

The Rise of E-Sports: The Transformation from Leisure Entertainment to a Global Sports Phenomenon

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Abstract: This study investigates the role of cultural and economic factors in the development and perception of eSports, particularly examining how these elements influence its recognition as a legitimate sport and the redefinition of athleticism. A quantitative methodology was employed, involving a survey of 20 members from a gaming club in an educational institution. The survey revealed gender-based differences in the perception of eSports, notably in the economic impact, with female participants attributing greater significance to this aspect than their male counterparts. However, there was consensus across genders regarding eSports' cultural significance and legitimacy as a sport. The findings indicate a predominant influence of cultural factors in shaping the perception of eSports, overshadowing economic aspects, a contrast to traditional sports where economic considerations often play a pivotal role. The study contributes to understanding the intricate dynamics within the eSports domain, providing insights for stakeholders in shaping policies and marketing strategies.

Keywords: e-sport, economic value, behavioural change, segment, health impact

1. Introduction

In an era marked by rapid technological advancements and the widespread popularity of the Internet, the realm of electronic sports, commonly known as eSports, has witnessed significant expansion. eSports, as defined by the Gamer's Association, encompasses formally organized and competitive video gaming endeavors. According to Sarkar & Marcora[1], this term is synonymous with cybersports and encompasses various video gaming activities. Originating as a leisurely pursuit, eSports has evolved into a globally recognized sport, now officially included in the schedule of the Asian Games. A 2022 report by Insider Intelligence highlights this growth, projecting that monthly eSports viewership will reach 29.6 million in 2022, a notable 11.5% increase from the previous year. The report further anticipates the eSports audience to grow at a compound annual rate of 8.1% from 2020 to 2025, potentially exceeding 640 million enthusiasts by 2025.

The structure and recognition of eSports, in comparison to traditional sports, remains a subject of academic debate, particularly regarding its classification as a 'sport' and whether participants in eSports can be considered 'athletes'. While this aspect is crucial, it is not the sole focus of scholarly attention. Recent research predominantly centers on the economic implications and demographic shifts associated with the rapid emergence of eSports, offering insights into its impact on contemporary digital culture and global sports dynamics.

As eSports rapidly evolves, critical questions emerge:

- What cultural dynamics propel its growth?
- Does its economic impact redefine athleticism?

And hypothesizes is:

- Hypothesis 1: The integration of eSports into mainstream culture, characterized by increased online connectivity and digital content consumption, is a primary driver of its growth
- Hypothesis 2: The economic success of eSports, demonstrated by significant revenue streams and investment, contributes to a redefinition of athleticism to include digital and cognitive competencies.

2. Literature Review

The literature review is bifurcated into cultural and economic considerations, each underpinning the growth of eSports and its implications for athleticism in the digital era.

2.1. Cultural Dynamics of eSports Growth

Integrating the insights from recent research, the cultural evolution of eSports from a recreational activity to a competitive sport reveals a complex interplay of technological advancement, societal perception, and emerging challenges that go beyond its digital and competitive aspects.

The eSports Matrix, introduced by Cranmer et al.[2], categorizes eSports into various segments ranging from digital representations of physical sports to fully immersive, technology-driven experiences. This framework not only reflects the diversifying nature of eSports but also underscores the technological accessibility and digital culture valorization at its core. The rapid rise of eSports, as highlighted by Hallmann & Giel[3], is deeply rooted in these technological advancements and cultural shifts, which have been pivotal in its transformation into a recognized competitive sport.

However, recent studies introduce critical perspectives that challenge this positive trajectory. A study by Close[4] delves into the darker aspects of eSports culture, particularly its struggle with toxic gamer culture characterized by homophobia and misogyny. This finding indicates that eSports may inherently face issues with legitimacy and inclusivity, and the passive notion of allowing the industry to self-resolve these issues through capitalist frameworks and market-driven approaches is not effective. The study proposes a more proactive solution, centered around the concepts of humanity and accountability, in the form of transformative justice.

Moreover, the research by Wardle et al.[5] on the profile of eSports bettors and Sjöblom et al.[6] on the differences between online and live eSports spectating further enriches the understanding of the cultural dynamics at play in the eSports area. These studies reveal the varied consumer behaviors and motivations within the eSports community, indicating a complex interplay of digital interaction, spectatorship, and gambling tendencies, May lead to the abuse of esports. Such insights are crucial for understanding the diverse and rapidly evolving nature of eSports spectator ship and participation, also pointed out the risk direction of e-sports.

Additionally, Witkowski's study[7] delves into the intricate dynamics of national eSports associations, entities that, despite being overshadowed by the glitz of major tournaments and substantial prize pools, play a critical role in the eSports ecosystem. Compared to large-scale tournaments, national eSports associations often lack in financial resources, yet their role in promoting eSports and facilitating its recognition by mainstream society can often far exceed that of major events. Additionally, national eSports associations frequently need to act as mediators between political advocacy and commercial interests, finding themselves in particularly complex socio-political environments. The findings of this study also indicate that localized policies are more likely to succeed in integrating eSports into mainstream culture than standardized approaches.

In summary, while the technological and digital aspects of eSports have been central to its growth and popularity, these recent studies bring to light the multifaceted challenges and cultural implications of its evolution. They emphasize the importance of addressing social issues, understanding diverse consumer behaviors, and navigating complex governance structures. These insights are critical view of eSports: it not just as a digital phenomenon, but a cultural entity with deep societal impacts and challenges.

2.2. Economic Impact and Athleticism Redefinition

Integrating recent studies, the economic landscape of eSports is revealed as more intricate and multifaceted. Li, Takezawa, & Zhou's research[8] on the Astralis Group, a Danish eSports team, provides a groundbreaking perspective on how eSports performance influences stock market dynamics. Their findings demonstrate a direct correlation between a team's success in championships and its stock returns. This pivotal insight not only corroborates the financial viability of eSports as an investment avenue but also exemplifies the sector's growing influence in the broader economic realm.

The impact of eSports extends beyond mere stock prices, as evidenced by Hlee & Lee[9]. Their study on the spatial agglomeration effects in South Korea's Pangyo Techno Valley. This research illuminates the broad economic ramifications of eSports events, delineating how they stimulate activity in related sectors like retail, food, and beverages. Such spillover effects underscore the potential of eSports to catalyze regional economic development, suggesting that investments in eSports infrastructure could have ripple effects across various industries.

Additionally, Rudolf et al.[10] offer an intriguing economic angle on investigation to the health and media consumption patterns of eSports players in Germany. While primarily focusing on health and well-being, the study inadvertently sheds light on the burgeoning market for eSports-related media. The high consumption rates of digital media among players suggest a shift in traditional media landscapes, with implications for advertising, marketing, and media production sectors. This shift indicates a growing market segment that businesses and investors could capitalize on, aligning with the digitalization trends in global economies.

Furthermore, these insights enrich the understanding of eSports in economic models within sports disciplines, as discussed by Funk et al.[11]. The direct impact of sporting outcomes on stock market dynamics, as seen in the case of Astralis Group, introduces a new variable in sports economics. This phenomenon challenges traditional notions of sports management and necessitates a reevaluation of financial strategies in the realm of eSports.

In conclusion, the studies collectively highlight the evolving nature of eSports as an economic entity. The sector is not only reshaping how athletic performance is valued in economic terms but also redefining the relationship between sports and regional economic development. As eSports events become catalysts for economic activity in various sectors, they also present new opportunities and challenges for policy makers and industry stakeholders. They also make a deeper understanding of the economic dimensions of eSports. From influencing stock markets to driving regional economic growth and shifting media consumption patterns, eSports is proving to be a dynamic and influential player in the global economy. This comprehensive view is crucial for stakeholders in sports management, economics, and public policy as they navigate the evolving landscape of eSports. The integration of these insights forms a solid foundation for future research and strategic planning in the burgeoning world of digital sports.

3. Methodology

In the proposed study, a quantitative research methodology will be employed, focusing on the following aspects. About 20 questionnaires were planned for this study.

3.1. Participant Selection

The study will engage exclusively with members of the gaming club at University of the Eastern United States school, targeting individuals who are actively involved in the eSports community and possess firsthand experience and knowledge in this domain.

3.2. Survey Design

A structured online survey will be crafted, comprising closed-ended questions as Likert scales. This design aims to quantitatively measure the perceptions and attitudes of club members towards the cultural significance and economic impact of eSports. Numbers 1-5 indicate Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. See Table 1 for the specific questionnaire.

Table 1: Questionnaire

Question	1	2	3	4	5
I believe that eSports is an important part of modern digital culture.					
eSports should be recognized as a legitimate form of sport, similar to traditional sports.					
The economic impact of eSports (such as job creation, revenue generation) is significant.					
The growing professionalization and commercialization of eSports is beneficial for its future development.					
Participants in competitive eSports should be considered as true athletes.					

3.3. Data Collection Method

The survey will be disseminated electronically through the gaming club's internal group. This method ensures efficient distribution and completion, facilitating a high response rate among the targeted participants.

3.4. Data Analysis Technique

Quantitative data obtained from the survey will be subjected to statistical analysis using software tools. This approach will enable the identification of prevailing trends, correlations, and significant patterns in how eSports is perceived within the gaming club community.

3.5. Ethical Considerations

Ethical clearance will be obtained from the institutional review board, ensuring the study conforms to the highest ethical standards. Informed consent will be sought from all participants, with a strong emphasis on maintaining confidentiality and anonymity.

3.6. Limitations of the Study

The study will acknowledge its limitation in scope, primarily focusing on a specific group within a single institution, which may affect the generalizability of its findings to the broader eSports community.

Through this methodology, the study aims to provide a clear, quantifiable understanding of the cultural and economic dimensions of eSports as perceived by a specific, engaged community.

4. Results

4.1. Reliability and validity analysis

The reliability and validity analysis of the questionnaire has produced results that substantiate the instrument's robustness. With a Cronbach's Alpha of 0.705, the survey demonstrates good internal consistency, which is crucial for ensuring that the items coherently measure the constructs of interest in eSports perception. Factor analysis reinforces this by showing that the questions have strong loadings on a primary factor, which confirms that the questionnaire is valid in capturing the primary dimension of interest. This positive outcome in both reliability and validity suggests that the survey is methodologically sound and suitable for further analysis to explore the perceptions and attitudes towards eSports.

4.2. Baseline and comparison between groups of perceptions by gender

It appears that females rate the cultural significance of eSports slightly higher (3.6 ± 0.51) compared to males (3.2 ± 0.42), although this difference does not reach statistical significance ($t=1.897$, $p=0.073$). When it comes to the legitimacy of eSports as a competitive sport, both genders show similar scores (Women: 3.5 ± 0.52 , male: 3.6 ± 0.84), with no significant difference ($t=0.318$, $p=0.754$).

Interestingly, a significant divergence is seen in perceptions of the economic impact of eSports, where females (3.9 ± 0.99) perceive a higher impact than males (2.4 ± 0.70), with this difference being statistically significant ($t=3.901$, $p=0.001$). This suggests that female may see more economic benefits or potential in eSports than male.

In contrast to previous analyses, there is no significant difference between genders regarding the professionalization benefits of eSports and the perception of eSports athletes as true athletes, with both males and females rating them similarly (Professionalization Benefits: females: 3.6 ± 0.51 , males: 3.2 ± 0.42 , $p=0.073$; eSports Athletes as True Athletes: Females: 3.5 ± 0.52 , Males: 3.3 ± 0.48 , $p=0.388$).

Table 2 indicates that the previously observed gender divide in perceptions of eSports may not be as pronounced, with the exception of the economic impact, where a significant difference is noted. Overall, there is a general alignment between males and females on the cultural and athletic facets of eSports, with variances in the economic domain.

Table 2: Baseline and comparison between groups

	Q1	Q2	Q3	Q4	Q5
Female($n = 10$)	3.6 ± 0.51	3.5 ± 0.52	3.9 ± 0.99	3.6 ± 0.51	3.5 ± 0.52
Male($n = 10$)	3.2 ± 0.42	3.6 ± 0.84	2.4 ± 0.70	3.2 ± 0.42	3.3 ± 0.48
t	1.897	0.318	3.901	1.897	0.884
P	0.073	0.754	0.001	0.073	0.388

4.3. Correlation Analysis

Within the examined correlation matrix(Figure 1), the interrelations between different constructs of eSports perceptions display a dichotomy in the strength of associations. On one end, the high correlation coefficients between constructs such as Cultural Significance and both Professionalization Benefits and the recognition of eSports Athletes as True Athletes (0.79 and 1, respectively) signify a robust link, underscoring an alignment in views that those who value eSports culturally are also inclined to affirm its professional merits and the legitimacy of its athletes.

Conversely, the Economic Impact of eSports exhibits minimal to no correlation with its perceived Legitimacy as a Sport and the recognition of athletes, suggested by coefficients near zero (-0.04 and

-0.02). This detachment indicates that economic considerations of eSports do not necessarily influence or reflect its cultural or athletic validation.

Additionally, while Economic Impact bears a positive correlation with Cultural Significance and Professionalization Benefits, the relatively modest magnitude of these coefficients (approximately 0.26) suggests only a peripheral association, pointing towards a nuanced and perhaps indirect influence of economic factors on these perceptions.

These findings collectively articulate a complex portrait of perceptions wherein cultural and professional elements of eSports are intertwined, yet economic aspects maintain a distinct and less pronounced influence.

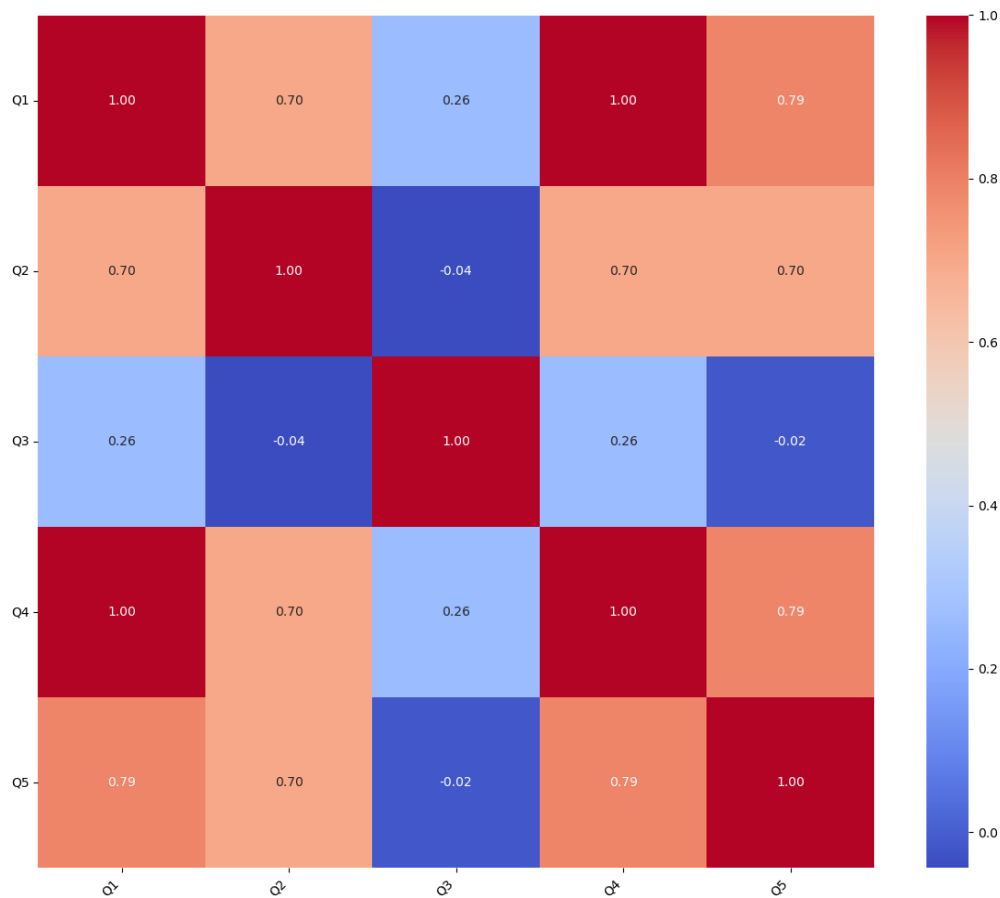


Figure 1: correlation matrix for questionnaire

5. Discussion

In this analysis, the observed correlations between cultural significance and other critical dimensions of eSports—such as its legitimacy as a sport and the professionalization benefits—highlight a fundamental aspect of eSports evolution. The strong association between cultural significance and the legitimacy of eSports, along with its correlation with professionalization benefits, underscores the integral role of cultural perception in shaping the eSports landscape. This aligns with Anshari et al.[12] observations that in emerging sports domains, cultural acceptance often precedes and shapes other forms of recognition and development.

Interestingly, the economic impact of eSports shows a relatively minimal correlation with its perceived legitimacy and the recognition of its athletes. This finding suggests that the economic

aspects, though vital, may not be the primary driving force behind the sport's acceptance, contrasting with traditional sports where economic factors often significantly influence perceptions.

The gender-based differences revealed in the perception of eSports' economic impact—where females perceive a more significant economic influence than males—offer insightful implications for market strategies and policy formulation, like the view of De Moor et al.[13]. This divergence could reflect underlying differences in how eSports is valued and experienced across genders, echoing recent studies by Flegr & Schmidt[14], which emphasize the importance of understanding diverse perspectives in sports management.

Moreover, the correlation between the recognition of eSports athletes as legitimate athletes and cultural significance (0.791) is notably high, reinforcing the argument that cultural factors significantly influence how eSports athletes are perceived and valued within the broader sports community. This perception could play a critical role in shaping future policies and marketing strategies within the eSports industry, where understanding and leveraging these cultural dynamics could lead to more effective engagement with the eSports audience.

In summary, these findings provide crucial insights for academics, policymakers, and industry practitioners in sports management, digital culture, and marketing. They highlight the importance of focusing on cultural strategies to foster eSports growth and suggest that economic factors, while necessary, may play a secondary role in shaping perceptions of eSports. The gender-specific perceptions, especially regarding economic impact, offer a unique perspective that could guide more tailored approaches in community engagement and policy development within the eSports domain.

6. Conclusion

This study set out to explore the critical questions surrounding the rapid evolution of eSports, mainly focusing on the cultural dynamics propelling its growth and the extent to which its economic impact is redefining athleticism. Employing quantitative analysis methods, the research tested two hypotheses: firstly, the integration of eSports into mainstream culture as a primary driver of its growth, and secondly, the contribution of its economic success to the redefinition of athleticism.

In the study of a school game club, it was found that there are gender-based differences in perceptions of eSports, particularly in its economic impact, with female participants valuing it more highly than males. Both genders, however, agreed on its cultural significance and legitimacy as a sport. These findings, derived from a survey of 20 members, reveal a complex interplay between economic and cultural perceptions of eSports within this community.

The contribution of this study is its empirical investigation of the interaction between cultural and economic factors in the development of e-sports. It provides a micro perspective that provides future directions for stakeholders in the esports industry, including policy makers, marketers, and academics.

However, it should be noted that due to the research conditions, the sample selected in this study is quite limited, and no further exploration can be carried out in terms of culture, education level and economic level. If these aspects can be explored in future research, the research in this direction should be further promoted.

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