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## Research Articles

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### Competitive Advantage in Esports: A Strategic Guide to Successor Development, Industrial Technology, and Professional Skill

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#### Abstract

This study aimed (1) to identify the key components required by experts in the e-sports business sector to enhance value creation and (2) to develop a model for value creation to support sustainable competition in the e-sports industry. The study examined the structural and operational characteristics of e-sports businesses, with particular emphasis on technology, organizational capabilities, skills, innovation, and marketing. The sample consisted of 300 entrepreneurs and executives from e-sports businesses. Data were collected using a structured questionnaire, and the proposed hypotheses and relationships among variables were examined using Structural Equation Modeling (SEM).

The findings indicated that effective value creation in the e-sports industry comprises four key dimensions: information technology utilization, organizational management, innovation management, and marketing orientation. Comparative analysis further revealed that large e-sports organizations placed significantly greater emphasis on these value-creation approaches than small and medium-sized enterprises, with statistical significance at the 0.05 level. The SEM results demonstrated that the development and effective integration of

technology, organizational capabilities, and managerial skills are important mechanisms for strengthening sustainable competitiveness in the e-sports industry. The proposed model provides an integrated framework for e-sports organizations to enhance value creation through the strategic alignment of technological capabilities, organizational management, innovation, and marketing. These findings contribute to both e-sports management research and industry practice by providing a structured approach to sustainable competitive development in a rapidly evolving digital environment.

**Keywords:** Competitive Advantage, Technology Industrial, Skills, Esports Business

## Introduction

The Role of Innovation in the Esports Industry (Allal-Chérif et al., 2024). In the ever-changing world of esports, remaining competitive requires constant innovation, strategic adaptation, and the integration of emerging technologies. As the esports industry grows, driven by increasing popularity among players and viewers alike, esports organizations must innovate to remain relevant and profitable. From adopting cutting-edge technologies to developing a highly skilled workforce (Babin et al., 2024), the focus on sustainable competition is crucial for long-term success. The following sections will explore the importance of technological advancements, the key skills required in esports, and how continuous innovation ensures a competitive edge. Leveraging Technology for Value Creation. Technology serves as the backbone of the esports industry, shaping every aspect of the experience for players, fans, and organizations. (Chen & Wu, 2024). Real-Time Data Analytics, Optimizing Performance. Real-time data analytics have transformed how esports organizations approach performance improvement, both in terms of individual player growth and team strategies. By collecting and analyzing in-game data such as movement patterns, reaction times, and game decision-making processes (Jordan-Vallverdú et al., 2024), teams can optimize their gameplay strategies. For instance, in a game like Counter-Strike, Global Offensive (CS), teams can use data analytics to track enemy positions, identify strategic mistakes, and predict opponent behavior. Data-driven insights allow teams to make

adjustments in real-time, adapting to their opponents' tactics and capitalizing on opportunities to win. Beyond in-game performance, data analytics can be used to monitor players' physical and mental well-being. This holistic approach to player performance is becoming increasingly important as esports athletes are expected to perform at the highest levels for extended periods (Ke & Wagner, 2024). In the rapidly evolving landscape of the digital economy, the integration of industrial technology and specialized human capital serves as the primary engine for sustainable value creation within the esports sector. Beyond mere entertainment, the industry now demands a sophisticated synergy between cutting-edge technological infrastructure and a redefined set of professional competencies. To maintain a competitive edge, esports organizations must not only leverage emerging innovations—such as data analytics and advanced broadcasting systems—but also cultivate a workforce proficient in strategic management, digital literacy, and adaptive leadership. This synthesis of technological advancement and professional expertise forms the cornerstone of a value-added framework, essential for navigating the complexities of the modern global esports business environment

AI and Machine Learning, Driving Innovation. Artificial Intelligence (AI) and Machine Learning (ML) are becoming integral to the esports ecosystem. AI can be used to analyze vast amounts of data from players' performances to provide recommendations on improving gameplay strategies. In addition, AI-driven tools are being implemented to create fairer matchmaking systems, detect cheating, and even predict the outcomes of games. Machine learning can also be applied to fan engagement. For instance, platforms use ML algorithms to personalize content recommendations, helping fans discover matches, highlights, and related esports content based on their preferences (Chanias et al., 2019). Blockchain technology and Non-Fungible Tokens (NFTs) have also entered the esports ecosystem, creating new revenue streams for teams and players. NFTs offer unique, verifiable digital assets that fans can buy, trade, or collect. These could include limited-edition skins, in-game items, or exclusive virtual experiences. Blockchain technology ensures the authenticity and scarcity of these assets, adding value to the digital collectibles market in esports (Mancı et al., 2024).

## Objective

1. Identifying the key components necessary for experts in the e-sports business sector to enhance value creation.
2. Developing model for the approach to value creation for sustainable competition in the e-sports industry.

## Literature Review

The rapid development of esports has transformed competitive gaming into a multidimensional digital industry involving technology, professional competition, media, entertainment, communities, and commercial activities. Consequently, sustainable competitiveness requires more than technical gaming ability; it depends on the integration of human capabilities, digital technologies, organizational resources, strategic management, and stakeholder engagement. Recent bibliometric evidence indicates that esports research has expanded across multiple research clusters, with management, audiences, fan engagement, and digital ecosystems emerging as important areas for further investigation (Jordan-Vallverdú et al., 2024). Accordingly, this study conceptualizes value creation in esports as an integrated process in which professional competencies and organizational capabilities are transformed into economic, experiential, social, and competitive value.

### Essential Skills and Competencies of Esports Professionals

The first objective is to identify the key components required by experts in the esports business sector to enhance value creation. Existing literature suggests that esports professionals require a combination of technical, strategic, interpersonal, leadership, and digital competencies. Technical competence includes mastery of game mechanics, gaming hardware and software, data analytics, and emerging digital technologies. The increasing integration of digital technologies into organizational work further demonstrates that technology is not merely an operational tool but can reshape organizational structures,

collaboration, and managerial practices (Baptista et al., 2020). Strategic competence involves decision-making, competitive analysis, resource management, innovation, and the ability to respond to rapidly changing market conditions. These capabilities are particularly important because esports organizations operate within an environment characterized by technological change, uncertain consumer preferences, and intense competition. Allal-Chérif et al. (2024) demonstrate that sustainable esports entrepreneurship is associated with innovation, resourcefulness, audacity, knowledge transmission, and resilience, particularly where entrepreneurs face infrastructure and resource constraints. Interpersonal and leadership competencies are similarly important. Effective communication, teamwork, conflict management, motivation, and leadership enable players, coaches, managers, marketers, and other professionals to coordinate resources and pursue shared objectives. In addition, value creation extends beyond competitive performance to include audience relationships and digital engagement. Chen and Wu (2024) show that streamer characteristics, including expertise, trustworthiness, attractiveness, interactivity, and affinity, can shape viewer responses and virtual-gift purchasing behavior during esports livestreams. This indicates that professional competencies can contribute directly to audience engagement and commercial value.

### Framework for Sustainable Value Creation and Competition

The second objective is to develop a model explaining how these competencies can contribute to sustainable competition in the esports industry. The proposed framework integrates professional competencies, digital capability, innovation, stakeholder engagement, and organizational resilience as interconnected dimensions of value creation. Audience experience should also be incorporated because participation and engagement are fundamental to the sustainability of the esports ecosystem. Ke and Wagner (2024), for example, found that immersion and future-oriented expectations influence amateur esports

participation, highlighting the importance of designing experiences that encourage continued engagement.

The framework therefore proposes that technical and strategic competencies provide the foundation for operational performance; communication, teamwork, and leadership facilitate organizational coordination; digital capability and innovation enable adaptation and new forms of value; while stakeholder engagement and resilience support long-term sustainability. These dimensions collectively contribute to value creation through improved performance, audience engagement, commercialization, innovation, and organizational sustainability.

## Research Methodology

This study employed a quantitative research design to examine technological advancement, organizational competencies, and factors contributing to sustainable competition among esports and technology-driven businesses in Thailand. The population comprised executives from 500 esports and technology-driven businesses registered in Thailand in 2024. The businesses were classified as large organizations and small and medium-sized enterprises (SMEs) according to the relevant Industry Ministerial Regulations, B.E. 2545 (2002).

The sample size was initially determined using Taro Yamane's (1973) formula with a 0.05 margin of error, yielding 345 participants. However, based on recommendations regarding sample adequacy for Structural Equation Modeling (SEM), a final sample of 300 executives was selected (Barnes et al., 2012). Multi-stage sampling was employed, with the sample equally divided between large organizations ( $n = 150$ ) and SMEs ( $n = 150$ ), enabling comparison of technological capabilities and competencies between the two business groups.

Data were collected using a structured questionnaire developed from the conceptual frameworks of Klarenberg et al. (2022) and Verdugo et al. (2016). The instrument assessed

organizational characteristics, technological advancement, competencies, and factors associated with sustainable competition. Content validity was evaluated by three experts in esports and technology. The Index of Item-Objective Congruence (IOC) ranged from 0.70 to 1.00, exceeding the recommended minimum of 0.50 (Alotaibi & Alotaibi, 2021). A pilot test involving 30 esports businesses produced a Cronbach's alpha coefficient of 0.95, indicating high internal consistency.

For data analysis, frequencies and percentages were used for categorical variables, while means and standard deviations were calculated for scale-based responses. Open-ended responses were analyzed using content analysis. Independent-samples t-tests were conducted to compare large organizations and SMEs, with statistical significance set at  $p < .05$ . Finally, multivariate analysis and Structural Equation Modeling (SEM) using AMOS were employed to examine relationships among the study constructs and evaluate the proposed research model.

## Results

The general status of esports business organizations revealed that respondents were primarily small and medium-sized enterprises (SMEs), comparable to large businesses, with each group representing 50.00% of the sample. Most esports organizations were structured as limited companies (45.00%). The majority of these businesses had been in operation for 10 to 20 years (40.20%). Additionally, 40.60% of the business models were fully invested by Thai stakeholders, with most companies being located in provincial areas (52.50%).

The analysis of the importance level, classified by business size, found that SMEs in the esports industry emphasized approaches to creating added value through technology and the development of skills and competencies for sustainable competition. Overall, the importance level was high, with a mean score of 3.61. When considering each aspect, it was revealed that all areas were of high importance, arranged in descending order as follows, 1) Information

technology had a mean of 3.77, 2) Organizational management had a mean of 3.71, 3) Innovation management had a mean of 3.70, and 4) Market orientation had a mean of 3.65.

Similarly, large esports organizations placed a strong emphasis on creating added value through technological advancements and skills development for sustainable competition, with an overall mean score of 4.09. Each aspect was of high importance, with the following descending order, 1) Information technology had a mean of 4.11, 2) Innovation management had a mean of 4.09, 3) Market orientation had a mean of 4.08, and 4) Organizational management had a mean of 4.07, as illustrated in Table 1.

This analysis demonstrates that both small and large esports organizations recognize the critical role of technology, management, innovation, and market orientation in fostering sustainable competition within the rapidly growing esports industry.

**Table 1** Mean and Standard Deviation Classified by Industry Size as an Overall and by Aspect

| Approaches                | Small and medium industry business |      |       | Large industry business |      |       |
|---------------------------|------------------------------------|------|-------|-------------------------|------|-------|
|                           | $\bar{X}$                          | S.D. | Level | $\bar{X}$               | S.D. | Level |
| Overall Importance Level  | 3.73                               | 0.62 | High  | 4.21                    | 0.35 | High  |
| 1.Information Technology  | 3.89                               | 0.57 | High  | 4.23                    | 0.38 | High  |
| 2.Organization Management | 3.83                               | 0.71 | High  | 4.19                    | 0.40 | High  |
| 3.Innovation Management   | 3.82                               | 0.58 | High  | 4.21                    | 0.41 | High  |
| 4. Market Orientation     | 3.77                               | 0.76 | High  | 4.20                    | 0.44 | High  |

Approaches, approaches to creating added value of agro-industrial products for sustainable competition.

The table illustrates the importance levels of various approaches to creating added value for esports businesses, categorized by small and medium-sized industry businesses and large industry businesses. The mean and standard deviation (S.D.) are provided for each approach, along with the corresponding importance level. Overall Importance Level, for small and medium-sized businesses, the overall importance level is rated high, with a mean of 3.73 and a standard deviation of 0.62. Large industry businesses also consider this approach highly important, with a higher mean of 4.21 and a lower standard deviation of 0.35.

Information Technology, in small and medium-sized businesses, information technology is considered highly important, with a mean of 3.89 and a standard deviation of 0.57. For large businesses, it is rated slightly higher, with a mean of 4.23 and a standard deviation of 0.38.

Organization Management, Small and medium-sized businesses rate the importance of organizational management as high, with a mean of 3.83 and a standard deviation of 0.71. Large industry businesses also consider this highly important, with a mean of 4.19 and a standard deviation of 0.4.

Innovation Management, this approach is viewed as highly important in both business categories, with small and medium-sized businesses showing a mean of 3.82 (S.D. 0.58) and large businesses a mean of 4.21 (S.D. 0.41).

Market Orientation, Small and medium-sized businesses rate market orientation as highly important, with a mean of 3.77 and a standard deviation of 0.76. Large businesses give a slightly higher importance rating, with a mean of 4.2 and a standard deviation of 0.44.

In summary, all approaches to creating added value are considered highly important by both small and large esports businesses, with large businesses consistently assigning slightly higher importance levels across all categories.

**Table 2** Comparison of differences in importance classified by business size, the industry overall, and by aspect

| Approaches                 | t-value | p-value |
|----------------------------|---------|---------|
| Overall Importance Level   | -9.36   | 0.00*   |
| 1. Information Technology  | -7.07   | 0.00*   |
| 2. Organization Management | -10.87  | 0.00*   |
| 3. Innovation Management   | -8.08   | 0.00*   |
| 4. Market Orientation      | -8.05   | 0.00*   |

Approaches, approaches to creating added value of agro-industrial products for sustainable competition. \*Statistically significant at 0.05 level.

The hypothesis testing result of 5 hypotheses to analyze the causal influence between the latent variables in the structural equation model for approaches to creating added value of agro-industrial products for sustainable competition was consistent with the set assumptions. In the context of approaches to creating added value through technology and the skills and competencies required for esports business professionals to achieve sustainable competition, the following hypotheses were tested,

H1, Information technology directly affects organizational innovation. Accept Hypothesis  
 H2, Information technology directly affects market orientation. Accept Hypothesis  
 H3, Organizational management directly affects organizational innovation. Accept Hypothesis.

H4, Organizational management directly affects market orientation. Accept Hypothesis  
 H5, Organizational innovation directly affects market orientation. Accept Hypothesis.

These results indicate that effective integration of information technology and strong organizational management significantly contribute to fostering innovation and enhancing market orientation within esports organizations. This, in turn, underscores the importance of these elements in creating added value and achieving sustainable competitive advantages in the rapidly evolving esports industry.

## Discussion

### Key Components for Value Creation in the Esports Business Sector

Information technology emerged as a fundamental component of value creation because esports organizations depend heavily on digital infrastructure, data, communication systems, and technology-enabled operations. Effective use of information technology can improve information accessibility, knowledge sharing, operational efficiency, and decision-making. This finding is consistent with Baptista et al. (2020), who emphasized that digital transformation produces new configurations of digital and human work within organizations. Similarly, Chanas et al. (2019) demonstrated that digital transformation requires organizations to integrate technology with strategic and organizational processes rather than treating technology as an isolated resource. In esports, these capabilities can support competition management, content distribution, broadcasting, data management, and fan engagement.

Organizational management represents the second key component. Sustainable competition requires organizations to coordinate human resources, technological resources, knowledge, and strategic activities effectively. This finding is consistent with Allal-Chérif et al. (2024), who identified audacity, resourcefulness, innovation, knowledge transmission, and resilience as important characteristics of sustainable esports entrepreneurs in emerging economies. In addition, Ginting et al. (2020) demonstrated the importance of teamwork and soft skills in developing effective collaborative capabilities. Thus, esports organizations require management systems that encourage collaboration, learning, adaptability, and coordinated decision-making.

Innovation is another central mechanism for creating and maintaining value. The esports industry evolves rapidly through changes in games, platforms, technologies, content formats, and audience expectations. Consequently, organizations must continuously develop new products, services, experiences, and business processes. Allal-Chérif et al. (2024) similarly highlighted innovation and resilience as important capabilities for sustainable esports

entrepreneurship. Moreover, Jordan-Vallverdú et al. (2024) showed that esports research encompasses a broad and evolving intellectual structure, reflecting the multidisciplinary and rapidly developing nature of the industry. Innovation should therefore be understood not only as technological development but also as innovation in business models, content, marketing, and stakeholder experiences.

Market orientation completes the value-creation framework by ensuring that organizational capabilities are translated into value recognized by consumers and stakeholders. Understanding audience preferences is particularly important because esports participation and consumption are influenced by experiences, anticipation, entertainment, and social interaction (Ke & Wagner, 2024). Chen and Wu (2024) further demonstrated the importance of streamer characteristics and cultural factors in consumers' willingness to purchase virtual gifts during esports livestreams. These findings indicate that organizations must understand consumer behavior and continuously adapt their offerings to changing market expectations.

### Value-Creation Model for Sustainable Competition

Based on the findings, the proposed model conceptualizes sustainable value creation as an integrated process rather than a set of independent organizational activities. Information technology provides the digital foundation; organizational management integrates people, knowledge, and resources; innovation transforms these resources into new products, services, and experiences; and market orientation ensures alignment with customer and stakeholder needs. The interaction among these four components enables esports organizations to strengthen competitiveness while developing sustainable organizational capabilities.

Overall, the findings suggest that sustainable competition in esports depends on the organization's ability to integrate technological capabilities with effective management, continuous innovation, and market responsiveness. This integrated perspective extends existing discussions of digital transformation and sustainable esports entrepreneurship by

emphasizing that long-term value is created through the interaction of technological, organizational, innovative, and market capabilities rather than through any single factor.

## Conclusion

The findings of this study address both research objectives by identifying the key components of value creation and developing an integrated approach to sustainable competitiveness in the e-sports industry. Four major components were identified: information technology utilization, organizational management, innovation management, and marketing orientation. These components demonstrate the importance of combining technological capabilities with effective management, innovation, and market-oriented strategies to create sustainable value. The findings also revealed significant differences between large e-sports organizations and SMEs, with large organizations placing greater emphasis on the identified value-creation approaches at the 0.05 significance level. The SEM results further indicated that the effective development and integration of technology, skills, organizational capabilities, innovation, and marketing are important for strengthening sustainable competitiveness.

Overall, this study provides an integrated framework for value creation in the e-sports industry. Its significance lies in demonstrating how technological and organizational capabilities can be strategically combined to support competitiveness in a rapidly evolving digital market. The findings provide practical guidance for e-sports entrepreneurs and executives in developing capabilities, improving organizational performance, and creating sustainable competitive value.

## Suggestions

The study contributes a value-creation framework for the e-sports industry based on four key dimensions: information technology utilization, organizational management, innovation management, and marketing orientation. E-sports organizations should strengthen digital infrastructure, employee skills, innovation capabilities, and data-driven marketing, with particular attention to capability development among SMEs.

Public agencies should support the industry through training, digital infrastructure, innovation programs, and knowledge-sharing initiatives.

Future research should test the model using larger and more diverse samples, longitudinal designs, and additional variables such as financial performance, consumer engagement, brand equity, and emerging technologies.

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