

# Customer-to-customer interactions in the sport fan context: typology, framework (C2CIF) and directions for future research

Customer-  
to-customer  
interactions

Sebastian Uhrich

*German Sport University Cologne, Cologne, Germany*

Reinhard Grohs

*Seeburg Castle University, Seekirchen am Wallersee, Austria, and*

Joerg Koenigstorfer

*Technical University of Munich, Munich, Germany*

Received 15 March 2022

Revised 17 October 2022

1 February 2023

31 March 2023

Accepted 4 April 2023

## Abstract

**Purpose** – Social factors, such as fellow spectators in a stadium or other fans sharing their experiences on online platforms, play a dominant role in spectator sport consumption. This conceptual article sets out to achieve three objectives: classify customer-to-customer (C2C) interactions in the sport fan context, develop a framework that links the classification of interactions to relevant outcomes and identify areas for related future research.

**Design/methodology/approach** – The authors integrate conceptual and empirical contributions on C2C interactions in the service, marketing and sport management literature.

**Findings** – The article proposes classifying C2C interactions into synchronous multi- and uni-directional interactions as well as asynchronous multi- and uni-directional interactions. The C2C interaction framework (C2CIF) proposes that such C2C interactions have hedonic, social, symbolic and utilitarian value outcomes. It further suggests that physiological, psychological and social processes underlie the co-creation or co-destruction of value and identifies contingencies at both the fan and the brand level.

**Originality/value** – Based on the C2CIF, we identify relevant topics for future research, in particular relating to technology-supported and virtual interactions among fans, fan-to-fan interactions across different countries and cultural backgrounds and fan-to-fan interactions as a way to reduce societal concerns.

**Keywords** Sport fans, Customer-to-customer interactions, Value co-creation, Value co-destruction, Technological innovation, Internationalization

**Paper type** Conceptual paper

## Introduction

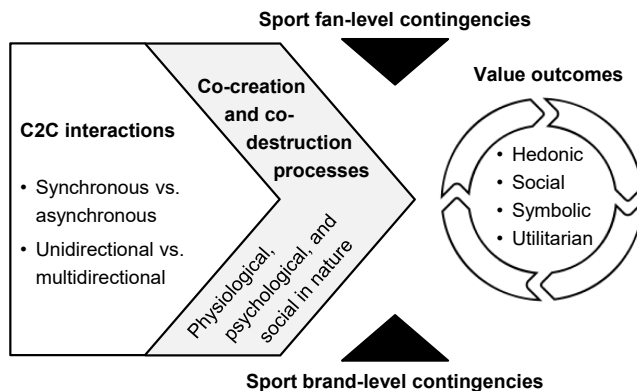
*Sports fans.* Most of us likely associate this term with groups of people, packed stadiums, or crowded trains, rather than individual persons or empty places. These associations point to a notable feature of consumption by sports fans: the important role that other customers play in shaping a focal customer's emotions, cognitions and behaviors. Indeed, from the broad theoretical perspective of the service-dominant logic, the mutual influence that fans have on each other's consumption experiences is one important form of value co-creation and co-destruction (Stieler *et al.*, 2014; Uhrich, 2014; Woratschek *et al.*, 2014). Past research has shown that customer-to-customer (C2C) influence emerges from various sources, ranging from one-off verbal interactions in physical service environments (Harris and Baron, 2004) to other customers' recommendations on online platforms (Libai *et al.*, 2010) to sharing consumption experiences with friends or family (Lock and Funk, 2016). C2C influence in the sports fan consumption context is a particularly complex phenomenon, because sports fans



interact in various physical and digital environments and are often highly involved with their focal sport properties. Also, they often consume in peer groups with strong social ties that are nested in larger, widely anonymous fan communities, and the consumption experience is an ongoing, multi-episode process lasting over years or even decades.

This article aims to achieve three main objectives. First, we define and classify C2C interactions. Sports fans' interactions are diverse in several ways, including their duration, the places where they occur, and the number of and relationships between the people who are involved. Thus, sports fans interact and influence each other in multiple ways. Sometimes this influence is obvious, as in the case of face-to-face conversations, but it can also be subtle—for instance, when fan communities develop implicit rules of appropriate fan behavior. The variety inherent in these interactions makes it challenging to recognize all manifestations of the concept. Our classification takes into account this diversity, thereby helping researchers and practitioners to identify different types of C2C interactions in the sports fan context. Many of these C2C interactions occur beyond management control. The present research thus extends past work on the sports consumer experience that primarily focused on interactions designed and delivered by the sports organization (Funk, 2017). Second, we propose the C2C interaction framework (C2CIF), which links the above classification of interactions to value outcomes for the focal customer. The C2CIF also identifies both processes underlying these outcomes and boundary conditions that may affect the influence of C2C interactions. To develop the C2CIF, we synthesize existing research and structure the findings into categories of broader theoretical interest. Our contribution here lies in the organization and structuring of a complex and fragmented body of research. Third, we outline areas for future research that relate to the components of the C2CIF. Our suggestions for future studies consider major trends in sports consumption that are relevant for C2C interactions, including technological advances and virtual environments, digital cross-national communities and the increasing focus on the broader societal consequences of consumption. Thus, we attempt to provide a basis for research that moves sports management and potentially service management in general, forward in understanding how social influence from other customers will play out in the future.

The following sections present our typology of C2C interactions and the C2CIF, illustrating value outcomes, processes and contingencies of C2C interactions (see Figure 1 for an overview). Finally, we link the C2CIF with major trends in sports consumption and gaps in existing research to offer suggestions for future research on C2C interactions in the sports fan context.



**Figure 1.** Customer-to-customer interaction framework (C2CIF) in the sports fan context

Source(s): Figure by authors

---

## Typology of C2C interactions

To account for the diversity of C2C interactions in the sports fan context, we draw on a conceptualization of *interaction* proposed by Grönroos and Voima (2013), who define interactions as situations in which actors are involved in each other's practices, which results in the co-creation or co-destruction of value. In addition to physical and virtual encounters, mere mental contact can also constitute an interaction (Grönroos and Voima, 2013). Thus, customers can influence each other without copresence in a physical or virtual space, such as when a fan indulges in good memories of a previous joint stadium visit with friends (Cowley, 2007). We use two dimensions to classify C2C interactions in the sports fan consumption context. Both dimensions relate to the influence emanating from these interactions. The first dimension refers to the temporal order of the influence, while the second dimension refers to its directionality.

The dimension *temporal order of influence* distinguishes between synchronous and asynchronous interactions. This distinction draws on Grönroos and Voima's (2013) notion that actors can be directly involved in other actors' ongoing practices or, with some time delay, in the outputs of others' practices (see also the distinction of synchronous vs. asynchronous brand community activities in Devasagayam and Buff, 2008). Thus, a *synchronous interaction* occurs when customers are simultaneously involved in each other's practices. Here, others' practices (e.g. a behavior or mere presence) and the focal customer's contact with the practices occur at the same time. The influence is direct and occurs immediately. Examples of synchronous interactions include face-to-face conversations (Koenig-Lewis et al., 2018) and online chats with other fans (Qian, 2022), the observation of a fellow fan's behavior (Huettermann et al., 2022), or the mere copresence of other fans (Uhrich and Benkenstein, 2012).

By contrast, an *asynchronous interaction* refers to situations in which the focal customer has contact with the outputs of other customers' previous practices. Examples of asynchronous interactions include reading comments that other fans have left on a team's online discussion board or familiarizing oneself with the norms of the fan community by browsing the websites of supporters clubs. In these examples, the practices (commenting on discussion boards, communicating behavioral standards) and the focal fan's involvement with these practices do not occur simultaneously. Thus, social influence unfolds with some time delay when the customer engages with others' practices through physical, virtual, or mental contact.

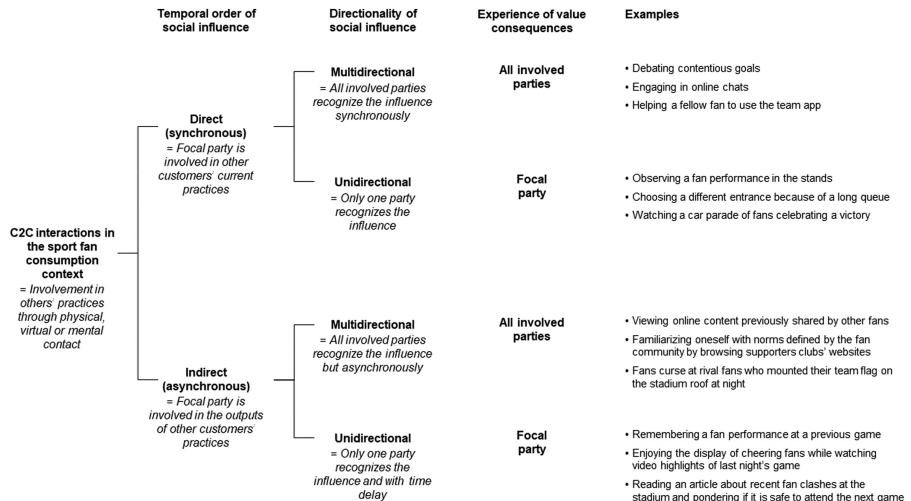
The second dimension, *directionality of influence*, distinguishes between multidirectional and unidirectional interactions. This dimension considers that interactions do not always result in mutual influence among all of the involved parties, but can also be a one-way social experience—that is, the focal party is influenced, but the source is not aware of this influence. In *multidirectional interactions*, all of the involved parties (e.g. two or more individuals, two or more groups of people) recognize and share the interaction (Argo and Dahl, 2020). Social influence unfolds for all actors. This is the case, for instance, in the following synchronous interactions: a discussion among fans, a fan helping a fellow fan to use the team app and two groups of fans shouting at each other in the stadium. Multidirectional influence can also occur in asynchronous interactions. Here, all parties experience social influence, too, but this influence unfolds at different times. For example, a fan posts pictures or videos on social media channels and other fans view this content later. In multidirectional interactions, the influence can be analyzed from different perspectives. For example, the analysis can focus on the fan posting pictures or videos or those fans who view the content later. The poster may expect that the content impresses or entertains other fans, which can reinforce their self-perceived status (Lai and Chen, 2014), while the viewers of the content may experience pleasure and entertainment. In the scenario with one fan helping a fellow fan to use their favorite team's app, the focal customer can be the helper (who may experience higher self-esteem or pride for being helpful) or the person receiving the help (who may feel gratitude and value the social support that they receive) (Weinstein and Ryan, 2010).

In *unidirectional interactions*, only one of the involved parties recognizes the interaction with others. This is the case, for instance, when a fan watches a ritual performed by other fans (Yoshida *et al.*, 2015) or chooses a different entrance to the stadium after noticing a long queue in front of the targeted entrance. In these situations, social influence unfolds only for the focal party. It should be noted that some situations can be cases of unidirectional or multidirectional interactions. For example, the observation of other fans performing a ritual turns into a multidirectional interaction when the performers recognize the observation and engage in impression management behaviors. Unidirectional interactions can be synchronous and asynchronous. Watching a car parade of fans celebrating their team's victory is a synchronous interaction, because there is an immediate influence on the focal fan. Reading an article about recent fan clashes in the stadium is a case of an asynchronous unidirectional interaction, because the influence on the focal fan (e.g. being discouraged from attending the next game) occurs after the clashes happened.

Figure 2 illustrates the suggested typology of C2C interactions. The two dimensions define four types of interactions: synchronous multi- and unidirectional interactions and asynchronous multi- and unidirectional interactions. This classification takes into account the typical characteristics of C2C interactions in the sports fan consumption context. The consumption experience often has a long-term character; includes multiple physical, virtual and mental touchpoints with others; and ranges from contacts between two individuals to interactions of large crowds. The temporal dimension considers that social influence often unfolds beyond situations of momentary contact between customers. The directionality dimension considers that social influence and the resulting value consequences are not always a multidirectional phenomenon, but involve situations where the cause of the social influence is itself unaffected by that influence.

### The C2C interaction framework

After introducing our typology, we now link C2C interactions to outcomes for the focal customer, underlying processes and sports fan- and brand-related contingencies.



**Figure 2.** Typology of customer-to-customer interactions in the sports fan context

Source(s): Figure by authors

---

### *Value outcomes of C2C interactions*

C2C interactions relate to a number of relevant outcome variables. To structure previous findings regarding these diverse outcomes, we use the concept of value and focus on whether interactions co-create or co-destroy value for the focal customer. Our rationale for doing so is that we attempt to synthesize the fine-grained results of previous studies into relevant outcomes on a broader theoretical level.

According to the service-dominant logic, value is uniquely and phenomenologically determined by the beneficiary (Vargo and Lusch, 2016)—in our context, the focal sports fan. The co-creation or co-destruction of value refers to an interactional process through which the beneficiary becomes better or worse off in some respect (Grönroos and Voima, 2013; Plé and Chumpitaz Cáceres, 2010). Specific manifestations of value that result from C2C interactions can be classified into hedonic, social, symbolic and utilitarian outcomes (Babin *et al.*, 1994; Grohs *et al.*, 2020; Verleye, 2015). For example, sensory stimulation and emotional experiences resulting from interactions with other fans are important manifestations of *hedonic value* (Hill *et al.*, 2021; Urich and Benkenstein, 2010, 2012). These variables can correlate with life satisfaction and quality of life, because they give meaning to a fan's life. Regarding *social value* outcomes, Katz *et al.* (2020) have shown that interactions with other fans from both the same favorite team and opposing teams result in feelings of emotional support. This influence increases as the number of face-to-face touchpoints with other fans increases, while social media-based interactions did not appear to have an influence. Sociability, community participation and social integration are important sources of gratification in both virtual settings such as social live-streaming of sports events (Kim and Kim, 2020) and physical settings such as visits to sports bars (Eastman and Land, 1997). Behrens and Urich (2020) noted a case of social value co-destruction when domestic fans of a team perceived new international fans of their team as a threat to their social resources. Social value co-destruction also results from violence between opposing fan groups (Stott and Reicher, 1998). Further, several studies have highlighted *symbolic value* outcomes as a result of fan-to-fan interactions (often related to status and/or culture). These include increased levels of team identification (Koenig-Lewis *et al.*, 2018), group identity development (Katz and Heere, 2013; Lock and Funk, 2016), group identity destruction (Berendt and Urich, 2016), control and ownership (Healy and McDonagh, 2013) and the creation of symbolic resources (Hill *et al.*, 2021). Accordingly, manifestations of symbolic value can include self-esteem, recognition, empowerment, ownership and taking part. Lastly, past studies have also shown *utilitarian value* manifestations. For example, Huettermann *et al.* (2022) noted that fans often acquire new knowledge and skills through learning from other fans, a finding consistent with Hill *et al.* (2021), who identified learning as an important basis to create social atmospheres. Accordingly, accomplishment can be an important manifestation of value. We note, however, that knowledge and skills *per se* may also be viewed as epistemic value and could therefore be classified as such (Pritchard, 2007).

### *Processes underlying C2C interaction outcomes*

In this section, we address the next component of the C2CIF and analyze how C2C interactions co-create or co-destroy value for sports fans. Thus, we turn our attention to the processes underlying the effects of C2C interactions on outcome variables. Again, we attempt to synthesize findings from existing studies and therefore group explanatory mechanisms into physiological, psychological and social processes.

Regarding *physiological processes*, the consideration of human biology can improve our understanding of social interactions (Heinskou and Liebst, 2016). The interaction ritual theory developed by Collins (2004) proposes that “entrainment”, the stimulation of common emotional responses, movements and vocalization, is driven by physiological mirroring.

---

Similarly, Hill *et al.* (2021) have argued that groups sharing a common focus, such as spectators at a soccer match, align their behaviors due to physiological predispositions to imitate others. Physiological research, although not conducted in the sports context, suggests that even heart beats can align among people who sing together (Müller and Lindenberg, 2011).

*Psychological processes* resulting from interactions also create or destroy value for the focal consumer. Interactions among sports fans can result in discrete cognitions (e.g. perceptions of group entitativity; Behrens and Uhrich, 2020) and emotions (e.g. thrill, Uhrich and Benkenstein, 2012; pride, Decrop and Derbaix, 2010), which are related to value outcomes (Yoshida, 2017). In addition, changes in social identification or fan identity salience caused by C2C interactions constitute mechanisms that link these interactions to value outcomes. For example, Levine *et al.* (2005) showed that fans are less inclined to help an injured person who is wearing a shirt from a rival (vs. favorite) sports team. Finally, the flow concept has been found to contribute to people's wellbeing (Csikszentmihalyi, 1990) and can explain how individuals become immersed in mastering an activity losing track of self-consciousness and time (Csikszentmihalyi, 1997)—for example, when sports fans interact in formal rituals and ceremonies in stadiums (Hill *et al.*, 2021).

Interactions among sports fans can also initiate *social processes* that lead to value outcomes. Research in this realm usually draws from sociological theories. Hill *et al.* (2021), for example, used interaction ritual theory (Collins, 2004) to explore how social atmospheres are co-created in an English Premier League soccer stadium. Here, interactions among fans in private spaces are a precursor of collective rituals in the stadium, which ultimately result in the experience of collective effervescence. Several studies have built on practice theory and investigated how practices foster value co-creation in fan-to-fan interactions during tailgating (Bradford and Sherry, 2015), in fan communities (Brown, 2008) and when following sports events (Grohs *et al.*, 2020), facilitated by various other platforms besides the events themselves (Uhrich, 2014). In addition, researchers have integrated sociological concepts of *communitas* (Turner, 1969; for the consideration of the sports fan context, see Jahn *et al.*, 2018) and collective effervescence (Durkheim, 1995, see Hill *et al.*, 2021) to explain the natural and formal climax that occurs in C2C interactions during sports events.

We concede that the relationships between interactions, processes and value outcomes may not always follow the causal logic implied by the C2CIF. Instead, the components of the framework may have complex interrelationships that we are only beginning to understand. Thus, the status of particular variables as causes, processes, or outcomes depends on the scope and focus of the specific theories researchers employ.

### *Contingencies of effects of C2C interactions*

This section addresses the final component of the C2CIF—that is, the contingencies of effects of C2C interactions. Various contingencies can affect the influence of C2C interactions on value outcomes. Drawing from existing research, we group these contingencies into sports fan- and sports brand-level contingencies. The former contingencies include fan identification, status, group size and relationships. The latter contingencies include activities by the sports brand (management) regarding the orchestration (e.g. of formal fan rituals) and the resources (e.g. team colors) provided by the sports brand.

Sports fan characteristics affect the consequences of C2C interactions on the individual level as well as the group level. *Fan identification* levels, for example, range from low to high identification (Funk and James, 2001). This may lead to tensions and disruptions in the value co-creation process, when highly identified, prepared and activated fans interact with less identified, unprepared and less activated fans in the context of stadium atmosphere creation, for example (Hill *et al.*, 2021). Similarly, fan *heterogeneity* may result in elitist and gatekeeping



---

behaviors from insiders, as [Thomas et al. \(2013\)](#) showed in the context of the North American distance running community, thereby destroying value for newcomers. However, heterogeneity among members of a brand community can also positively influence value outcomes. This is the case when more (vs. less) knowledgeable insiders provide participation access and guidance to newcomers ([Kelleher et al., 2019](#)), for example, with respect to rituals and symbols relevant in a sports stadium. This is in line with the findings of [Katz and Heere \(2013\)](#), who showed that a relatively small number of highly committed fans and their personal networks are much more important for the creation and identity formation of fan communities than the larger group of average consumers. *Fan group size* is another important contingency. Smaller groups allow a more intimate experience (e.g. watching a soccer game with friends at home or at a pub), while larger crowds make feelings of collective solidarity and identification more intense ([Cottingham, 2012](#)). *Relationships* among fans are also relevant. While interactions with friends and family are valued for their familiarity (e.g. in the case of tailgating, [Bradford and Sherry, 2015](#)) and increase live attendance ([Bednall et al., 2012](#)), interactions with strangers enhance team identification, satisfaction with game attendance, and, consequently, word-of-mouth intentions ([Koenig-Lewis et al., 2018](#)). Yet, as [Behrens and Urich \(2020\)](#) have shown in the context of satellite fandom, positive effects for local fans occur only if the unknown satellite fans comply with the norms of typical fan behavior.

Apart from fan characteristics, the specifics of fan-to-fan interactions resulting from interventions by sports brands may make a difference in terms of value co-creation or co-destruction. Organic C2C interactions arise spontaneously and are community driven, whereas company-driven interactions are designed to amplify C2C interactions ([Carù and Cova, 2015](#); [Libai et al., 2010](#)). While *amplification* may be needed to reach broader audiences and have greater impact, [Thomas \(2018\)](#) has shown that highly identified fans react negatively to company-induced fan activation. Similarly, *spectacle* may distract and irritate fans and reduce shared focus ([Hill et al., 2021](#)), but sometimes fans welcome spectacle and it has actually become an integral part of fans' shared focus (e.g. the Super Bowl halftime show). Finally, sports brands provide *resources* that the fan community integrates and refers to in their offline and online interactions. Examples include various emotionally charged objects ([Lock and Funk, 2016](#)), including narratives, symbols, team colors, mascots and increasingly also assets created through digital technology, such as non-fungible tokens or fan tokens issued by sports teams ([Stevens, 2022](#)). The provision, acquisition, distribution, maintenance and loss of such resources (e.g. symbolic ownership, stadium names, or team colors; [Brown, 2008](#); [Guschwan, 2012](#); [Hewer et al., 2017](#); [Hill et al., 2021](#)) can affect how C2C interactions and value co-creation processes unfold.

### Future research directions

In the following sections, we discuss future research opportunities in relation to the C2CIF. The framework points to a plethora of fruitful research directions, but it is beyond the scope of this article to elaborate on all of these. Thus, our discussion of future research directions is selective rather than exhaustive. The examination focuses on those trends that we believe have the potential to substantially broaden our understanding of C2C interactions in the sports fan context in the next decade. Based on this premise, we identified three substantive areas of particular interest: (1) the emergence of innovative technology, (2) the increasingly global nature of sports fandom and (3) the increasing focus on broader societal consequences of (sport) consumption in management and academia. In what follows, we link these three substantive areas with the components of the C2CIF (i.e. C2C interactions, outcomes and processes and contingencies) and derive research questions for future studies (see [Table 1](#) for an overview).

*Emergence of innovative technology*

- |                        |   |
|------------------------|---|
| C2C interactions       | <ul style="list-style-type: none"> <li>• What dimensions constitute the social influence of non-human social actors in virtual environments, and how do these dimensions compare to those relevant in physical environments?</li> <li>• What distinguishes fan-to-fan interactions via non-human elements (e.g. avatars) from purely human interactions?</li> <li>• Which gamification elements promote or prevent multi- and unidirectional interactions?</li> </ul> |
| Outcomes and processes | <ul style="list-style-type: none"> <li>• What types of C2C interactions increase immersion in virtual environments?</li> <li>• Which factors drive the influence of C2C interactions on the immersive virtual experience?</li> <li>• How do social group bonds, rules and norms develop through interactions in and across different social virtual environments?</li> </ul>  |
| Contingencies          | <ul style="list-style-type: none"> <li>• How does the relevance of digital fan-to-fan interactions compare between teams with high and low geographical dispersion of their fan base?</li> <li>• How does a fan's affinity to technological innovations affect the social influence resulting from technology-enhanced and virtual C2C interactions?</li> </ul>   |

*Increasingly global nature of sports fandom*

- |                        |  |
|------------------------|--|
| C2C interactions       | <ul style="list-style-type: none"> <li>• How can cross-national fan communities be detected?</li> <li>• How does the global scatter of fan communities relate to the prevalence and importance of certain types of C2C interactions?</li> <li>• Which non-language-based symbols and information can fans, who do not speak the same language, use to express their joint enthusiasm for a particular team?</li> </ul>   |
| Outcomes and processes | <ul style="list-style-type: none"> <li>• How do cross-national fan communities co-create or co-destroy different types of value?</li> <li>• How can perceptions of undesirable mainstreaming through new international fans be prevented?</li> <li>• How does the global scatter of fan communities change the relevance of established reputation signals (e.g. frequency of attendance)?</li> </ul>  |
| Contingencies          | <ul style="list-style-type: none"> <li>• How does the team's brand positioning as global or local brand influence domestic fans' responses to satellite fans of their team?</li> <li>• How do domestic and foreign fans evaluate and respond to their team's strategic use of cross-national fan-to-fan interactions?</li> <li>• How do cultural dimensions influence the effects of particular C2C interactions (e.g. observation of rough behaviors)?</li> </ul> |

*Increasing focus on broader societal consequences of (sport) consumption*

- |                        |   |
|------------------------|---|
| C2C interactions       | <ul style="list-style-type: none"> <li>• How can C2C interactions that increase physical activity and maximize health and subjective wellbeing benefits be detected?</li> <li>• When and how do unidirectional interactions become multidirectional interactions, in situations where moral courage and advocacy is needed?</li> </ul>  |
| Outcomes and processes | <ul style="list-style-type: none"> <li>• Which types of C2C interactions can create positive outcomes beyond the consumption context, such as better health and subjective wellbeing?</li> <li>• How can C2C interactions produce trickle-down-effects on active sport participation?</li> <li>• What types of interventions can reduce or prevent detrimental C2C interactions, such as incidence of violence?</li> </ul>  |
| Contingencies          | <ul style="list-style-type: none"> <li>• How does group size influence fans' willingness to intervene in emergency situations (e.g. violence against other fans)?</li> <li>• Which conditions (e.g. different strength of ties between fans, rivalry vs. non-rival competition) determine if C2C interactions have positive vs. negative outcomes?</li> <li>• Which specific resources and initiatives can sport brands provide to foster C2C interactions that benefit fans' health and subjective wellbeing?</li> </ul> |

**Table 1.**  
Overview of future research questions in three substantive areas of interest

**Source(s):** Table by authors



---

### *Emergence of innovative technology*

Perhaps the most prominent trend is the emergence of innovative technology that can both enhance existing social interactions and create completely new opportunities to interact with others in virtual spaces (Uhm *et al.*, 2020). Such technology-enabled interaction opportunities go well beyond exchanges on general social media platforms and range from social live streaming and watch parties (Kim and Kim, 2020) to social augmented reality (Hilken *et al.*, 2020) to the full virtual emulation of physical environments. For example, Sony is currently conducting a proof of concept for a virtual recreation of Manchester City's Etihad stadium. This endeavor aims to create a digital engagement platform on which fans from around the globe can interact with other fans, for instance, by using customizable avatars.

*C2C interactions.* New technology influences the occurrence and relevance of certain types of interactions. For example, the widespread use of text messaging applications can shift the temporal order of interactions from synchronous (phone calls) to asynchronous, depending on individual preferences and personalities (Harari *et al.*, 2020). Virtual and augmented-reality technology can result in profound changes by creating situations in which sports fans are exposed to non-human social influencers such as chatbots with human-like characteristics, online avatars and virtually created crowds in a stadium. Initial evidence shows that interactions with virtually embodied non-human agents can produce similar social influence as face-to-face interactions (Miller *et al.*, 2019). Past research on non-human social influence through mannequins in retail stores also indicated similar outcomes for the focal customer as those resulting from human actors (Argo and Dahl, 2018). Future studies could identify the dimensions that constitute the social influence of non-human social actors in virtual worlds and contrast the findings with the dimensions found for human social factors in physical environments, such as stadiums (i.e. density, appearance and behavior; Urich and Benkenstein, 2012). In addition to engagement with non-human actors, another interesting form of interaction arises when sports fans interact with other fans via non-human elements. This is the case, for example, in multi-player games, where fans interact via online avatars (Teng, 2019). Thus, while the involved parties are human, their contact manifests itself through non-human elements. Research could, for example, examine which gamification elements promote (vs. prevent) multi- (vs. uni-) directional interactions. Further, fan communities are no longer bound to interact via platforms that are owned or controlled by sports properties. Instead, fan networks have expanded and now include technological companies, including streaming services such as Twitch or Netflix. Despite not being related to specific sports properties, these platforms become important players in sports property networks (e.g. when Netflix introduced the sports documentary series *Formula 1: Drive to Survive*). Such programming broadens the scope of sports fan consumption and engages new audiences with different takes on the sports phenomenon, resulting in additional C2C interactions. With the development of low-code or even no-code platforms, fans can even build their own software without possessing extensive programming knowledge. An interesting question will be how the multiple distinct, yet connected touchpoints and their heterogeneous fan groups will interact and how the links and networks among sports property owners, technology companies, and their users and fans will develop over time.

*Outcomes and processes.* Virtual renderings of physical spaces also pose interesting research questions regarding the outcomes of C2C interactions and the underlying processes. Key questions in this realm include whether C2C interactions increase immersion in virtual environments, whether the interactions themselves are an immersive (that is, a realistic) experience and how technology-enhanced interactions create value for customers. Research on multi-player gaming suggests that the presence of computer-generated or human-based avatars increases immersion in virtual environments (Cairns *et al.*, 2014). It would be interesting to examine what types of C2C interactions increase the realism of virtual experiences and which factors drive these effects. Dede (2009) has provided a conceptual

---

basis by suggesting that three factors contribute to the impression of a realistic experience: sensory, actional and symbolic immersion. He notes that sensory immersion “replicates digitally the experience of location inside a three-dimensional space; total sensory interfaces utilize either head-mounted displays or immersive virtual reality rooms, stereoscopic sound, and—through haptic technologies that apply forces, vibrations, and motions to the user—the ability to touch virtual objects,” while actional immersion “involves empowering the participant in an experience to initiate actions impossible in the real world that have novel, intriguing consequences,” and symbolic immersion “involves triggering powerful semantic, psychological associations by means of the content of an experience” (p. 66).

Future studies could explore additional consequences of immersive virtual experiences resulting from C2C interactions. For example, realistic experiences may contribute to higher levels of attachment to virtual environments or could facilitate the creation of relationships with other fans using these environments. Further, it would be interesting to examine long-term outcomes, such as how bonds are created between customers and how social group rules and norms develop through interactions in and across different social virtual platforms. Such research has the potential to contribute to our understanding of virtual brand communities (Brodie *et al.*, 2013). Another relevant aspect for future inquiry is how the interplay of C2C interactions in physical and digital spaces contributes to relationship and community building across physically proximal and distant fans. Esports in particular is a setting in which physical and virtual interactions blend, including interactions in user-generated spaces (Pizzo *et al.*, 2022), which would provide an interesting context for future empirical studies.

*Contingencies.* The effects of technology-enhanced or virtual C2C interactions likely depend on brand- and fan-related variables. One factor may be the geographical distribution of a team’s fan base. For teams whose fan base is spread all over the country or the globe, digital fan-to-fan interactions should have stronger effects on hedonic (e.g. emotional experiences), social (e.g. community participation), and other outcomes, compared to teams with a predominantly local fan base. On the sports fan level, variables representing a person’s general affinity to technology and innovations, such as technology readiness (Parasuraman, 2000) or consumer innovativeness (Kim *et al.*, 2017), may influence the extent to which fans use digital channels to interact with fellow fans. In addition to usage frequency and duration, such variables may also affect the extent to which fans are influenced by digital interactions. For example, fans with low innovativeness may show higher obedience to community rules defined through physical contact compared to digitally communicated rules, while for fans with high levels of innovativeness such differences do not occur. The extent to which general acceptance barriers impede fans’ usage of specific innovations (e.g. augmented reality technology used in stadiums) can also influence whether, and to what degree, technology shapes C2C interactions and their outcomes (Uhlendorf and Uhrich, 2022).

#### *Increasingly global nature of sports fandom*

As sports properties strive to conquer foreign markets and the availability of digital sports content is growing, sports fandom is increasingly becoming a cross-national phenomenon. Teams and leagues explicitly address fans from around the globe in their communications and attempt to build global fan communities, while satellite fandom—that is, fans following teams and leagues in foreign countries—has become a common behavior. Against this background, the scope of C2C interactions becomes wider. The geographical dispersion of fan communities increases, fans of different languages and cultural backgrounds can interact, and questions of status and authentic fandom are redefined, to mention but a few aspects.

*C2C interactions.* Because fan communities are often scattered across several countries or continents and exist within larger networks, it can be challenging for sports properties to

---

identify these communities and target them. Based on recent methodological advances, future research could detect meaningful fan communities within global fan networks. For example, [Hoffmann et al. \(2020\)](#) provide a community detection algorithm using time-series data from nodes (in our case, fans as entities) to infer relationships (edges) between them. This approach identifies relevant communities without actually having to observe or survey relationships—an often costly and time-consuming task. In the sports context, the media consumption data of fans may be used to detect such communities, which share important features (e.g. team identification, relationship quality characteristics and preferred touchpoints with the team) and hence resemble target groups. Communities and relevant interactions could be detected around the globe, which would offer the potential to study geography-based differences in fan status (e.g. insiders vs. outsiders or newcomers). The extent of the global scattering of fans of the same team may also change the frequency and importance of certain types of interactions. For example, the prevalence of asynchronous interactions is likely higher when the involved parties come from different countries and continents, because different time zones make synchronous interactions more complicated. In addition, language barriers may hamper synchronous interactions among fans from different countries. Research could examine how interactions among fans who do not speak the same language unfold: Which non-language-based symbols and information can fans use to express their joint enthusiasm for a particular team? How do language barriers impede the formation and maintenance of cross-national fan communities, and how can such barriers be overcome?

*Outcomes and processes.* The expansion of fan communities beyond local and national boundaries will likely affect the value outcomes of C2C interactions. For example, undesirable mainstreaming can become an issue for brand communities when large numbers of people claim to be members of the community ([Thompson and Coskuner-Balli, 2007](#)). In this case, established fan communities may frown upon international fans following their team, an issue that is attenuated when the newbies act according to prototypical group norms ([Behrens and Urich, 2020](#)). Future research could explore how cross-national fan communities create or destroy value for sports fans. Past research has indicated that social media-based interactions result in lower social and psychological value for fans compared to in-person interactions ([Katz et al., 2020](#)). How should digital interactions be designed to compensate for such disadvantages? An interesting related question is whether the global distribution of fans changes the relevance of particular reputation signals within fan communities. Traditionally, sports fans' standing in the community—and thus their influence on others—was heavily dependent on location-bound aspects, including game attendance and participation in local cultural practices ([Garcia and Welford, 2015](#)). It would be interesting to explore the dynamics of reputation signals when local face-to-face fan communities expand into international communities involving fans from different countries as well as both virtual and physical interactions. Research on online brand communities indicates that reputation signals evoking a positive social role are valued more compared to signals that do not provide this information (e.g. loyalty points; [Hanson et al., 2019](#)). Based on these initial findings, future studies could identify the most relevant reputation signals in international sports fan communities.

*Contingencies.* Regarding brand-level factors, the image of team brands may influence the effects of cross-national fan-to-fan interactions on value outcomes. Fans of teams positioned as global brands (e.g. Manchester City or FC Barcelona) may respond more favorably to interactions with international followers of their team compared to fans of teams with a local brand positioning (e.g. Athletic Bilbao). Another brand-level factor is the extent to which teams attempt to capitalize on cross-national fan-to-fan interactions in their international marketing activities. Teams may involve their domestic fan base in their international marketing activities and actively try to establish connections with fans abroad, while other

---

teams may focus on other aspects to attract satellite fans. In this context, potential differences between domestic and satellite fans, for example, in terms of loyalty towards the team or focus on individual star players, must be considered, as they may affect the quality of fan-to-fan interactions. A related fan-level factor is the reputation of the domestic fan community. Satellite fans may be particularly drawn to foreign teams or leagues known for their enthusiastic fans. Research questions in this realm include: What factors drive the desire of satellite fans to engage with a team's domestic fans? How do cultural peculiarities change the effects that particular C2C interactions have on customers' value outcomes? For example, referring to the individualistic-collectivistic spectrum, one might be interested in finding out whether sports fans from individualistic cultural backgrounds prefer weaker ties to other fans, while fans from collectivistic cultures may prefer stronger ties. Another research area would be to identify how differences in conformity to social expectations and norms influence customers' reactions to the rough behaviors of others (e.g. derogation of referees or players of the opponent).

#### *Broader societal consequences of (sport) consumption*

Another important trend is the increasing focus on the greater good of consumption in both practice and research. The greater good can be defined as the "collective well-being of the broader social group" (Labroo and Goldsmith, 2021, p. 417) and is a counterpoint to viewing consumption and consumer research only through the lens of what is best for the financial performance of firms. While this notion is not entirely new, the consideration how marketing and consumption relate to larger societal concerns is increasingly coming to the fore. Accordingly, several recent publications call for marketing and service research that provides solutions for societal concerns and contributes to creating a better world (Chandy *et al.*, 2021; Labroo and Goldsmith, 2021; Madan *et al.*, 2022). This trend is particularly relevant for C2C interactions in the sports fan context, because they can achieve two goals: first, fan-to-fan interactions can be harnessed to foster subjective and societal wellbeing; and second, fan-to-fan interactions can attenuate detrimental behaviors that are common in the sports fan context, such as racist comments, violence and destruction of property. Thus, future research should address such situations and develop a repertoire to influence fans for the better, as well as to create safe and healthy environments (House *et al.*, 1988).

*C2C interactions.* Regarding the first goal, C2C interactions can contribute to consumer health when they are the basis for initiating physical activity. New services such as Zwift offer digital competitions where people engage in physical activity to make their avatar win. Thus, fan groups may play video games (e.g. FIFA) online against other fan groups, while they can boost their performance in the game by being physically active at the same time (e.g. riding an indoor bike). A key research question for future studies is how to design such virtual contests among sports fans to incentivize participation and maximize health benefits. Regarding the second goal, it would be important to find out when, and how, unidirectional interactions become multidirectional interactions, in situations in which moral courage and advocacy are needed. This is the case, for instance, when fans oppose other fans' immoral behaviors, such as insulting players on the pitch, being physically aggressive towards rival fans, or bullying others in online spaces during esports events. This is a unidirectional interaction as long as the group that feels uncomfortable observing such derogative behavior silently disapproves of the behavior but does not actively oppose it. The interaction becomes multidirectional, however, when fans actively oppose the wrongdoing, so that the insulting fans realize that others reject their behavior.

*Outcomes and processes.* Research indicates that C2C interactions trigger physiological, psychological and social processes that have important consequences for the focal consumer beyond the sports consumption context itself. For example, interactions with other fans may affect cardiovascular, neuroendocrine and immune systems (for potential correlates, see Uchino

---

*et al.*, 1996). Fan-to-fan interactions can have positive (e.g. stress reduction) and negative effects (e.g. increase in aggression leading to aggressive driving) (Inoue *et al.*, 2020; Wann, 2006; Ward, 2002; Wood *et al.*, 2011). Future research could identify which types of C2C interactions result in positive outcomes, such as better health and subjective wellbeing, for individuals or groups of fans involved in the interactions. In a related research stream, we encourage authors to examine how C2C interactions in a sports fan context stimulate fans' level of physical activity. Existing evidence on the trickle-down effects of sports events on participation in sports and physical activity is mixed. Some research has suggested that spectator experiences induce inspiration while being immersed in the event which can drive participation in the sports on display (Teare *et al.*, 2021). However, such positive effects likely depend on proper leveraging activities (Weed *et al.*, 2015). Against this background, it would be interesting to investigate the impact of C2C interactions in facilitating such trickle-down effects, because social influence-related processes may play an important role in inspiring sports fans to become more physically active. For example, the warmup rituals of NBA basketball star Stephen Curry made an eleven-year old boy copy some of his skills. An in-family interaction—the boy's mum filmed and posted a video on Instagram—made the young fan's amazing performance go viral, and he was invited to meet his idol before a game. This may have inspired many other young fans to play basketball, a notion that could be examined from the perspective of various theoretical angles, including social learning theories and the leveraging of trickle-down effects through social interactions.

Finally, studies should also examine ways to improve adversarial relationships between fans in the long run. Research like the ambitious real-world intervention study by Mousa (2020) and the longitudinal field study of Yudkin *et al.* (2022) could inspire future work to illuminate how fan-to-fan interactions can be improved or even be harnessed to benefit society. For example, a fan group's engagement in physical activity or voluntary work (often related to the fan context) with other fan groups may have positive socio-psychological effects. Future studies could also explore which types of C2C interactions at multi-day sporting events may result in prosocial behavior beyond the event. While such possible positive effects of fan-to-fan interactions are not immediately obvious and may appear coincidental, researchers should aim to identify these links and design interventions that policy makers can use to prevent (or at least attenuate) detrimental fan behaviors and improve consumer wellbeing.

*Contingencies.* At the fan level, the presence of many (vs. few) other fans can inhibit fans from intervening in an emergency (e.g. the aggressive or violent behavior of fans towards other fans; Reicher *et al.*, 1995). This may be because people may fear embarrassment, because of the inaction of others (and a downgrading of the severity of the situation and urgency to act) and because of a shift of responsibility to others (see the seminal work conducted by Latané and Nida, 1981). In the sports context, hooliganism can become a social norm and contribute to the failure of pro-social action in general and moral courage in particular (Stott *et al.*, 2001). A deeper understanding of the circumstances (e.g. strong versus weak fan ties, rivalry between fan groups; Berendt and Uhrich, 2018) under which fan-to-fan interactions are more likely to have positive or negative effects on collective wellbeing is needed. At the sports brand level, authors could explore what specific resources and initiatives and what types of orchestration sports brands need to harness fan-to-fan interactions to foster engagement in activities that help to create safe and healthy environments and improve fans' wellbeing. While existing research has started to examine sports brand interventions (Casper *et al.*, 2020), further work is needed to understand how such interventions unfold in the context of the wide variety of interactions among different fans and (rival) fan groups.

## Conclusion

In this article, we developed a typology of C2C interactions in the sports fan context and introduced the C2CIF, which suggests a causal chain from C2C interactions via underlying

---

processes to value outcomes, conditional on the characteristics of the sports fan and the sports brand. The C2CIF provides a useful starting point for identifying areas for future research. Drawing on the framework components, we identified pertinent research questions relating to three important trends in (sports) consumption. Through the resulting set of research questions, we seek to move sports management, and potentially service management in general, forward in understanding how the social influence from other customers will play out in the future.

---

## References

- Argo, J.J. and Dahl, D.W. (2018), "Standards of beauty: the impact of mannequins in the retail context", *Journal of Consumer Research*, Vol. 44 No. 5, pp. 974-990.
- Argo, J.J. and Dahl, D.W. (2020), "Social influence in the retail context: a contemporary review of the literature", *Journal of Retailing*, Vol. 96 No. 1, pp. 25-39.
- Babin, B.J., Darden, W.R. and Griffin, M. (1994), "Work and/or fun: measuring hedonic and utilitarian shopping value", *Journal of Consumer Research*, Vol. 20 No. 4, pp. 644-656.
- Bednall, D.H., Valos, M., Adam, S. and McLeod, C. (2012), "Getting generation Y to attend: friends, interactivity and half-time entertainment", *Sport Management Review*, Vol. 15 No. 1, pp. 80-90.
- Behrens, A. and Uhrich, S. (2020), "Uniting a sport teams' global fan community: prototypical behavior of satellite fans enhances local fans' attitudes and perceptions of groupness", *European Sport Management Quarterly*, Vol. 20 No. 5, pp. 598-617.
- Berendt, J. and Uhrich, S. (2016), "Enemies with benefits: the dual role of rivalry in shaping sports fans' identity", *European Sport Management Quarterly*, Vol. 16 No. 5, pp. 613-634.
- Berendt, J. and Uhrich, S. (2018), "Rivalry and fan aggression: why acknowledging conflict reduces tension between rival fans and downplaying makes things worse", *European Sport Management Quarterly*, Vol. 18 No. 4, pp. 517-540.
- Bradford, T.W. and Sherry, J.F. Jr (2015), "Domesticating public space through ritual: tailgating as vestavall", *Journal of Consumer Research*, Vol. 42 No. 1, pp. 130-151.
- Brodie, R.J., Ilic, A., Juric, B. and Hollebeek, L. (2013), "Consumer engagement in a virtual brand community: an exploratory analysis", *Journal of Business Research*, Vol. 66 No. 1, pp. 105-114.
- Brown, A. (2008), "'Our club, our rules': fan communities at FC United of Manchester", *Soccer and Society*, Vol. 9 No. 3, pp. 346-358.
- Cairns, P., Cox, A. and Nordin, A.I. (2014), "Immersion in digital games: a review of gaming experience research", in Angelides, M.C. and Agius, H. (Eds), *Handbook of Digital Games*, John Wiley & Sons, Hoboken, NJ, pp. 337-361.
- Carù, A. and Cova, B. (2015), "Co-creating the collective service experience", *Journal of Service Management*, Vol. 26 No. 2, pp. 276-294.
- Casper, J.M., McCullough, B.P. and Pfahl, M.E. (2020), "Examining environmental fan engagement initiatives through values and norms with intercollegiate sport fans", *Sport Management Review*, Vol. 23 No. 2, pp. 348-360.
- Chandy, R.K., Johar, G.V., Moorman, C. and Roberts, J.H. (2021), "Better marketing for a better world", *Journal of Marketing*, Vol. 85 No. 3, pp. 1-9.
- Collins, R. (2004), *Interaction Ritual Chains*, Princeton University Press, Princeton, NJ.
- Cottingham, M.D. (2012), "Interaction ritual theory and sports fans: emotion, symbols, and solidarity", *Sociology of Sport Journal*, Vol. 29 No. 2, pp. 168-185.
- Cowley, E. (2007), "How enjoyable was it? Remembering an affective reaction to a previous consumption experience", *Journal of Consumer Research*, Vol. 34 No. 4, pp. 494-505.
- Csikszentmihalyi, M. (1990), *Flow: the Psychology of Optimal Experience*, Harper, New York.



- 
- Csikszentmihalyi, M. (1997), *Finding Flow: the Psychology of Engagement with Everyday Life*, Basic Books, New York.
- Decrop, A. and Derbaix, C. (2010), "Pride in contemporary sport consumption: a marketing perspective", *Journal of the Academy of Marketing Science*, Vol. 38 No. 5, pp. 586-603.
- Dede, C. (2009), "Immersive interfaces for engagement and learning", *Science*, Vol. 323 No. 5910, pp. 66-69.
- Devasagayam, R. and Buff, C.L. (2008), "A multidimensional conceptualization of brand community: an empirical investigation", *Sport Marketing Quarterly*, Vol. 17 No. 1, pp. 20-29.
- Durkheim, E. (1995), *The Elementary Forms of Religious Life*, Free Press, New York.
- Eastman, S.T. and Land, A.M. (1997), "The best of both worlds: sports fans find good seats at the bar", *Journal of Sport and Social Issues*, Vol. 21 No. 2, pp. 156-178.
- Funk, D.C. (2017), "Introducing a sport experience design (SX) framework for sport consumer behaviour research", *Sport Management Review*, Vol. 20 No. 2, pp. 145-158.
- Funk, D. and James, J. (2001), "The psychological continuum model: a conceptual framework for understanding an individual's psychological connection to sport", *Sport Management Review*, Vol. 4 No. 2, pp. 119-150.
- García, B. and Welford, J. (2015), "Supporters and football governance, from customers to stakeholders: a literature review and agenda for research", *Sport Management Review*, Vol. 18 No. 4, pp. 517-528.
- Grohs, R., Wieser, V.E. and Pristach, M. (2020), "Value cocreation at sport events", *European Sport Management Quarterly*, Vol. 20 No. 1, pp. 69-87.
- Grönroos, C. and Voima, P. (2013), "Critical service logic: making sense of value creation and cocreation", *Journal of the Academy of Marketing Science*, Vol. 41 No. 2, pp. 133-150.
- Guschwan, M. (2012), "Fandom, brandom and the limits of participatory culture", *Journal of Consumer Culture*, Vol. 12 No. 1, pp. 19-40.
- Hanson, S., Jiang, L. and Dahl, D.W. (2019), "Enhancing consumer engagement in an online brand community via user reputation signals: a multi-method analysis", *Journal of the Academy of Marketing Science*, Vol. 47 No. 2, pp. 349-367.
- Harari, G.M., Müller, S.R., Stachl, C., Wang, R., Wang, W., Bühner, M., Rentfrow, P.J., Campbell, A.T. and Gosling, S.D. (2020), "Sensing sociability: individual differences in young adults' conversation, calling, texting, and app use behaviors in daily life", *Journal of Personality and Social Psychology*, Vol. 119 No. 1, pp. 204-228.
- Harris, K. and Baron, S. (2004), "Consumer-to-consumer conversations in service settings", *Journal of Service Research*, Vol. 6 No. 3, pp. 287-303.
- Healy, J.C. and McDonagh, P. (2013), "Consumer roles in brand culture and value co-creation in virtual communities", *Journal of Business Research*, Vol. 66 No. 9, pp. 1528-1540.
- Heinskou, M.B. and Liebst, L.S. (2016), "On the elementary neural forms of micro-interactional rituals: integrating autonomic nervous system functioning into interaction ritual theory", *Sociological Forum*, Vol. 31 No. 2, pp. 354-376.
- Hewer, P., Gannon, M. and Cordina, R. (2017), "Discordant fandom and global football brands: 'Let the people sing'", *Journal of Consumer Culture*, Vol. 17 No. 3, pp. 600-619.
- Hilken, T., Keeling, D.I., de Ruyter, K., Mahr, D. and Chylinski, M. (2020), "Seeing eye to eye: social augmented reality and shared decision making in the marketplace", *Journal of the Academy of Marketing Science*, Vol. 48 No. 2, pp. 143-164.
- Hill, T., Canniford, R. and Eckhardt, G.M. (2021), "Social atmospheres: how interaction ritual chains create effervescent experiences of place", *Journal of Marketing*, Vol. 86 No. 3, pp. 121-139.
- Hoffmann, T., Peel, L., Lambiotte, R. and Jones, N.S. (2020), "Community detection in networks without observing edges", *Science Advances*, Vol. 6 No. 4, eaav1478, doi: [10.1126/sciadv.aav1478](https://doi.org/10.1126/sciadv.aav1478).



- 
- House, J.S., Landis, K.R. and Umberson, D. (1988), "Social relations and health", *Science*, Vol. 241 No. 4865, pp. 540-545.
- Huettermann, M., Uhrich, S. and Koenigstorfer, J. (2022), "Components and outcomes of fan engagement in team sports: the perspective of managers and fans", *Journal of Global Sport Management*, Vol. 7 No. 4, pp. 447-478.
- Inoue, Y., Wann, D.L., Lock, D., Sato, M., Moore, C. and Funk, D.C. (2020), "Enhancing older adults' sense of belonging and subjective well-being through sport game attendance, team identification, and emotional support", *Journal of Aging and Health*, Vol. 32 Nos 7-8, pp. 530-542.
- Jahn, S., Cornwell, T.B., Drengner, J. and Gaus, H. (2018), "Temporary communitas and willingness to return to events", *Journal of Business Research*, Vol. 92 No. 11, pp. 329-338.
- Katz, M. and Heere, B. (2013), "Leaders and followers: an exploration of the notion of scale-free networks within a new brand community", *Journal of Sport Management*, Vol. 27 No. 4, pp. 271-287.
- Katz, M., Mansfield, A.C. and Tyler, B.D. (2020), "The strength of fan ties: emotional support in sport fan egocentric networks", *Journal of Sport Management*, Vol. 34 No. 4, pp. 291-302.
- Kelleher, C., Hugh, N.W., Macdonald, E.K. and Peppard, J. (2019), "The score is not the music: integrating experience and practice perspectives on value co-creation in collective consumption contexts", *Journal of Service Research*, Vol. 22 No. 2, pp. 120-138.
- Kim, H.S. and Kim, M. (2020), "Viewing sports online together? Psychological consequences on social live streaming service usage", *Sport Management Review*, Vol. 23 No. 5, pp. 869-882.
- Kim, Y., Kim, S. and Rogol, E. (2017), "The effects of consumer innovativeness on sport team applications acceptance and usage", *Journal of Sport Management*, Vol. 31 No. 3, pp. 241-255.
- Koenig-Lewis, N., Asaad, Y. and Palmer, A. (2018), "Sports events and interaction among spectators: examining antecedents of spectators' value creation", *European Sport Management Quarterly*, Vol. 18 No. 2, pp. 193-215.
- Labroo, A.A. and Goldsmith, K. (2021), "The dirty underbelly of prosocial behavior: reconceptualizing greater good as an ecosystem with unintended consequences", *Journal of Consumer Psychology*, Vol. 31 No. 3, pp. 417-428.
- Lai, H.-M. and Chen, T.T. (2014), "Knowledge sharing in interest online communities: a comparison of posters and lurkers", *Computers in Human Behavior*, Vol. 35, pp. 295-306.
- Latané, B. and Nida, S. (1981), "Ten years of research on group size and helping", *Psychological Bulletin*, Vol. 89 No. 2, pp. 308-324.
- Levine, R.M., Prosser, A., Evans, D. and Reicher, S.D. (2005), "Identity and emergency intervention: how social group membership and inclusiveness of group boundaries shape helping behavior", *Personality and Social Psychology Bulletin*, Vol. 31 No. 4, pp. 443-453.
- Libai, B., Bolton, R., Bugel, M.S., de Ruyter, K., Götz, O., Risselada, H. and Stephen, A.T. (2010), "Customer-to-customer interactions: broadening the scope of word of mouth research", *Journal of Service Research*, Vol. 13 No. 3, pp. 267-282.
- Lock, D. and Funk, D.C. (2016), "The multiple in-group identity framework", *Sport Management Review*, Vol. 19 No. 2, pp. 85-96.
- Madan, S., Johar, G.V., Berger, J., Chandon, P., Chandy, R., Hamilton, R., John, L., Labroo, A., Liu, P.J., Lynch, J.G., Jr, Mazar, N., Mead, N.L., Mittal, V., Moorman, C., Norton, M.I., Roberts, J., Soman, D., Viswanathan, M. and White, K. (2022), "Reaching for rigor and relevance: better marketing research for a better world", *Marketing Letters*, Vol. 34 No. 1, pp. 1-12.
- Miller, M.R., Jun, H., Herrera, F., Yu Villa, J., Welch, G. and Bailenson, J.N. (2019), "Social interaction in augmented reality", *PLoS ONE*, Vol. 14 No. 5, e0216290.
- Mousa, S. (2020), "Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq", *Science*, Vol. 369 No. 6505, pp. 866-870.

- 
- Müller, V. and Lindenberger, U. (2011), "Cardiac and respiratory patterns synchronize between persons during choir singing", *PLoS ONE*, Vol. 6 No. 9, e24893.
- Parasuraman, A. (2000), "Technology Readiness Index (TRI): a multiple-item scale to measure readiness to embrace new technologies", *Journal of Service Research*, Vol. 2 No. 4, pp. 307-320.
- Pizzo, A.D., Su, Y., Scholz, T., Baker, B.J., Hamari, J. and Ndanga, L. (2022), "Esports scholarship review: synthesis, contributions, and future research", *Journal of Sport Management*, Vol. 36 No. 3, pp. 228-239.
- Plé, L. and Chumpitaz Cáceres, R. (2010), "Not always co-creation: introducing interactional co-destruction of value in service-dominant logic", *Journal of Services Marketing*, Vol. 24 No. 6, pp. 430-437.
- Pritchard, D. (2007), "Recent work on epistemic value", *American Philosophical Quarterly*, Vol. 44 No. 2, pp. 85-110.
- Qian, T.Y. (2022), "Watching sports on Twitch? A study of factors influencing continuance intentions to watch Thursday night football co-streaming", *Sport Management Review*, Vol. 25 No. 1, pp. 59-80.
- Reicher, S.D., Spears, R. and Postmes, T. (1995), "A social identity model of deindividuation phenomena", *European Review of Social Psychology*, Vol. 6 No. 1, pp. 161-198.
- Stevens, R. (2022), *What Are Fan Tokens? Crypto Assets that Give Fans a Voice*, Decrypt, available at: <https://decrypt.co/resources/what-are-fan-tokens-crypto-assets-that-give-fans-a-voice> (accessed 16 September 2022).
- Stieler, M., Weismann, F. and Germelmann, C.C. (2014), "Co-destruction of value by spectators: the case of silent protests", *European Sport Management Quarterly*, Vol. 14 No. 1, pp. 72-86.
- Stott, C. and Reicher, S. (1998), "How conflict escalates: the inter-group dynamics of collective football crowd violence", *Sociology*, Vol. 32 No. 2, pp. 353-377.
- Stott, C., Hutchison, P. and Drury, J. (2001), "Hooligans' abroad? Inter-group dynamics, social identity and participation in collective 'disorder' at the 1998 World Cup finals", *British Journal of Social Psychology*, Vol. 40 No. 3, pp. 359-384.
- Teare, G., Potwarka, L.R., Snelgrove, R. and Drewery, D. (2021), "Inspiring participation in track cycling: exploring the role of spectator characteristics and event experiences", *Event Management*, Vol. 25 No. 3, pp. 227-244.
- Teng, C.-I. (2019), "How avatars create identification and loyalty among online gamers: contextualization of self-affirmation theory", *Internet Research*, Vol. 29 No. 6, pp. 1443-1468.
- Thomas, R. (2018), "Mapping the perceptions and antecedents of football fans' co-creation behaviours with sponsoring brands: a pan-cultural study of the European leagues", *Journal of Marketing Management*, Vol. 34 Nos 17-18, pp. 1470-1502.
- Thomas, T.C., Price, L.L. and Schau, H.J. (2013), "When differences unite: resource dependence in heterogeneous consumption communities", *Journal of Consumer Research*, Vol. 39 No. 5, pp. 1010-1033.
- Thompson, C.J. and Coskuner-Balli, G. (2007), "Countervailing market responses to cooperate cooptation and the ideological recruitment of consumption communities", *Journal of Consumer Research*, Vol. 34 No. 2, pp. 135-152.
- Turner, V. (1969), *The Ritual Process: Structure and Anti-structure*, Aldine Transaction, Brunswick and London.
- Uchino, B.N., Cacioppo, J.T. and Kiecolt-Glaser, J.K. (1996), "The relationship between social support and physiological processes: a review with emphasis on underlying mechanisms and implications for health", *Psychological Bulletin*, Vol. 119 No. 3, pp. 488-531.
- Uhlendorf, K. and Urich, S. (2022), "A multi-method analysis of sport spectator resistance to augmented reality technology in the stadium", *Journal of Global Sport Management*, doi: [10.1080/24704067.2022.2155210](https://doi.org/10.1080/24704067.2022.2155210).

- 
- Uhm, J.P., Lee, H.W. and Han, J.W. (2020), "Creating sense of presence in a virtual reality experience: impact on neurophysiological arousal and attitude towards a winter sport", *Sport Management Review*, Vol. 23 No. 4, pp. 588-600.
- Uhrich, S. (2014), "Exploring customer-to-customer value co-creation platforms and practices in team sports", *European Sport Management Quarterly*, Vol. 14 No. 1, pp. 25-49.
- Uhrich, S. and Benkenstein, M. (2010), "Sport stadium atmosphere: formative and reflective indicators for operationalizing the construct", *Journal of Sport Management*, Vol. 24 No. 2, pp. 211-237.
- Uhrich, S. and Benkenstein, M. (2012), "Physical and social atmospheric effects in hedonic service consumption: customers' roles at sporting events", *The Service Industries Journal*, Vol. 32 No. 11, pp. 1741-1757.
- Vargo, S.L. and Lusch, R.F. (2016), "Institutions and axioms: an extension and update of service-dominant logic", *Journal of the Academy of Marketing Science*, Vol. 44 No. 1, pp. 5-23.
- Verleye, K. (2015), "The co-creation experience from the customer perspective: its measurement and determinants", *Journal of Service Management*, Vol. 26 No. 2, pp. 321-342.
- Wann, D.L. (2006), "Understanding the positive social psychological benefits of sport team identification: the team identification-social psychological health model", *Group Dynamics: Theory, Research, and Practice*, Vol. 10 No. 4, pp. 272-296.
- Ward, R.E. Jr (2002), "Fan violence: social problem or moral panic?", *Aggression and Violent Behavior*, Vol. 7 No. 5, pp. 453-475.
- Weed, M., Coren, E., Fiore, J., Wellard, I., Chatziefstathiou, D., Mansfield, L. and Dowse, S. (2015), "The Olympic Games and raising sport participation: a systematic review of evidence and an interrogation of policy for a demonstration effect", *European Sport Management Quarterly*, Vol. 15 No. 2, pp. 195-226.
- Weinstein, N. and Ryan, R.M. (2010), "When helping helps: autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient", *Journal of Personality and Social Psychology*, Vol. 98 No. 2, pp. 222-244.
- Wood, S., McInnes, M.M. and Norton, D.A. (2011), "The bad thing about good games: the relationship between close sporting events and game-day traffic fatalities", *Journal of Consumer Research*, Vol. 38 No. 4, pp. 611-621.
- Woratschek, H., Horbel, C. and Popp, B. (2014), "The sport value framework – a new fundamental logic for analyses in sport management", *European Sport Management Quarterly*, Vol. 14 No. 1, pp. 6-24.
- Yoshida, M. (2017), "Consumer experience quality: a review and extension of the sport management literature", *Sport Management Review*, Vol. 20 No. 5, pp. 427-442.
- Yoshida, M., Gordon, B., James, J.D. and Heere, B. (2015), "Sport fans and their behavior in fan communities", in Kanosue, K., Kogiso, K., Oshimi, D. and Harada, M. (Eds), *Sports Management and Sports Humanities*, Springer, Tokyo, pp. 89-101.
- Yudkin, D.A., Prosser, A.M.B., Heller, S.M., McRae, K., Chakroff, A. and Crockett, M.J. (2022), "Prosocial correlates of transformative experiences at secular multi-day mass gatherings", *Nature Communications*, Vol. 13 No. 2600, pp. 1-13.

**Corresponding author**

Sebastian Uhrich can be contacted at: [s.uhrich@dshs-koeln.de](mailto:s.uhrich@dshs-koeln.de)

---

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)