistant Referee system can be considered as a prime example, as it is a tool that assists the referees in making very complex decisions during a game. The VAR room, which is present in a room furnished with some video equipment, checks the important points like penalties, red cards or goals, and later, if the situation still remains unclear, they use the earphones installed to communicate with the on-field referee. In PSL, the incorporation of the VAR system, for example, becomes one of the most effective tools that

make the sport fair, exact, and a source of fun for the fans (Mali & Dey, 2020). This is as well the technology that was responsible for changing the PSL's image, which in turn became the main source of financial and economic gain for the league.

While the above has been an emerging practice, a more recent studies have also revealed that the watchers of sports matches can be kicked up along the use of simulated environment in sports transmission as followers are more sophisticated in the ways that they consume the activity surrounding the matches concerning their favourite members and teams. In addition, increasing technology, including content on-demand services, allows live games and clips of highlights to be played on the follower's mobile gadgets (Jones, 2020). The computer-based revolutions have not only redefined the way in which sports are seen, by the loyalists, but also have further resulted in a plethora of opportunities for money creation and the connection of the viewers with the sports governing bodies and the distributors. Over the years though, there is an escalation in technology's maturation in revolutionizing the field of play.

3.2 Next-generation fan interaction powered by technolog

Fan interaction has come a long way since the advent of the digital age, no longer restricted to watching matches in stadiums and on TV. Social media, live streaming, and interactive apps revolutionized the sports fan possible. These tools, while not novel, are still exciting and enable fans to mingle, post, and consume content immediately, thus making them feel that they are still part of the sports event live. Social media is of great significance in engaging fans, aside from the content nature. Such elements as the post's quality, videos, and the team's performance can show how much fans do online interaction. sports clubs have an oppertunities, such as communicating directly with fans, delivering real-time news, and producing the content of value through the full use of the facebook website. Moreover, by promoting the media, higher than the fan involvement is achievable through identification and implementation with the behaviour patterns to followers (Mahajan et al., 2023).

Football associations are constantly is search of fresh methods for growing up their fans base and winning over more supporters. The key target for them is the creation of their brand's extra position, the rising of additional earnings and the increase of press attention to help the fans feel more satisfied and to give the financers a large profit. In addition, clubs devote funds in getting closer to

their fan's hearts be means of content strategies or other activities. Nevertheless, the putting into such innovative-technologies as VR and AR headsets may not correspond with fan's real needs at all-for instance, quite a lot of fans still insist that they prefer an uninterrupted and unobstructed view of the match they are fond of (Vale & Fernandes, 2018).

The ever-growing use of mobile phones and community platforms in our lives, nowadays we have a different kind of experience doing many things, including the way we connect with sports. social interactive online platforms has changed the way sports players, fans, and club interact. Today, players and teams frequently keep in connection with their loyalists via social-media. modren-day performers and teams are now frequently using social-media to keep in contact with supporters. Face-book is among the platforms to spread news, upload photos and videos, and showing the upcoming events. Instagram and twitter are the major marketable products that the sport sector is able to use to keep their fans and sponsors bound together (Hussain et al., 2021).

The use of modern methods namely online-forums, digital interaction spaces, and editing tools in order to not only create but also share fair enough to make audience interaction a more creative and instant process. On one hand, different areas brough a lot of benefits to engagement and global connections. On the other hand, different regions of the world still afce the problem of delayed content access. However, there are still those who prefer to communicate in person rather than through social networks in the culture of fans (Santos et al., 2019). When it come to the PSL, new online social networks such as online-forms, photo editing tools and video segments becomes the media of choice for fans and distrubte PSL related content like fan art, match key moments,and short animations. Nonetheless, there are still some issues in the way that need to be death with-- particular by international PSL fnas who might be unable to watch live games or enjoy the latest content. Through video forms, digital-tech-nology has opened up new way of getting involved in sports.

In many ways, technology has redefined the relationship between the fans and the show by introducing multiple digital avenues for the audience to connect and show their passion. However, the in-person events such as fan conventions are still crucial for direct meeting and conversation. Fan engagement platforms like fantasy sports and virtual reality not only bring in a new wave of fans but also help sports organizations to create better-fitted, more loyal, and hence more satisfied fans (Annamalai et al., 2021). These changes allow the PSL's not just to tap the fan-league connection

but also to get fan experiences that are more energetic. As a result, fans will be content, the league will develop economically, and the income will increase.

3.3 Driving Revenue Unlocking new opportunities through technology innovations

In terms of both innovation progress and financial assistance, the sports sectors has noted a significant growth and the use to digital/social media tools like twitter, youtube and istagram can be viewed as one of the most conspicuous signs of this shift. Actually, online communities has become the most important means of doing marketing, increasing the number of fans as well as generating profit for sports bodies, thus they now have the chance not only to sponsor their activities but also to pay their bills (Li, 2024). Contributions like one made by twitter&facebook make it possible for sports firms, such as the PSL and other tournaments, to get much closer to their fans, reduce the cost of marketing, and raise the earnings at the same time. Besides, interconnected online spaces is also the place where players create a stronger identity and get even more public recognition. Unfortunately, such difficulties as controlling online rights and sports content censorship are the most critical aspects that have emerged as problems in the digital sports world. This paper points out that the digital media has a significant part to play in the management of sports today and underscores the necessity of introducing new methodologies, increasing the knowledge, and ensuring ethical use of technology to improve fan engagement, league reputation, and sports eco-friendly growth in the transforming sports environment.

Techniques helps in the sale of tickets through the internet, capturing fans through digital-ticketing and data usage to know the nature of different fan groups. Research suggests that using new methods in ticketing can allow sports teams to grow their ticket sales and have an even greater number of attendees for a match (Pop et al., 2021). Literature shows that there are more effective ways for teams to approach their target audiences and these include online ticket purchase & sales, web-based compaigns, and coustomers data trend. The advent of ticketing systems that fly under the latest innovation banner has resulted in not only increased revenue but also better security provided, and the occurance of crowd problems reduced in some situations. Furthermore, the use of the innovative approaches in ticketing in many nations led to the protection of fan rights, the execution of the stadium safety concept, and decreased in the sale of illegal tickets. In another respect, the services such as lotteries, promotional giveaways, and e-ticketing are not only

contributing to the acceleration of the process but also the smoother the process and the more comfortable the fans feel in getting them (Zakizadeh & Atghia, 2020).

The design of innovative tools is a key consideration when looking at the effect of fan actions and shopping options. Evidence has shown that certain design factors, the unambiguous explanation of key points, the appropriate context, and the level of details have a huge impact on users interaction with a software application. Moreover, the application of principles like the arrangement, the attractiveness of the screen, the entertainment capacity, being user-friendly and being given the choice to explore the app before buying are of great power to increase the fan community members inclination to pay and be active on the platform (Ahn et al., 2014).

Information extraction allows the executives to adapt ticket fees according to the demand. This way, prices are streamlined, and stay competitive while resellers sell. Similarly, airlines take similar measures to better respond to the market. In addition to the e-ticketing, fans may have a great experience due to reduced costs and faster, more efficient operations, and thus both the company and its consumers are privileged with environmental and financial benefits (Beatrice et al., 2024).

3.4 Modern Technology & Economic Progress

Instantly, the intersection of the electronic market and sports field connectivity has garnered quick acceptance as a pair of forces that could increase the consumption of sports and bring about the improvement and modernization of the sports-sector (Wei et al., 2023). The sports sector has definitely shown amazing growth as it has not only help the financial flow by providing the new jobs but the money has been created by several means. The mixture of hot consumers spending on goods, tickets, and offerings, and the excellent impact of innovative sources and e-media is a source of income and it also increase its economic control. The League also helpful in creating job positions in various fields and those can also be for investments, as well as for the enduring progress goals through large-scale sports events. The T20-League is another way to grow sports, they are aware of the value of people in the region where they play at the same time supporting the ecological system as a whole (Wu, 2024).

With the rise of the fiscal activity, the well being of life that people aspire to is also increasing and this is like providing a good soil for the sport industry to grow. In various occidental countries like

US, for example, the sports field has already become the major player in economic terms, way ahead of the traditional industries. Thundering through several other economic sectors, the sports sector has become a game-changer in those countries, which is explicitly clear that it's one of the important new drivers in the economic landscape (Kharchenko & Ziming, 2021).

Technology has been working itself into all layers of competitive games for a long time now and has become a great help in ensuring fairness, correctness, and increasing enthusiast's satisfaction. In various leagues, perception of the game, an increase in players and coaches skills with devices, system, and statistics are achieved using display tracking tools, video showing system, and data trend. The two disruptive innovations like VR/AR that completely change the way of the fans are interacting with the content they are being provided by making it participatory and specific. Furthermore, the introduction of adaptive gear has definitely made sports more inclusive which, in turn, has allowed global happenings like the paralympics to be seen and enjoyed by more people. The technology improvement have an equal impact on fairness and transparency of sports events and they are still vital for the improvement and excitement of both athletes and the connoisseurs (Hoxha, 2025).

Enhancement of innovative tools are very important in the growth of sport, and this is what operate financial progress. In sports sector, the operations and fan-involvement are directly affected by the digital growth and information tech as they are external forces. Using new instruments, the organization has the potential to provide a more personalized and efficient service, and examples could be personalized fan experiences, smart ticketing, and fact based marketing strategies. Application of technology in sports is another big step for not just game performance and increased revenue but also for the growth of sports. Additionally, the changing business climate impacts the inclusion of technology into the sports, where new developments are mostly connected with income, fan engagement and market trends (Younus, 2021).

Revolutionary technology are the main factor in raising up the pace of the socioeconomic progress, especially in the underdeveloped countries, that are still wondering how to get their economies operated at a full potential level. Skillfully applying sectors like sports with technical breakthroughs can make these countries receive the fullest economic benefits. Creating an innovation-based economy cannot do without an interlaced structure of market and non-market institute which can facilitate the growth, and this is the first thing to be done. To this end, public authorities should be

obliged to pursue modernization plans that guarantee the incorporation of technology, economic system progress, and the accomplishment of the ecological long-term growth and improvement of the country (Sachs & McArthur, 2002).

3.5 Modernization of PSL through Technology

Technological progress are very important for the creation of wealth, especially in those parts of the world that still have their growth prospective lacked and need to find a way of unlocking that potential. The wise application of new changes in the sports sector for instance can not only enable these countries to benefit economically but also help them to benefit to the maximum extent. An innovation-based economy needs to have a finely meshed labyrinth of market and non-market institutions to pave the way for the next generation of technology. This is why it is indispensable for authorities to launch full-scale innovation strategies that lead to the use of new tools, the revitalization of the economic ecosystem, and the sustainable-growth and improvement of country (Burki et al., 2023).

The fast pace of technology is a thing that has made the PSL a very different place from what it was a few years ago. The entire game was not only changed in terms of entertainment but also the management and the official situation on the game. One of the most striking advancements is the introduction of MOT (Match-official's) technology, this is started by HawkEye innovations, which has started the league to global referee's participating. This superior system includes real-time communication among umpires; software that permits teams to challenge umpiring decisions; and ultra-motion cameras that can detect no-balls automatically. This is addition to the fact that the time indicator of the session are shown on the giant screen in a way that they become alive and images on TV say nothing of handheld tablets that referees use to handle temporary the over-rate calculations are fast and the DRS requests get the screen light within a snap of the fingers. Besides, if fans have the best possible access to the events and situations of the game, they can participate in it on a human level. This is an effective way to be more transparent and be greatly involved with the audience. These all multi-technological changes not only to a considerable extent contributed to the games being consistently and reliably officiated but also gave the audience a sense of safety regarding the justice of the decisions they make (Dawn, 2025).

For the most new seasons, the PSL has established a new-age player monitoring technology to the tournament, which is now capable of providing instant data on player movements, for example, the exact location of fielders, the bowler's runs-up, and the stance of batters. This information is then graphically visualized in the form of detailed statistics, giving fans the option to analyze each ball in detail. The new system has features that perform zone-based review of fielding, batting Scoring territory, ball-catch performance evaluation, and detailed breakdowns of field placements. The innovation make use of the profound insight provided about the player and the game to increase the level of attachment of the fans and to make the overall viewing experience more fulfilling (The Nation, 2025).

Utilizing AR graphics within the crowds of the PSL shows the likelihood that the latest innovative technologies have to change the spectator participation and overall sports experience in general. Through the AR graphics, it becomes possible for the audience to actively participate in the game by getting visual data on the match, having a look at key player movements and tactical planning taking place in real time. Not just the explanation of the game becomes better for the viewers, but it also adds to the leisure making another step towards tailor-made entertainment that is the point of the joy of the fans. New ideas that have been introduced in the industry help the industry to create more loyal fans, reach extra peoples, and expand its economic activities in the market (Rocket Alumni Solutions, n.d.). The employment of drone-cameras in the PSL signifies that technological advancements are not only at play to increase the fan experience but also serve as a medium of publicity for the sports events. Apart from commonly used camera angle, drone give viewers the luxury of seeing the game from the skies, resulting in interesting and visually rich footage that capture the match and the festivity of the stadium as well. This move not only brings more joy to the viewers but also helps to connect fans to the event, improve media-value, and enable the league to attract sponsors and improve its viewers, thus definitely leading to the growth of sport (Dutta, 2025).

PSL's application of the DRS system improves the sincerity and transparency of sports competitions through the use of new devices. Smart features like HawkEye & UltraEdge, which employ complicated logic flow and high-speed cameras to mark the ball and pick-up faint edges, help the PSL to lower the mistakes made by the umpires in their calls. This does not only increase the integrity of the league, but it also builds trust in the fans and the fair play of matches (Dutta, 2025).

Smart-bats and apparel products have made it possible for the players and the coaching staff to be at ground-breaking of technological innovations to a level where it becomes possible to achieve better results in the game and manage the team in a better way in the PSL games. This equipment generates live-performance details on batting styles, the most active players, and the material a player needs to use after knowing the body's condition, in the event that a coach is able to make results according to the data received. Utilizing this data, a squad can make the customized training plans, prefer player strategies, and bring in the best possible injury aversion system. After all, these innovations do not only boost the sports performance but also play a huge role in the league competitiveness, fan-involvement, and commercial-value (Sethi, 2024).

Things like an official anthem, inventive branding strategies, and influencer marketing can make the audience excited and lure millennials to the league, thus maximizing the league's reach and commercial appeal. This digital approach indeed reinforces the loyalty of the fans, at the same time, it is capable of creating fresh sources of revenue and at the same time events, which can be the sponsorship and partnering ones all at the same time giving strength to the league's long-term growth and success (Sabeeh, 2017). The PSL does not belong to the level of the IPL and BBL that use technologies like advanced data analytics and machine learning on a regular basis to select players and set strategies. The PSL has a long journey ahead in their quest to employ data scientists and AI platforms for the purpose of enhancing performance predictions and decision-making processes. Sources argue that the use of these technologies would provide enormous benefits to the PSL through cricket strategy improvement and through the identification of cricket players which are the future of the game (Bunker & Susnjak, 2022).

By imbibing technology, the PSL has been fervently pursuing the worthwhile and never-fading objective of enhancing the fan experience while guarding the integrity of the game. The newest PSL series is the PSL 10, which was rolled out on April 11, 2025, enabling the implementation of the all-around technological solutions that are adopted. The newly PSL 10, is a significant step in the full-coverage technological solutions adaptation (Dawn, 2025). The data that has been collected is effectively shown to the screen via visual illusions for statistics which give fans zone-based progress matrices for fielders, it measures the fielding expertise in different areas of ground (Cricket97, 2025). The new technological innovation started in PSL10, scoring-zone fusion for batters is a display that shows the place on the field where a batsman scores his runs; it is statistical and visual

presentation. This is an effective way for the coaching staff and data analysts to show the areas of a player's game that might need improvement, the choice of shots and his most productive zones. This way, they can devise personalized tactics for the training of the players and the team easily. Moreover, ball-tracking inspection is about looking into the metric part of the match-catches. Such data is instrumental in evaluating the skill level of a team's fielders, recognizing those players who are making a difference, and bringing out the various weaknesses that are to be worked on, hence leading to a much sounder defensive strategy in the field (Dutta, 2025).

Although player tracking offers a plethora of first-hand information, the incorporation of advanced-analytics into the live matches is yet to mature. The real-time on-air visuals show predominantly the simple status and visuals that were made based on the tracking of the data. However, there is a great potential for more comprehensive real-time narratives and forecasts that can be obtained by combining this raw data with advanced analytics and AI.

Based on research findings, most individuals are inclined to participate in experiences that are more immersive. In an example, AR technology has the potential to show audience members, in real-time, on a bigger screen, the real-time statistical data of the game more than in a traditional way and VR can create a feeling in people that they are at the stadium watching the game even they are in bed. Kim & Ko (2019) described the advantages of augmenting reality technology to display real-time statistics and other details on top of live broadcasts, which will increase viewer comprehension of a topic and stimulate involvement. Chung, Goebert, and Johnson (2025) discuss how VR can be used to deliver a more immersive stadium experience to a fan from his/her home. This development will further the person's feeling of presence and connection with the game. The technologies were first successfully utilized in main sports federations such as the NBA & Formula1 (Alexopoulos et al, 2024).

Until now, the PSL has refrained from taking advantage of novel interesting innovation such as VR and AR simulation to provide fans more engaging and interactive content. This new tech allows fans to go on a tour of a virtual stadium, have instant access to replays shown in VR like they were at the event, or have access to real-time stats and graphics via AR during live matches. The message delivered to us is that some PSL VR and AR gear can change the way of watching and help grow the number of fans. Namely, the use of (VR and AR) by PSL would not just improve the fan experience but also attract new fans.

Today's technology in the smart stadium system is the major facilitator in creating a delightful and engaging live-site fan experience courtesy of smart gadgets (Panagopoulos et al., 2025). Digital signage and interactive displays in the arenas serve as a vital tool for people to stay updated and a source of entertainment and fun, as well (Beatriz & Santos, 2022). Even many PSL-stadiums in Pakistan still have bad Wi-Fi, bad network signal, and not many electronic screens, which result in an absence of fan engagement in the facility. Necessary is the infrastructure upgrade through fitting stadiums with smart technologies, high-speed internet, AR/VR screens, and cashless systems. The utilization of such software in PSL stadia can result in a greater satisfaction of the spectators and a rise in the work efficiency.

The PwC Sports Survey (2021) stands out mainly due to the fact that the electronic commerce platforms were the key to the growth of the sports leagues' revenue. PSL's internet web based ticketing and marketing systems are not as developed as the main global leagues in the world. There is a need for AI-based tailored recommendations, secure payment gateways, and interlinked system.

3.6 Technology Upgrades Needed for PSL's

Although despite of many advancements in technological innovation, PSL still faces many gaps in technology. At the moment, PSL doesn't have the most actual participative fan journeys like AR overlays for live stats, VR environments, and live polls being combined in a single event. By introducing this tech, they can create a more immersive and memorable viewing experience and hence attract a larger audience. Outside of that, one thing that the league is not exploring with the use of analytics during broadcasts is something that is very basic, hence missing out on the availability of more insightful and predictive information as well as AI-based play and commentary which facilitate fans' easy to follow and understand the events that are going on. Pertaining to infrastructure, smart-stadium tools, such as mobile ordering, digital-ticketing, and personalized fan-experience, are still not that broadly used so that the in-stadium experience is not very improved. Even wearable tech is not adopted to the full potential yet, with the live biometric information and performance analytics still not applicable to broadcast or match strategy, with privacy concerns being a key consideration in the use of this data. On the other side, PSL does not give fans more in-depth insight into the world of the ball due to the lack of granular ball tracking, which would be a source of intelligent comments and a good way to obtain more analytical fans. Solving these issues

is one of the ways to level up fans' experiences, which are not the only benefits, since PSL can also make money in new ways and compete as such a global T20 league would be successful.

3.7 Literature Gap and Rationale of the Study

Hence, the actual effect of the technology on sports globally, the situation in Pakistan is such that there are still some prospects and problems in this sector. The growing popularity of the mobile-devices, tablets and the internet access resulted in a thriving atmosphere that further enables digital fan-participation and the same time, the growth of income in the PSL (Dawn, 2025). Despite that, a vast aspect of Pakistan still suffers from the technological disparity. Multiple regions, and among them mostly rural areas, have the issues of the tough availability of technology, low-quality internet connection, and expensive digital resources (Hussain, 2025).

Even as there have been quite a lot of research works that deal with the change that technology came with in cricket, the issue of the lack of specific studies which pay attention to how it is taken and what are the consequences in Pakistan context, the PSL league, is still open. Many studies have been carried out to find out digital transformation effect on global sports leagues such as IPL and EPL, very few have been focus on role of digital technology in the development of PSL (Burki et al., 2023). The great part of the existing scholarly work has been taken up with most broader cricket characteristics or sports marketing in Pakistan, thus leading to a lack of insight how the use to digital entities like mobile-applications, social-media, virtual engagement tools, and advanced data analytics is boost fan experiences, finance and encourage the youth excitement in PSL (Ahmed & Mustafa, 2019; Rizwan et al., 2021).

This study has the intention to overcome the present unaddressed issues by stating an intensive assessment of the effect that transforming digitally has on fan-involvement and the generation on income in the PSL. This research make both contributions, theoretical and applied; academic understanding in the area of sports-technology and administration will be lifted up and at the same time a clear vision of PSL-administrators, marketers, and polymarketers will be proposed. This study will help stakeholders who are looking to increase advanced technological adoption and raise the participation of the league in supporting the youth & economy of Pakistan by reviewing the current digital-strategies and find better approaches.

3.8 Study Goals and Investigative Inquiries

Overarching Question

How has the digital revolution contribute to the enhancement of the Pakistan Super League's fans engagement, financial growth and the wider economic Impact?

Specific Questions of Study

1. To understand how digital platforms effects the general worth and satisfaction of fans of the PSL.
2. To evaluate the convenience/accessibility, usefulness, and user satisfaction of PSL-related mobile applications in delivering of cricket content, services, and engagement oppertunities.
3. To examine the accessibility and use of mobile apps for purchasing PSL tickets and equipments.
4. To inspect the effectiveness of social sharing sites and internet groups as medium for collaboration and interaction between fans, players, and the league.
5. To explore how social and demographic aspects play a role in how digital technologies are utilized PSL-centric.
6. To assess how PSL profits get affected by digital platforms, such as digital advertising, streaming rights, and e-commerce.

3.9 Academic Importance of the Research

This study have important because it deals with the increasing impact of digital ternsofrmatoin in connection with one of big league-PSL, that is the most vibrant event in the country. Moreover, the study turns out to be a helpful pool of knowledge for those part of the PSL industry and fans, and in addition, for people who would like to know how digital change in cricket works. More specifically, the research will look into how technology is changing the fan's participation in the PSL and it is actually good or not. The study will also aim to discuss the ways in which the PSL authorities can support the league's economic and financial development with the use of digital tools and engaging applications.

Research Contribution

It will address a clear knowledge to addressing the problem that is not well explored by current researchers a detailed and academic review of technology adoption in the Pakistan-Super-Lague. This will add to a clear comprehension of sports modern tools in general as well as the context of South Asian professional cricket leagues.

Advising League Management

The results of this research will be beneficial to the PCB-Cricket board and PSL management in terms of the efficiency of technological methods in operation, as well as the identification of key areas for future development. Recommendations based on real evidence can be utilised to make technological implementation decisions in order to continuously improve the league's integrity, user interest, and financial viability.

Mutually Beneficial for Broadcasters and Sponsors

The understanding of how certain innovative approaches can affect the comfort of fans involvement, is a great help. Knowing this also brings the most significant benefits of the ins and outs of the representation techniques. Furthermore, companies can take advantage of the fan-tech affinity numbers to get more concentration and deeper involvement of their brands in the market.

Strengthening the connection with fans

This study will assist fans in determining how different digital venues, like as smartphone apps and online groups, improve their interaction with the PSL. By understanding what motivates fans to use those devices, PSL organisers can build better, more engaging online environments that make supporters feel more attached to the tournament.

Pathway of Advanced Research in Sports

By investigating how internet resources are used in the PSL, this study can assist others in re-searching fan participation and income growth through technology across similar tournaments and states.

3.10 Study Area and Limitations

This research set out to examine the ways in which tech based innovations have been used to improve the Pakistan Super League (PSL). The main pursuits featuring were fans involvement, capital improvement, and economic value. One of the explored advanced tools were smart phone apps, websites, online communities, merchandise interfaces, and online ticketing to access their effect on fans' exposure and the league's productivity. The PSL study caught the attention of the soccer fans, who were more active users in particular online cloud platforms. The study was also targeted to assist the PSL hosts, promoters, and contributors in comprehending how technology might be the impetus for the league's wider audience more intense forms of involvement and financial gains.

This research is going to dive deeply into the following issues:

- How PSL fans currently trying to boost their watching experience via the use of smartphone tools, online broadcasting and interactive media?
- What predictive insights, AI, and similar mechanisms could elevate the interactions of supporters and to be the source of new income for PSL corporations?
- How latest updates in online ticketing, electronic commerce and blockchain mechanism are used to create more revenue?
- What are the ways VR and AR can establish immersive experiences to let cricket fans really feel related to the game?

Study Focus

Predominantly, this research deals with Pakistan at the national level with a strong focus on the PSL. While it is mainly about the digital innovation in the PSL, it is quiet about the local differences in the accessibility of technology or the level of fan involvement in the regions, e.g. the rural or the underdeveloped ones that would complete the picture. The future investigation possibly should concentrate on the thorough comprehension of the exact processes of tech based modifications and their differential effect on rural clubs and fans.

Fast Paced Innovation

Technology, particularly online interaction, is increasing at a rapid pace, and the study results could therefore be replaced by those in a new study if innovations like Ai, smart phone apps, and VR/AR keep making progress. A followup inquiry implemented in the future can be an option to reflect the newer innovative changes in fan-involvement, profit models and market impact.

Community and Economic Factors

In Pakistan, there is a shortfall in wifi access and technology utilization for various economic classes. Due to this reason, such findings could not be applicable to the general public. There are some fans who might not be able to get hold of the internet, smartphones, or digital tools. A subsequent investigation could study the relationship between the income level and the education of the fans and their technological participation and also its effect on the electronic tools income generation in general.

Long Lasting Consequences

This re-search is an appraisal of the ongoing digital changes in the PSL and does not project the forthcoming effects. It has not properly examined the latent changes in fan involvement or income pattern over the next few years, which might result from tech trends. This re-search is an appraisal of the ongoing digital changes in the PSL and does not project the forthcoming effects. It has not properly examined the latent changes in fan involvement or income pattern over the next few years, which might result from tech trends. One method that can be applied is a longitudinal study in which the present information is used as a baseline and the future achievements of the subject is observed for a couple of years.

3.11 Formulating Hypothesis

The present study draws its hypotheses focusing on the TAM3 model to advance the knowledge of how digital revolution affects fan involvement, income upgradation, and economic effect in general of the PSL. Moving forward, we will elaborate on the methodology employed to test these hypotheses and then divulge the findings obtained from the dataset analysis.

H1: A positive view of digital technology's usefulness increases fan involvement in PSL.

This hypothesis asserts that in the presence of productive online media tools of PSL, the fans would show a stronger emotional connection and involvement with the team. When spectators can effortlessly avail themselves of game schedules, live-broadcasting, online purchasing, interactive features, are likely to be more involved. The main idea is that fans' interest and loyalty to the PSL are growing stronger as a result of the introduction of more practical and interactive digital tools.

H2: User-friendly digital platforms lead to greater fan involvement in the PSL.

This hypothesis means that if fans believe that PSL's digital services are very user-friendly and easy, they would most likely take part in the league's movements more. The moment the platforms got accessible, without any hassle and a single click to perform the same actions on the other device, fans had an ease to be comfortable with them and also started using them continuously. This positive and fuss-free interaction persuades fans to attend events, be involved in contests, or even be in touch with the PSL more than ever.

H3: Utilizing of PSL's digital services positively affects fans' behavioral intention to continue using these platforms.

The hypothesis proposed here is that the engagement of PSL fans with the team's digital offerings, such as applications and websites, will most likely lead to repeated uses in the future. Before all, easy access to the latest score information, online events, and digital shopping were key factors in the supporters' feeling of being part of the team and motivated to participate. Therefore, the gratifying time being spent with resources is the main force behind the endorsement and the patronage of the PSL through their digital devices.

H4: Technology that boosts fan involvement has a positive effect on PSL profit growth and increase in financial returns.

According to the hypothesis, that the PSL would make use of most recent digital instruments, it would result in the peak of the financial and economic success of the league. By interacting with

fans through social media, applications, and online stores, PSL can push up sales and turn around the public's view of it as something positive. The digitalizations have increased the efficiency of PSL because it has become leaner and more cost-effective, which are a formula for success.

H5: Extrinsic factors and easy access to the internet help strengthen the link between accepting technology and using PSL's digital platforms.

This hypothesis suggests that the encouragement of other factors in conjunction with the favorable reviews of friends, the practices of the respective culture, PSL ads, and the amenities of easily reachable internet, may trigger consumers to be more welcoming to PSL's digital channels. To sum up, it is only when the drivers of the effect are positive that consumers not only feel the encouragement but are also motivating enough to use PSL related apps or web platforms.

3.12 Exploring PSL's Digital Transformation through the lens of TAM3

Our study uses TAM3 constructs to investigate the role of digital transformation on PSL. The model items are:

PU: Perceived Usefulness-- Digital innovation of real-time serving, seamless exploitation of VR/AR, customer-tailored notifications not only increases the functionality of the PSL platforms but also ameliorates the overall fan experience. The extra functions lead fans to have a closer and longer relationship with the platform.

PEOU: Perceived Ease of Use-- A user's ability to navigate PSL applications and digital channels efficiently — the entire process from registration to the receipt of live updates — is a crucial factor determining user engagement. A user-friendly platform improves user loyalty and therefore impacts the adoption rate positively.

BIU: Behavior Intension to Use-- Should consumers experience the PSL digital platforms as productive and user-friendly, they will more likely have a firm intention to keep using these platforms, which in return will cause an increase in digital participation and content sharing.

Fan-Involvement-- When the intention of a person relating to behavioral performance is convinced, it means that the person is expected to perform live streaming, be a part of the polls, and buy an e-

ticket thus leading to increased fan engagement which ultimately impacts PSL's money and brand worth in a positive way.

External Variables-- These consist of:

- Social Influence (peer encouragement, cultural norms)
- Facilitating Conditions (access to internet, smartphone availability, marketing promotions)

They make it easier for the relationships between PU/PEOU and BIU to happen. These outside aids power the approval of PSL's digital change.

Financial Yield-- The TAM3 model was not designed to cover financial outcomes but in our research, technology adoption (PU, PEOU → BIU → Use) has been broadened to measure the impact on PSL's financial performance through:

- Inflated volume of goods and tickets sold
- Revenues from ads due to digital views
- Recurring costs significantly lowered as a result of the transition to digital

Through TAM3, the research obtains a wide conceptual perspective to explain the adoption of digital interfaces by the PSL fans, and the contribution of this behavioral engagement on their financial and economic growth for the league.

3.13 Hypothesized Connection

We talk here about some common ways in which technology is assumed to help increase PSL, based on our research.

PU → Fan Engagement: As per TAM3, PU has a leading role in creating the user's behaviour towards digital tools. In PU, users feel confident that using a system can improve their work or offer benefits. In relation to PSL, the main point is that the electronic media that includes not only PSL apps, webdesk, and social-media channels are handy in the sense that they offer the fans easy access to things such as the game schedules, live performance, appears to be attractive for the fans. As long as the fans feel that using these platforms is able to improve their experience and maintain their connections, they tend to become more involved organically.

PEOU → Fan Engagement: Technology adaptance of the users may highly rely upon the ease and usefulness of the tools from the perspective of users. In relation to PSL and its followers, digital tools like smartphone apps, websites, or even immersive VR experiences is an important factor, which is very likely to be the subject of fan adoption. If people recognize the fact that these channels can give them the latest, in-time updates on the players, and the related scorecards, and new things that these channels offer, and also that they are easy to follow, then their intention to use the download of these digital tools will automatically be increasing. This view of user-friendliness minimizes encumbrances to involving users, thus drawing them to spend time interacting with the platforms and consequently with PSL content.

PU, PEOU → BIU: Fans are more likely to keep using PSL's digital tools — like apps and internet sites — if they find them helpful and easy to operate. When the portal offers realtime updates, match highlights, and other useful content, it increases its value in the eyes of fans. And if the platform is smooth and simple to use, it creates a better experience. The PU, PEOU as the primary determinant of BIU, which implies that PSL's fans will persist in the digital platforms use when they perceive the services not only beneficial but also user-friendly. Suppose a product or service is both valuable and easy, people will be inclined to use it even more and recommend it to other members of its target market. In the case of PSL, if the organization delivers its informational sources via digital services that are easily accessible to the fans, they will be engaged and the services will be used continuously by them. However, the direct effect on the combined PU and PEOU is significantly positive and the effect remains untarnished on the behavioral intention to be in line with the use of PSL's digital services.

Fan Engagement → Economic Growth: Technology has played a vital role in PSL on keeping their fans engaged. The fans through different applications, social media tools, or live connection can comfortably engage themselves and feel more connected. This inclusion can sometimes lead to authentic support such as buying tickets, merchandise, and subscriptions most of the time. Based on the model, people who are showed interest in PSL are in better position to make their contributions of the league economic yeild. A person who is following PSL updates on the internet and has a feeling of getting linked up is more likely to go to matches and purchase team gear. This is not only income enhancer but also serve a purpose of sponsors to join and have a portion of the people interacted with. well, when technology effectively increases the fan interaction, it also

increases the economic performance of the league—transforming fan involvement into the most important factor of PSL's financial prosperity in the long run.

External variables → BIU → Fan Engagement → Technology Adoption:

Regarding technology, it must be pointed out that the acceptance and use of innovation by end-users is a function of not only the utility and usability of the technology but also of some extrinsic variables. These are the availability of the wifi, the power the relevant people, and the advertising push. Under the condition that the external environment is conducive, it acts to reinforce the link between the way in which the supporters view the PSL's online channels and their purpose of using them. BIU boost fan involvement which leads to a rise in technology integration in the PSL, so that the aim to generate more finance is achieved.

3.14 Credibility of Research

To affirm the trustworthiness of this research, it is very important to carry out a clear and organized research process. This involves data gathering, examining of data, and representation of results that is organized and that follows a sustainable research path. A trustworthy study is one that has similar results in other participants or when the experiment is conducted again, the repetition of it would show comparable results of the research results which sustained the reliability. Considering this fact, the study seeks to ask questions and use correct procedure to find answers. Instruments and techniques used for data gathering are also chosen seriously to be in compliance with the study goals. Besides, the way of data results is rigorous according to correct standards- to ensure both the correctness and practicality of the conclusions. Here we elaborate the reliability of our research in each component:

3.14.1 Methodological Framework

Well Specified Questions

This study was initiated with crystal-clear research questions that were primarily intended for examining how digital advancement is impacted fan involvement, financial growth, and the wider economic impact of the PSL. These questions were the backbone of the research and helped to not go further than the focus of the study, which was extremely important in such cases.

Adopted Research Strategy

When it comes to a research design used in study, to a great extent, the choice of quantitative research is preferred. This is to match the research problems and at the same time to gain the right kind of data. It allows for collection of information about fan attitudes as well as other financial trends and the role of various economic elements on the PSL. In addition, this method of the research not only give better results, but it also strengthens the study's credibility, provides reasons for the approach, and at the same time accepts the limitations of the method used explicitly.

Sample Selection

In obtaining important information, 166 participants were involved in taking the survey. The approach we took to gather the data was convenience sampling. The sample was accurately chosen to involve people that are well-versed and very much into the cricket games and the PSL. This selection not only limited prejudices but also provide a much more accurate picture of the technology awareness and feeling by PSL fans and stakeholders.

Approach of Gathering Data

The online communication platform (Google-Forms) is used to collect the necessary data with features required for truthfulness and accuracy. We share the google form link with interviewed respondents, where all the asked questions had to be filled. The participants were attentive and exact to the point, and that helped to get the correct results which are also useful and successive. To be sure of the survey's relevance and reliability, the mock-testing step was performed for all the survey instruments to verify that the tools measured how and what they should measure, particularly, in the context of the digital tools, fan involvement, growth and economy within the PSL ecosystem.

Analysis Approach

For the purpose of this research, we utilized "Structural Equation Modeling" (SEM) aimed to show the relationship between digital transformation, fan involvement, user behavior and economic outcomes in the context of PSL. Given that these connections are intricate and account for both direct questionnaire answers and the propounding domain of ideas (for example, how useful the fans believe digital platforms to be), SEM has proved to be the most effective method to explore

the problem. SEM is a good method because it enables us to perform testing on many relations concurrently and at the same time considers the probable mistakes which have occurred in the obtained responses. It is a very efficient way using the so-called latent variable methods such as path-analysis and factor-analysis by which a research model may be developed and tested. SEM also provide not only overall model results but also provide in-depth feedback on how the model could be made more perfect.

3.14.2 Data Gathering

Data Recoding Procedure

The questionnaire that was utilized in the study was formulated in such a way that it would be clear, and very understandable for all the respondents. The English language was used for the survey to ensure that there were no misunderstandings by the respondents in their answers and that the interviews were consistent. The survey was presented to respondents through the Google-Form platform. They were made to answer the question from the first page, then on the next, and so forth until the last question before they were able to submit the survey.

Multi-Method Approach

To increase trustworthiness of the results, the research made use of primary and secondary sources. First hand data used structured surveys through google-form that were aimed at understanding the effects of digital transformation on the PSL faninvolvement, financial performance, and economic value. Also, secondary data were extracted from relevant PSL reports, publications by the Pakistan-cricketBoard (PCB), media reports, and academic-literature. This way of working has shown that the results are correct and articles provide an in-depth understanding of the issue.

Data Handling and Storage

One of my necessity for this thesis is the reliability of data storage. Indeed regular backups of data to external hard drive and cloud storage tools have been made so that data loss is eliminated. To provide security for sensitive information, strong passwords and encryption have been key elements. The data files are easy to find as they are labelled and any altering of them/changes are documented/recorded using the version control tool. The way the data is handled is all in

compliance with the institution's guidelines that WIHI has more strengthened security. These steps serve the purpose of protecting information as well as the final results are derived from the safe and secure data.

3.14.3 Data Analysis Method & Results Significance

To perform the SEM analysis in this study, we employ AMOS Graphics Verion 22, an add-on to SPSS program. We examine the data's numerous accuracy and dependability metrics. The measuring of the characteristics by the tools they were intended to perform ("Cronbach's-alpha") is one of the fundamental concerns of the questionnaire validation that it is meant to address. It resorts to a number of techniques such as "Cronbach's- α ", "Composite-Reliability" (CR) to calculate the internal consistency of the items or items of the same concept. We performed AVE (average-variation extraction). The primary goal was to determine whether the products were similar. An appropriate fit is indicated by a high AVE. To determine whether the various conceptions are actually the least correlated, the Fornell-Larcker's criterion is used in conjunction with the evaluations and cross-loaded items offered by AMOS. Not only does AMOS assess the appropriateness of the model's general good but it also check if the indicators are fit by using tools like chisquare, CFI, TLI, RMSEA, and SRMR. The method are helpful to us to identify the most fitted and reliable model results for our study. AMOS uses critical-ratio CR as the main method, which comparable to t-value. In the event that $CR > \pm 1.96$, it means that there is a strong statistical relationship between the variables when the level is set to 0.05 (95% confidence). Therefore, the test gives a robust proof that the associations are correctly captured in the model and are not random in nature. A CFI of 0.90 or more means the model fits the data nicely and a value of 0.95 or more suggests an outstanding fit. Similarly, the TLI is 0.90 or higher, this means the model fits well and 0.95 is seen as an even better result. These AMOS characteristics work together to help researchers properly validate their models and provide statistically accurate and relevant outcomes.

3.14.4 Documentation & Interpretation

Correct Reporting

A very clear and honest presentation of the data is ensured in the study through the use of clearly labeled tables, figures and charts. The findings are shred just as they are, minus any personal or wrong opinions, to keep the results the objective of the work. All results, whether they are predicted

or not, are shown. The study explicitly and adequately delineates its domain to guarantee veritable findings and also follows the guidelines safeguarding the research.

Outline the limitations

Identifying the limitations of a study is significant to indicate the trustworthiness and genuineness of the research. Over here, the constraints consist of few participants (only 166), using a lone diagnostic tool (qualitative), and either the collection or the analysis of data that is difficult. These issues may lead to the evidence having less generalizable strength or they may be partial to certain points. The limitations must be laid down in a manner that the audience can discern the credibility of the study. By drawing parallels with the difficulties faced in other similar studies, the researcher will be taken to a higher academic level.

3.15 Ethical oversights of research

The study uses out responsibly and ethically by carefully considering a number of the main ethical issues. Each participant was given ***informed consent*** to confirm if they were in full understanding of the aims, methods, potential hazards, and gains of the study before they made their decisions to take part—no one was forced to take part. The study placed the most emphasis on the ***Information security and privacy***, making sure all personal data was safe and secured and in particular during digital data processing. Careful measures were implemented to ***protect the participants from any harmful situations*** so the no mental, emotional or social problems were involved and the situation was especially true when the participants were expressing their view and behaviours as fans. Participants had an absolute ***right to discontinue to participate*** without even being asked for justification. The inquiry was accomplished with ***openness and integrity***, where every fact was described accurately and any constraints were admitted without any cover-up, in a very forthright manner. Finally, all ***conflicts of interest*** such as personal or professional relations with any PSL organization or peoples or teams of PSL were related to keep the study true to the core.

4 Research Findings

4.1 Participants Profile

The following are the most important points extracted from the data shown in Table 1.

Table 1: Demographic Information of Participants

| Factors | Category | Counts | % |
|-----------------|------------------------------------|--------|--------|
| Age | 15 – 24 | 77 | 46.4 |
| | 25 – 34 | 54 | 32.5 |
| | 35 – 44 | 24 | 14.5 |
| | 45 – 54 | 9 | 5.4 |
| | 55 or above | 2 | 1.2 |
| | | 166 | 100.00 |
| Gender | Male | 93 | 56 |
| | Female | 73 | 44 |
| | | 166 | 100.0 |
| Location | Urban | 113 | 68.1 |
| | Semi-Urban | 29 | 17.5 |
| | Rural | 24 | 14.5 |
| | | 166 | 100.0 |
| Occupation | Students | 72 | 43.4 |
| | Employed | 51 | 30.7 |
| | Self-Employed | 24 | 14.5 |
| | Unemployed | 7 | 4.2 |
| | Others | 12 | 7.2 |
| | | 166 | 100.0 |
| Education Level | No Formal Education | 2 | 1.2 |
| | | | |
| | Secondary (Matric/Intermediate) | 39 | 23.5 |
| | Bachelor's Degree | 79 | 47.6 |
| | Master's Degree or Above | 46 | 27.7 |
| | | 166 | 100.0 |
| Monthly Income | < 25,000 (PKR) | 54 | 32.5 |
| | 25,000 – 50,000 PKR | 48 | 28.9 |

| | | | |
|-------------------|----------------------|-----|-------|
| | 50,001 – 100,000 PKR | 42 | 25.3 |
| | > 100,000 PKR | 22 | 13.3 |
| | | 166 | 100.0 |
| PSL Fandom Level | Died Hard Fan | 89 | 53.6 |
| | Casual Fan | 69 | 41.6 |
| | New Fan | 8 | 4.8 |
| | Not a Fan | 0 | 00 |
| | | 166 | 100.0 |
| Smartphone Access | Yes | 164 | 98.8 |
| | No | 2 | 1.2 |
| | | 166 | 100.0 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

About 50% of the fans of PSL are people aged 15 to 24, followed by 32.5% of the respondents of the survey aged 25-34, and only 14.5% of people aged 35-44, which is indicating PSL fans are mostly young and are predominantly students or employees at the lower levels of their careers. As for gender distribution, the cluster is rather equal with a little more males (56%) than females (44%), from which we can deduce that PSL is beloved by both, but especially by men. From the results results, it is evident that many of the people are living in cities (68.1%), whereas a relatively lesser number of respondents are located in semi-urban (17.5%) or rural areas (14.5%). This could be a sign that people supporting cricket teams are particularly in cities, possibly because urban dwellers have more facilities to watch TV, the internet and live games. The list of professions points out that students are the most significant group (43.4%) and then those who are employed (30.7%) or entrepreneurs (14.5%). It is thus, to a large extent, the case that PSL fans are either studying or working.

As for the educational side, it turned out that almost half of the participants (47.6%) have a bachelor's degree, while over a quarter (27.7%) have one master's or another higher degree. Just a very small share (1.2%) of people do not have any formal education. Meaning, the PSL matches attract highly educated fans who most probably access digital platforms to keep in touch with the game. Different income levels are reflective in the fact that 33% receive no more than 25,000 PKR monthly and the remaining are distributed among raised levels. The data conveys that PSL supporters of various situations.

The data from the survey show that 53.6% of the total number of fans see themselves as real PSL fans, while 41.6% are more casual and only a few (4.8%) have just joined. It was quite clear that no one denied being a fan of the league at all, indicating a strong degree of overall interest. Besides, the results says that almost everyone (98.9%) has a smartphone which is a very good opportunity to reach out to fans through mobile applications and websites.

4.2 Digitally Connecting with PSL Fans

Table 2: Digital Fan Involvement and Audience Satisfaction in PSL

| Questions | Category | Counts (%) |
|--|-------------------|------------|
| How frequently do you keep up with the PSL? | Never | 3 (1.8) |
| | Regularly | 70 (42.2) |
| | Occasionally | 56 (33.7) |
| | Rarely | 37 (22.3) |
| Which online channels do you use to interact with PSL? | You Tube | 90 (54.2) |
| | Facebook | 42 (25.3) |
| | Instagram | 31 (18.7) |
| | TikTok | 25 (15.1) |
| | Twitter | 11 (6.6) |
| | PSL Mobile Apps | 102 (61.4) |
| | Streaming Apps | 122 (73.5) |
| | Others | 31 (18.7) |
| What is the overall quality of digital content provided by PSL? | Excellent | 52 (31.3) |
| | Good | 73 (44.0) |
| | Average | 30 (18.1) |
| | Poor | 2 (1.2) |
| | Very Poor | 9 (5.4) |
| What is your satisfaction level with the live streaming highlights of matches? | Very Satisfied | 42 (25.3) |
| | Satisfied | 79 (47.6) |
| | Neutral | 38 (22.9) |
| | Dissatisfied | 2 (1.2) |
| | Very Dissatisfied | 5 (3.0) |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

The results indicate that the highest number of interviewees participating in the study are ordinary viewers of the PSL – 42.2% of them always watch it, and 33.7% follow it from time to time. A little minority of the respondents (22.3%) almost do not watch it, whereas merely 1.8% stated they never do so. This is a clear sign of the majority of the interviewees being in some way the league's fans. As far as interactive platforms for PSL are concerned, the streaming apps have proven to be the most popular gathering 73.5% of the people interviewed. The mobile apps of PSL are also very popular among the users (61.4%), with YouTube at the next position (54.2%). This is followed by Facebook (25.3%), Instagram (18.7%), TikTok (15.1%), Twitter (6.6%), and other sources, which remain 18.7% all combined. These findings indicate that most of the hits of PSL's digital media come from visual and mobile categories.

Asked for their opinion on the quality of digital content that PSL was providing, 44% of the people called it "Good," and 31.3% graded it as "Excellent," so they could be said to have a generally positive perception of its quality. Nevertheless, 18.1% thought it was only average, and a minor part (6.6%) mentioned it as poor or very poor. In terms of enjoyment with live streaming highlights, almost 47.6% of those surveyed said that they were satisfied and 25.3% stated that they were very satisfied. There were quite a few (1.2% dissatisfied, 3% very dissatisfied) who expressed dissatisfaction, whereas 22.9% were indifferent. It can be concluded that the cricket tournament's audience is hugely satisfied with live video distribution.

4.3 Assessment of Quality Indicators

4.3.1 R²-Results

Table 3 presents the R-squared values explanation that refers to the extent this set of the variables that are tested taken together is sufficient good for explaining the differences in the variable the consequences that we are looking at (Hair et al., 2017). It conveys to us the extent that the input variables are capable of predicting the output.

Table 3: R-Square Output

| Factors | R ² | Adjusted-R ² |
|--------------------------------|----------------|-------------------------|
| PU—Perceived Usefulness | 0.584 | 0.574 |
| PEOU—Perceived Ease of Use | 0.817 | 0.812 |
| BIU—Behaviour Intension to Use | 0.821 | 0.817 |
| Fan-Involvement | 0.841 | 0.837 |
| Economic Growth | 0.731 | 0.724 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

The results found that Fan-Involvement was the most strongly connected to the other elements and could explain 84.1% of its changes. Consequently, the chosen variables allow us to accurately forecast the level of fan involvement. In second place came BIU, as the model explained 82.1% of the intention to use a given platform or service. Here, we see PEOU had a very strong link too, with 81.7% of its overall score being predictable. Economic-Growth followed a strong but less than expected link—the model could explain 73.1% of its movements. The weaker of the relationships was found between the variable PU and the other predictor variables, as its variance was explained by 58.4%.

4.3.2 Choen's f^2 Effect Size

F-squared is a tool employed to find the importance of each independent variable in any given model. SEM and linear regression allow us to know how much a variable impacts the dependent variable when used in a single model. In short, it documents the role a certain factor plays in improving the overall model. As we see in Table 4, the R-squared values indicate how much the changes in the dependent variable can be explained by all the independent variables together (Hair et al., 2017).

Table 4: *f-square matrix*

| | Fan Involvement | PU | PEOU | BIU | EG | EF(PP) | EF(CF) | EF(MI) | EF(ES) |
|-----------------------|-----------------|------|-------|-------|------|--------|--------|--------|--------|
| Fan Involvement | | | | | 0.60 | | | | |
| External Factors (PP) | | 0.03 | 0.375 | 0.306 | | | | | |
| External Factors (CF) | | 0.06 | 0.112 | 0.109 | | | | | |
| External Factors (MI) | | 0.08 | 0.525 | 0.109 | | | | | |
| External Factors (ES) | | 0.04 | 0.033 | 0.025 | | | | | |
| PU | 0.249 | | | | | | | | |
| PEOU | 0.281 | | | | | | | | |
| BIU | 0.054 | | | | | | | | |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

It is revealed by the analysis that how easy fan involvement technology is to use and how valuable it appears have the greatest impact on Fan-Involvement. Both factors had only a modest influence (0.281 and 0.249 respectively), suggesting they help influence how much fans engage. BIU plays only a minor part (0.054) in explaining fan involvement among sports fans. Analysis of external factors found that Marketing-Influence has the strongest impact on fans' opinions of the technology (with an effect size of 0.525). Because of this, marketing efforts play a big role in how useful users see the apps to be. Our results revealed that people's technology decision-making depends on what others are or are not doing. Nevertheless, the impacts of Cultural and External Support were moderately to very small on all constructs. The effect Cultural factors had on technology adoption (PU & PEOU) was limited (0.112 and 0.109) and similarly, External-Support had a very small effect on both (0.033 and 0.025). In general, how easy a brand is to use and whether it is considered useful help promote involvement much more than social or peers' opinions. Conversely, cultural and support-related elements seem to play a small role.

4.3.3 Reliability-Validity Measures

Table 5 reveals that the tools applied in this study are creditable and accurate. Every construct showed solid internal-consistency, with Cronbach's- α scores more than the number most people agree (>0.70) indicates acceptable internal consistency (Taber, 2018). Among the measures, PEOU has the highest reliability (Alpha and CR are both 0.929), followed closely by both PU and BIU. As a result, the tools used to assess these constructs tend to be very similar in their measurements. Fan Involvement demonstrates excellent stability (Alpha = 0.876, CR = 0.892), proving that involving fans is measured accurately. Economic Growth slightly misses the ideal reliability, but it is still acceptable at (Alpha = 0.723, CR = 0.766).

Table 5: Reliability-Validity Results

| | Cronbach's Alpha | Composite Reliability (CR) | AVE (Average variance-Extracted) |
|--|------------------|----------------------------|----------------------------------|
| Fan Involvement | 0.876 | 0.892 | 0.675 |
| PU | 0.910 | 0.914 | 0.640 |
| PEOU | 0.929 | 0.929 | 0.754 |
| BIU | 0.913 | 0.913 | 0.6411 |
| Economic Growth | 0.723 | 0.766 | 0.637 |
| External Factors (Peer Pressure) | 0.859 | 0.858 | 0.548 |
| External Factors (Cultural Factors) | 0.846 | 0.849 | 0.654 |
| External Factors (Marketing Influence) | 0.922 | 0.923 | 0.690 |
| External Factors (External Support) | 0.901 | 0.902 | 0.648 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

For convergent-validity checked by AVE, the majority of constructs have results greater than or equal to the suggested 0.5 (Cheung et al., 2024). In this context, over half the change in the indicators can be linked to the latent construct. The results demonstrate that PEOU (AVE = 0.754) and Fan Involvement (AVE = 0.675) were strongly confirmed by convergent validity. Yet, External Factors – Peer Pressure has a lower AVE of 0.548, showing that the indicators do not reflect this construct as well as they should, but it can still be acceptable. On the whole, the model used in the research tells us that the measurement is both accurate and dependable. Most constructs are

strongly reliable and express the intended theoretical concept satisfactorily. Because of this, we can use these elements for more structural analysis with confidence.

4.3.4 Fornell-Larcker-criterion Validity

Differential validity among the various constructs was assessed using the "Fornell-Larcker criterion" in this study. Each variable measures something separate because of the property of discriminant validity. When applying this standards, a construct should share more variability with its own markers than with others and this is shown when the \sqrt{AVE} is greater the correlations it has with other constructs (Fornell and Larcker, 1981).

Table 6: Fornell-LC Validity

| Construts | PU | PEOU | BIU | FI | EF(PP) | EF(CF) | EF(MI) | EF(ES) | EG | \sqrt{AVE} |
|-----------------------|-------|-------|-------|-------|--------|--------|--------|--------|----|--------------|
| PU | | | | | | | | | | 0.800 |
| PEOU | 0.778 | | | | | | | | | 0.868 |
| BIU | 0.778 | 0.800 | | | | | | | | 0.801 |
| Fan Involvement | 0.716 | 0.760 | 0.805 | | | | | | | 0.822 |
| External Factors (PP) | 0.687 | 0.729 | 0.701 | 0.739 | | | | | | 0.740 |
| External Factors (CF) | 0.586 | 0.674 | 0.721 | 0.772 | 0.754 | | | | | 0.809 |
| External Factors (MI) | 0.672 | 0.753 | 0.744 | 0.828 | 0.787 | 0.739 | | | | 0.831 |
| External Factors (ES) | 0.691 | 0.725 | 0.718 | 0.722 | 0.703 | 0.623 | 0.759 | | | 0.805 |
| Economic Growth | 0.694 | 0.753 | 0.702 | 0.662 | 0.709 | 0.532 | 0.681 | 0.731 | | 0.798 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

All of the constructs listed in the table have AVE higher than their correlations (in off-diagonal elements). Illustratively, the correlation of PU with PU (\sqrt{AVE} for PU) is 0.800, outstripping the correlations with BIU (0.778) and PEOU (0.778). In the same way, EG's \sqrt{AVE} is 0.798, bigger than both its correlation with PEOU (which is 0.753) and its correlation with EF-ES (which is 0.731). Based

on the criterion, these results imply that the model's constructs are each quite different from one another.

4.3.5 MultiCollinearity Diagnosis through VIF & Tolerance

The information in Table 7 indicates that multicollinearity should not be a severe concern for any of the independent variables used in the model. All the VIFs are smaller than 5, so the variables can be used confidently in the analysis since they do not correspond that much. The Tolerance values are also all above 0.20 which shows that each variable gives different information too. The VIF is greater than 10 or the Tolerance is less than 0.10, there is cause for concern, but not here (Hair et al., 2017). Thus, there is no risk of multicollinearity for this model, so the findings can be understood accurately.

Table 7: MultiCollinearity Results

| Construts | Collinearity Statistics | | Construts | Collinearity Statistics | |
|-----------|-------------------------|-----------|-----------|-------------------------|-----------|
| | VIF | Tolerance | | VIF | Tolerance |
| PU1 | 1.606 | 0.623 | FE1 | 2.732 | 0.366 |
| PU2 | 1.960 | 0.510 | FE2 | 3.832 | 0.261 |
| PU3 | 1.694 | 0.590 | FE3 | 3.549 | 0.282 |
| PU4 | 2.864 | 0.349 | FE4 | 2.610 | 0.383 |
| PU5 | 2.837 | 0.352 | FE5 | 2.435 | 0.411 |
| PU6 | 2.462 | 0.406 | FE6 | 3.412 | 0.293 |
| PU7 | 2.657 | 0.376 | FE7 | 3.259 | 0.307 |
| PU8 | 2.783 | 0.359 | FE8 | 2.087 | 0.479 |
| PU9 | 2.930 | 0.341 | FE9 | 1.054 | 0.949 |
| PU10 | 2.021 | 0.495 | FE10 | 1.068 | 0.936 |
| PEOU1 | 2.066 | 0.484 | EF (PP1) | 1.949 | 0.513 |
| PEOU2 | 2.754 | 0.363 | EF (PP2) | 2.110 | 0.474 |
| PEOU3 | 3.034 | 0.330 | EF (PP3) | 1.915 | 0.522 |
| PEOU4 | 2.370 | 0.422 | EF (PP4) | 1.988 | 0.503 |
| PEOU5 | 2.093 | 0.478 | EF(PP5) | 2.054 | 0.487 |
| PEOU6 | 2.052 | 0.487 | EF (CF1) | 1.746 | 0.573 |

| | | | | | |
|--------|-------|-------|----------|-------|-------|
| PEOU7 | 2.875 | 0.348 | EF (CF2) | 2.312 | 0.433 |
| PEOU8 | 2.337 | 0.428 | EF (CF3) | 2.400 | 0.417 |
| PEOU9 | 2.520 | 0.397 | EF (MI1) | 1.973 | 0.507 |
| PEOU10 | 2.059 | 0.486 | EF (MI2) | 3.234 | 0.309 |
| BIU1 | 2.335 | 0.428 | EF (MI3) | 3.188 | 0.314 |
| BIU2 | 3.198 | 0.313 | EF (MI4) | 3.420 | 0.292 |
| BIU3 | 2.711 | 0.369 | EF (MI5) | 3.298 | 0.303 |
| BIU4 | 2.454 | 0.407 | EF (MI6) | 2.283 | 0.438 |
| BIU5 | 2.517 | 0.397 | EF (ES1) | 2.185 | 0.458 |
| BIU6 | 2.012 | 0.497 | EF (ES2) | 2.843 | 0.352 |
| BIU7 | 2.359 | 0.424 | EF (ES3) | 2.315 | 0.432 |
| BIU8 | 2.509 | 0.399 | EF (ES4) | 2.564 | 0.390 |
| EY1 | 2.242 | 0.446 | EF (ES5) | 2.836 | 0.353 |
| EY2 | 2.527 | 0.396 | EY6 | 2.146 | 0.466 |
| EY3 | 2.262 | 0.422 | EY7 | 1.089 | 0.919 |
| EY4 | 2.503 | 0.399 | EY8 | 1.046 | 0.956 |
| EY5 | 2.704 | 0.370 | EY9 | 1.115 | 0.897 |
| | | | EY10 | 1.054 | 0.949 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

4.3.6 Model Performance

Many standard indices were used to evaluate how well the structural model-fit and then it was compared to the independence model that assumes no ties between the variables.

Table 8: Model Fit Indices for Structural Model

| Fit Index | Estimated model = Default Model | Independence model |
|-------------------|---------------------------------|------------------------------|
| Chi-square (CMIN) | 5817.520 (P-value = 0.000) | 11451.975 (P-value=0.000) |
| CMIN/DF | 2.713 | 5.180 |
| RMSEA | 0.040 | 0.058 |

| | | |
|------------|-------|-------|
| GFI | 0.945 | 0.950 |
| TLI (NNFI) | 0.950 | 0.989 |
| IFI | 0.965 | 0.990 |
| NFI | 0.952 | 0.982 |

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

As results shown in table 8, the Chi-square value for the estimated model was 5817.520 ($p < 0.001$) which is significantly less than that of the independence model (11451.975), meaning the estimated model fits the data more perfectly. Since the CMIN/DF (Chi-square divided by degrees of freedom) for the estimated model is 2.713 and below 3 (Carmines & McIver, 1983, Page 80), the model appears to fit well. On the other hand, the independence model turned out to be a poor fit because its CMIN/DF was 5.180.

Researchers relied on the "Root Mean Square Error of Approximation" (RMSEA) to assess how close the model was to the data. A general rule is that when the RMSEA is below 0.05, the model adequately explains the data (Browne & Cudeck, 1992). The RMSEA= 0.40 for the estimated model, which shows a very good fit. In contrast, the independence model had an RMSEA = 0.058 which is somewhat higher than the other models and counts as acceptable but less than ideal. In other words, the estimated model explains the data much better than the independence model.

A Goodness of Fit-Index (GFI = 0.945), means the model fits very well with the data compared to the common standards. A GFI close to 1.00 shows that most of the changes and relationships in the data are accounted for by the model (Tanaka & Huba, 1985). The independence model had a GFI of 0.950 which is higher, though it does not matter since this model assumes no links between variables and is typically applied for comparison. What's important is that GFI at 0.945 implies the model explains the data's structure well and supports why the model is adequate.

By using the "Tucker-Lewis Index" (TLI) which is the same as the "Non-Normed Fit Index" (NNFI), you can judge how well the model fits while considering the complexity of the data. TLI for the estimated model equaled 0.950 and this exceeds the standard cut-off of 0.90 which reflects a strong

and reliable fit. If the TLI number is close to 1.00, it shows that the model does not overfit the data it tries to explain (Bentler & Bonett, 1980). The independence model had a TLI of 0.989, but this is not better because it reflects no improvement over the baseline model. A TLI value of 0.950 for the estimated model shows that the model is not too fit or too simple which supports its usefulness for explaining the connections among variables.

The IFI "Incremental Fit Index" model fit check compares the estimated model to a standard baseline (often the independence model) and takes into consideration how complex the model is. The IFI value is 0.965, much higher than 0.90 (Bollen, 1989). This reflects a very good match between data and estimates. So, the model is able to explain the data much more accurately than a model that ignores all relationships between variables.

The "Normed Fit Index" (NFI) measures how the fitted model compares to the baseline model that assumes no connections among the variables. The model fits very well, since its NFI value is above the accepted threshold of 0.90 (Bentler & Bonett, 1980). Therefore, the estimated model does a much better job of fitting the data than the null model. Whereas the independence model has an NFI = 0.982, using it is not considered a meaningful alternative model. The important part is that with an NFI = 0.952, the estimated model is considered an accurate and proper way to describe the data. In general, the results from fit indices support using the model to study and analyze the connections between the variables.

4.4 SEM Results

The table 9 provides the results of path-analysis in the structural-model, highlighting the relationships between the main latent variables in your study. Regression values (B), estimated errors around these values (S.E.), ratios (C.R./t-values) and p-values are used to determine if the paths are significant statistically.

Table 9: Path Co-efficients Output

| Path | Estimate (B) | S.E | C.R | P-value |
|--|--------------|-------|-------|------------|
| Technology Adaption (PU)>>Fan Involvement (H1) | 0.492 | 0.102 | 4.826 | < 0.001*** |
| Technology Adaption(PEOU)>>Fan Involvement (H2) | 0.775 | 0.101 | 7.663 | < 0.001*** |
| Technology Adaption(PU)>>BIU (H3) | 0.475 | 0.100 | 4.733 | < 0.001*** |
| Technology Adaption(PEOU)>>BIU (H3) | 0.771 | 0.096 | 8.001 | < 0.001*** |
| Fan Involvement>>Economic Growth (H4) | 0.636 | 0.103 | 8.399 | < 0.001*** |
| External Factors (PP)>> Technology Adaption(PU) (H5) | 0.160 | 0.057 | 2.986 | 0.003** |
| External Factors (PP)>> Technology Adaption(PEOU) (H5) | 0.166 | 0.076 | 2.195 | 0.028* |
| External Factors (CF)>> Technology Adaption(PU) (H5) | 0.214 | 0.095 | 2.254 | 0.024* |
| External Factors (CF)>> Technology Adaption(PEOU) (H5) | 1.271 | 0.138 | 9.224 | < 0.001*** |
| External Factors (MI)>> Technology Adaption(PU) (H5) | 0.360 | 0.087 | 4.118 | < 0.001*** |
| External Factors (MI)>> Technology Adaption(PEOU) (H5) | 1.316 | 0.143 | 9.213 | < 0.001*** |
| External Factors (ES)>> Technology Adaption(PU) (H5) | 0.166 | 0.076 | 2.195 | 0.028* |
| External Factors (ES)>> Technology Adaption(PEOU) (H5) | 1.035 | 0.128 | 8.068 | < 0.001*** |

*p-value significant < 0.05 level

**p-value significant < 0.01 level

***p-value significant < 0.001 level

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

Technology-Adoption and Fan-Involvement

According to the study, the more someone believes PU to be useful, the higher their involvement as a fan ($\beta = 0.492$, $t = 4.826$, $p < 0.001$). So, if fans find technology helpful, they tend to be more involved with it. Also, how easy the system is to operate (PEOU) affects fan involvement to a larger extent ($\beta = 0.775$, $t = 7.663$, $p < 0.001$), pointing out that making the system user-friendly results in

more active fan behavior. They confirm that the adoption of new technology is an important factor in exciting fans.

Technolog-Adoption & Behavioral-Intention to Use (BIU)

Both the effect and significance of perceived usefulness on behavioral intention to adopt are very strong (officially: $\beta = 0.475$, $t = 4.733$, $p < 0.001$). Likewise, how difficult people feel the system is to use plays a major role in their intention to use ($\beta = 0.771$, $t = 8.001$, $p < 0.001$), proving that easy navigation is essential for getting people to use the system. All of these relationships make clear that technology is more likely to be adopted when it is practical and user-friendly.

Fan-Involvement and Economic-Growth

There is a notable and meaningful link between how involved fans are and the rate of economic growth ($\beta = 0.636$, $t = 8.399$, $p < 0.001$). So, more intense fan engagement may increase a sports team's income or their success in financial matters. This shows that organizations should work on involving their fans since it helps them succeed financially.

External-Factors and Technology-Adoption

It further investigates how aspects outside the business may influence an employee's feelings about how easy tech is to use and how useful it is. *Social pressure* has a measurable yet small influence on both PU ($r = 0.16$, $p = 0.003$) and PEOU ($r = 0.166$, $p = 0.028$), so it can play a role in shaping views of technology. It is evident from the analysis that *cultural factors* (CF) relate strongly to PU at medium strength ($\beta = 0.214$, $t = 2.254$, $p = 0.024$) and to PEOU at very strong strength ($\beta = 1.271$, $t = 9.224$, $p < 0.001$), demonstrating that users feel more comfortable and can use the system with greater ease when cultures match.

Strong marketing efforts (MI) affect PU ($t = 4.118$, $p < 0.001$) and PEOU ($t = 9.213$, $p < 0.001$), demonstrating that successful marketing campaigns shape how users feel about using technology. *Support* from others outside the organization (ES) increases the likelihood and use of a product or service (PU) by 16.6% and it has a very strong impact on how easy it is to use (PEOU). This indicates that help desks, instructional materials and user guides support people in using technology much more effectively.

On the whole, the analysis indicates that the structural-model is strong, because most relationships between variables were shown to be significant. PEOU always proves to be a leading indicator of how involved a fan is and how much they want to use the service and the impact of external features like marketing and support on technology perception is substantial.

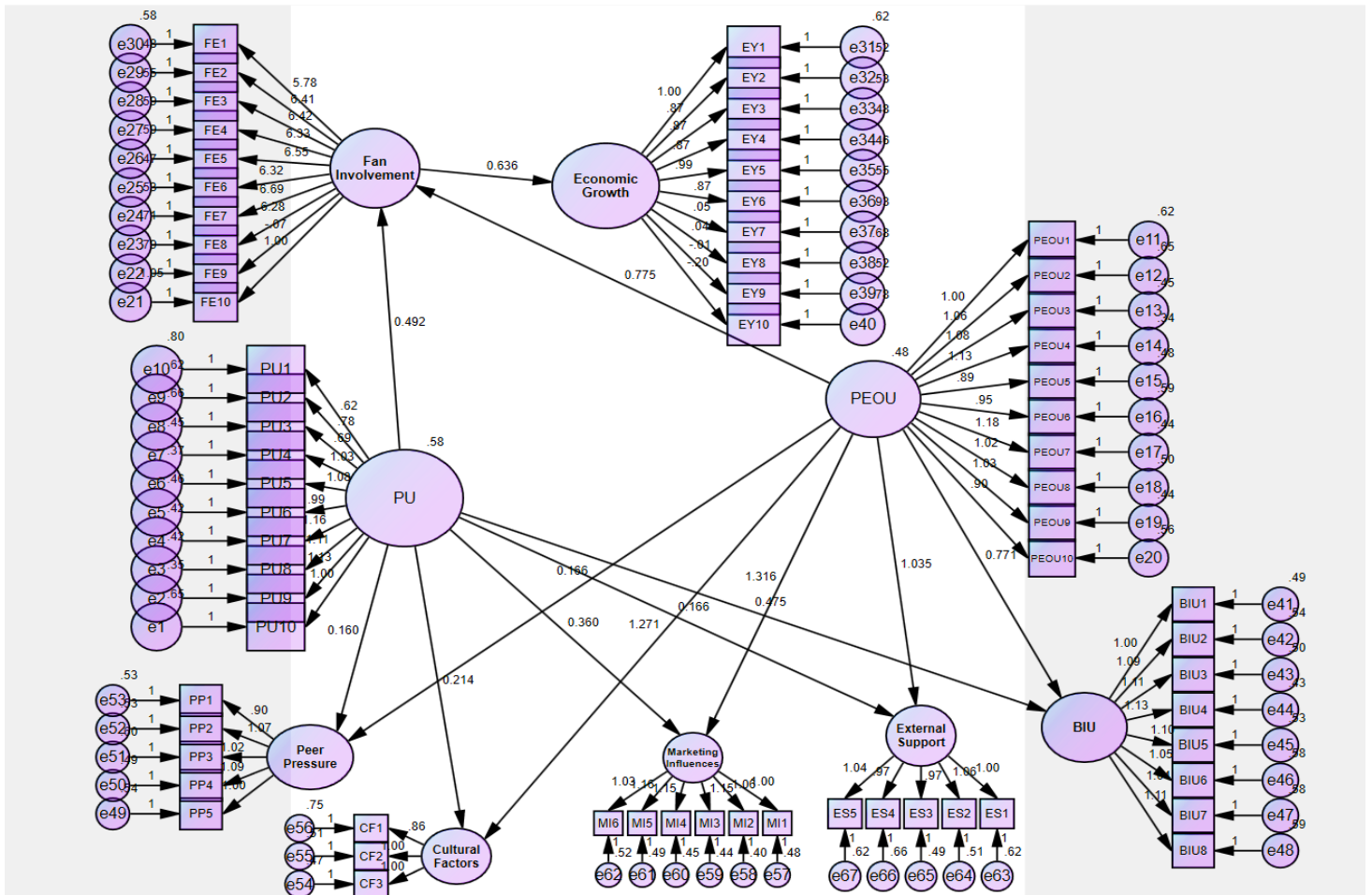


Figure 10: SEM (Structural Equation Modeling) Path

Note: Data were analyzed using AMOS (Version 22; Arbuckle, 2013)

The model in figure 10, various social, cultural and economic factors are shown to affect a person’s behavioral intention to use a specific system, possibly used in the context of fandoms or entertainment. The results illustrate how much fan Involvement matters, as it positively affects economic growth, PU and particularly PEOU the strongest of all the relationships, with the highest path coefficient at 0.775. It means that when people are more involved, they view the system as both more helpful and simpler and they also help to boost the economy. Several other things, including influence from friends, culture and advertisements, also determine PU, meaning social

and marketing inputs greatly affect it. PEOU is affected by fan interest as well as by economic and infrastructural conditions and it is also drawn indirectly by how much people like PU, as those who enjoy using it usually also find it easy to use. Both PU and PEOU help determine BIU and PEOU affects BIU more directly. This underlines that how easy the system is to operate encourages more individuals to decide to use it. Overall, the theory suggests that social participation, special attention to culture and user-centered design supports users in being willing to accept and adopt new technologies.

4.5 Findings Related to Hypothesis

Looking at our proposed hypothesis related to technology adoption in PSL. We can check what results show for each hypothesis:

H1: A positive view of digital technology's usefulness increases fan involvement in PSL.

The data available shows good support for the hypothesis. There is a significant path coefficient, $\beta = 0.492$, between the PerceivedUsefulness (PU) and the FanInvolvement (FI) variables and its p-value is less than 0.001. So, if fans accept digital tech as valuable, they often take part in various PSL digital activities.

H2: User-friendly digital platforms lead to higher fan engagement in the PSL.

It is the hypothesis that is backed up by the most evidence in the model. The path between PEOU and Fan-Involvement is very strong ($\beta = 0.775$) and it is significant ($p < 0.001$). This shows that how easy the platforms are to use is a key reason why fans want to take part—if they are user-friendly, the engagement of fans will soar.

H3: Utilizing PSL's digital services positively affects fans' behavioral intention to continue using these platforms.

BIU is greatly influenced by both PU and PEOU. There is a moderately strong and statistically significant relationship between predominance recognition (PU) and use of the first person (BIU)

with $\beta = 0.475$ and $p < 0.001$. The model β is 0.771 and the result is highly significant ($p < 0.001$), suggesting that fans will keep using PSL's online platforms when they are both useful and easy for them.

H4: Technology that boosts fan involvement has a positive effect on PSL profit growth and increase in financial returns.

The effect Fan-Involvement has on Economic-Growth is very significant, with a β value of 0.636 and $p < 0.001$. Therefore, digital platforms can greatly help PSL succeed financially and economically when fans engage more with the league.

H5: Extrinsic factors and easy access to the internet help strengthen the link between accepting technology and using PSL's digital platforms.

It is now clear that the study results show that external environmental and social factors strongly impact the use of PSL's digital tools. Peer-Pressure (PP), Cultural-Factors (CF), Marketing-Influence (MI) and External-Support (ES) all have a positive and significant effect on PU as well as PEOU. In other words, marketing has a powerful influence on PU ($\beta = 0.360$, $p < 0.001$) and PEOU ($\beta = 1.316$, $p < 0.001$) and culture likewise has a significant effect on PU ($\beta = 0.214$, $p = 0.024$) and a stronger one on PEOU ($\beta = 1.271$, $p < 0.001$). How useful and simple users think the platforms are also depends on their friends' influence and support they get from others. This indicates that factors such as society's views, cultural support, effective promotions and simple tools (like the internet) are vital in shaping how fans use PSL technology.

Overall the results shows when people accept and adopt new technology and are encouraged by the culture around them, fan engagement rises, fans use digital tools more and this supports the PSL's economy. It reveals that when a platform is easy-to-use, useful and matches the culture of fans while receiving strong marketing and external support, this helps maximize their involvement and ensures the digital approach is successful over time.

5 Discussion

5.1 Understanding the Findings

We have learned through this study how digital platforms affect fans, their plans to use these platforms again and the monetary success of the PSL. The (TAM3) is presented in the study and the findings suggest that fans are more inclined to use and keep using platforms when they find them to be both easy and meaningful. In sports and entertainment, engaging fans helps create excitement and also plays a big part in the league getting more fans, attention and money.

Apparently, how *easy an app is to use* plays the largest role in how much fans engage with it. When PSL makes their apps, live streaming and interactive features user-friendly, fans are more likely to keep engaged with the sport. Basically, if it is easy for fans to join in and enjoy these digital services, they feel more welcomed and enjoy themselves, whatever their situation. It seems that fans keep coming back to PSL's digital platforms once they see the value in them such as getting live information, inside looks or exclusive items. It underlines how important it is for fans to believe a game is *useful* to driving their loyalty and involvement. Still, it was found that how user-friendly the site is is more important than design. Fans are looking for ease of use in navigation and not so much for advanced features. When a TV experience runs smoothly, fans want to come back instead of extra features.

The economy relies heavily on fans being a part of it. Digital fan interaction matters more to the organizers and staff since it is a way for the team to make money. Joining events, buying official things and accessing special features on the internet generates more income for the league. Clearly, the use of digital services helps fans, but it is also a major factor in the league's *financial growth*. Research highlights that point of view of researchers says: Peer pressure, cultural values, marketing trends and outside support are important influences on people's use of technology. This means that both PU and PEOU depend on these aspects, so the role of social and environmental contexts is clear. Good examples include sharing local cultural beliefs in messaging, launching successful ad campaigns and setting up online communities or internet access for fans, all of which improve how PSL fans use technology. With these external factors, the digital platform becomes more familiar to people as it fits into their daily lives.

The evidence makes it clear that using technology is driven by factors such as help from community members, being connected online and culture. Supporters tend to keep using digital services when they are introduced by channels they recognize and can relate to. So, technology here acts as a bridge for communication and as a source of progress.

All in all, the study shows how fan behavior, technology and other factors work in combination to affect change in sports entertainment online. The findings in this research guide stakeholders on making better, engaging and long-lasting digital experiences. They show how fans use digital tools and also suggest improved future strategies that consider new ideas, fairness and a good impact for profit.

5.2 Theoretical Contribution

TAM Extension with Contextual Variables

This shows that the known theory of Technology-Adoption (TAM) can be applied to digital involvement in professional sports like the PSL. It confirms that *ease of use* heavily affects a fan's intentions to stick to using PSL's digital services and made them more interested in the platforms. The research goes on to show that cultural pressure, peer groups and marketing can affect PU and PEOU, then these can also indirectly affect how involved fans become. Thus, TAM is seen more broadly, so that environmental and social aspects impact acceptance just as much as how a person thinks about technology.

Exploring Fan Involvement in Digital Sports Era

It adds to the small amount of research on how people engage as sports fans in Pakistan. The analysis of how digital platforms change how fans interact with sports teams highlights how big a role technology plays in current fandom. According to the research, fans pay attention to how easy and meaningful it is to use digital services, not just to their technical features which helps maintain their loyalty and involvement with the sports team.

Holistic to Technology & Social Integration

It suggests that embracing technology needs to be seen as guided by social networks, cultural factors and marketing activities. While the standard TAM factors (PU and PEOU) are still significant, this research finds that belonging, peer advice and connecting sport with national identity are much bigger contributors to ongoing acceptance. It means that successful digital strategies in sports management must be connected with culture, socially engaged and use the latest technology.

5.3 Applied Implication

Optimizing User Experience for Fostering Fan Involvement

Based on the findings, it would benefit PSL teams and organizers to ensure that their digital tools are user-friendly, can be used without difficulty and are accessible to many. Focus on ease of use is essential for fan involvement and repeat usage, so improving the user interface, mobile responsiveness and making sites easier to use will help attract more fans. Improving technology for users is more than a technical matter; it also helps raise engagement, loyalty and profits for a company.

Incorporating Socio-Cultural Context in Digital Planning

Peer influence, staying relevant to the culture and catering to local groups must all be part of any marketing and fan strategies. Fans are usually willing to try and keep using digital services when they fit with their social self, are backed by their entourage and show national or regional ties. Local cultural information, options to switch to the local language and community-based initiatives can make PSL digital platforms more attractive and interesting to fans.

Catalyst for Economic Growth

It was found that fan involvement plays a big role in boosting the economy. So, PSL and its partners can benefit from technology to both entertain fans and gain money through selling merchandise, offering unique content, handling ticket sales and providing virtual experiences. Using digital tools well, the league can introduce more ways to earn money that can be used to support cricket development in the country.

Authentic Involvement as pillar of Strategic Marketing

Experts in marketing PSL should realize that other things besides promotions and high volume of content affect the level of engagement. In this case, teams should arrange enjoyable events, for example polls, fantasy leagues and unique peeks behind the scenes, to let fans participate. They change uncommitted followers into people who actively back the brand.

5.4 Strategic Guidance for Stakeholders

PSL Administration and Organizing Committee

PSL management should make their websites and apps quick, user-friendly and attractive to maintain a strong connection with their fans. We found that if fans find these platforms easy to use, they tend to stick around and keep coming back. Live stats, chatting with fans, allowing them to vote and granting digital collectibles can make online PSL matches more enjoyable. Fun, interactive features can turn an ordinary visit to the league's website into an unforgettable time, increasing fan loyalty and inviting them to go back again.

PSL Franchise Team

Franchise teams can increase how loyal their fans are by posting content that is personal and unique to them. When teams show special footage, highlights and messages, it helps fans feel very attached to them. Taking into account the local culture can draw more involvement, for example by adding regional languages, music and typical customs to your digital content. When teams represent their fans well, fans enjoy and find the experience more special and fulfilling all across the country.

Marketing & Media Teams

Involving different social groups and local practices can strengthen fan loyalty which marketing and communication teams can help with. Inviting friends to take part, prompting them and posting items online are ways to engage the brand's fans and expand the online group. Possibly reaching out to spokespersons with strong recognition can convince supporters to use PSL's digital tools. Also, making sure answers are easy to follow with tutorial videos or quick FAQs helps those who are not as confident using technology. As a consequence, people feel increasingly welcomed and interested in using the internet.

Technology Collaborators

Good performance of PSL's digital services depends on technology teams and developers playing their roles well. Big matches should not cause the platforms to slow down or freeze, since lots of users will try to access them at once. Because slow internet connections exist, the app should function well wherever people are. Feedback from fans matters as much as the development side—regular surveys help designers update and increase the features players look for. Because of this, the platform stays interesting, user-friendly and makes sure fans keep enjoying it.

Policy Makers & Institutional Sports Authorities

Making more fans involved can be made easier when policy makers and sports officials enhance services online. Working with schools, colleges and community groups lets them educate people on using digital platforms and explain the advantages of keeping up with sports online. Hence, they have the ability to boost the overall digital sports economy through putting money into online infrastructure and new technology startups. By doing this, merch sellers and content creators gain new support, new job positions appear in cricket and cricket fans remain involved more easily.

Sponsors & Investors

Being linked with PSL's digital strategy is better for sponsors and investors. Apart from their banner ads, brands are able to organize enjoyable experiences for fans such as putting together quizzes, running pro player chats and establishing fantasy leagues. Because the experiences are always engaging, fans feel that they can relate to the brand. A constant presence online for the brand helps fans bond with it, not just with a periodic promotion here and there. Audiences pay more attention which results in better performance by the sponsors.

5.5 Synthesis with Previous Research

The study demonstrates that digital transformation is helping the Pakistan Super League (PSL) develop—mainly by boosting the number of fans, bringing in more earnings and assisting the economy. A number of PSL's results agree with trends seen in the IPL and on a global scale, but some show how the league is innovating with digital technology.

It is demonstrated in this study that using things like mobile apps, social-networks, virtual-reality and selling tickets online maximizes interaction and involvement of fans. This also matches previous research (Santos et al., 2019) that found PEOU and user experience increase fan attachment in sports. Similar to research by Vale and Fernandes (2018) , this work backs the view that when usability and accessibility are focused on, fans are more drawn to the digital world. Following findings in the TAM, the PSL's digital strategy centers on the idea that ease of use and usefulness help encourage technology adoption. As noted in another study (Kaushik, 2025), it is found that interacting with game apps is mostly shaped by ease of use and the feeling that the app is useful is important but not as essential as whether a person enjoys, shares experiences with others or gets entertained by the app.

The rise in revenue and strong connection with fans observed in the PSL correlates. Similar studies on the IPL such as Khan and Akhtar's (2021), have shown that if digital platforms are used well, fan involvement increases and so does revenue. The current work supports the idea by proving that digital transformation helps sports leagues earn more income from fans all over the world which is in line with studies on using new technology for worldwide reach (Herrera, 2018). This is also backed up by research worldwide (such as reports from UEFA), showing that engaging fans online through fantasy leagues can be excellent for business. But, Pakistan's cricket still faces infrastructure issues and a lack of digital knowledge among people. It adds something new by showing how digital transformation affects fans, finances and regional economies which was not widely studied in previous research. Although studies on IPL have covered urban growth and rise in tourism, this study reveals how the PSL helps boost local companies (for example, shops, restaurants, IT services) and offers temporary jobs, like what's found in Tibet and Bhutan(Singh et al., 2025).

Here, this study finds that factors such as social beliefs, availability of the internet and government involvement are major factors in how people in become fans online. Things that impact their effectiveness are cost, how well the network is available and how willing users are to adopt technology. It proves that fan involvement approaches in South Asia should be adjusted to the local setting within sports leagues.

In short, this study reinforces main sports digital transformation principles and brings forward specific points that relate to Pakistan's PSL. As previous studies, it points out that ease of use,

interacting with others and being involved in fan activities are important for success. This approach, however, also highlights new aspects of sports management that affect local economies and identify differences in infrastructure, giving important lessons to people working in the sports field both close to home and worldwide.

5.6 Recommendations for Future Study

Longitudinal Impact Assessment

Further research can study how digitalization changes fan engagement and the money matters of the PSL over time. This approach might show how digital strategies change with time and how they keep affecting the league's popularity and profitability.

Comparative Analysis Across Leagues

A study contrasting the PSL with major leagues like the IPL, "Big Bash League" (BBL) or "Caribbean Premier League" (CPL) could yield useful information. It would allow us to spot the most effective ways and region-based successes in digital fan interaction and monetization.

Qualitative Investigation of Fan Behaviour and Sentiment

Choosing fans of PSL and asking them about their interaction with media apps, social channels or video streaming apps, to gain insights into why they participate, what they gain from the interaction and their thoughts about how digital technology changes their enjoyment of PSL cricket.

Focused Engagement with Rural and Marginalized Groups

Understanding the complex features of tech and fan bases in less developed and rural areas of Pakistan and the problems they deal with because of poor infrastructure, literacy or financial constraints.

5.7 Conclusion

This study was to see how digital transformation influences the way fans enjoy the PSL, how the league does financially and its broader effect on the economy. According to the analysis, digital innovations have strongly affected how fans connection with the PSL, as various tools have made it easier for fans to feel part of the teams and league brand.

It points out that fans are encouraged to use digital tools when they think these tools are easy to use. Better platform features encourage more participation which proves that it is technology's ease of use that helps the league grow its following. Also, the relationship of increased fan attachment to the financial success of a company is positive, because with more fan engagement, fans are likelier to participate in digital revenue streams. While usefulness of technology was not the main reason behind people involvement, research shows that it affects engagement more strongly when other conditions like good digital infrastructure, meaningful peer influence and timely content are present. This shows that digital innovation should be linked to the daily lives and traditions of people in underserved or rural areas of Pakistan.

The outcomes of the research also help economic actors such as franchises, sponsors, those who make laws and technology providers. If sports focus on using digital solutions that include all, rely on local needs and adapt easily, this can build fans' trust and help create more chances in media, advertising, tourism and e-commerce. All in all, the study helps to expand understanding between sports management and digital innovation in emerging countries. The process proves that strategic use of digital tools can help the Pakistan Super League reach more fans, develop over the years and grow financially. Information from this analysis can support plans to increase the value to fans, increase economic gains and increase the global recognition of Pakistan's top cricket league through digital efforts.

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Appendices

Appendix 1. Questionnaire for Data Collection

The Questionnaire on “The Role of Digital Transformation in Enhancing the Pakistan Super League: A Study on Fan Engagement, Financial Growth and Economic Impact”

Section 1: Demographic Details

1. What is your age group?
 - 15 – 24
 - 25 – 34
 - 35 – 44
 - 45 – 54
 - 55 and above
2. What is your Gender?
 - Male
 - Female
 - Prefer not to say
3. Where is your primary location?
 - Urban
 - Semi-urban
 - Rural
4. Occupation
 - Students
 - Employed
 - Self-employed
 - Unemployed
 - Other
5. Education Level
 - No formal education
 - Secondary (Matric/ Intermediate)
 - Bachelor’s Degree

- Mastre's Degree or Above

6. Monthly Income

- < 25,000 (PKR)
- 25,000 – 50,000 PKR
- 50,001 – 100,000 PKR
- > 100,000 PKR

7. Level of PSL Fandom

- Die-hard fan (watch all matches, follow updates regularly)
- Casual fan (watch some matches, follow occasionally)
- New fan (just started following)
- Not a fan / not interested in PSL

8. Do you own a smartphone?

- Yes
- No

Section 2: Usage of Digital-Platforms for PSL

1. How frequently do you keep up with the PSL?

- Regularly
- Occasionally
- Rarely
- Never

2. Which online channels do you use to interact with PSL (select all that apply)?

- You-Tube
- Facebook
- Instagram
- TikTok
- Twitter/X
- PSL Mobile-Apps
- Streaming Apps (Tamasha, Tapmad)
- Other

3. What is the overall quality of digital content provided by PSL?

- Excellent
- Good
- Average

- Poor
- Very Poor

4. What's your satisfaction level with the live streaming highlights of matches?

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very dissatisfied

Section 3: PSL Digital Services

Record your level of agreement from 1 to 5 (Scale: 1= Strongly Disagree | 2= Disagree | 3= Neutral | 4= Agree | 5= Strongly Agree)

| Sr. | Questions | 1 | 2 | 3 | 4 | 5 |
|---------------------------------|--|---|---|---|---|---|
| PU: Percieved-usefulness | | | | | | |
| 1. | I can easily inform about PSL schedules and results through their digital media. | | | | | |
| 2. | The PSL apps provides live match coverage, news and highlights, which help me stay engaged. | | | | | |
| 3. | My experience attending PSL matches is improving by their online ticketing. | | | | | |
| 4. | The interactive fan-polls, prediction-games on PSL platforms keep me engaged and entertained. | | | | | |
| 5. | A PSL mobile-app with features to help navigate the stadium (e.g, locating seats, restrooms) would greatly improve my experience at venue. | | | | | |
| 6. | Features like chat-forums and live Q&A on PSL digital websites would make me feel more involved and increase my loyalty? | | | | | |
| 7. | The availability of advanced real-time data analytics and AI on PSL platforms would make watching matches much more engaging. | | | | | |
| 8. | Having a more comprehensive PSL app features like statistics, trivia, and games would make me more engaged. | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 9. | VR/AR experience on PSL digital platforms would create a stronger sense of connection to the live matches | | | | | |
| 10. | Personalized notifications from PSL digital platforms about my favourite team/player would enhance my engagement. | | | | | |
| PEOU: Percieved-Ease-of-Use | | | | | | |
| 11. | I can easily operate PSL digital channels, apps and websites. | | | | | |
| 12. | PSL's online platforms are a convenient way for me to find our team information and match schedules | | | | | |
| 13. | PSL's mobile apps and websites provides me with fast access to the latest match updates and highlights | | | | | |
| 14. | PSL's ecommerce buying of tickets is easy and user-friendly | | | | | |
| 15. | For the usage of PSL's digital facilities/services, I acquire no technical guidance | | | | | |
| 16. | On the PSL's apps/websites, getting registered and signed-in is very easy and convenient | | | | | |
| 17. | PSL's digital content (videos, stats, articles) can load effectively and without any trouble | | | | | |
| 18. | It is not a problem for me to join fan polls and games that the PSL digital platforms organize | | | | | |
| 19. | PSL's digital platforms work well across different devices (smartphone, tablet, etc.). | | | | | |
| 20. | There wouldn't be a problem for me if PSL's platforms introduced any newer feature. | | | | | |
| BIU: Behavioral-intention-to-use | | | | | | |
| 21. | I want to carry on making use of PSL's official platforms as usual | | | | | |
| 22. | I am likely to watch upcoming PSL matches advanced digital streaming options | | | | | |
| 23. | I intend to recommend PSL's digital services (app, website) to friends or family. | | | | | |
| 24. | Using digital-platforms is my most favorable way of getting updated with PSL | | | | | |
| 25. | I am likely to keep up with PSL teams/players on digital platforms for live updates | | | | | |
| 26. | I can definitely see that I would increase my use of PSL digital services as new features and improvement are added | | | | | |
| 27. | I am likely to participate in online PSL events or promotions. | | | | | |
| 28. | I am likely to purchase PSL merchandise or tickets using digital platforms in future tournaments. | | | | | |

Section 4: PSL Fan Engagement & Actual Use

Record your level of agreement from 1 to 5 (Scale: 1= Strongly Disagree | 2= Disagree | 3= Neutral | 4= Agree | 5= Strongly Agree)

| Sr. | Questions | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| 1. | I actively interact with other fans of the PSL through social-media channels and comment sections | | | | | |
| 2. | I actively see the videos/news about the PSL matches | | | | | |
| 3. | I like engaging with other PSL fans through social media comments, likes, or shares. | | | | | |
| 4. | I follow live scores, highlights, and team stats on the PSL app or website. | | | | | |
| 5. | I follow PSL's official pages on social media platforms for regular updates. | | | | | |
| 6. | I feel more connected to PSL when they acknowledge fans through digital platforms (e.g., reposts, shoutouts). | | | | | |
| 7. | I stay involved in the PSL season through digital content even when I can't attend matches. | | | | | |
| 8. | Whenever possible, I prefer to attend match in stadium | | | | | |
| 9. | I always feel connected to other cricket fans online. | | | | | |
| 10. | I regularly look for and watch digital content about cricket (through articles, videos and podcasts). | | | | | |

Section 5: External Variables

Record your level of agreement from 1 to 5 (Scale: 1= Strongly Disagree | 2= Disagree | 3= Neutral | 4= Agree | 5= Strongly Agree)

| Sr. | Questions | 1 | 2 | 3 | 4 | 5 |
|---------------------------------------|---|---|---|---|---|---|
| Peer Pressure/Social Influence | | | | | | |
| 1. | People close to me think using the PSL app or website is a good idea. | | | | | |
| 2. | My friends encourage me to watch PSL matches online. | | | | | |
| 3. | I follow PSL updates because people around me talk about it. | | | | | |
| 4. | My PSL interest grows when I see others engaging with it online (e.g., sharing posts, making comments). | | | | | |
| 5. | I enjoy discussing PSL matches online or in person with friends and family. | | | | | |
| Cultural Factors | | | | | | |
| 1. | I usually have enough free time to follow PSL content online. | | | | | |
| 2. | Watching or engaging with PSL digitally is common in my family or social circle. | | | | | |
| 3. | Cultural or family norms encourage watching PSL matches. | | | | | |
| Marketing Influence | | | | | | |
| 1. | PSL promos and ads determine whether I watch matches live or online. | | | | | |
| 2. | The PSL's marketing activities make it easy for me to interact with my favourite teams and players. | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 3. | When I see targeted marketing or offers, I am more likely to buy PSL merchandise or tickets. | | | | | |
| 4. | PSL's social media campaigns (on Facebook, Instagram, etc.) have piqued my curiosity. | | | | | |
| 5. | PSL marketing and commercials have piqued my interest in the matches. | | | | | |
| 6. | Influencers and celebrities supporting the PSL have piqued my interest in watching or following it. | | | | | |
| External Support & Recourses | | | | | | |
| 1. | I have a smartphone and internet access, which allow me to use PSL's online services. | | | | | |
| 2. | I can readily access PSL content using smartphone applications or web pages. | | | | | |
| 3. | If I run across any problems when using PSL programs, I have access to adequate technical assistance. | | | | | |
| 4. | If I have any problems utilising PSL digital mediums, I can seek assistance from family or friends. | | | | | |
| 5. | I can use PSL's online features (such as event information and broadcasting) at any time and from any location. | | | | | |

Section 5: Economic Yield

Record your level of agreement from 1 to 5 (Scale: 1= Strongly Disagree | 2= Disagree | 3= Neutral | 4= Agree | 5= Strongly Agree)

| Sr. | Questions | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 1. | I believe PSL's presence on social media contributes to its overall financial performance. | | | | | |
| 2. | The PSL's smartphone and tablet applications make it easier to aid the league financially. | | | | | |
| 3. | PSL has had success selling cricket-related things through online stores and e-commerce. | | | | | |
| 4. | Technology has enabled PSL to save money and run faster. | | | | | |
| 5. | PSL's online marketing activities have increased its perceived worth and public image. | | | | | |
| 6. | In all, I believe innovation has been playing an important role in assisting PSL prosper economically. | | | | | |

| | | | | | | |
|-----|--|--|--|--|--|--|
| 7. | We have been successful in marketing cricket equipment, like clothes, shoes, balls and other gear, using electronic retailing over many years. | | | | | |
| 8. | Our industries have used innovation to explore new opportunities of revenue (e.g., fans can purchase tokens, interact in virtual events) | | | | | |
| 9. | The complexity brought by technology has increased the amount of sponsorship we get. | | | | | |
| 10. | Improvement in the company's brand value and reputation is evident among the Technological strategic initiatives. | | | | | |