

1 **Digital transformation in sport: The disruptive potential of**
2 **digitalization for sport management research**

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16
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18 research

19 Never in human history has it been easier to exchange information in high-speed, independent
20 of the type and amount or the location. Digital technologies have become part of our daily lives.
21 They affect societal values and norms as well as business processes, enabling new
22 management opportunities (e.g., Breidbach *et al.*, 2018; Legner *et al.*, 2017; Payne *et al.*,
23 2008). This comprehensive and ongoing influence of digital technologies is often summarized
24 by digital transformation, which is a process that “aims to improve an entity by triggering
25 significant changes to its properties through combinations of information, computing,
26 communication, and connectivity technologies” (Vial, 2019, p. 118).

27 The sports sector is also undergoing this kind of transformation at all levels, from
28 amateur to high-performance sports. Although digital transformation may be used as a
29 buzzword in many areas, sports managers must deal with adaptation processes to satisfy
30 customers, business partners, and employees. For example, while fans watch a football match
31 in a stadium, they expect the technological infrastructure to check real-time statistics on their
32 smartphones and chat with other fans in the stadium. Therefore, stadium operators install high-
33 speed Wi-Fi services and offer their own stadium apps. They provide digital platforms to share
34 the latest match day news or to take orders for food and beverages. Furthermore, professional
35 sports organizations rely on a large digital backbone, such as ticketing systems, athlete
36 tracking infrastructure, e-commerce solutions, and employee databases.

37 The latest developments due to the COVID-19 pandemic unveiled untapped digital
38 opportunities for sport organizations because their core product or service was off-center for a
39 while. Additional services such as online videos, tutorials, or interactive formats helped to stay
40 in touch with customers. These measures may not compensate for live experiences. However,
41 the extreme situation of the COVID-19 pandemic inspired sport managers to think about new
42 and creative business offerings. It changed the way people collaborate and co-create value
43 from one day to the other. Organizations were forced to shift the focus toward supplementary
44 digital content. Internally, organizations changed at an unprecedented speed. Remote working
45 with video conferencing became a standard for many employees. The IT infrastructure had to
46 be made ready for extensive broadband usage overnight, and investments in digital

47 technologies were given priority. These recent achievements in the progress of digital
48 technologies cannot easily be undone. This development will certainly last and sustainably
49 shape the nature of work in sport organizations in the future.

50 This editorial and the five articles in this special issue further investigate this growing
51 field of research in sport management. They explore the disruptive potential of digitalization
52 for sport management research from different angles. This editorial is structured as follows.
53 First, we present a literature review summarizing the digital transformation in sport
54 management research to date. We further discuss the articles in this special issue to better
55 understand the status quo of digital transformation for sport management research. Finally, we
56 suggest avenues for future research exploring digital transformation in sport management.

57

58 **Literature review: Digital transformation in sport management research**

59 We analyzed several sport management and sport marketing journals to obtain an overview
60 of the digital transformation in sport management research. Several articles have investigated
61 specific aspects of digital transformation. Social media analyses and studies on esports have
62 been the main research areas. Both fields can be classified as disruptive because these
63 phenomena have been proved to substantially shape and transform existing markets and value
64 creation. For example, athletes use and leverage the potential of social media to market
65 themselves. New ecosystems emerged from the evolution of esports, which are decoupled
66 from traditional sports systems to a large extent. However, these research areas only scratch
67 the surface of digital transformation in sport management research.

68 Social media research in sport management has mainly examined fan behavior, such
69 as fan engagement on social media (Osokin, 2019; Santos *et al.*, 2019) or general usage
70 behavior with regard to electronic word-of-mouth (Wakefield and Bennett, 2018; Chang, 2019;
71 Kim and Kim, 2020). Further research examined the fan and usage behavior of large public
72 groups on social media during mega events such as the Olympic Games (Finlay, 2018a,
73 2018b; Hazari, 2018; Li *et al.*, 2018; Tang and Cooper, 2018; Yoon and Pedersen, 2018) or
74 the UEFA Champions League Final (Yan *et al.*, 2019). Another stream of research analyzed

75 sport consumers' interests in social media and identified motives for social media consumption
76 (Li *et al.*, 2019; Spinda and Puckette, 2018; Tu *et al.*, 2019; Watanabe *et al.*, 2019).

77 Furthermore, social media research in sport management has addressed the strategic
78 marketing activities of sports organizations and athletes on social media platforms.
79 Relationship marketing with customers and fans using social media platforms (Abeza *et al.*,
80 2019; Achen, 2019) and success factors of marketing communication via social media (Billings
81 *et al.*, 2019; Courthouts *et al.*, 2019; Laurell and Söderman, 2018; Teo *et al.*, 2019) were
82 examined. Social media research addressing brand management mainly investigated how
83 sports organizations and athletes build their brands and develop their brand images using
84 social media (Anagnostopoulos *et al.*, 2018; Grimmer and Clavio, 2019; Hayes *et al.*, 2020;
85 Hayes and Blaszk, 2018; Na *et al.*, 2020; Srivardhana, 2019; Thompson *et al.*, 2018). Social
86 media research has also explored platform activity to analyze and control ticket prices in
87 secondary markets (O'Hallarn *et al.*, 2018b).

88 Another area of research engaged in the observation of social media platforms as
89 places of negative behaviors such as racism or sexual abuse (O'Hallarn *et al.*, 2018a;
90 O'Hallarn *et al.*, 2019). Certainly, researchers also investigated how these negative behaviors
91 could be prevented or how organizations deal with such topics (Kilvington and Price, 2019;
92 Sanderson and Wheaters, 2020). Several scholars have also researched digital and medial
93 discourse dealing with topics such as the protest movement of Colin Kaepernick and Megan
94 Rapinoe (Schmidt *et al.*, 2019) on other digital media platforms like fora or digital news
95 platforms. Further digital media topics included racism (Choi, 2020), athlete transgressions
96 such as unethical behavior (e.g., doping, drug use; Sassenberg *et al.*, 2018), discussions on
97 the long-term consequences of concussions in American football (Cassilo and Sanderson,
98 2018, 2019), and crisis communication (Knight *et al.*, 2019).

99 Studies on esports have been identified as the second main research area. The political
100 and scientific discussion whether esport can be determined as sport has been ubiquitous
101 (Cunningham *et al.*, 2018; Funk *et al.*, 2018; Hallmann and Giel, 2018; Heere, 2018).
102 Regardless of the standpoint in this discussion, esport has been established as a new digital

103 phenomenon in sport management research. Sport clubs and organizations must decide
104 whether they want to use the given opportunities. To assist sport managers in their decision-
105 making, scholars investigated reasons for active esports consumption (Jang and Byon, 2019)
106 as well as passive consumption of spectators (Xiao, 2020). Furthermore, researchers have
107 examined the intersections of fandom in esports and traditional sports (Brown *et al.*, 2018).
108 The latest research examined the strategies for a sports club to extend its brand toward
109 esports, for example, to attract new target groups (Bertschy *et al.*, 2020).

110 Although sport management research has mainly focused on social media and esports,
111 a closer look toward sport management practice reveals a variety of additional topics.
112 Traditional business and income models are under pressure due to the use of digital
113 innovations such as virtual and augmented reality. The higher capabilities of 5G technology
114 enable other innovations regarding the development of connected and intelligent stadiums,
115 which provide a new stadium experience to sport event visitors, and personalized offers
116 through the ongoing collection of personal data. Moreover, new actors (e.g., streaming
117 providers), business models (e.g., platform business models), and products (e.g., wearables)
118 enter the field of sport management beside established services (e.g., fantasy sports and
119 betting), which revive due to the disruptive potential of digitalization within sport management.

120 Regarding the disruptive potential of digitalization for sport management practice, sport
121 management research has scarcely addressed these topics. However, some researchers have
122 investigated the application of virtual and augmented reality in sport marketing (Goebert and
123 Greenhalgh, 2020; Kunz and Santomier, 2019; Uhm *et al.*, 2020), the acceptance of wearables
124 (Kim and Chiu, 2019; Kim *et al.*, 2019), and usage intentions of smart devices (Song *et al.*,
125 2018). Furthermore, the mobile consumption of news coverage has developed new
126 opportunities regarding the on-demand consumption of live sport via internet broadcasting
127 (Hutchins, 2019; Keating, 2018; Lindholm, 2019). The broadcasting structure has changed
128 toward the consumption of live sport events using multiple channels simultaneously, subsumed
129 under the term second screen (Cunningham and Eastin, 2017; Larkin and Fink, 2016).
130 Recently, researchers have investigated the relevance of social interactions within second

131 screen usage during live sport events (Weimann-Saks *et al.*, 2020). As previously mentioned,
132 research topics were revived due to the disruptive potential of digitalization. Researchers have
133 investigated the interplay of fantasy and favorite teams (Dwyer, Larkin and Goebert, 2019) as
134 well as simultaneous live sport consumption and sport betting (Dwyer, Drayer and Shapiro,
135 2019; Lopez-Gonzalez *et al.*, 2020). There has so far been a lack of scientific discussion on
136 data privacy and security. As a first example, Sanderson and Baerg (2020) discussed the use
137 of data analytics in junior baseball.

138

139 **Special issue articles: Further consideration and discussion of digital transformation in**
140 **sport management research**

141 The analysis of digital transformation in sport management research until now reveals a variety
142 of research gaps and a strong need for additional research. It is crucial to provide sport
143 managers with profound and high-quality research on the disruptive potential of the whole
144 breadth of digital transformation in sport management. By introducing this editorial and the five
145 articles in this special issue, we intend to initiate further consideration and discussion of digital
146 transformation in sport management research. Table 1 provides an overview of the research
147 questions and methodological approaches addressed in the five articles.

148 The first article examines the digital transformation processes affecting event visitors
149 in sport stadiums. Horbel *et al.* (2021, in this issue) analyzed the smartphone-enabled digital
150 resource integration in the co-creation of the value process of sport event visitors from an intra-
151 level perspective. In doing so, the authors revealed attitudes toward smartphone usage and
152 team identification as relevant antecedents for digital resource integration.

153 The following two articles deal with digital transformation processes within sport clubs.
154 Ehnold *et al.* (2021, in this issue) examine the use of digital instruments in voluntary sport clubs
155 with regard to the clubs' organizational goals and capacities. The authors revealed that in
156 voluntary sport clubs, digital instruments are mainly used for internal and external
157 communication. Habenstein *et al.* (2021, in this issue) focus on the e-commerce activities of
158 professional football clubs. They compare merchandise purchase intentions by conducting

159 choice-based conjoint analysis. Their results reveal that customers are more likely to accept
160 higher prices if they are able to purchase jerseys in an official fan shop compared with other
161 retailers.

162 The final two articles in this special issue advance the discussion regarding the growing
163 area of esports. Tjørndal (2021, in this issue) discusses the resistance of football fans toward
164 the introduction of a professional esports league administered by the National Football
165 Federation. Her analysis revealed three main arguments against the inclusion of an esports
166 league: (1) the prevalent position of video gaming as being unhealthy; (2) arguments
167 concerning cheating, match fixing, and doping; and (3) the threat of losing spectators and
168 sponsors. Jang *et al.* (2021, in this issue) explore the reasons for esports event broadcast
169 consumption. They contribute to this research area by analyzing the role of esports live streams.
170 The authors demonstrate a full mediation effect of the intention of esports content live streaming
171 between esports recreational gameplay and the intention toward esports event broadcast
172 consumption.

173

174 [Insert Table 1 here]

175

176 **Future research: Avenues for exploring the disruptive potential of digitalization for**
177 **sport management research**

178 Since the boundaries between industries continue to blur, the accurate definition of the sport
179 industry will become more challenging with the ongoing process of digital transformation. The
180 platform economy reinforces this development. Amazon started its business with an online
181 bookstore and is now acting in the sport media ecosystem as a media rights buyer. With an
182 increasing need for data analytics, firms are not tied to one industry. Their knowledge and skills
183 in defining algorithms can easily be transferred to other industries. Firms that process
184 automation data from manufacturing machinery can potentially process large amounts of
185 player statistics or real-time game data and vice versa. Sport has a long tradition in data
186 analytics, which inspired firms from other sectors to treat large amounts of real-time data

187 (Davenport, 2014). It is not surprising that the first research agenda on sport digitalization
188 stems from the field of information systems as the natural home of topics related to
189 digitalization (Xiao *et al.*, 2017). Bridging the gap between sport management and information
190 systems research is mandatory for examining the potential of digitalization for sport
191 management research. Such research has always been transdisciplinary, but the ongoing
192 discourse among disciplines will become even more important. There is an urgent need to
193 bridge various disciplines with their own theoretical frameworks and approaches toward digital
194 transformation.

195 There is still a limited number of theoretical contributions regarding the disruptive
196 potential of digitalization for sport management research. Investigating a wider scope of digital
197 transformation in sport management research may require a broader set of methodological
198 approaches. Whether existing qualitative and quantitative methods are applicable for certain
199 digital research contexts should be carefully checked. For example, the application of the photo
200 elicitation technique became much easier with smartphone cameras. Therefore, sport
201 management researchers should leverage methodological advancements through digital
202 technologies to examine specific research questions.

203 Moreover, future research should examine the digital transformation of value co-
204 creation during, as well as before and after, sport events, for example, regarding the
205 introduction of digital tools to improve customer experience. In this special issue, Horbel *et al.*
206 (2021, in this issue) examine the effects of digital transformation on the resource integration of
207 stadium visitors and their perceived value of the sport event. They identify future research
208 areas, for example, analyzing the simultaneous integration of digital and physical resources
209 and including other levels of analysis. Additional digital innovations (e.g., blockchain, second
210 screen) will affect value co-creation and should be analyzed more intensively within sport
211 management research. Furthermore, options for interactional relationships between different
212 actors in sport management change due to digitalization. Future research should investigate
213 such interactions between different actors on digital platforms.

214 The multitude of diverse types of sport organizations is another exciting point to
215 investigate the impact of digitalization on sport management. Ehnold *et al.* (2021, in this issue)
216 show that future research is needed in the nonprofit sport sector. Digital transformation affects
217 organizational development and changes how leadership and collaboration are practiced in an
218 organizational culture. The COVID-19 pandemic has amplified the acceptance of new digital
219 technologies for collaboration in and between organizations. However, digitalization also
220 changes the for-profit oriented sport sector. Habenstein *et al.* (2021, in this issue) analyze e-
221 commerce activities of professional football clubs. They derive several implications for sports
222 club managers to improve their digital business models. Sport management research should
223 examine these effects in a broader scope and further investigate the digital transformation of
224 business models.

225 New sports and markets have already emerged from digital transformations in sport.
226 Tjørndal (2021, in this issue) analyzes the resistance of traditional football fans regarding
227 cooperation with an esports league. Future research in sport management is needed to assess
228 the opportunities and threats of an engagement in esports or the collaboration with an esports
229 team or league. Jang *et al.* (2021, in this issue) examine new online broadcasting options and
230 their effects on customer behavior in esports. Future research should continue to investigate
231 such new markets as esports to understand the market structures and the involved actors and
232 their behaviors. The results could contribute to the further development of established sports
233 toward the digital era.

234

235 The goal of this special issue is to better understand the status quo of digital
236 transformation within sport management research and to initiate further consideration and
237 discussion. Therefore, we would like to thank the authors for their efforts and inspiring
238 contributions and the reviewers for their constructive comments and suggestions. We hope
239 that the topics covered in this special issue provide valuable starting points for an ongoing
240 discussion and future research in sport management.

241

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452 **Table 1.** Overview of manuscripts

	Research questions	Methodological approaches
Stadium visitors' smartphone usage and digital resource integration (Horbel <i>et al.</i> , 2021)	<ul style="list-style-type: none"> • How does visitors' smartphone-enabled digital resource integration influence value creation at sport events from an individual perspective? 	<ul style="list-style-type: none"> • Online or paper-based questionnaire with 707 sport event visitors of football, basketball, and handball matches
Digitalization in organized sport—Usage of digital instruments in voluntary sports clubs depending on club's goals and organizational capacity (Ehnold <i>et al.</i> , 2021)	<ul style="list-style-type: none"> • How much and why do voluntary sports clubs use digital instruments? • Which club-specific factors determine the respective usage patterns? 	<ul style="list-style-type: none"> • Online survey with 787 sport club representatives
Club fan shop or not? A conjoint analysis of online jersey purchase behavior (Habenstein <i>et al.</i> , 2021)	<ul style="list-style-type: none"> • Is the fans' channel choice when purchasing licensed sport merchandise online influenced by the club as a retailer and the fans' loyalty to a club? 	<ul style="list-style-type: none"> • A choice based conjoint analysis accompanied by an online survey with 589 sport merchandise buyers
"What's next? Calling beer-drinking a sport?!": Virtual resistance to considering esports as sport (Tjørndal, 2021)	<ul style="list-style-type: none"> • What are the arguments against the inclusion of the professional FIFA league Eserien as part of the Norwegian Football Federation? • How does the virtual resistance relate to the theoretical characteristics of modern sport? • How does the virtual resistance relate to the dominant sport-health ideology in European sport policies? 	<ul style="list-style-type: none"> • Document analysis of 23 virtually published texts and comments
Mediating effect of esports content live streaming in the relationship between esports recreational gameplay and esports event broadcast (Jang <i>et al.</i> , 2021)	<ul style="list-style-type: none"> • Does the intention related to the consumption of esports content live streaming serve as a mediator between esports recreational gameplay behavior and esports event broadcast consumption? • Is there generalizability of the conceptual model across the esports game genre categories? 	<ul style="list-style-type: none"> • Online survey of 598 individuals who had experience with recreational gameplay

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