Translated from the original in spanish   *Original article*

Incidence of organizational culture on the sporting performance of eSport teams

Incidencia de la cultura organizacional, en el rendimiento deportivo de los equipos de eSport

Incidência da cultura organizacional no desempenho desportivo de equipas de eSport

Juan Soria Maldonado¹* iD , Angie Fernández Lorenzo¹ iD

¹ University of the Armed Forces ESPE. Ecuador.

* Corresponding author: sojuan.5892@gmail.com

ABSTRACT

eSports or electronic sports have gained global relevance, but in Latin America there is a development gap compared to other regions. The objective of this research was to analyze the influence of organizational culture on the performance of Valorant eSports teams that participated in the tournament called 88 CUP. The tournament took place from February 19 to April 30, 2023, with the participation of 35 teams from Ecuador, Colombia, Mexico, Guatemala, Venezuela, Costa Rica, Cuba, El Salvador, Honduras, Panama, Peru and the

Dominican Republic. The Cameron and Quinn instrument, adapted by Ibarra (2019), was used to evaluate organizational culture, and for sports performance, data was collected on the average combat score in the 88 CUP tournament; through this score, the sports performance index was calculated on a scale from 0 to 100. The data study was carried out with the analysis of non-linear principal components and structural equations. The results showed an average sports performance of 25 out of 100 points and only 10 % of the teams achieved a performance greater than 70. In addition, the adhocratic and clan culture prevail in the teams studied. A causal relationship model of organizational culture on sports performance was established, where the adhocratic, hierarchical and market dimensions had a significant and positive impact; meanwhile, the clan dimension had a significant and negative influence on sports performance.

Keywords: organizational culture, sports performance, sports teams, eSport, Valorant.

RESUMEN

Los eSports o deportes electrónicos han ganado relevancia mundial, pero en Latinoamérica hay una brecha de desarrollo respecto a otras regiones. El objetivo de esta investigación consistió en analizar la influencia de la cultura organizacional, en el rendimiento de los equipos de eSports de Valorant que participaron en el torneo denominado 88 CUP. El torneo se desarrolló del 19 de febrero al 30 de abril de 2023, con la participación de 35 equipos pertenecientes a Ecuador, Colombia, México, Guatemala, Venezuela, Costa Rica, Cuba, El Salvador, Honduras, Panamá, Perú y República Dominicana. Se empleó el instrumento de Cameron y Quinn, adaptado por Ibarra (2019) para evaluar la cultura organizacional, y para el rendimiento deportivo se recopilaron datos de la puntuación media de combate en el torneo 88 CUP; través de esta puntuación, se calculó el índice de rendimiento deportivo en una escala de 0 a 100. El estudio de datos se realizó con el análisis de componentes principales no lineales y ecuaciones estructurales. Los resultados mostraron un promedio de rendimiento deportivo de 25 sobre 100 puntos y apenas el 10 % de los equipos alcanzaron un rendimiento superior a 70. Además, la cultura adhocrática y clan prevalecen en los equipos estudiados. Se estableció un modelo de relación causal de la cultura organizacional

en el rendimiento deportivo, donde las dimensiones adhocráticas, jerárquica y de mercado tuvieron un impacto significativo y positivo; en tanto, la dimensión clan tuvo una influencia significativa y negativa en el rendimiento deportivo.

Palabras clave: cultura organizacional, rendimiento deportivo, equipos deportivos, eSport, Valorant.

RESUMO

Os eSports ou esportes eletrônicos ganharam relevância global, mas na América Latina existe uma lacuna de desenvolvimento em comparação com outras regiões. O objetivo desta pesquisa foi analisar a influência da cultura organizacional no desempenho das equipes de Valorant eSports que participaram do torneio denominado 88 CUP. O torneio aconteceu de 19 de fevereiro a 30 de abril de 2023, com a participação de 35 seleções do Equador, Colômbia, México, Guatemala, Venezuela, Costa Rica, Cuba, El Salvador, Honduras, Panamá, Peru e República Dominicana. Para avaliar a cultura organizacional foi utilizado o instrumento Cameron e Quinn, adaptado por Ibarra (2019), e para o desempenho esportivo foram coletados dados sobre a pontuação média de combate no torneio 88 CUP; por meio dessa pontuação, foi calculado o índice de desempenho esportivo em uma escala de 0 a 100. O estudo dos dados foi realizado com análise de componentes principais não lineares e equações estruturais. Os resultados mostraram um desempenho esportivo médio de 25 em 100 pontos e apenas 10% das equipes obtiveram desempenho superior a 70. Além disso, a cultura adocrática e de clã prevalece nas equipes estudadas. Foi estabelecido um modelo de relação causal da cultura organizacional sobre o desempenho desportivo, onde as dimensões adocrática, hierárquica e mercadológica tiveram um impacto significativo e positivo; entretanto, a dimensão do clã teve uma influência significativa e negativa no desempenho desportivo.

Palavras-chave: cultura organizacional, desempenho esportivo, equipes esportivas, eSport, Valorant.

INTRODUCTION

In recent years, eSports or electronic sports have seen significant growth, driven in part by the lack of traditional sporting events during the pandemic. The development of specialized platforms that offer live broadcasts has attracted a constantly growing audience, which has increased the popularity and profitability of eSports (Maldonado, *et al.,* 2023).

Compared to other regions, Latin America shows less development in eSports, with little presence of teams in the list of the most valuable (Forbes, 2023). This situation is attributed to challenges related to sponsorship, financing, and team structure (Kopp, 2017).

Academic research in the field of eSports focuses mainly on commercial and marketing aspects, and on psychosocial, emotional and sports performance (RD in Spanish) aspects of the players (Freitas, *et al.,* 2020 and García y León, 2022); however, no empirical evidence has been found on the influence of organizational culture (OC) on the RD of eSports teams.

Organizational culture

Despite the diversity of approaches in its definition, there is a consensus in recognizing OC as a fundamental attribute in organizations, due to its relevance and durability, since above all, the tangible and intangible attributes of an organization persist (Schein, 2010). This has led to the development of several analysis models such as competing values, which is applied to identify and evaluate the cultural traits of an organization, especially when the objective is to establish a link between this and performance (Cancino and Vial, 2020).

Cancino and Vial (2020) mention four types of dominant cultures proposed by Cameron and Quinn (1999), these cultures are characterized by a different combination of the basic cultural values that members share and influence the way they behave in the organization. . They are: the hierarchical culture that is characterized by a formalized and structured environment, where standardized processes are fundamental; the market culture that focuses on external transactions and competitiveness; the clan culture that resembles a family group, with high cohesion, commitment and participation, and finally, the adhocratic culture that values innovation and creativity (Hernández, *et al.,* 2014).

Sports performance

RD is a complex and contextually sensitive concept that combines technical, tactical, physical and psychological skills to achieve specific goals in sports competitions (Ursino, *et al.,* 2018). It must incorporate a series of variables that affect the behavior of the players, such as the contextual environment, culture, resources, coordination, cohesion and team dynamics, among others (Nagorsky and Wiemeyer, 2020; Soltanzadeh and Mooney, 2018 and Ursino, *et al.,* 2018).

In the context of eSports, RD refers to a player's ability to overcome challenges and achieve objectives by demonstrating cognitive and motor skills and applying appropriate strategies and tactics to achieve a victory over the opponent in competition, where primary and secondary factors intervene. The primary factors consider training, genetic and psychological aspects. The secondary influence is attributed to elements such as culture, available resources, the structure of each game, among others (Nagorsky and Wiemeyer, 2020 and Ursino, *et al.,* 2018).

Organizational culture and sports performance

The relationship between OC and DR has been studied in various contexts and types of organizations. In the majority, the contribution of OC to organizational performance is evident, whether direct or mediated by other variables such as leadership, climate, satisfaction, internal marketing, among others (Ibarra, 2019; Méndez, et al., 2023 and Salas. *et al.,* 2017).

In the field of traditional sports, the importance of developing an OC that positively influences the successful performance of sports organizations is recognized (Gálvez, *et al.,* 2017). García and León (2022) state that positive OC in sport can improve the well-being of athletes and team performance. Other studies focus on identifying the factors that characterize a management culture in sports organizations. The importance of aligning these factors with effective actions and a shared goal is highlighted to guarantee successful performance (Gómez y del Val, 2019).

McKenzie *et al.* (2023) highlight the importance of studying OC from a subjective and intersubjective perspective, where meanings are constructed that guide and drive players towards shared action, which would mean better levels of DR. On the other hand, from the functionalist approach, OC is considered as a variable or attribute that affects and is affected by other organizational variables (Wagstaff and Burton, 2018).

Organizational culture and sports performance in eSports

In eSports, studies are carried out on the factors that influence the RD of players with the purpose of achieving success in competitions; to this end, models are developed that seek to maximize their RD (Iwatsuki, *et al.,* 2022 and Nagorsky and Wiemeyer, 2020). However, although these models include elements such as communication, leadership, commitment, motivation and team coordination, no empirical evidence has been found that comprehensively addresses OC and its impact on RD in the field of eSports (Ayala and Valladares, 2022).

Valorant

Valorant eSport was considered for the study which is a first-person shooter game developed by Riot Games. Players form teams of five and choose agents with unique abilities to face off in tactical matches with specific objectives. The game stands out for its precision and strategy and has gained great popularity in the gaming community and in eSports. (Riot Games, n.d.).

In this game, America is divided into four distinct regions: Latin America North (LAN) which encompasses Peru, Ecuador, Colombia, Venezuela, Guyana, Mexico and Central America; South Latin America (LAS) which includes Chile, Argentina, Bolivia, Uruguay and Paraguay; North America (NA) composed of the United States and Canada and a fourth region exclusive to Brazil (BR) (Riot Games, n.d.).

In this context, the objective settled is to analyzed the influence of the organizational culture in the Valorant eSports teams in the Latin American North region, in a competitive environment. For the study, teams were considered which basic structure included five players, executive director, coach and manager.

MATERIALS AND METHODS

The research was a mixed, non-experimental, cross-sectional and causal correlational approach to determine the incidence of the independent variable CO on the dependent variable RD. Data collection was carried out through a census of all LAN organizations that participated in the 88 CUP Valorant tournament.

The comprehensive management of the 88 CUP tournament was carried out by the author of the research from the initial phase to the closing. The brand design, sponsor management, promotion, communication, preparation of a detailed manual, organization of teams for development, transmission, marketing and design, and execution with team registration, data verification, championship system and awards. The tournament ran from February 19 to April 30, 2023.

During the registration phase, the CO survey was applied, from which a total of 239 responses were obtained, from 35 Valorant teams. For the study, the responses of 175 starting players and 3 substitutes were considered; the director, the coach and the manager were excluded to avoid bias. In addition, the individual RD data of the players was recorded in each game directly from the game platform.

CO measurement

Organizational Culture Assessment instrument (OCAI) was used, developed by Cameron and Quinn, adapted by Ibarra (2019). This instrument consists of 24 items evaluated on a Likert scale with five response options, it considers six dimensions that make up the four types of OC, with four items dedicated to each of them; in addition, general variables such as team name, player names, age, gender, years of experience, and roles were included. Table 1 presents the CO variables used in the study (Table 1).

Table 1. - CO variables

Dimension	Definition	Item	/ index encoding
Characteristics dominant (CarDom)	Characteristics that generate different organizational environments	1 2 3 4	CarDom1 (Clan1) CarDom2 (Adhoc2) CarDom3 (Merc3) CarDom4 (Hierarch4)
Leadership organizational (Fight)	The leadership style and approach that permeates the organization	5 6 7 8	Lid1 (Clan5) Lid2 (Adhoc6) Lid3 (Merc7) Lid4 (Jeraq8)
Human resources management (GestEmp)	Describes the treatment of staff and work environment	9 10 eleven 12	GestEmp1 (Clan9) GestEmp2 (Adhoc10) GestEmp3 (Merc11) GestEmp4 (Hierarch12)
Cohesion organizational (Cohe)	Various linking mechanisms and aspects that hold it together	13 14 fifteen 16	Cohe1 (Clan13) Cohe2 (Adhoc14) Cohe3 (Merc15) Cohe4 (Hierarch16)
Emphasis strategic (EnfEstrat)	Defines the strategic area established by the organization	17 18 19 twenty	EnfStrat1 (Clan17) EnfStrat2 (Adhoc18) EnfStrat3 (Merc19) EnfStrat4 (Hierarch20)
Success Criteria (CritEx) _	Describe how triumphs are defined and what aspects are rewarded	twenty-one 22 23 24	CritEx1 (Clan21) CritEx2 (Adhoc22) CritEx3 (Merc23) CritEx4 (Hierarch24)

Note: *This table shows the OC variables considered in the study, with their respective coding.*

The Non-Linear Principal Component Analysis (NCPA) technique was used to quantify the categorical variables related to CO, this procedure was carried out using the principal method Components alternating Least Squares, implemented in IBM SPSS Statistics 29 software; From this quantification, standardized indices were generated on a scale from 0 to 100 for each type of CO. The indices of CO types were coded as follows: Clan, Ind_Clan; Adhocratic, Ind_Adhoc; Market, Ind_Merc; Hierarchical, Ind_Hierarq.

Measurement of the RD in the Valorant game

The RD in the Valorant game is measured based on a system that evaluates the individual performance of a player during a game, this system is called Average Combat Score, ACS (Riot Games, n.d.). ACS is a metric used to quantify a player's contribution in terms of their ability to eliminate enemies, assist teammates, and accomplish in-game objectives.

The ACS values were obtained per game for each of the players, directly from the database reported by the Valorant platform. The team's RD is the sum of the ACS that each player obtained during the tournament and is called total combat points (CS). The standardized RD index on a scale of 0 to 100 is the RD Combat Score (RDCS).

Structural equation model

For a more detailed interpretation of the relationship between the types of dominant cultures defined by Cameron and Quinn in 1999 and the RD of the LAN Valorant teams that participated in the 88 CUP tournament, the Structural Equation Modeling was used (SEM). The following hypotheses were proposed:

- H1: The CO Clan has a significant impact on the RD of the LAN Valorant teams that participated in the 88 CUP tournament.

- H2: Adhocratic CO has a significant impact on the RD of the LAN Valorant teams that participated in the 88 CUP tournament.

- H3: Hierarchical OC has a significant impact on the RD of the LAN Valorant teams that participated in the 88 CUP tournament.

- H4: Market CO has a significant impact on the RD of the LAN Valorant teams that participated in the 88 CUP tournament.

Once the conceptual model was defined, the normality and homogeneity of the variance of the data obtained was checked. In the case of normality, the Kolmogorov-Smirnov test was used, which compares the distribution of the data with a theoretical distribution, such as the normal distribution (Flores and Flores, 2021). The homogeneity of the variance was verified through Levene's statistic. Subsequently, with the use of the statistical software Statistics and Data, STATA version 16, the model was estimated using the maximum likelihood method. Finally, the evaluation of the fit of the model to the observed data was analyzed.

In SEM, there are three types of goodness-of-fit statistics. Relative fit indexes that evaluate how the model fits compared to an alternative model, such as the comparative fit index (CFI). Parsimonious fit statistics that take into account the number of parameters used, such as the normalized fit index (NFI). Absolute fit statistics, such as the root mean square error of approximation (RMSEA) and the Chi-square (Medrano and Muñoz, 2017).

According to Herrero (2010), in practical terms, when the CFI and RMSEA indicate a good fit of the model, it is unlikely that it is inadequate for the data; Therefore, for the case of the study, the most common statistics were used in the evaluation of the fit of SEM, CFI, RMSEA and Chi-square.

RESULTS AND DISCUSSION

LAN Valorant teams´ characterization

In the Valorant tournament 88 CUP, 35 teams from 12 countries LAN participated, with nine from Ecuador, eight from Colombia, seven from Mexico, two from Guatemala, Venezuela and one from Costa Rica, Cuba, El Salvador, Honduras, Panama, Peru and Dominican Republic. The teams standout for the diversity of nationalities of their players. It is relevant to mention that the winning team had players of three different nationalities. These results support the conclusions of Parshakov and Zavertiaeva (2018) who state that cultural diversity benefits the performance of eSports teams.

In LAN, the participation of teams from North America, Europe and Asia was observed, with players from different LAN countries, which shows that eSports are the result of the convergence of various phenomena such as globalization, the internet, multiculturalism. and the popularity of video games, as highlighted by Buitrago *et al.* (2020).

On the other hand, 26 teams maintained the basic structure arranged by five players, a director, a manager and a coach; the rest had an incomplete structure, where some of its players assumed the other management roles. The results reflected that, in Latin America,

eSports are in the process of development and their professionalization as another sports discipline has not yet been achieved, as stated by Kopp (2017).

The average age of the players is 21 years old, with an average of three years of experience in the competitive scene, which coincides with the length of time Valorant has been on the market. Regarding gender, 97.2 % (173) are men and 3.8 % (5) are women.

These data coincide with the studies of García *et al*. (2023) who observed a minority participation of women in eSports, a result that is explained by the existence of favorable stereotypes towards men and unfavorable towards women, which is reflected in behaviors, prejudices and cultural discrimination.

Predominant culture in teams

As shown in Figure 1, in the teams participating in the 88 CUP tournament the Adhocratic and Clan CO predominated, while the Market and Hierarchical CO had a less pronounced presence (Figure 1).
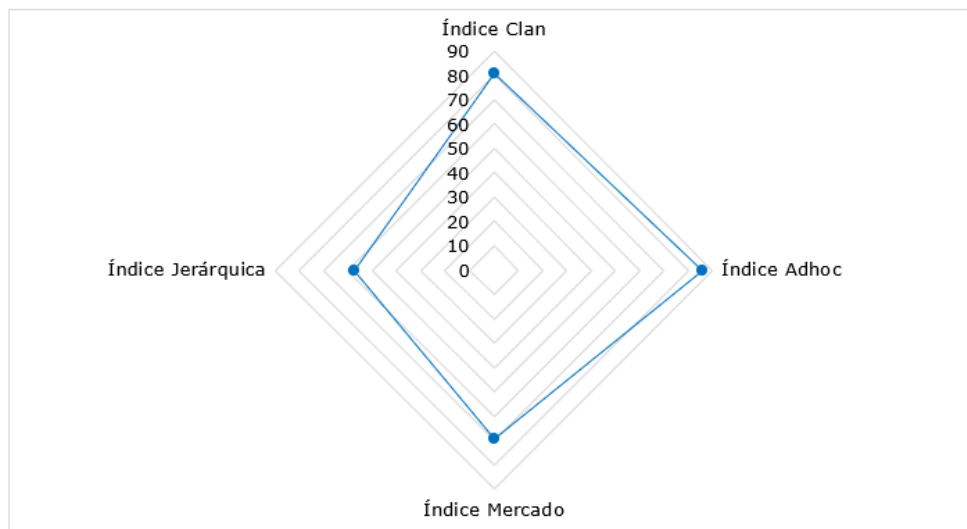

Fig. 1. - Average CO index in Valorant tournament 88 CUP teams

Note: *in the figure, the average CO indexes of the 35 teams are observed: Ind_Adhoc =86.07; Ind_Clan =80.97; Ind_Merc =69.23; Ind_Hierarch = 57.30.*

Valorant teams from the LAN region that participated in the study presented different levels of organizational culture in the four dimensions analyzed. The adhocratic culture index Ind_Adhoc obtained a value of 86.07, which indicated a high orientation towards adaptability, innovation and autonomy in the organization.

On the other hand, clan culture obtained an Ind_Clan index of 80.97, which revealed a strong focus on collaboration and a sense of group. The market and hierarchical cultures presented lower indices, with values of Ind_Merc 69.23 and Ind_Hierarq 57.30; this suggested a less notable presence of strict authority structures and highly competitive market dynamics in the participating teams. Cancino and Vial (2022) examined the results of studies carried out in various contexts and sectors such as industry, health, education and others and highlighted that in organizations located in South America, the predominant culture is Clan type.

Sports performance of the teams

The RDCS results obtained by the LAN Valorant teams that participated in the 88 CUP tournament were analyzed by percentiles and showed that 80 % of the teams obtained an RDCS below 37, and only 10 % achieved values above 70. The average RDCS was 25. The average RDCS of the teams located in the top 4 was 84.22 compared to the average of the remaining 31 teams that reached 17.53.

In the European VALORANT Open Tour France tournament, teams obtained an average of 56 RDCS (Vlr.gg, 2023), more than double the number recorded in the 88 CUP tournament by LAN teams. 80% obtained values lower than 98 RDCS and 20% higher than this value. The values were obtained directly from the game platform in the aforementioned European tournament. These results confirmed the absence of LAN teams in the list of the best in the world prepared by Forbes (2021) and the significant gaps between different regions of the world.

Hypothesis verification

Kolmogorov-Smirnov and Levene statistics were applied to verify the assumptions of normality and homoscedasticity in the maximum likelihood estimation method in the SEM. The results showed that the data do not follow a normal distribution ($p < 0.05$) and present heterogeneity in the variances ($p > 0.05$) (Flores and Flores, 2021). To address this situation, the Satorra-Bentler correction statistic was used, which adjusts the data to a normal distribution when assumptions are not met in the SEM analysis. This combination, together with the maximum likelihood estimation method, allows obtaining more precise estimates of the model parameters (StataCorp, 2019).

After several adjustments, a first model was established that met the goodness-of-fit indicators. That is, a Chi-square with a $p > 0.05$, CIF close to unity and a RMSEA close to 0. However, the adjusted model eliminated two of the explanatory variables present in the Valorant teams and a low incidence of the rest; Also, it contains a high value of constant that explains most of the variability of the RD data, as shown in the following Equation 1:

$$RDCS = 0,99 + 0,27\,Ind\_Jerarq - 0,23\,Ind\_Clan \quad (1)$$

The primary and secondary variables that influenced the RD of eSport athletes, not taken into account in the study, were considered represented by the constant of the model; Among these were those of a genetic, psychological nature, available resources, structure of each game, contextual, communication, training, among many others (Nagorsky and Wiemeyer, 2020 and Ursino *et al.*, 2018).

With this explanation, and based on what was stated by Medrano and Muñoz (2017) who point out that the main objective of the SEM is to contrast theories rather than to search for models that fit properly, it was considered that fundamental theoretical issues cannot be left aside, for so it was decided to use a model with a zero constant value; In this way, it was easier to meet the research objective of studying the incidence of CO in the RD of LAN Valorant players who participated in the 88 CUP tournament.

Furthermore, as mentioned in the introduction section, there is no empirical evidence in the field of eSports on studies that explain the incidence of CO in the DR. Therefore, the objective is to find a model that establishes the existence or not, of a causal relationship of the CO on the RD of Valorant teams. It is not intended to obtain a predictor model that estimates the value of RD, based on the CO variables established in the study. Under these considerations, the results of the SEM for RD as the dependent variable and CO as the independent variable are presented in Table 2.

Table 2. - SEM results

Standardized		Coeff.	Satorra - Bentler Std. Err.	z	P > |z|	[95% Conf. Interval]	
RDCS	Ind_Clan	-0.5177	0.0070	-74.1500	0.0000	-0.5314	-0.5040
	Ind_Hierarchy	0.3378	0.0092	36.6400	0.0000	0.3197	0.3559
	Ind_Merc	0.0673	0.0070	9.5700	0.0000	0.0535	0.0810
	Ind_Adhoc	0.6246	0.0092	67.7300	0.0000	0.6065	0.6426
	_ cons	0.0000	-	-	-	-	-

Note: The four CO variables have a value of $p<0.05$, that is, their impact on the RD is statistically significant. Furthermore, the Z value for each one is within the confidence interval, which allows confirming the proposed hypotheses.

The SEM model presented revealed that the adhocratic, hierarchical and market cultures had a significant ($p<0.05$) and positive impact (coefficients: 0.62; 0.34; 0.07) on the RD of Valorant teams from LAN that participated in the 88 CUP tournament. On the other hand, a significant ($p<0.05$) and negative influence of clan culture (coefficient: -0.52) on the RD of these teams was observed. In Figure 2, the SEM model is graphically presented, where the values described above are also observed.
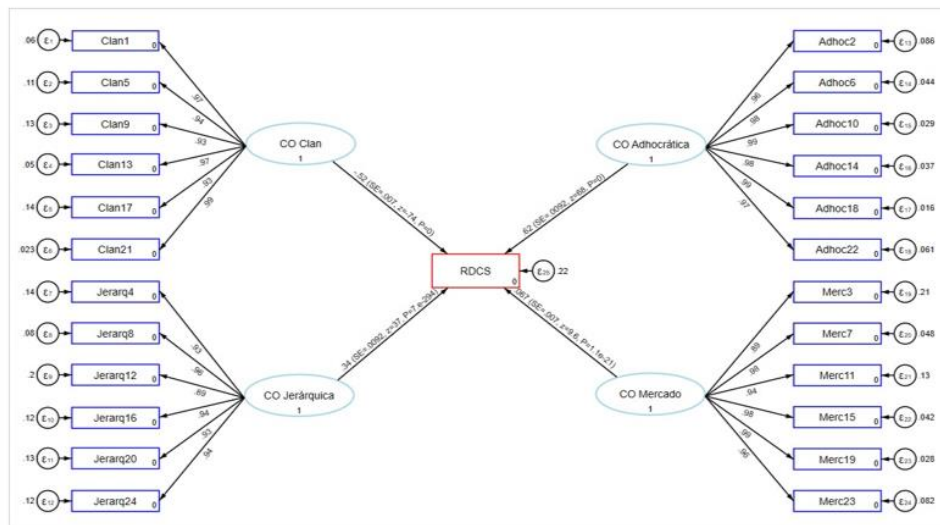
Fig. 2 - Structural equation model

Note: *A model composed of the four CO variables is observed that significantly affects the RD variable. As well as the factorial composition of each of the CO variables.*

Adhocratic culture, represented by the factors Adhoc2, Adhoc6, Adhoc10, Adhoc14, Adhoc18 and Adhoc22, had a significant and positive influence (0.62) on the RD of Valorant teams. These factors, which included characteristics such as entrepreneurial mindset, innovation, willingness to take risks, acquiring new resources, and seeking new opportunities, were key to achieving higher performance in competitions.

The results support the idea that Valorant teams that focus on idea exploration, adaptability, and making bold decisions are more likely to achieve success. In agreement, Nagorsky and Wiemeyer (2020) state that strategic thinking, decision making, memory, concentration and the ability to process information are aspects that improve the DR of eSports players. The above coincides with the results of the 88 CUP tournament, where the team with the highest RD showed a clear predominance of the adhocratic culture with an Ind_Adhoc index of 98.10 %.

Regarding the hierarchical culture, represented by the factors Jerarq4, Jerarq8, Jerarq12, Jerarq16, Jerarq20 and Jerarq24, it had a positive and significant impact (0.34) on the RD of Valorant teams, although less than the adhocratic culture. These factors, which include

elements such as structure, control, efficiency, and compliance with formal procedures, contributed favorably to the teams' success.

Therefore, a well-coordinated organization, with clarity in roles and responsibilities, can promote a better RD result in eSports competitions. According to Soltanzadeh and Mitchell (2016), RD is linked to shared objectives and the role of the players in relation to them. This aligns with the findings of the 88 CUP tournament, where the second-place team exhibited a clear predominance of hierarchical culture, with an Ind_Hierarq index of 89.12 %.

The results obtained support the relevance of promoting an organizational culture oriented toward professional management that, in accordance with Gómez and Val (2019), promotes a more formalized and structured environment, which can improve RD; In this way, it contributes to the growth of eSports and addresses the challenges that the region faces in terms of sponsorship, financing and team structure, as Kopp (2017) points out.

On the other hand, the market culture, represented by the factors Merc3, Merc7, Merc11, Merc15, Merc19 and Merc23, had a positive and significant influence (0.067) on the RD, much lower compared to the adhocratic and hierarchical cultures. This showed that aspects such as results orientation, competitiveness and the desire to win also positively influenced the teams' RD. Although these factors have a less pronounced impact, they still play a role in motivation and goal achievement in the field of eSports, and as Gómez and Val (2019) mention, it is crucial to have an organizational culture that leans towards better management. highly professional, where all efforts come together and emphasis is placed on achieving the desired results.

Finally, clan culture, represented by the factors Clan1, Clan5, Clan9, Clan13, Clan17 and Clan21, showed a significant negative coefficient (-0.52), which revealed that a greater emphasis on camaraderie, loyalty and Mutual trust can have a negative impact on the DR of eSports teams. These results suggest that an excess of cohesion and focus on interpersonal relationships can affect the ability of teams to achieve high levels of performance. It is important to balance team cohesion with a focus on sporting excellence and goal achievement.

This dynamic was reflected in the results of the study, where 64.6% of the participating teams, that is, 24 of the 35 teams had a Clan culture index greater than 80; however, it was observed that 21 of these 24 teams obtained RD results below 40.

The indicated results contrast with the findings of Nagorsky and Wiemeyer (2020) who found a positive correlation between player commitment and sports performance. Player commitment is considered to be a prominent characteristic in a clan culture environment, the contradictory results may raise questions about the influence of clan culture on RD in the specific context of the present study.

CONCLUSIONS

The present study contributed to the understanding of the relationship between organizational culture and sports performance in the field of eSports, specifically in the Valorant teams from the LAN region that participated in the 88 CUP tournament. The dimensions of organizational culture composed of clan, adhocratic, hierarchical and market that have been widely studied in other organizational contexts were explored. It is important to highlight that this study is a pioneer worldwide in applying this model in the context of eSports, where academic research is limited and focuses mainly on commercial areas, marketing and the psychosocial and emotional aspects of sports performance.

The results of measuring CO, through the calculated indices, showed that the majority of Valorant teams that participated in the study were characterized by having a CO oriented towards adaptability, innovation and autonomy (Adhocratic), as well as by foster collaboration and a sense of group (Clan). In contrast, a lower presence of market and hierarchical cultures was observed, suggesting that the participating teams were not characterized by following rigid authority structures or highly competitive dynamics in the market. The combination of these characteristics indicated that they do not exclusively adhere to a single culture, but instead incorporate elements of several cultures at different levels, which demonstrated that these dimensions are not mutually exclusive. This

understanding allowed organizations to evaluate their prevailing culture and understand how it influences functioning and the ability to achieve strategic objectives.

Analysis of descriptive RD data from Valorant teams in the 88 CUP tournament revealed wide variability in performance scores ranging from 6.23 to 100 on the RDCS scale. These results highlighted the diversity in performance levels among the participating teams. Furthermore, they were useful to understand the distribution and scope of RD in this context, and can serve as a basis for future analyzes and comparisons that contribute on the path towards the institutionalization of video games as a sport in LAN.

In eSports, models have been developed to maximize sports performance that include variables such as communication, leadership, commitment, motivation and team coordination. However, no empirical evidence has been found that comprehensively addresses organizational culture in this context; therefore, the present study provides an opportunity to address all dimensions of organizational culture.

The results obtained revealed that adhocratic, hierarchical and market cultures had a significant and positive influence on the sports performance of the teams. This suggested that features such as innovation, organizational structure, market orientation, and decision-making efficiency had a positive impact on the performance of LAN Valorant teams participating in the 88 CUP tournament.

On the other hand, it was observed that the clan dimension had a significant and negative influence on sports performance. This indicated that an excessive focus on cohesion and interpersonal commitment can have an adverse effect on team performance.

These findings have relevant implications for Sports teams, as they highlight the importance of promoting an organizational culture that encourages innovation, appropriate structure and a market orientation, while balancing team cohesion. These factors can contribute to better performance in eSports competitions.

Furthermore, as the eSports industry continues its development in the region, these results can serve as a starting point for future research and as a guide for the management and alignment of organizational values in pursuit of competitive success.

REFERENCES

Ayala, A., & Valladares, R. (2022). Relación entre los estilos de liderazgo y el desempeño de los equipos de Dota 2. Administración para los negocios. Universidad Peruana de Ciencias Aplicadas (UPC). https://repositorioacademico.upc.edu.pe/handle/10757/659452

Buitrago, R., Romero, N., El Kadi, O., & Vera, J. (2020). E-SPORTS: de la pueril recreación con videojuegos a la gamificación del deporte. Journal of Physical Education and Human Movement, 2(1), pp. 21-34. https://revistas.uma.es/index.php/JPEHM/article/view/7497/7239

Cameron, K. S., & Quinn, R. E. (1999). Onderzoeken en veranderen van organisatiecultuur. Gebaseerd op het model van de concurrerende waarden, Schoonhoven: Academic Service. https://www.boomhogeronderwijs.nl/media/10/9789052618890_inkijkexemplaar .pdf

Cancino, V., & Vial Aliaga, M. (2022). Instrumento de evaluación de la cultura organizacional: revisión sistemática de su aplicación. Revista Venezolana de Gerencia, 27(97), pp. 107-126. https://www.produccioncientificaluz.org/index.php/rvg/article/view/37524/41 117

Flores, C., & Flores, K. (2021). Pruebas para comprobar la normalidad de datos en procesos productivos: Anderson-Darling, Ryan-Joiner, Shapiro-Wilk y Kolmogórov-Smirnov. Revista de Ciencias Sociales y Humanísticas, 23(2). http://portal.amelica.org/ameli/jatsRepo/341/3412237018/html/index.html

Forbes. (2023). The Most Valuable Esports Companies 2022. https://www.forbes.com/sites/brettknight/2022/05/06/the-most-valuable-esports-companies-2022/?sh=70ab2397599f

Freitas, B. D. A., Contreras-Espinosa, R. S., & Pereira Correia, P. Á. (2020). How sponsors shouldbring relevant-added value to esports. Scientific Annals of Economics and Business, 67(3). http://saeb.feaa.uaic.ro/index.php/saeb/article/view/1179

García-Naveira, A., & León, E. (2022). Factores psicológicos y crisis de resultados en un equipo profesional de esports. Revista de Psicología Aplicada al Deporte y al Ejercicio Físico, 17(1). https://www.revistapsicologiaaplicadadeporteyejercicio.org/art/rpadef2022a3

García-Naviera, A., Sierra, N., Moltiel, O. (2023). Mujeres, videojuegos y esports: una revisión sistemática. Psicología del deporte: aplicaciones prácticas, 124, pp. 29-46. https://www.informaciopsicologica.info/revista/article/view/1948

Gómez, S., & del Val, P. (2019). Cultura gerencial en las organizaciones del deporte ecuatoriano. Revista Espacios, 40(4), pp. 9-22. https://spensen.com/eksluzywna-lampa-wiszaca-matrix,3,1819,259163

Hernández Sampieri, R., Méndez Valencia, S., & Contreras Soto, R. (2014). Construcción de un instrumento para medir el clima organizacional en función del modelo de los valores en competencia. ContaduríA Y AdministracióN, 59(1). doi: http://dx.doi.org/10.1016/S0186-1042(14)71250-1

Herrero, J. (2010). El Análisis Factorial Confirmatorio en el estudio de la Estructura y Estabilidad de los Instrumentos de Evaluación: Un ejemplo con el Cuestionario de Autoestima CA-14. Intervención Psicosocial, 19(3), pp. 289-30. https://journals.copmadrid.org/pi/art/in2010v19n3a9

Iwatsuki, T., Hagiwara, G., & Dugan, M. E. (2022). Effectively optimizing esports performance through movement science principles. International Journal of Sports

Science & Coaching, 17(1), pp. 202-207. https://journals.sagepub.com/doi/10.1177/17479541211016927

Kopp, J. (2017). Ejes para una investigación en deportes electrónicos. Revista Lúdicamente, 6(11). https://jobs.nike.com/nl/job/R-6610?from=job%20search%20funnel

Maldonado, B., Soria, J., & Soria, D. (2023). Factores clave de gestión de los e-sports ante situaciones de crisis. Global Conference on Business and Finance Proceedings, 18(1), pp. 238-244.

McKenzie, G., Wagstaff, C., & McDougall, M. (2023). Walking the Middle Line: Organizational Culture Work in Sport. Journal of Sport Psychology in Action. https://www.tandfonline.com/doi/full/10.1080/21520704.2022.2155740

Medrano, L, & Muñoz-Navarro, R. (2017). Aproximación conceptual y práctica a los Modelos de Ecuaciones Estructurales. Revista Digital de Investigación en Docencia Universitaria, 11(1), pp. 219-239. http://dx.doi.org/10.19083/ridu.11.486

Nagorsky, E., Wiemeyer, J. (2020). The structure of performance and training in esports. PLoS ONE 15(8). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250316

Parshakov, P., & Zavertiaeva, M. (2018). Determinants of performance in eSports: A country-level Analysis. International Journal of Sport Finance, 13(1), pp. 34-51. https://publications.hse.ru/en/articles/219471613

Salas-Arbeláez, L., García, M., & Murillo, G. (2017). Efecto de la CO en el rendimiento de las PYMES de Cali. Revista Suma de Negocios, 8(18), pp. 88-95. https://www.sciencedirect.com/science/article/pii/S2215910X17300356?via%3Dihub

Schein, E. H. (2010). Organizational culture and leadership. (4a Ed.). San Francisco: Jossy-Bass. 416 páginas https://books.google.com.cu/books/about/Organizational_Culture_and_Leadership.html?id=l2jpCgAAQBAJ&redir_esc=y

Soltanzadeh, S., & Mitchell, M. (2016). Systems Thinking and Team Performance Analysis. International Sport Coaching Journal, 3, pp. 184-191. https://journals.humankinetics.com/view/journals/iscj/3/2/article-p184.xml

Soltanzadeh, S., & Mooney, M. (2018). Players within a team: Understanding the structure of team performance through individual functions and team objectives. International Sport Coaching Journal, 5(1), pp. 84-89. https://journals.humankinetics.com/view/journals/iscj/5/1/article-p84.xml

Ursino, D., Cirami, L., & Barrios, R. (2018). Aportes de la psicología del deporte para conceptualizar, operacionalizar y maximizar el rendimiento deportivo. Anuario de Investigaciones, 15, pp. 331-347. Universidad de Buenos Aires, Argentina. https://www.redalyc.org/articulo.oa?id=369162253040

Wagstaff, C.R.D., & Burton-Wylie, S. (2018). Organizational culture in sport: A conceptual, methodological and definitional review. Sport & Exercise. Psychology Review, 14(1), pp. 32-52. https://www.researchgate.net/publication/328007520_Organisational_culture_in_sport_A_conceptual_definitional_and_methodological_review

Conflict of interests:
The authors declare not to have any interest conflicts.

Authors' contribution:
The authors have participated in the writing of the work and analysis of the documents