# Disentangling the Effect of Experience-Based Faultlines on Team Performance in E-Sports

*Research-in-Progress*

**Jiantao Zhu**
Department of Management Science and Engineering, School of Management, University of Science and Technology of China
Jinzhai Road 96, Hefei, Anhui, China
jtzhu@mail.ustc.edu.cn

**Fei Liu**
Department of Digitalization
Copenhagen Business School
Howitzvej 60, 5.18
2000 Frederiksberg, Denmark
afl.digi@cbs.dk

**Yijing Li**
School of Information Systems and Technology Management,
UNSW Business School
Sydney, NSW 2052, Australia
yijing.li@unsw.edu.au

**Eric T.K. Lim**
School of Information Systems and Technology Management,
UNSW Business School
Sydney, NSW 2052, Australia
e.t.lim@unsw.edu.au

**Chee-Wee Tan**
Department of Digitalization
Copenhagen Business School
Howitzvej 60, 4.18
2000 Frederiksberg, Denmark
ct.digi@cbs.dk

**Hefu Liu**
Department of Management Science and Engineering, School of Management, University of Science and Technology of China
Jinzhai Road 96, Hefei, Anhui, China
liuhf@ustc.edu.cn

## Abstract

*Electronic sports (e-sports) is growing around the globe, with more and more individuals participating as players or spectators. To win in professional tournaments, deliberate selection of team players with diverse experience is necessary to ensure an element of surprise while maintaining a certain degree of coordination. Building on faultlines theory, we posit experience-based faultlines as a focal determinant of team performance in e-sports tournaments. Furthermore, through a comprehensive review of extant literature, we derive a typology of experience attributes that are implicit to e-sports teams and from which experience-based faultlines could emerge. Experience-based faultlines, which originate from the alignment of players based on their experience attributes (i.e., leader, role-play, prior, cooperative and rival), have emerged as a novel type of faultlines in e-sports teams. In turn, these experience-based faultlines are postulated to exert an effect on e-sports team performance. Findings from this study bear implications for both theory and practice.*

**Keywords:** E-sports, Experience, Faultlines, Team Performance

## Introduction

E-sports constitutes an integral part of the overall media and entertainment industry with global revenues of USD $1.1 billion in 2020 (Newzoo, 2020), up by 15.7% from 2019. The total e-sports

audience will reach 495 million in 2020, made up of 223 million e-sports enthusiasts and 272 million occasional viewers. Winning is paramount in e-sports tournaments because winning teams will receive extensive media coverage, grow their fan base, and attract an increased amount of sponsorship (Seo 2013), all of which are critical to the sustainability of e-sports teams. Yet, despite the size and rapid growth of the e-sports market, there is still a dearth of research that elucidates how e-sports teams can continue to win e-sports tournaments.

Although past studies have yielded invaluable insights into what is e-sports as well as why do people watch and play e-sports (Hamari and Keronen 2017; Hamari and Sjöblom 2017), they fall short of elucidating the underlying factors that determine team performance in official e-sports tournaments. Prior research has demonstrated that faultlines—hypothetical dividing lines that split a team into relatively homogeneous subgroups based on the team members' alignment along with multiple attributes—could impact team performance (Bezrukova and Jehn 2003; Homan et al. 2007; Hutzschenreuter and Horstkotte 2013; Lau and Murnighan 1998; Pearsall et al. 2008). A handful of studies in offline contexts have alluded to the adverse impact of demographic faultlines (e.g., age, education background, expertise, and gender) on outcomes such as team creativity (Pearsall et al. 2008; Qu and Liu 2017), team performance (Antino et al. 2019; Bezrukova et al. 2012; Homan et al. 2007), and member satisfaction (Thatcher and Patel 2012). The primary distinction between e-sports and their traditional counterparts is that players assume the role of a playable character in the game. Compared to players of traditional sports teams who are often distinguishable by their personal abilities, characters, which are selectable by players in e-sports games, do not come with inherent advantages or disadvantages. The ultimate victory of the e-sports team is hence dependent on a player's skills with the chosen character and his/her previous collaboration ties between players (Neidhardt et al. 2015). However, due to the competitive and role-playing nature of e-sports games, only considering static attributes like demographics cannot adequately capture the dynamism of e-sports teams. Past studies have indicated that team performance is dictated by the similarity of a player's role with their most-experienced role and the extent to which team members' roles complement each other (Kim, Keegan, Park, & Oh, 2016). Moreover, due to less fluidity in e-sports team membership, it is much more pertinent to concentrate on improving the altitude of existing team members. Particularly, experience attributes of players of e-sport games are dynamic and will accumulate after each tournament. Players can gain a deeper understanding from previously role-played character(s), the team assigned roles, and respective outcomes. It is thus unsurprising that experience was discovered to have a critical impact on the strategy of e-sports teams (Pobiedina et al. 2013).

Players with similar experience attributes tend to categorize themselves into the same subgroup, meaning that different players in the e-sports team will form faultlines based on discrepancies in experience attributes (Schölmerich et al. 2016). Despite the prevalence of experience-based faultlines in e-sports teams, there is a dearth of research that examines the effects of such faultlines on team performance. The effects of experience-based faultlines on team performance may present a controversial scenario because of two opposing logics. On the one hand, teams with experience-based faultlines will benefit team performance by offering valuable tacit knowledge about how to leverage the distinct skillsets of various characters. On the other hand, teams with experience-based faultlines encounter difficulty in coordination due to the knowledge gap between experts and novices in terms of how to perform. In other words, experience-based faultlines could exert a countervailing impact on team performance.

To address the abovementioned knowledge gaps, the current study aims to explore what is experience-based faultlines in e-sports games and how experience-based faultlines impact team performance. Through introspective review of extant literature on experience in conjunction with an in-depth appreciation of the unique role-playing and competitive attributes of e-sports, we re-conceptualize experience-based faultlines as comprising five constituent sub-dimensions of leader experience, tournament experience, role-play experience, cooperative experience, and rival experience. Considering the differentiated effects of players' five dimensions of experience in e-sports, we anticipate that the relationship between experience-based faultlines and team performance will differ.

To validate our research model, we opted for a Multiplayer Online Battle Arena (MOBA) game to observe the accumulation of experience by counting the number of times each form of experience has

accumulated in past games. We collected publicly accessible data from 65,170 tournaments containing 118639 players. Reconceptualizing experience-based faultlines into the five dimensions of leader experience, tournament experience, role-play experience, cooperative experience, and rival experience, we plan to compute experience-based faultlines strength indices by employing the R program Average Silhouette Width (ASW) algorithm developed by Meyer and Glenz (2013), which is derived from multivariate statistical clustering analysis (Lawrence and Zyphur 2011; Thatcher et al. 2003), and applied by other researchers investigating faultlines (Bezrukova et al. 2016).

## Theoretical Background

Researchers in cognitive science and informatics both study expertise in e-sports through different levels of analysis. Cognitive scientists are looking at the performance of individual players and aim to identify constructs previously explored outside of e-sports that correlate with higher skill levels in competitive play (Huang et al. 2017). For instance, more of e-sports researches explored how competitive players understand the games they play and the contexts they play them in (Ash 2012). Informatics scholars are more interested in understanding the team of experts in e-sports games than on individual performance. Informatics researchers often implement gameplay data analysis in search of optimal team compositions (Goyal et al. 2018) and patterns in team play that correlate with in-game performance (Leavitt et al. 2016). Pobiedina et al. (2013), for example, use the team-level data available from game publishers' APIs to testing hypotheses about what makes a strong team. Prior studies have identified factors like player experience, role distribution, role selection, and teammate familiarity as factors that correlate with how often a team wins. Yet, existing e-sports research still does not solve the problem of how to build a team that can help e-sports teams win games. Some studies on organizational and team diversity, from the perspective of the faultlines, explore how a single salient attribute or alignment of multiple attributes (such as gender, age, educational background, and functional background) affects team performance (Kunze & Bruch, 2010; Richard, Wu, Markoczy, & Chung, 2019). The same is that there are also differences in personal attributes among the members of the e-sports team. The more similar features among individuals, the deeper the preferences of insiders, and the more obvious the boundary between sub-teams (team faultlines). Thus, it is worthwhile to examine the effect of faultlines on team performance in the e-sports team.

### *Faultline Theory*

Faultline theory was developed by Lau and Murnighan (1998) to further explain the relationship between diversity and team performance. Faultline theory suggests that multiple types of differences can combine to create a split within a group (Lau and Murnighan 1998). Players with similar experience attributes tend to categorize themselves into the same subgroup, which means that different players in the e-sports team will form faultlines based on differences in experience attributes. Following this notion, faultlines theory is useful to provide a cogent perspective for analyzing how experience-based faultlines relate to team performance. Strong faultlines are beneficial to subgroup members—increased creativity (Pearsall et al. 2008) and improved satisfaction (Jehn and Bezrukova 2010)—but detrimental to the whole group—more conflict between subgroups and decreased team performance (Li and Hambrick 2005). According to Lau and Murnighan (1998), the strength of a faultline depends on (a) the number of different attributes that are easily perceived by group members, (b) the "alignment" of attributes among members, and (c) the number of potential subgroups that can be formed as a result of the alignment of attributes within the group. Alignment refers to the extent to which groups formed on the basis of one characteristic (e.g., nationality) will have a high level of similarity to other attributes. Some empirical research on faultlines has emphasized a primary salient attribute, such as members' geographic locations (Polzer et al. 2006) or age-based faultline (Kunze and Bruch 2010). As these examples illustrate, a single, salient attribute may be sufficient to activate a faultline.

Existing research primarily focuses on demographic attributes (i.e., race, gender, age, function, education, tenure, language) (Kunze and Bruch 2010; Pearsall et al. 2008; Qu and Liu 2017; Richard et al. 2019). Other researchers have examined faultlines derived from non-demographic attributes such as personality characteristics or types (Molleman 2005), work location (Polzer et al. 2006), and the level of "familiness" in family-owned firms (Minichilli et al. 2010). However, the demographic attributes are

inherent to an individual and not change over time, less is known about how the dynamic attributes alignment might lead to active subgroups within a larger group. Empirical study has shown that players selecting similarity roles best match their experience positive impact on team performance especially when subgroup members have complementary roles (Kim et al. 2016). Conversely, experience attributes of players of e-sport games are dynamic and will be accumulated after each tournament. It is interesting to note that professional players have formed a fixed paradigm for character use. The opponents can easily predict their character use and skill selection in the next tournament by investigating the use of skills from previous matches. The opponent players will choose a special character to limit the player's abilities; however, new team members will create more possibilities because of their personal understanding of the role usage, which will help the team surprisingly win. On the other hand, Professional players are often familiar with the skills of their commonly used characters and understand how to coordinate and cooperate with other members, but novice players because of their weak ability to master the characters affect the coordination and coordination of team members' tactics.

However, experience has usually been considered as a rather unidimensional concept (Zhang et al. 2018). Previous literature has largely neglected its multi-faceted nature and omitted potential alignments between different types of experience. The organization and strategy studies recently have started to disaggregate experience into different components (Godart et al. 2015). This allows us to examine the extent to which different attributes of experience faultlines contribute to team performance and respond to Zhang and Liu (2019) call for a deeper inquiry of team faultline effects. We will articulate the process of conceptualizing the experience-based faultlines in the next subsections.

## *Conceptualization Process for Experience-Based Faultlines*

To arrive at a descriptive set of constituent dimensions comprising efficient experience-based faultlines, we following a four-step process: (1) a comprehensive review of the prior literature on the classifications of experience, (2) screen and synthesis of the literature, (3) check with major dimensions of experiences in e-sports games, and (4) alignment along with multiple experience attributes to frame faultlines. This process yielded a list of the 3 experiences shown in Table 1 and complement two new classifications based on the characteristics of e-sports games in the main text. We describe these steps in detail below.

To begin, we engaged in a comprehensive review of the literature in different journals, which included the division of experience in different dimensions. We reviewed articles from 25 refereed journals. Utilizing digital libraries belonging to the web of science, we searched for papers dated from 1991 to 2019 on the topic of experience published in the journals listed above. To be comprehensive, our search included related topic areas such as "experience" and "team." We located a total of 499 articles. Next, we took several steps to synthesize these experiences. First, due to the vast pool of published articles to be reviewed, an initial screening process was carried out by the authors to shortlist papers that might potentially yield dimensions of experience and thus warrant in-depth scrutiny. In the screening process, we combed through the theory and findings (if any) segments of each article to eliminate papers that did not involve the classifications of experience. This process yielded 146 out of 499 papers for defining and measuring experience. Second, we took several steps to carefully read the literature containing the concept of experience to summarize the classifications of experience. First, some studies examine experience broadly and others in a more specific context. For instance, for the prior experience, Carpenter and Fredrickson (2001) describe that the executives' international experience in general as team members' total years of experience accrued in international assignments, while Rickley (2019) focuses specifically on variety and specificity of previous educational and professional international experiences. Second, different studies capture distinct but different aspects of experience or at different levels of abstraction. For instance, Tzabbar and Margolis (2017) emphasize experience learning from prior founding team's experience, whereas Bresman (2013) emphasizes experience learning from other groups. In summary, our approach to consolidation involved grouping similar experiences together and generating different dimensions of experience. This literature screening and summarizing process resulted in 3 dimensions of experience (leader, prior and cooperative) described in Table 1.

| Table 1. Typology of Experience Dimensions in E-Sports | | | | |
|---|---|---|---|---|
| **Experience Dimension** | **Number of Articles** | **Definition** | **Concepts in Extant Literature** | **References** |
| Leader | 6 | Team leader's experience as a captain in previous e-Sports tournaments | Leader experience | Ahearn, Ferris, Hochwarter, Douglas, and Ammeter (2004); Easton and Rosenzweig (2015); |
| Tournament | 136 | Player's general experience of participation in e-Sports tournament | Tournament experience | Georgakakis and Ruigrok (2017); Arede, Esteves, Ferreira, Sampaio, and Leite (2019); |
| Cooperative | 11 | Player's experience of working with others in the same team | Team experience | Vera, Nemanich, Velez-Castrillon, and Werner (2016); Bonet and Salvador (2017) |
| Role-play | 0 | Player's experience of using a game character in previous e-Sports tournaments | N.A | N.A |
| Rival | 0 | Player's experience of competing with the same player in the opposing team using the same character | N.A | N.A |

**Table 1. Typology of Experience Dimensions in E-Sports**

Finally, we combine the different dimensions of experience in the existing literature with e-sports game scenarios. However, due to the unique role-play and competitive attributes of e-sports games. The division of experience in the e-sports team should not only consider the team leader's game experience, the team members' tournament experience in the tournament and the cooperative experience between team members, but also consider the members' familiarity with different role skills and team members' rival experience with other team's players. Thus, we determined the classifications of experience in e-sports games includes: leader experience, role-play experience, tournament experience, cooperative experience, and rival experience. In particular, leader experience refers to the specific experience of the team leader as a captain in previous e-sports games. Tournament experience reflects the players' general experience of continuing to participate in the competition. Role-play experience reflects the player's experience of using a game character in the e-sports game settings, indicating the individual's proficiency in the use of this character's skills. Cooperation experience refers to the experience of players working with other players in the same team, reflecting the tacit understanding of cooperation between team members. Past research has shown that complementarity among team members positively affects the relationship between player proficiency and team performance (Kim et al. 2016), and rival experience refers to the experience of players competing with the same player in the opposite team using the same character. This means that when a player fights multiple times with the same character used by the same player in the opposing team, the use of the player's individual competitive abilities and skills will change accordingly. Drawing on faultlines theory, the members of the e-sports team may split a group into subgroups based on players' experience attributes, which dividing lines that formatted team faultline. Furthermore, we reference Lau and Murnighan (1998) and Meyer and Glenz (2013) to define and operationalize experience-based faultlines.

## Methodology

The data that we collected was provided by an anonymous e-sports data service providers company for a multiplayer online battle arena (MOBA) game. In the game, with teams from around the world playing in various professional leagues and tournaments. Each player controls a character called “hero”, who participates in team combat with the objective to demolish the opposing team’s fortified stronghold. During a match, players collect experience points and items for their heroes to successfully defeat the opposing team's heroes in player versus player combat. A team wins by being the first to destroy the other team's "Ancient", a large structure located within their base. As in Defense of the Ancients, the game is controlled using standard real-time strategy controls and is presented on a single map in a three-dimensional isometric perspective. Ten players each control one of the game's 119 playable characters, with each having their own design, strengths, and weaknesses. All heroes have a basic attack in addition to powerful abilities, which are the primary method of fighting. Each hero has at least four of them, all of which are unique. Heroes begin each game with an experience level of one, only having access to one of their abilities, but are able to level up and become more powerful during the course of the game, up to a maximum level of 30. Whenever a hero gains an experience level, the player is able to unlock another of their abilities or improve one already learned. Using the Steam API we incorporate additional information of those players that appear in the match history data. The dataset contains player information (for instance, name, sign up date, account id, gold, etc), team information (for instance, team id, tower state, team score, team logo, etc), match information (for instance, match name, start time, game mode, etc), hero skills and item information. The dataset includes the complete game-play histories of 118639 players in 15660 teams from October 2016 to May 2019. These players played 65170 unique tournaments in this period.

## Expected Contributions

This paper contributes to contemporary knowledge about experience and team faultlines on three fronts. First, we review and consolidate prior research on experience within extant literature. Particularly, grounded in the unique characteristics of e-sports games, we expand existing research on experience by advancing the two new dimensions of role-play experience and rival experience. Second, responding to call for consider the dynamic changes of the faultlines (Zhang and Liu 2019), this study contributes to faultlines-team performance relationships by re-conceptualize the experience-based faultlines. Research to date has identified subgroups driven by demography (e.g., gender, age, ethnicity, and nationality) (Lau and Murnighan 2005; Li and Hambrick 2005; Richard et al. 2019), informational (e.g., functional background, education specialty, and work tenure) (Qu and Liu 2017) and psychological factors such as personality and values (Molleman 2005). Unlike traditional face-to-face teams, the demographic attributes of members (e.g., age, gender, race, and educational background) are constant attributes in e-sports teams. Instead, due to the competitive and role-play nature of e-sports games, team members are inclined to place greater emphasis on experience attributes that mirror the relative performance of individual player abilities. Last but not least, this study is the first to investigate how experience-based faultlines influence team outcomes in e-sports games. Moreover, our proposed experience-based faultlines would yield insights into understanding player behavior and provide guidance for the composition of e-sports teams. Thus, e-Sports team club managers should carefully select the members with different experience attributes to build the team, so as to achieve superior team performance.

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## References

Ahearn, K. K., Ferris, G. R., Hochwarter, W. A., Douglas, C., and Ammeter, A. P. 2004. "Leader Political Skill and Team Performance," Journal of Management (30:3), pp. 309-327.

Antino, M., Rico, R., and Thatcher, S. M. 2019. "Structuring Reality through the Faultlines Lens: The Effects of Structure, Fairness, and Status Conflict on the Activated Faultlines–Performance Relationship," Academy of Management Journal (62:5), pp. 1444-1470.

Arede, J., Esteves, P., Ferreira, A. P., Sampaio, J., and Leite, N. 2019. "Jump Higher, Run Faster: Effects of Diversified Sport Participation on Talent Identification and Selection in Youth Basketball," Journal of Sports Sciences (37:19), pp. 2220-2227.

Bezrukova, K., and Jehn, K. A. 2003. "The Role of Group Values in the Relationship between Group Faultlines and Performance," 16th Annual IACM Conference Melbourne, Australia.

Bezrukova, K., Thatcher, S., Jehn, K. A., and Spell, C. S. 2012. "The Effects of Alignments: Examining Group Faultlines, Organizational Cultures, and Performance," Journal of Applied Psychology (97:1), pp. 77-92.

Bezrukova, K., Spell, C. S., Caldwell, D., and Burger, J. M. 2016. "A Multilevel Perspective on Faultlines: Differentiating the Effects between Group-and Organizational-Level Faultlines," Journal of Applied Psychology (101:1), pp. 86-107.

Bonet, R., and Salvador, F. 2017. "When the Boss Is Away: Manager-Worker Separation and Worker Performance in a Multisite Software Maintenance Organization," Organization Science (28:2), pp. 244-261.

Bresman, H. 2013. "Changing Routines: A Process Model of Vicarious Group Learning in Pharmaceutical R&D," Academy of Management Journal (56:1), pp. 35-61.

Carpenter, M. A., and Fredrickson, J. W. 2001. "Top Management Teams, Global Strategic Posture, and the Moderating Role of Uncertainty," Academy of Management Journal (44:3), pp. 533-545.

Easton, G. S., and Rosenzweig, E. D. 2015. "Team Leader Experience in Improvement Teams: A Social Networks Perspective," Journal of Operations Management (37), pp. 13-30.

Georgakakis, D., and Ruigrok, W. 2017. "CEO Succession Origin and Firm Performance: A Multilevel Study," Journal of Management Studies (54:1), pp. 58-87.

Godart, F. C., Maddux, W. W., Shipilov, A. V., and Galinsky, A. D. 2015. "Fashion with a Foreign Flair: Professional Experiences Abroad Facilitate the Creative Innovations of Organizations," Academy of Management Journal (58:1), pp. 195-220.

Goyal, P., Sapienza, A., and Ferrara, E. 2018. "Recommending Teammates with Deep Neural Networks," in Proceedings of the 29th on Hypertext and Social Media. pp. 57-61.

Hamari, J., and Keronen, L. J. I. J. o. I. M. 2017. "Why Do People Play Games? A Meta-Analysis," International Journal of Information Management (37:3), pp. 125-141.

Hamari, J., and Sjöblom, M. J. I. r. 2017. "What Is Esports and Why Do People Watch It?," Internet Research (27:2), pp. 211-232.

Homan, A. C., Van Knippenberg, D., Van Kleef, G. A., and De Dreu, C. K. 2007. "Bridging Faultlines by Valuing Diversity: Diversity Beliefs, Information Elaboration, and Performance in Diverse Work Groups," Journal of Applied Psychology (92:5), pp. 1189-1199.

Huang, J., Yan, E., Cheung, G., Nagappan, N., and Zimmermann, T. 2017. "Master Maker: Understanding Gaming Skill through Practice and Habit from Gameplay Behavior," Topics in Cognitive Science (9:2), pp. 437-466.

Hutzschenreuter, T., and Horstkotte, J. 2013. "Performance Effects of Top Management Team Demographic Faultlines in the Process of Product Diversification," Strategic Management Journal (34:6), pp. 704-726.

Jehn, K. A., and Bezrukova, K. 2010. "The Faultline Activation Process and the Effects of Activated Faultlines on Coalition Formation, Conflict, and Group Outcomes," Organizational Behavior and Human Decision Processes (112:1), pp. 24-42.

Kim, J., Keegan, B. C., Park, S., and Oh, A. 2016. "The Proficiency-Congruency Dilemma: Virtual Team Design and Performance in Multiplayer Online Games," Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, pp. 4351-4365.

Kunze, F., and Bruch, H. 2010. "Age-Based Faultlines and Perceived Productive Energy: The Moderation of Transformational Leadership," Small Group Research (41:5), pp. 593-620.

Lau, D. C., and Murnighan, J. K. 1998. "Demographic Diversity and Faultlines: The Compositional Dynamics of Organizational Groups," Academy of Management Review (23:2), pp. 325-340.

Lau, D. C., and Murnighan, J. K. 2005. "Interactions within Groups and Subgroups: The Effects of Demographic Faultlines," Academy of Management Journal (48:4), pp. 645-659.

Lawrence, B. S., and Zyphur, M. J. 2011. "Identifying Organizational Faultlines with Latent Class Cluster Analysis," Organizational Research Methods (14:1), pp. 32-57.

Leavitt, A., Keegan, B. C., and Clark, J. 2016. "Ping to Win? Non-Verbal Communication and Team Performance in Competitive Online Multiplayer Games," Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, pp. 4337-4350.

Li, J., and Hambrick, D. C. 2005. "Factional Groups: A New Vantage on Demographic Faultlines, Conflict, and Disintegration in Work Teams," Academy of Management Journal (48:5), pp. 794-813.

Meyer, B., and Glenz, A. 2013. "Team Faultline Measures: A Computational Comparison and a New Approach to Multiple Subgroups," Organizational Research Methods (16:3), pp. 393-424.

Minichilli, A., Corbetta, G., and MacMillan, I. C. 2010. "Top Management Teams in Family‐Controlled Companies:'Familiness', 'Faultlines', and Their Impact on Financial Performance," Journal of Management Studies (47:2), pp. 205-222.

Molleman, E. 2005. "Diversity in Demographic Characteristics, Abilities and Personality Traits: Do Faultlines Affect Team Functioning?," Group Decision and Negotiation (14:3), pp. 173-193.

Newzoo. 2019. "Newzoo Global Esports Market Report 2019." Retrieved February 19, 2019 from https://newzoo.com/insights/trend-reports/newzoo-global-esports-market-report-2019-light-version/.

Pearsall, M. J., Ellis, A. P., and Evans, J. M. 2008. "Unlocking the Effects of Gender Faultlines on Team Creativity: Is Activation the Key?," Journal of Applied Psychology (93:1), pp. 225-234.

Pobiedina, N., Neidhardt, J., Moreno, M. d. C. C., Grad-Gyenge, L., and Werthner, H. 2013. "On Successful Team Formation: Statistical Analysis of a Multiplayer Online Game," 2013 IEEE 15th Conference on Business Informatics: IEEE, pp. 55-62.

Polzer, J. T., Crisp, C. B., Jarvenpaa, S. L., and Kim, J. W. 2006. "Extending the Faultline Model to Geographically Dispersed Teams: How Colocated Subgroups Can Impair Group Functioning," Academy of Management Journal (49:4), pp. 679-692.

Qu, X., and Liu, X. 2017. "Informational Faultlines, Integrative Capability, and Team Creativity," Group & Organization Management (42:6), pp. 767-791.

Richard, O. C., Wu, J., Markoczy, L. A., and Chung, Y. 2019. "Top Management Team Demographic‐Faultline Strength and Strategic Change: What Role Does Environmental Dynamism Play?," Strategic Management Journal (40:6), pp. 987-1009.

Rickley, M. 2019. "Cultural Generalists and Cultural Specialists: Examining International Experience Portfolios of Subsidiary Executives in Multinational Firms," Journal of Management (45:2), pp. 384-416.

Schölmerich, F., Schermuly, C. C., and Deller, J. 2016. "How Leaders' Diversity Beliefs Alter the Impact of Faultlines on Team Functioning," Small Group Research (47:2), pp. 177-206.

Seo, Y. J. J. o. M. M. 2013. "Electronic Sports: A New Marketing Landscape of the Experience Economy," Journal of Marketing Management (29:13-14), pp. 1542-1560.

Thatcher, S. M., Jehn, K. A., and Zanutto, E. 2003. "Cracks in Diversity Research: The Effects of Diversity Faultlines on Conflict and Performance," Group Decision and Negotiation (12:3), pp. 217-241.

Thatcher, S. M., and Patel, P. C. 2012. "Group Faultlines: A Review, Integration, and Guide to Future Research," Journal of Management (38:4), pp. 969-1009.

Tzabbar, D., and Margolis, J. 2017. "Beyond the Startup Stage: The Founding Team's Human Capital, New Venture's Stage of Life, Founder-CEO Duality, and Breakthrough Innovation," Organization Science (28:5), pp. 857-872.

Vera, D., Nemanich, L., Velez-Castrillon, S., and Werner, S. 2016. "Knowledge-Based and Contextual Factors Associated with R&D Teams' Improvisation Capability," Journal of Management (42:7), pp. 1874-1903.

Zhang, C., and Liu, C. 2019. "Research on Team Faultlines: A Literature Review," Journal of Human Resource and Sustainability Studies (7:1), pp. 37-54.

Zhang, S. L., Lorenzo, A., Gomez, M. A., Mateus, N., Goncalves, B., and Sampaio, J. 2018. "Clustering Performances in the NBA According to Players' Anthropometric Attributes and Playing Experience," Journal of Sports Sciences (36:22), pp. 2511-2520.