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*Sport and Mobile TV:
Conceptualization
and Empirical
Analysis of a Mobile
TV Usage Model*

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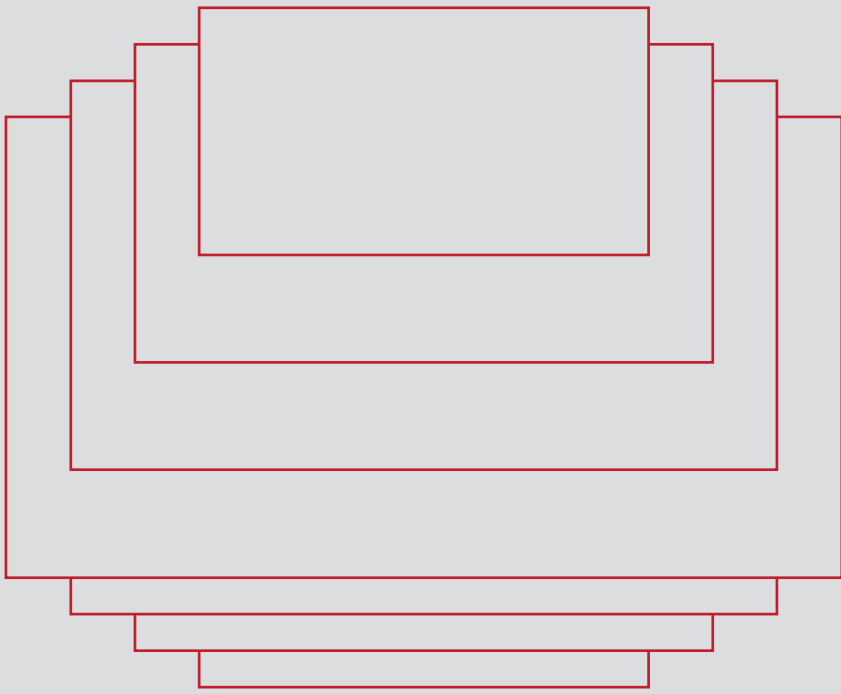
ABSTRACT

The aim of this research was to explain the importance of sport in the use of digital media services on mobile devices. Relevant factors related to mobile TV usage were identified and the strength of their influence was analyzed to show that sport is a driving force for mobile TV usage. Inspired by service-dominant logic (SDL) and the sport value framework (SVF), an innovative research model was specified and tested empirically among three samples from Australia, Germany, and the U.S.A. SDL and SVF suggest value is always co-created and context dependent. Thus, usage situations were integrated as contextual factors in a structural equation model with interest in sport and other psychological factors as independent variables and mobile TV usage intention as dependent variable. This study is one of the first empirically testing what motives lead to mobile sport viewing and how interest in sport drives mobile TV usage. The empirical findings imply that consumer interest in sport is highly relevant for media technology usage. They further demonstrate that usage context really matters.

KEYWORDS: Consumer behavior, cross-national comparison, media usage, mobile TV, sport viewing motives, structural equation model.

ACKNOWLEDGEMENT

The essence of this manuscript is based on the German language monograph of the lead author (Kunz, 2014). In addition to the main study conducted in Germany and previously published, this manuscript considers two additional studies from Australia and the U.S.A. This contributes to the validity of the developed research model that has now been tested empirically in three studies. Moreover, the initial publication literature review was extended, examples were updated, and results were discussed across samples.



INTRODUCTION AND AIM OF PAPER

In the past the launch of media innovations in Australia, Germany, and the U.S.A., was often accompanied by sport-themed commercials, sport mega-events, and premium sport content. This could be observed regarding new media technologies and services such as Internet TV, HDTV, or mobile TV. The FIFA World Cup, the National Football League (NFL) Super Bowl and the Olympic Games as well as the German Bundesliga or U.S. Major League Baseball (MLB) are examples. Sport is important content for global and local media and telecommunications companies across all digital platforms (Foster *et al.*, 2014; Koronios *et al.*, 2020; Kunz *et al.*, 2016; O'Reilly and Rahinel, 2006; Santomier, 2006; Turner, 2007).

In the context of digital platforms, specifically mobile technologies and services, mobile TV refers to any type of audio-visual content that is transmitted by wireless mobile communications networks (3G, 4G, 5G), wireless Internet access points (Wi-Fi) or digital broadcasting networks (DMB, DVB) and received by mobile devices. Mobile TV enables consumption of content independent of time and space in different situations (Schuurman *et al.*, 2010). For the purpose of this study, the focus was on mobile TV in general, including both linear live broadcasts (TV) and video on demand (VOD).

Regarding sport content with relevance for mobile TV, live coverage of events as well as before and after-event reporting, replays of matches, video highlights and sport news represent content that is available currently in countries such as Australia, Germany, and the U.S.A. In Australia, mobile carriers such as Telstra, Optus, and Vodafone provide various TV channels and videos that often are included in their data packages.

In Germany, mobile carriers Deutsche Telekom and Vodafone provide 3G and 4G-based mobile TV services with live coverage and highlights of DAZN, Eurosport, and other TV channels. With 'sky go', pay TV operator Sky introduced an application (app) for smartphones, tablets, and laptops that enables access to its sports channels, covering Bundesliga, UEFA Champions League, tennis, and golf, as well as other sports. During the initial months of its introduction, the app covered sport exclusively while selected movies and TV series followed later.

In the U.S.A., mobile carriers T-Mobile, AT&T, Verizon, and others provide ESPN Mobile TV and sport-related VOD as well as other TV channels such as NBC and FOX Sports. For example, Verizon Wireless distributes National Football League (NFL) games and T-Mobile distributes National Basketball Association (NBA) games. Major League Baseball (MLB) provides MLB.tv, which is accessible with 4G or 5G web-enabled mobile devices.

In many countries mobile TV has been becoming increasingly successful. Further insights into consumer behavior with respect to mobile media were

required (Evens *et al.*, 2011; Ferguson and Greer, 2013). In addition, sport and media managers and marketers should understand the relevant drivers of mobile media usage in order to develop successful marketing strategies and new business models in the digital era. This study addressed several research gaps related to interest in and motives for viewing sport, the relevance of sport for media innovations, and the context of media usage.

Service-dominant logic (SDL) in marketing (Vargo and Lusch, 2004) contributed significantly to the theoretical framework of this study. SDL suggests value is always co-created and value-in-context (Vargo *et al.*, 2008). In sport management the sport value framework (SVF) builds a bridge to empirical research by defining sport events as platforms where different actors co-create context-dependent value (Woratschek *et al.*, 2014). Thus, the value of sport viewing is always context specific (Horbel *et al.*, 2016). This is particularly relevant for mobile media, which is why context-related factors such as usage situations should be given attention in consumer behavior models.

In addition, the study was based on behavioral theories and approaches of interdisciplinary research related to consumer behavior in sport and new media in general as well as on mobile media usage in particular. These research areas are regarded as independent and will be linked to fill a relevant research gap. Whereas the motivations as to why people view sport on television have been identified and analyzed in many previous studies (*e.g.*, Raney, 2006; Wann *et al.*, 1999; Wenner and Gantz, 1998), except for few limited studies (*e.g.*, Fairley and Tyler 2012; Ha *et al.*, 2015; Kattestaart, 2007; Koronios *et al.*, 2020; Kunz and Santomier, 2020; Turner, 2000, 2007), the relationship between the consumers' interest in sport viewing and the demand for novel digital media opportunities has not been a key focus. The factors influencing mobile TV usage have been analyzed rudimentarily (*e.g.*, by Cui *et al.*, 2007; Jung *et al.*, 2009; K. H. Kim *et al.*, 2008). Managers and marketers require further insights into consumer behavior with respect to mobile media (Ferguson and Greer, 2013) and reasons underpinning why consumers do or do not adopt and engage in using mobile media (Benigni *et al.*, 2014). Although a variety of different motives have been identified already (*e.g.*, Choi *et al.*, 2009), they require validation and, in addition, further concepts should be conceptualized and tested empirically.

The aim of this paper, therefore, was to develop and empirically test an explanatory model of the intention to use mobile TV. Relevant factors were identified and the special role of sport in this context was clarified. Specifically, the research questions were:

RQ1: *What factors influence mobile TV usage with a special focus on sport?*

RQ2: *How strong is the influence of these relevant factors on mobile TV usage?*

RQ3: *How does the usage context influence these relationships?*

This study contributes to sport and media management research primarily by identifying relevant influencing factors of mobile TV usage in the sport context as well as conceptualizing and empirically validating a structural model focused on consumer behavior in sport media. Both positive and negative psychological and contextual factors were integrated in this model, which can be applied easily to other sport mobile media related applications in the future. The interest of consumers in sport appeared as a major driver of mobile TV. This study established an innovative model and provides valuable insights for further research on sport new media. In addition, this study contributes to SDL by empirically identifying the interest in sport as a meaningful driving force of mobile TV usage intention, that we consider a representation of value-in-use, and the importance of context in mobile media usage.

THEORETICAL AND CONCEPTUAL BACKGROUND

SDL claims value is always “value-in-use” and “*value-in-context*” (Vargo *et al.*, 2008; Vargo and Lusch, 2008). This approach considers that in addition to the company/service provider as a value creator, customers and other actors are involved as “resource integrators” and as “co-creators” (Vargo and Akaka, 2009). One of the key objectives of this study was to determine the empirical validity of the “value-in-context” concept. The importance of SDL for other disciplines such as the field of sport management is highlighted by the introduction of the SVF (Woratschek *et al.*, 2014). In terms of mobile TV, the usage *context* is apparent from a theoretical and practical point of view since mobility is a core characteristic of service provision. In previous studies travel and transport *situations* such as commuting as well as waiting situations, situations of leisure and relaxation, and situations at home or at work had been considered relevant (*e.g.* Cui *et al.*, 2007; Do *et al.*, 2009; Klein *et al.*, 2009; J. P. Shim *et al.*, 2008).

Regarding *innovation*-related literature there are two important directions that can contribute to explaining consumer behavior: diffusion of innovations (Rogers, 2003) and technology acceptance (Davis *et al.*, 1989). A core concept of Rogers’ diffusion of innovations theory is “innovativeness”. Adopters of innovations, for example, consumers of new technologies and technology-driven services, differ in their individual adoption time and process as well as the overall diffusion among the members of a social system. Goldsmith and Hofacker (1991) point out that this characteristic is always domain specific, since the consumer’s innovativeness may differ between innovations from different areas (Saaksjarvi, 2003). Thus, for the purpose of this study, innovativeness was considered as it relates to the media domain. Therefore, “*media-specific innovativeness*” refers to the general interest of consumers in new media technologies and services and their willingness to adopt them. This concept was considered rudimentary

in the context of mobile TV (e.g. Kwon and Chon, 2009). Wouters *et al.* (2007) integrated “technology readiness” within the technology acceptance model (TAM; Davis *et al.*, 1989). They identified a significant mediated influence on consumers’ intention to use mobile TV. In the German sample of K. H. Kim *et al.*’s (2008) study regarding digital multimedia broadcasting (DMB) services “innovativeness” had the strongest impact.

Media communication and reception focused research can also contribute to explaining mobile TV usage. With *uses and gratifications* there is a relevant approach that addresses the audience’s motives of media usage and content reception (Katz and Foulkes, 1962). Consumers are assumed to be active, seeking gratifications of their psychological and social needs by using media (Katz *et al.*, 1974). “These needs certainly vary among individuals of different ages, gender, and stages in life, among other factors, as well as within individuals given situational factors such as mood, time of day, and stress” (Raney, 2006, p. 314). This fits well with our assumption that mobile TV usage is always context dependent. A variety of affective (entertainment or mood regulation), cognitive (learning or information seeking), integrative (habit or empathy) and interactive (social relations or conversations) *motives* have been identified (Ruggiero, 2000). However, there is no consensus on labeling and operationalization of same or similar media-related motives to date. Dependency and multicollinearity among motives and their importance are additional issues addressed in this paper.

With the launch and wide distribution of mobile devices “portability”, “mobility”, and “permanent access” have become relevant for motivational research in the media industry (Kim *et al.*, 2008; Leung and Wei, 2000; Wei, 2008). Choi *et al.* (2009) studied the motivators for mobile TV usage and identified “permanent access”, that is the mobility of users and their digital devices, to be most important. Moreover, “entertainment” and “fashion and status” appeared to be relevant especially for male users. Cui *et al.* (2007) identified “pastime”, “staying up-to-date”, and “novelty” as motivational drivers. Oksman *et al.* (2007) achieved similar results. In addition, they identified “information” and again “mobility” as key factors. Kalba (2009) discussed the characteristics of mobile TV as an innovation. He also highlighted “portability”, “permanent access”, and “status” as relative advantages.

In a study by Jung *et al.* (2009), the high relevance of “content” for mobile TV usage was shown. Content in general was associated with characteristics such as being-up-to-date or providing sufficient content. As an extension to TAM (Davis *et al.*, 1989), content was modeled as an additional antecedent and its effect on the intention to use mobile TV was thus mediated by “perceived usefulness” as well as “cognitive concentration” (flow) and “perceived ease-of-use”. However, this study did not refer to particular media content as, for instance, sport content.

Until recently, sport media related literature focused primarily on *motives for viewing sport* on traditional television (e.g., Raney, 2008; Wenner and Gantz, 1998). Only a few research publications refer to sport on the Internet (e.g., Seo and Green, 2008) or sport on mobile devices (Benigni *et al.*, 2014). One observation of a pilot study focused on mobile TV in Germany was that usage decreased after the 2006 FIFA World Cup (Klein *et al.*, 2009). Other literature emphasized the importance of sport content for mobile TV usage (Evens *et al.*, 2011). Thus, in addition to different motives of media usage, “*sport fan identification*” may be of relevance for viewing sport and adopting new media technologies. Literature primarily focused on the identification with a team or athlete (e.g., Lock *et al.*, 2012). However, being part of a social group or community is another aspect (Sutton *et al.*, 1997). Although fan identification seems to be related closely with both social and para-social motives, its relationships with viewing motives should be analyzed in more detail, especially within the context of sport and new media.

RESEARCH MODEL AND HYPOTHESES

On the basis of the literature presented, theoretical and conceptual considerations, and practical observations, an innovative research model is proposed. In this model, relationships among and between the conceptualized constructs are hypothesized. The main objective is to explain consumers’ *intention to use mobile TV* as a representation of value in the context of viewing sport content. Behavioral intention and actual or future consumer behavior are closely inter-related (e.g., Davis *et al.*, 1989).

If consumers are generally interested in new trends, technologies, and services in the media nexus, and if they search for information about them and would like to test them, they are more likely to be interested in a particular innovation and may intend to use the innovation in the future (Kim *et al.*, 2008; Kwon and Chon, 2009; Mao *et al.*, 2005; Wouters *et al.*, 2010). Thus, the consumers’ *media-specific innovativeness* could motivate their mobile TV adoption.

Portability of the device as well as continual availability of the service provides consumers with access to media content and communication independent of time and space. As a consequence, media usage has become inherently more flexible with consumers geo-shifting and time-shifting regularly. In many studies portability and permanent access as key characteristics of mobile TV were considered to have a motivational dimension of media usage (e.g., Choi *et al.*, 2009; Peters and ben Allouch, 2005; Shin, 2007). The *independent televiewing motive* has become relevant for using media technologies and services. Media consumers derive value from the geographical and time-related independence that portable devices as well as permanent access to media content provide.

Moreover, certain media devices can be considered as fashion accessories. A multitude of apps can be used via these devices that may appear trendy to consumers. Previous studies revealed *style and status* to be a relevant motive for mobile media usage (e.g., Choi *et al.*, 2009; Leung and Wei, 2000; Peters and ben Allouch, 2005). Mobile TV is a relatively unique way of consuming media that can be perceived as prestigious by consumers.

Content in general (Jung *et al.*, 2009) and sport in particular seems to play a certain role when it comes to the diffusion and adoption of media innovations (e.g., Turner, 2000; 2007; Kattestaart, 2007). During the last twenty years, many media innovations such as Internet TV (IPTV), HDTV, or mobile TV that enable sport viewing in HD quality, in different situations, and with many additional features were introduced in the context of upcoming or future sport events or sport-related commercials, addressing consumers with a specific interest in sport. Therefore, the consumers' *interest in sport viewing* may have a significant influence on their adoption and usage of new media technologies. Previous academic studies and empirical observations regarding mobile TV suggest that sport mega-events and premium sport content increase the awareness of and demand for mobile TV (e.g., Klein *et al.*, 2009). Sport, in fact, was expected to be a major driver of mobile TV diffusion (Evens *et al.*, 2011). As an important type of content, it may motivate consumers to use mobile TV.

It was hypothesized that the intention to use mobile TV depends on consumer media-specific innovativeness (H1), an independent televiewing motive, and a style and status motive (H2), and the interest in sport viewing (H3).

H1(+): The stronger the media-specific innovativeness, the greater the intention to use mobile TV.

H2(+): The stronger (a) the independent televiewing motive and (b) the style and status motive, the greater the intention to use mobile TV.

H3(+): The stronger the interest in sport viewing, the greater the intention to use mobile TV.

Recently, Koronios *et al.* (2020) have investigated a number of motivators of sport media consumption. We previously identified several *sport-viewing motives* with potential relevance for mobile device usage based on Gantz (1981), Rubin (1983), Aimiller and Kretzschmar (1995), Wann (1995), Papacharissi and Rubin (2000), Trail *et al.*, (2003), Schafmeister (2007), Raney (2008), and Seo and Green (2008). We then included these motives related to information, learning, live reception, entertainment, excitement, relaxation, pastime, and escape in an exploratory factor analysis in IBM SPSS Statistics (following Fabrigar *et al.*, 1999).

Based on the above, five independent motivational factors were derived: (a) *live*

viewing of current sport events *and seeking information* about results, teams and players; (b) *seeking entertainment and regulating one's mood*, that is getting excited or even thrilled on the one side and relaxed on the other side; (c) *learning* the rules of a sport and improving one's skills; (d) *passing time* and killing boredom; and (e) *escaping* from life's everyday problems and one's day-to-day routine. It is hypothesized that the sport-viewing intention depends on five different motives (H4):

H4(+): The stronger the (a) live viewing and information seeking motive, (b) entertainment seeking and mood regulation motive, (c) learning motive, (d) pastime motive, and (e) escape motive, the greater the intention of mobile sport viewing.

For consumers, the *identification* with a sport, team, athlete, or community may cause different actions and behaviors, including those related to media usage (Kwon *et al.*, 2007; Trail *et al.*, 2003; Wann *et al.*, 2001; Yoshida *et al.*, 2014). Sport viewing may be explained by fan identification to some extent (Trail *et al.*, 2000). Fans may follow their preferred athletes and teams and, in this way, express their own identity. Because in previous studies fan identification did not always have a significant impact on media usage (*e.g.*, Beyer, 2006), the direct influence on sport viewing intention is expected to be relatively weak and mediated by sport-viewing motives. Therefore, specific levels of fan identification may activate sport-viewing motives that actually mediate sport new media usage. As a consequence of high levels of fan identification, consumers may choose to view sport on mobile devices in order to gratify different motives. We hypothesize that sport-viewing motives partially mediate the relationship between sport fan identification and sport-viewing intention; however, sport-viewing intention may also be directly affected by fan identification to a certain extent (H5):

H5(+): The relationship between the levels of sport fan identification and the intention of mobile sport viewing is mediated by sport-viewing motives.

Furthermore, it was assumed that different usage *situations (contexts)* such as (a) travelling on a bus or train, (b) waiting away from home at the doctor's office or when queuing up, (c) relaxing at a café, in a park or on the beach, being (d) at home or (e) at work, moderate the relationship between the independent televiewing motive and the intention to use mobile TV (H6 based on, *e.g.*, Do *et al.*, 2009; Klein *et al.*, 2009; Shim, 2008). Therefore, we hypothesized that if one of the situations stated above is perceived to be relevant by a consumer, the influence of the independent televiewing motive on the intention to use mobile TV is strengthened.

H6(+): The usage situations (a) travelling, (b) waiting, (c) relaxing, (d) at home,

and (e) at work moderate the influence strength of the independent televiewing motive on the intention to use mobile TV.

On the basis of the introduced hypotheses a research model can be derived presented in figure 1.

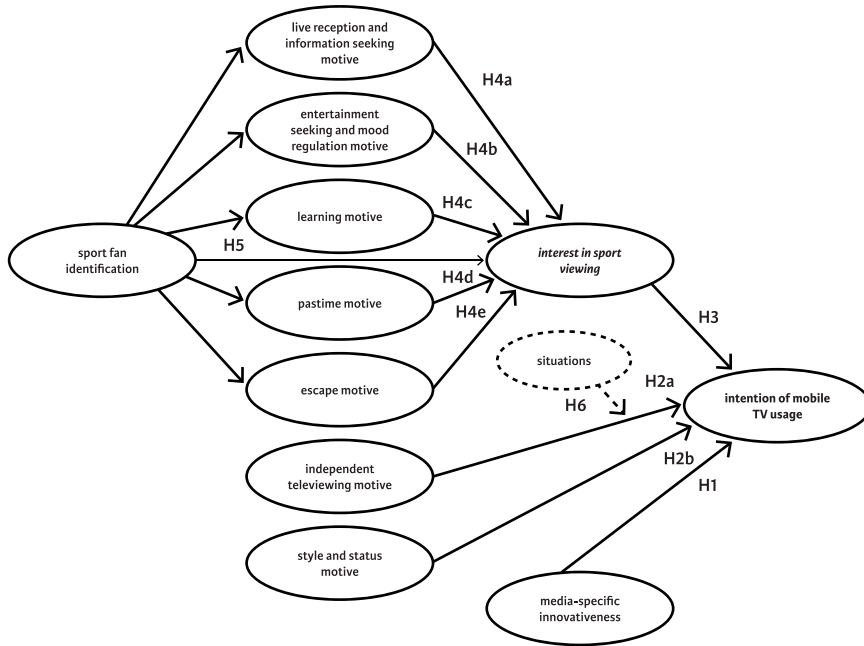


Figure 1: Research model

METHODS

The aforementioned constructs were operationalized in a standardized English language questionnaire that was designed based on the results of qualitative preliminary studies as well as an extensive literature review and previously validated items and scales. The items selected to measure the behavioral intentions were adapted from Nysveen *et al.* (2005), Wang *et al.* (2006), and Choi *et al.* (2009). We measured both the independent televiewing motive and the style and status motive by items that were validated previously by Leung and Wei (2000), Peters and ben Allouch (2005), and Choi *et al.* (2009). To measure media-specific innovativeness Goldsmith and Hofacker’s (1991) scale was adapted to the media domain. Items measuring live reception and information seeking, entertainment seeking and mood regulation, learning, pastime, and escape, were derived from Gantz (1981), Rubin (1983), Aimiller and Kretzschmar (1995), Wann (1995), Wenner and Gantz

(1998), Paparachissi and Rubin (2000), Trail *et al.* (2003), Ebersole and Woods (2007), Schafmeister (2007), Seo and Green (2008), and Choi *et al.* (2009). Sport fan identification was operationalized by measures derived from Aimiller and Kretzschmar (1995), Mahony *et al.* (2002), Trail *et al.* (2003), Robinson *et al.* (2004), and Schafmeister (2007).

All context-related items were derived from a qualitative preliminary study. The specification of the items was discussed with experts to ensure content validity of the constructs (Anderson and Gerbing, 1991). All latent variables were operationalized by reflective manifest variables (Jarvis *et al.*, 2003). Except for the five different situations that were measured by single items (Bergkvist and Rossiter, 2007), we used multi-item-measures to assure consistency of the construct estimations (Churchill, 1979). A fully verbalized and numbered 7-point-Likert scale served to measure agreements/disagreements with the presented statements. In addition, we also provided an "I don't know" option.

For data collection, a mixed methods approach was applied (Creswell and Clark, 2011). In order to gain first insights, both actual and potential users from Australia, Germany, and the U.S.A. were interviewed. Since most of the previous research on mobile TV was conducted in Asia, it was decided to focus on Western countries to ensure that the empirical results would only be slightly influenced by cultural impacts. The model was tested in these three countries so that the data would not be limited to one continent. A quantitative study was conducted in Australia (convenience sample in which subjects were approached in public places, about half of them students) and Germany (English-speaking university student sample) with total sample sizes of 120 and 405 subjects respectively. The study was replicated in the U.S.A. with a sample of 150 students. Because of age, education, variety of interests, and potential future income, university students are an attractive sample for sport enterprises, broadcasters, and telecom companies. In addition, students were more likely to have gained mobile TV experience when data were collected in an earlier diffusion stage (*cf.* O'Doherty *et al.*, 2007). Thus, the statements and implications based on the results of this study will be limited predominantly to students from the three Western countries selected. However, for the purpose of this study, that is the empirical validation of a newly conceptualized research model that attempts to explain mobile TV usage intentions in the sport context rather than to predict diffusion, market shares etc., student/convenience samples are appropriate.

Data analyses followed procedures that were introduced and suggested by Homburg and Giering (1996). Exploratory main component factor analyses with varimax rotation (IBM SPSS Statistics; Fabrigar *et al.*, 1999), confirmatory factor analyses and covariance-based structural equation modeling (LISREL; Jöreskog, 1970), as well as variance-based structural equation modeling (SmartPLS; Ringle,

2005) were used to test the research model empirically and confirm the aforementioned hypotheses. The smaller size of the Australian and U.S. samples required the use of PLS instead of LISREL. However, with this analysis, not only data sets but also the applied methods were triangulated (Denzin, 1989).

In order to address the model's complexity, two sub-models were constructed: a *Mobile TV Model* and a *Sport Media Model*. The intention of mobile sport viewing is the linking element between both models (marked in figure 1 in italic). Mediating and moderating effects (Baron and Kenny, 1986) were tested by multiple group analyses (*S-B* χ^2 -difference-test: Satorra and Bentler, 2001) and interaction term analyses (product-indicator-approach: Kenny and Judd, 1984; Ping, 1995).

Since the independent and the dependent variables had to be measured using consumers' opinions (self evaluations), common method bias occurs as an issue in general (Bagozzi *et al.*, 1991). However, in order to reduce this bias, anonymity

Construct	Indicator	Australia				
		Factor loading	t-value (bootstrap)	Indicator reliability	Factor reliability	AVE
		≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5
Intention of mobile TV usage	MTV_Int1	.94	56.18	.89	.94	.89
	MTV_Int2	.94	47.17	.89		
Media-specific innovativeness	Innov1	.91	47.01	.83	.94	.84
	Innov2	.91	53.04	.83		
	Innov3	.92	68.01	.86		
Independent tele-viewing motive	Indip1	.80	24.57	.69	.89	.73
	Indip2	.87	32.37	.76		
	Indip3	.86	29.42	.74		
Style and status motive	Style1	.92	34.64	.85	.93	.82
	Style2	.88	36.38	.78		
	Style3	.92	36.75	.84		
Intention of mobile sport viewing	SpoVie_Int1	.94	57.84	.90	.97	.92
	SpoVie_Int2	.96	111.41	.93		
	SpoVie_Int3	.96	126.18	.93		

was assured ex ante (P.M. Podsakoff *et al.*, 2003) and Harman's (1976) one factor test was used ex post (Podsakoff and Organ, 1986).

Moreover, convergent and discriminant validity (Bagozzi and Phillips, 1982) were tested in confirmatory factor analyses. The indicators load significantly on the constructs, and all are reliable, except for items *Indip1* and *ESMR6_Moo*, probably due to the exploratory stage of model design (Hulland, 1999). With values above .7 all factor reliabilities exceeded the threshold established by Nunnally (1978). The values of the constructs' average variance extracted (AVE) were above the critical value of .5. Underlying the criterion by Fornell and Larcker (1981) the modeled constructs converged and discriminated sufficiently. In contrast to the Australian and German studies, a modified model structure, that is an optimized/reduced Sport Media Model, was tested using the U.S. data. Table 1 and 2 summarize the constructs' values and validity criteria.

Germany					U.S.A.				
Factor loading	t-value	Indicator reliability	Factor reliability	AVE	Factor loading	t-value (boot-strap)	Indicator reliability	Factor reliability	AVE
≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5	≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5
.93	17.83	.86			.92	41.81	.85		
			.91	.84				.92	.86
.91	19.76	.82			.94	88.31	.88		
					.86	23.55	.74		
.74	13.90	.54			.85	22.15	.73	.86	.67
.83	16.23	.69	.82	.60	.74	9.78	.54		
.76	13.62	.57			.83	13.61	.69		
.66	9.85	.43			.90	38.12	.82	.91	.77
.86	8.87	.74	.83	.63	.89	45.85	.80		
.84	1.42	.71			.91	46.82	.84		
.84	14.87	.71			.92	47.47	.85	.94	.83
.92	18.66	.84	.91	.78	.90	29.09	.82		
.89	22.13	.78			.88	33.11	.78		
.88	19.46	.77			.90	37.21	.82	.91	.78
.99	25.53	.97	.95	.86	.87	23.30	.76		
.91	19.43	.83							

Table 1: Local criteria and thresholds for measurements of the Mobile TV Model

Construct	Indicator	Australia				
		Factor loading	t-value (bootstrap)	Indicator reliability	Factor reliability	AVE
		≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5
Intention of mobile sport viewing	SpoView_Int1	.94	27.71	.89		
	SpoView_Int2	.96	29.59	.93	.97	.91
	SpoView_Int3	.96	33.40	.92		
Live reception and information seeking motive	SM13_Inf	.80	13.24	.64		
	LRIS1_Inf	.89	15.47	.80		
	LRIS2_Inf	.77	1.83	.60	.92	.67
	LRIS3_Liv	.84	13.33	.71		
	LRIS4_Liv	.75	11.62	.56		
	LRIS5_Liv	.85	14.59	.72		
Entertainment seeking and mood regulation motive	ESMR1_Ent	.88	12.45	.77		
	ESMR2_Ent	.81	8.20	.66		
	ESMR3_Ent	.86	9.83	.75	.92	.70
	ESMR4_Moo	.88	12.66	.77		
	ESMR5_Moo	.73	6.77	.54		
	ESMR6_Moo					
Sport fan identification	SFI1_Spo	.79	9.62	.62		
	SFI2_Spo	.81	9.72	.65		
	SFI3_Com	.81	1.74	.66		
	SFI4_Com	.83	1.12	.70		
	SFI5_Com	.86	1.61	.74	.94	.68
	SFI6_Tea	.90	11.74	.81		
	SFI7_Tea	.79	14.86	.62		
	SFI8_Tea	.80	9.57	.64		
	SFI9_Ath	.80	6.53	.64		
Learning motive	Learn1	.87	11.11	.75		
	Learn2	.89	12.53	.80	.91	.78
	Learn3	.88	13.55	.78		
Pastime motive	Pastime1	.86	9.79	.74		
	Pastime2	.84	9.75	.71	.88	.71
	Pastime3	.82	9.48	.68		
Escape motive	Escape1	.90	11.72	.81		
	Escape2	.95	13.72	.91	.94	.86
	Escape3	.92	1.81	.85		

Germany					U.S.A.				
Factor loading	t-value	Indicator reliability	Factor reliability	AVE	Factor loading	t-value (boot-strap)	Indicator reliability	Factor reliability	AVE
≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5	≥ .707	≥ 1.96	≥ .5	≥ .7	≥ .5
.90	19.57	.81			.91	19.34	.83		
.98	25.01	.96	.96	.88	.93	27.16	.86	.947	.85
.93	2.25	.86			.93	23.69	.86		
.85	15.24	.72			.86	13.65	.75		
.87	18.76	.76			.89	1.72	.80		
.79	16.04	.62			.88	1.74	.77		
.82	18.55	.68	.93	.70	.76	5.23	.58	.93	.71
.84	18.71	.71			.79	1.87	.63		
.83	15.32	.69			.84	11.39	.72		
.93	19.69	.86			.89	18.70	.80		
.94	19.79	.88			.93	29.02	.87		
.94	2.48	.89			.91	16.37	.83		
.91	19.36	.83	.95	.76	.92	16.46	.86	.96	.80
.74	14.25	.54			.81	12.66	.66		
.74	13.62	.55			.87	15.43	.76		
.88	21.76	.78			.89	13.12	.80		
.83	18.74	.69			.79	1.67	.63		
.83	17.11	.69			.83	9.11	.69		
.82	15.87	.67			.83	11.26	.70		
.88	19.74	.78	.96	.74	.83	1.35	.69	.95	.70
.93	24.67	.87			.84	14.13	.70		
.93	23.44	.87			.85	12.62	.73		
.87	19.46	.75			.85	9.02	.72		
.74	12.43	.55			.78	6.53	.61		
.86	18.11	.75							
.88	19.17	.78	.90	.75					
.86	19.49	.73							
.80	13.35	.64							
.89	21.06	.79	.85	.66					
.74	1.66	.54							
.82	16.09	.68							
.93	21.30	.86	.89	.72					
.79	14.94	.63							

Table 2: Local criteria and thresholds for measurements of the Sport Media Model

Global model fit test criteria such as χ^2 , *CFI*, *NNFI*, and *RMSEA* (e.g., Bentler and Bonett, 1980; Hu and Bentler, 1999) were all satisfactory (tested for the German sample in LISREL). Only in the Sport Media Model the *SRMR* criterion was not valid, probably due to the degrees of freedom (Kenny, 2011). As a consequence of non-normal distributed data in this study, data had to be corrected (*S-B scaled χ^2*) following the procedure introduced by Satorra and Bentler (2001). In total, the analyses revealed highly reliable and valid measurement models (Table 3) and structural models (Table 4). The following evaluation of the hypotheses was therefore based on reliable and valid results from robust models.

	<i>S-B χ^2/df</i>	<i>p</i>	<i>CFI</i>	<i>NNFI</i>	<i>SRMR</i>	<i>RMSEA</i>
	$\leq 3.0 - \leq 5.0$		$\geq .95 - \geq .90$	$\geq .95 - \geq .90$	$\leq .08 - \leq .11$	$\leq .05 - \leq .1$
Mobile TV	2.175	< .001	.974	.965	.049	.066
Sport Media	1.960	< .001	.981	.979	.067	.064

Table 3: Global model fit criteria and values of the measurement models (Germany, LISREL)

	<i>S-B χ^2/df</i>	<i>p</i>	<i>CFI</i>	<i>NNFI</i>	<i>SRMR</i>	<i>RMSEA</i>
	$\leq 3.0 - \leq 5.0$		$\geq .95 - \geq .90$	$\geq .95 - \geq .90$	$\leq .08 - \leq .11$	$\leq .05 - \leq .1$
Mobile TV	2.175	< .001	.974	.965	.049	.066
Sport Media	3.023	< .001	.960	.956	.212	.093

Table 4: Global model fit criteria of the structural models (Germany, LISREL)

RESULTS AND DISCUSSION

The results of the three separate studies from Australia, Germany, and the U.S.A., referring to the tested hypotheses, the determination coefficients of the Mobile TV Model as well as the Sport Media Model, and the path coefficients of all influencing factors, are depicted in Table 5.

	AUSTRALIA N = 120 PLS R ² = .747	GERMANY N = 405 LISREL R ² = .717	U.S.A. N = 150 PLS R ² = .632
✓ H1: Media-specific innovativeness	✓ $\gamma = .284^{***}$	✓ $\gamma = .149^{***}$	✓ $\gamma = .130^{**}$
✓ H2a: Independent tele-viewing motive	✓ $\gamma = .203^{***}$	✓ $\gamma = .238^{***}$	✓ $\gamma = .131^*$
✓ H2b: Style and status motive	✓ $\gamma = .112^*$	✓ $\gamma = .090^t$	$\gamma = .066$
✓ H3: Interest in sport viewing	✓ $\gamma = .525^{***}$	✓ $\gamma = .595^{***}$	✓ $\gamma = .632^{***}$
	R ² = .519	R ² = .480	R ² = .519
✓ H4a: Live reception and information seeking motive	✓ $\gamma = .298^{**}$	✓ $\gamma = .384^{***}$	✓ $\gamma = .441^{***}$
✓ H4b: Entertainment seeking and mood regulation motive	✓ $\gamma = .560^{***}$	✓ $\gamma = .367^{***}$	✓ $\gamma = .156^*$
✗ H4c: Learning motive	$\gamma = -.078$	$\gamma = -.078$	
✗ H4d: Pastime motive	$\gamma = .026$	$\gamma = .031$	
✗ H4e: Escape motive	✓ $\gamma = -.194^*$	$\gamma = .048$	
✓ H5: Sport fan identification	✓ $\gamma_m = .187^{**}$ ($\gamma_{total} = .490$)	✓ $\gamma_m = .104$ ($\gamma_{total} = .441$)	✓ $\gamma_m = .200^{***}$ ($\gamma_{total} = .551$)
✓ H6a: Travelling situation	$\gamma = -.151$	✓ $\gamma_h = .33^{***}$ $\gamma_l = .063$	✓ $\gamma = -1.812^{**}$
✗ H6b: Waiting situation	$\gamma = .695$	$\gamma_h = .20^{***}$ $\gamma_l = .20$	$\gamma = -.796$
✗ H6c: Relaxing situation	$\gamma = .313$	$\gamma_h = .28^{***}$ $\gamma_l = .21^{***}$	$\gamma = .666$
✗ H6d: Being at home situation	$\gamma = -1.068$	$\gamma_h = .20^{***}$ $\gamma_l = .24^{***}$	$\gamma = .460$
✗ H6e: Being at work situation	$\gamma = .642$	$\gamma_h = .30^{***}$ $\gamma_l = .22^{***}$	$\gamma = .335$

Table 5: Empirically tested hypotheses, determination coefficients and path coefficients

RELEVANCE OF INFLUENCING FACTORS FOR MOBILE TV USAGE

Concerning the influencing factors of *mobile TV usage* (RQ1), different factors have a significant influence on usage intention: In the Australian and the German samples, media-specific innovativeness, independent televiewing motive, style and status motive, and the interest in sport viewing all influence the intention of using mobile TV directly. Innovativeness, independent televiewing, and interest are highly significant. However, the style and status motive is only significant on lower levels. In the U.S. sample, this motive is actually insignificant. Thus, hypotheses H1, H2a, and H3 were completely supported by the data, whereas H2b was only partly supported.

In case of the *Mobile TV Model*, a considerable part of the variance could be explained in all three samples ($R^2_{AUS} = .747$; $R^2_{GER} = .717$; $R^2_{USA} = .632$). According to Chin (1998) this level of variance explanation can be regarded as substantial. The present findings demonstrate that the intention of mobile TV usage is further determined indirectly through mediated and moderated relationships that contribute to a deeper explanation. In case of the *Sport Media Model*, approximately half of the interest in sport viewing could be explained by the tested factors ($R^2_{AUS} = .519$; $R^2_{GER} = .480$; $R^2_{USA} = .513$). These values can be regarded as moderate (Chin, 1998).

The level of fan identification by sport consumers, as well as entertainment seeking and mood regulation motive and live reception and information seeking motive determined the *interest in sport viewing*. Whereas the escape motive had a significant but weak influence in the Australian sample, it was not significant in the German sample. Although it was expected that all sport-viewing motives were to have a positive influence, escape had a negative influence. Other sport media motives identified from the literature such as pastime or learning did not have a significant influence on sport viewing intention. It could be demonstrated that the relationship between the level of fan identification and the intention of mobile sport viewing was mediated by certain sport viewing motives (Sobel, 1982). The significance of fan identification and the motives related to entertainment and information were further validated by using the data of the U.S. sample. Hypotheses H4a, H4b, and H5 were supported by the empirical data. Hypotheses H4c, H4d, and H4e had to be rejected.

STRENGTH OF INFLUENCE ON MOBILE TV USAGE

Addressing the strengths of the relevant factors (RQ2), the standardized path coefficients (gamma coefficients) were consulted. According to Lohmöller (1989) loadings between two constructs should be significant and their values should be at least $\pm .1$ in order to consider a relationship to be relevant at all.

Regarding the *Mobile TV Model*, in total, the suggested predictors contributed

substantially to the model structure. As was anticipated, all path coefficients had positive signs. The consumers' interest in sport viewing was the strongest influencing factor of the intention to use mobile TV in general, indicating a substantial relationship between both constructs. This was supported in all three studies by high path coefficients ($\gamma_{AUS} = .525$; $\gamma_{GER} = .595$; $\gamma_{USA} = .632$). These findings provided empirical support that 'content is king' and sport content is attractive to consumers and can be a driving force for new media adoption. Therefore, the leading hypothesis of this paper was supported.

In contrast, the style and status motive had only a weak influence or no influence at all ($\gamma_{AUS} = .112$; $\gamma_{GER} = .090$; $\gamma_{USA} = .066$). Such fashion and prestige related aspects apparently contributed little to determine mobile TV usage. It could be possible that despite anonymity during data collection it was a sensitive topic for the surveyed subjects in general or that it was barely relevant in Western compared to Asian countries.

However, the strength of independent televiewing as a motivational factor ($\gamma_{AUS} = .203$; $\gamma_{GER} = .238$; $\gamma_{USA} = .131$) and the strength of the consumers' general media-specific innovativeness ($\gamma_{AUS} = .284$; $\gamma_{GER} = .149$; $\gamma_{USA} = .130$) varied among the three studies. Of the four main factors expected to be a direct influence, independent televiewing and innovativeness had the second and third strongest influences. Nevertheless, each influence was weaker when compared with the strength of the interest in sport viewing. The core characteristic of mobile TV, that is the ability to use it anywhere and anytime, as well as a general interest in and curiosity for innovations related to the media domain, were quite important in explaining consumers' mobile TV usage intentions. Especially for innovators and early adopters, mobile TV usage plays a greater role in an early diffusion stage.

The *Sport Media Model* provided deeper insights into the interest in sport viewing with regard to consumers' identification and motives. Fan identification did not have a significant direct impact on consumers' intention to use mobile TV in the German study, thus, this relationship was fully mediated. In the other two studies, however, there was a direct relationship detected in addition to the mediated relationships, thus, a partial mediation. The relationship between sport fan identification and the intention of mobile sport viewing was mediated by live reception and information seeking ($\gamma_{AUS} = .298$; $\gamma_{GER} = .384$; $\gamma_{USA} = .441$) as well as entertainment seeking and mood regulation ($\gamma_{AUS} = .560$; $\gamma_{GER} = .367$; $\gamma_{USA} = .156$). Almost equally both motives were strong influencing factors in the German study, but their strengths varied across the three studies, indicating the specificity of context. The relevance of these two motives is in accordance with previous studies that highlighted the relevance of cognitive and affective motives for sport viewing (e.g., Raney, 2008).

Since these two sport viewing motives mediate the relationship between sport fan identification and the intention of mobile sport viewing, when adding direct and indirect effects sport fan identification did possess a very strong total impact ($\gamma_{AUS}^{total} = .490$; $\gamma_{GER}^{total} = .441$; $\gamma_{USA}^{total} = .551$). Fan identification affects or even initiates certain sport viewing motives. It may be the reason why sport consumers become informed about their preferred sports, teams, and players and why they are thrilled when they follow sport events and competitions. Sport consumers with high levels of fan identification and who identify with certain sport teams or athletes, have stronger intentions to view sport on mobile devices.

Since learning about rules and improving one's skills by viewing sport may be relevant for only a small group of consumers or may be applicable only to consumers of new sports who do not know the rules, this motive was not expected to be a strong motive of sport viewing in general. Thus, it was not that surprising that a significant relationship did not exist. However, pastime and escape motives were expected to be more important for viewing sport. It is possible that the subjects surveyed – most of them students without or with limited experience with mobile sport viewing when data were collected – were not able to imagine how to pass time and kill boredom or to escape from day-to-day routines and forget about their problems by mobile sport viewing.

MODERATING INFLUENCE OF CONTEXT

In addition to a deeper explanation of sport viewing determinants, *context-specific aspects* were considered (RQ3). The *context* showed a moderating indirect influence. The *situation* related to travelling was a significant moderating factor of the relationship between the independent televiewing motive and mobile TV usage in the German study and U.S. study. Other situations such as waiting, relaxing, at home, or at work were not significant in our studies. Since most part of the suggested context factors did not have a significant moderating influence, H6 was only partly supported by the empirical data. However, H6a could be confirmed, whereas H6b, H6c, H6d, and H6e had to be rejected.

Although the effects of the travel situation moderator that we identified to be significant in part of the studies were relatively weak, they should be considered (Chin *et al.*, 2003). It was substantiated that mobile TV usage is context-specific with regard to usage situations. This further contributed to increasing the explanatory power of the Mobile TV Model.

The travelling situation positively moderated the relationship between the independent televiewing motive and the intention of using mobile TV. In case of *situations* in which consumers travel or commute by public transport and personal vehicles the influence of the independent televiewing motive becomes stronger and the intention of using mobile TV increases. Evidently this is not true

for situations at home or at work, where other media alternatives are available or other activities play a more important role. More surprisingly, and in contrast to the relevance stated in the literature, waiting and relaxing situations did not show valid relevance as moderating factors. Thus, the motivational influence of independent televiewing depended only on certain situations related to travel and transportation.

IMPLICATIONS, LIMITATIONS, AND FURTHER RESEARCH

The results of our studies can be briefly summarized as follows: Sport is a significant driving force of mobile TV usage intention and context matters. The outcomes of the studies are of importance for both sport and media management academics and practitioners. By applying a scientific procedure, reliable operationalized items were identified, and a valid research model was constructed. An integrated model, including positive and negative psychological and contextual influencing factors, with an emphasis on sport, was constructed theoretically and tested empirically. Measurement and structural models were validated in three different studies conducted in three Western countries. In future studies these models can be used to measure the considered concepts and further validate their relationships. Thus, this research can serve as the starting point for future interdisciplinary research in the areas of sport, media, innovation, and marketing management.

Figure 2 draws the *causal structure* of the final research model on the basis of the significant relationships among the constructs that contributed to explaining consumers' intentions of using mobile TV. The interest in sport viewing had the strongest positive influence. The independent televiewing motive had a substantial positive influence on using mobile TV. As one might assume, travel situations moderated the strength of this motive. Media-specific innovativeness also had a relevant influence and strength. The inclusion of consumer interest in sport viewing and innovativeness attempted to expand motivational and attitudinal research through additional behavioral determinants and helped achieving a high explanation capacity of the model.

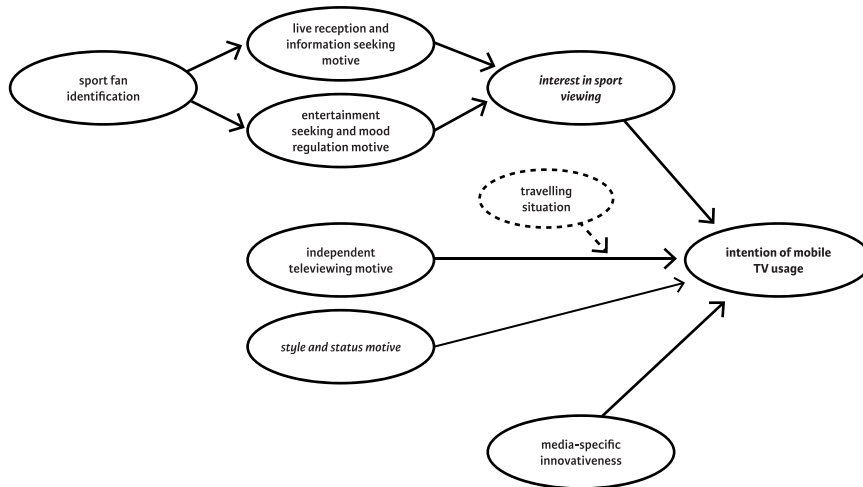


Figure 2: Tested research model

In regard to these determinants a further analysis of their causal impacts can be beneficial, as shown by *sport media* related factors. This contributes to a better explanation of the intentions of using mobile TV. Compared to other media technologies and services such as HDTV, the relevance of sport is not that obvious for mobile TV. The interest in viewing sport was identified as the main driver, however. Therefore, this research provides empirical evidence that the interest in sport has a significant impact on the adoption of media innovations. Sport is and remains, for many consumers, premium content. This should be considered in marketing strategies, especially in product and promotion policies. Marketing of digital media devices, applications, and programming should be directed to consumers with an interest in sport.

There are a number of studies in the literature that focus on *sport viewing motivation*. This paper contributes to that body of research, especially the analysis of distinct sport viewing motives. In addition to a *single fan identification factor* and *five independent motivational factors* that have been adapted to the mobile media context, their actual impact on consumers' usage intentions could be clarified. *Live reception*, for example, which was almost not considered a motive in the literature, is intertwined with *information seeking*. *Entertainment seeking* is linked with the *experience of a thrill or relaxation*. Both factors mediate the impact of sport fan identification. Marketing management strategies should emphasize mobile sport

reception as a means of expressing fan identification in the future. With this in mind, fan-related mobile TV offerings such as club channels and videos could be promoted more extensively. Mobile media also has potential for less popular sports to reach prospective fans. Mobile TV promotions should emphasize gratifications that motivate consumers to view sport on mobile devices, such as live reception of sport events when they provide immediate access to information regarding the preferred sports, teams, and athletes as well as perceived fun, thrills, and relaxation. Since both motives seem to be equally relevant, sport-related 'infotainment' could be the key to successful mobile media content.

Although data analysis did not identify a significant impact of the *learning* and *pastime* motives, and the *escape* motive was only significant in one sample, their general relevance for *viewing sportscasts* is not in doubt. The findings are limited to the convenience samples that were drawn at a particular time (*i.e.*, earlier stages of the mobile TV diffusion) and focused on specific target groups (*i.e.*, primarily university students). However, all of the suggested sport viewing motives could have an impact on mobile media usage, if *other factors* such as age or gender, as well as consumers' knowledge regarding certain sports or their involvement were considered. Moreover, further studies should focus on *particular sports*, for example, popular sports such as football/soccer, Olympic Games, and Formula 1 racing or action sports such as the X-Games. In this study, they were all aggregated to sport in general rather than analyzing particular sports. The consumer motives might vary among different objects of investigation and certain motives might become significant. Since this study exclusively focused on sport content, in future studies the role of sport in the context of *different types of media content* should be analyzed as well.

There is still some potential to better explain the variance of the intention of using mobile TV by additional factors. The direct or indirect influences of theoretically relevant factors should be analyzed in future studies. It is suggested to systematically add, test, and analyze such factors in order to improve the model structure and increase its explanatory power. The *style and status motive* had only a weak influence in our research. *Interactions* with personal characteristics, income as well as current usage and actual status of the consumers in society have the potential to explain the impact of this motive in more detail. Moreover, cultural norms and values could possibly impact usage as well as other social aspects beside status that were not considered in this study. *Cultural factors* might further explain differences among consumers in Australia, Germany, and the U.S.A., or Asian countries. Regarding *social factors*, recommendations by actual mobile TV users (*e.g.*, opinion leaders) could be analyzed.

In making marketing decisions it is important to consider both psychological and contextual factors that may influence consumer behavior. In previous

studies the *context* in which consumer behavior occurs either has been ignored or has not been considered to be relevant or has been assumed to be constant. Therefore, psychological, and contextual factors have not yet been analyzed as part of an integrated model. By identifying the travelling situation as a relevant moderator, the concept was substantiated. Thus, the notion that context has a significant (indirect) influence on mobile TV usage intention as a representation of value-in-use is supported. This research shows that context actually matters in sport media consumer behaviors.

The actual *usage contexts* may contribute to value creation and, therefore, should be considered in developing marketing strategies. Potential mobile TV users should be targeted in travel situations (*e.g.*, on public transport on the way to sport events) or these should be emphasized in promotions in addition to permanent access to TV and VOD. Literature also suggested other usage situations, but these did not have a significant moderating influence. However, it may be difficult to demonstrate the importance of certain situations based on samples in which part of the subjects had not ever, or hardly ever, used mobile TV. Future studies will need to focus explicitly on experienced users and include different situations.

Since in practice innovations often fail, *usage barriers* (constraints) should be considered explicitly to better understand (non-) adoption as well as sport media consumer behavior (Kim and Trail, 2010). Usage barriers can be an additional decision factor for marketing. The consideration of certain constraints or hindrances of usage will help explain why consumers may not accept particular media technologies of relevance for sport media consumption (Koronios *et al.*, 2020). By not focusing on successful innovations only, future studies will contribute to overcoming the 'pro-innovation bias' in research (Roger, 2003). Explanations and predictions of mobile TV usage as well as usage of other sport media technologies become more realistic if barriers related to cost or low quality are incorporated within the model. Further studies could differentiate between actual consumers as earlier adopters and future consumers who may adopt innovations at a later date, or perhaps not at all.

Although this research already provides valuable first insights, one limitation is that the current model as a whole, as well as partial models such as the sport media model, were tested on the basis of student/convenience sample data. Thus, using representative samples of actual and potential mobile TV users in the future should validate the model. *Latent class analyses* could help to further analyze different segments of sport media consumers and mobile media users.

An important question remaining is to determine what specific factors are most important for each group of consumers and how these factors drive their behavioral intentions as well as their actual mobile TV usage. These insights

would certainly be relevant for marketing managers. A question within the context of this study is whether or not sport fans may be more open to adopt innovative technologies than other consumers. The findings of this study suggest that they are. However, further studies should analyze the relationship between sport fan identification and innovativeness in more detail. Because of its increasing economic relevance, digital mobile media has enormous potential for future research. Both academia and marketing practice will benefit from further consumer insights and the sport and media domain is definitely a suitable field in which to address these research gaps.

CONCLUSIONS

This study contributes to gaining valuable consumer insights within the context of sport new media by analyzing factors influencing the use of mobile TV. As a conclusion to the empirical studies presented here, it can be summarized that sport content plays a significant role in the diffusion of new media technologies and services such as mobile TV. On the basis of student/convenience samples this research provided empirical evidence to what can be observed on a daily basis worldwide and what has been theoretically suggested in the literature. In this sense, especially sport fan identification and motives related to live reception and information seeking as well as entertainment seeking and mood regulation allow for the strong impact of the consumers' interest in sport viewing to mediate their intention to use mobile TV. A special focus on sport content and sport consumers during the launch of new media technologies and services seems to be quite relevant.

Moreover, it is very important to consider contextual factors in addition to psychological factors when modeling and analyzing consumer behavior. Mobile TV users may be addressed most effectively primarily in travel situations, or these situations should be emphasized in promotions. Addressing sport customers with a variety of elements within the marketing mix may be effective in making mobile TV and other mobile services a success.

Having established and empirically tested an innovative model this research was an attempt to identify the relevance of sport in mobile media adoption and to demonstrate that context actually matters. The provided insights will initiate further research on sport new media.

REFERENCES

- Aimiller, K. and Kretzschmar, H. (1995), *Motive des Sportzuschauers: Umfeldoptimierung durch motivationale Programmselektion (MPS)*, Study of German broadcaster “DSF”, Munich, Germany.
- Anderson, J.C. and Gerbing, D.W. (1991), “Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities”, *Journal of Applied Psychology*, Vol. 76 No. 5, pp. 732–740.
- Bagozzi, R.P. and Phillips, L.W. (1982), “Representing and testing organizational theories: A holistic construal”, *Administrative Science Quarterly*, Vol. 27 No. 3, pp. 459–489.
- Bagozzi, R.P., Yi, Y. and Phillips, L.W. (1991), “Assessing construct validity in organizational research”, *Administrative Science Quarterly*, Vol. 36 No. 3, pp. 421–458.
- Baron, R.M. and Kenny, D.A. (1986), “The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations”, *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173–1182.
- Bergkvist, L. and Rossiter, J.R. (2007), “The predictive validity of multiple-item versus single-item measures of the same constructs”, *Journal of Marketing Research*, Vol. 44 No. 2, pp. 175–184.
- Beyer, T. (2006), *Determinanten der Sportrezeption: Erklärungsmodell und kausalanalytische Validierung am Beispiel der Fußballbundesliga*, Deutscher Universitätsverlag, Wiesbaden, Germany.
- Benigni, V.L., Porter, L.V. and Wood, C. (2014), “The new game day: Fan engagement and the marriage of mediated and mobile”, in Billings, A. C. and Hardin, M. (Eds.), *Routledge Handbook of Sport and New Media*, Routledge, London, England, pp. 225–236.
- Bentler, P.M. and Bonett, D.G. (1980), “Significance tests and goodness of fit in the analysis of covariance structures”, *Psychological Bulletin*, Vol. 88 No. 3, pp. 588–606.
- Billings, A.C. and Hardin, M. (Eds.) (2014), *Routledge Handbook of Sport and New Media*, Routledge, London, England.
- Chin, W.W. (1998), “The partial least squares approach to structural equation modeling”, in Marcoulides, G. A. (Ed.), *Modern Methods for Business Research*, Psychology Press, Mahwah, NJ, pp. 295–336.
- Chin, W.W., Marcolin, B.L. and Newsted, P.R. (2003), “A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study”, *Information Systems Research*, Vol. 14 No. 2, pp. 189–217.

- Choi, Y.K., Kim, J. and McMillan, S.J. (2009), "Motivators for the intention to use mobile TV – A comparison of South Korean males and females", *International Journal of Advertising*, Vol. 28 No. 1, pp. 147–167.
- Churchill, G.A. (1979), "A paradigm for developing better measures of marketing constructs", *Journal of Marketing Research*, Vol. 16 No. 1, pp. 64–73.
- Creswell, J.W. and Clark, V.L.P. (2011), *Designing and conducting mixed methods research*, 2nd edition, SAGE publications, Los Angeles, CA.
- Cui, Y., Chipchase, J. and Jung, Y. (2007), "Mobile TV - Personal TV: A qualitative study of mobile TV users", *Lecture Notes in Computer Science*, Vol. 4471, pp. 195–204.
- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989), "User acceptance of computer technology: A comparison of two theoretical models", *Management Science*, Vol. 35 No. 8, pp. 982–1003.
- Denzin, N.K. (1989), *The research act: A theoretical introduction to sociological methods*, Prentice Hall, Englewood Cliffs, NJ.
- Do, J., Kim, D., Kim, D.Y. and Kim, E. (2009), "When mobile phones meet television...: An FGI analysis of mobile broadcasting users in Korea", *Media, Culture & Society*, Vol. 31 No. 4, pp. 669–679.
- Evens, T., Lefever, K., Valcke, P., Schuurman, D. and De Marez, L. (2011), "Access to premium content on mobile television platforms: The case of mobile sports", *Telematics and Informatics*, Vol. 28 No. 1, pp. 32–39.
- Fabrigar, L.R., Wegener, D.T., MacCallum, R.C. and Strahan, E.J. (1999), "Evaluating the use of exploratory factor analysis in psychological research", *Psychological Methods*, Vol. 4 No. 3, pp. 272–299.
- Fairley, S. and Tyler, D.B. (2012), "Bringing baseball to the big screen: Building sense of community outside of the ballpark", *Journal of Sport Management*, Vol. 26 No. 3, pp. 258–270.
- Ferguson, D.A. and Greer, C.F. (2013), "Predicting the adoption of mobile DTV by local television stations in the United States", *International Journal on Media Management*, Vol. 15 No. 3, pp. 139–160.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39–50.
- Foster, G., O'Reilly, N., Shimizu, C., Khosla, N. and Murray, R. (2014), "Determinants of regional sport network television ratings in MLB, NBA, and NHL", *Journal of Sport Management*, Vol. 28 No. 3, pp. 356–375.
- Gantz, W. (1981), "An exploration of viewing motives and behaviors associated with television sports", *Journal of Broadcasting*, Vol. 25 No. 3, pp. 263–275.
- Goldsmith, R.E. and Hofacker, C.F. (1991), "Measuring consumer innovativeness", *Journal of the Academy of Marketing Science*, Vol. 19 No. 3, pp. 209–221.

- Ha, J.-P., Kang, S.J. and Ha, J. (2015), "A conceptual framework for the adoption of smartphones in a sports context", *International Journal of Sports Marketing and Sponsorship*, Vol. 16 No. 3, pp. 2–19.
- Harman, H.H. (1976), *Modern factor analysis*, 3rd edition, University of Chicago Press, Chicago, IL.
- Horbel, C., Popp, B., Woratschek, H. and Wilson, B. (2016), "How context shapes value co-creation: spectator experience of sport events", *The Service Industries Journal*, Vol. 36 No. 11-12, pp. 510–531.
- Homburg, C. and Giering, A. (1996), "Konzeptualisierung und Operationalisierung komplexer Konstrukte: Ein Leitfaden für die Marketingforschung", *Marketing ZFP*, Vol. 18 No. 1, pp. 5–24.
- Hu, L.-T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives", *Structural Equation Modeling*, Vol. 6 No. 1, pp. 1–55.
- Hulland, J. (1999), "Use of partial least squares (PLS) in strategic management research: A review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195–204.
- Jarvis, C.B., MacKenzie, S.B. and Podsakoff, P.M. (2003), "A critical review of construct indicators and measurement model misspecification in marketing and consumer research", *Journal of Consumer Research*, Vol. 30 No. 2, pp. 199–218.
- Jöreskog, K.G. (1970), "A general method for analysis of covariance structures", *Biometrika*, Vol. 57 No. 2, pp. 239–251.
- Jung, Y., Perez-Mira, B. and Wiley-Patton, S. (2008), "Consumer adoption of mobile TV: Examining psychological flow and media content", *Computers in Human Behavior*, Vol. 25 No. 1, pp. 123–129.
- Kalba, K. (2009), "Adopting mobile TV: Technologies seeking consumers seeking content and cool", in Gerbarg, D. (Ed.), *Television goes digital*, Springer, New York, NY, pp. 63–77.
- Kattestaart, P. (2007), *Sport consumption and new media technology: Australian rules football fans and the early adoption of interactive television*, La Trobe University Press, Melbourne, Australia.
- Katz, E., Blumler, J.G. and Gurevitch, M. (1974), "Utilization of mass communication", in Katz, E. and Blumler, J.G. (Eds.), *The uses of mass communication*, SAGE publications, Beverly Hills, CA, pp. 19–32.
- Katz, E. and Foulkes, D. (1962), "On the use of the mass media as 'escape': Clarification of a concept", *Public Opinion Quarterly*, Vol. 26 No. 3, pp. 377–388.
- Kenny, D.A. (2011), "Measuring model fit", available at: <http://davidakenny.net/cm/fit.htm> (accessed 9 April 2017).

- Kenny, D.A. and Judd, C.M. (1984), "Estimating the nonlinear and inter-active effects of latent variables", *Psychological Bulletin*, Vol. 96 No. 1, pp. 201–210.
- Kim, K.H., Ko, E., Takahashi, I., Schellhase, R., Kim, M.S. and Lee, C.H. (2008), "A model of adoption of digital multimedia broadcasting (DMB) service: Comparison in Korea, Japan, and Germany", *Psychology & Marketing*, Vol. 25 No. 8, pp. 806–820.
- Kim, Y.K. and Trail, G.T. (2010), "Constraints and motivators: A new model to explain sport consumer behavior", *Journal of Sport Management*, Vol. 24 No. 2, pp. 190–210.
- Klein, A., Grau, D., Lichte, H., Hoffend, H., Hanekop, H., Hofmann, P., Kettner, P., Biehn, R., Sutor, S. and Möller, W. (2009), *Entwicklungsmöglichkeiten für Mobile Broadcasting: Projektbericht des europäischen Mobile Media Projekts MI FRIENDS*, Nomos, Baden-Baden, Germany.
- Koronios, K., Travlos, A., Douvis, J. and Papadopoulos, A. (2020), "Sport, media and actual consumption behavior: an examination of spectator motives and constraints for sport media consumption", *EuroMed Journal of Business*, Vol. 15 No. 2, pp. 151–166.
- Kunz, R.E. (2014), "Sportinteresse und Mobile TV – Eine empirische Analyse der Einflussfaktoren des Nutzungsverhaltens", Reihe "Fokus Dienstleistungsmarketing", Springer Gabler, Wiesbaden.
- Kunz, R.E., Elsässer, F., and Santomier, J. (2016), "Sport-Related Branded Entertainment: The Red Bull Phenomenon", *Sport, Business and Management: An International Journal*, Volume 6 No. 5 (September), pp. 520–541.
- Kunz, R.E. and Santomier, J.P. (2020), "Sport content and virtual reality technology acceptance", *Sport, Business and Management: An International Journal*, Vol. 10 No. 1, pp. 83–103.
- Kwon, H.H., Trail, G. and James, J.D. (2007), "The mediating role of perceived value: Team identification and purchase intention of team-licensed apparel", *Journal of Sport Management*, Vol. 21 No. 4, pp. 540–554.
- Kwon, K.H. and Chon, B.S. (2009), "Social influences on terrestrial and satellite Mobile-TV adoption in Korea: Affiliation, positive self-image, and perceived popularity", *The International Journal on Media Management*, Vol. 11 No. 2, pp. 49–60.
- Leung, L. and Wei, R. (2000), "More than just talk on the move: Uses and gratifications of the cellular phone", *Journalism and Mass Communication Quarterly*, Vol. 77 No. 2, pp. 308–320.
- Lock, D., Taylor, T., Funk, D. and Darcy, S. (2012), "Exploring the development of team identification", *Journal of Sport Management*, Vol. 26 No. 4, pp. 283–294.

- Mahony, D.F., Nakazawa, M., Funk, D.C., James, J.D. and Gladden, J.M. (2002), "Motivational factors influencing the behaviour of J. League spectators", *Sport Management Review*, Vol. 5 No. 1, pp. 1–24.
- Mao, E., Srite, M., Thatcher, J.B. and Yaprak, O. (2005), "A research model for mobile phone service behaviors: Empirical validation in the U.S. and Turkey", *Journal of Global Information Management*, Vol. 8 No. 4, pp. 7–28.
- Nunnally, J.C. (1978), *Psychometric theory*, McGraw-Hill, New York, NY.
- Nysveen, H., Pedersen, P.E. and Thorbjørnsen, H. (2005), "Intentions to use mobile services: Antecedents and cross-service comparisons", *Journal of the Academy of Marketing Science*, Vol. 33 No. 3, pp. 330–346.
- O'Doherty, K., Rao, S. and Mackay, M.M. (2007), "Young Australians' perceptions of mobile phone content and information services: An analysis of the motivations behind usage", *Young Consumers*, Vol. 8 No. 4, pp. 257–268.
- O'Reilly, N. and Rahinel, R. (2006), "Forecasting the importance of media technology in sport: the case of the televised ice hockey product in Canada", *International Journal of Sports Marketing and Sponsorship*, Vol. 8 No. 1, pp. 76–91.
- Oksman, V., Noppari, E., Tammela, A., Mäkinen, M. and Ollikainen, V. (2007), "Mobile TV in everyday life contexts: Individual entertainment or shared experiences?", in Cesar, P., Chorianopoulos, K. and Jensen, J. F. (Eds.), *Interactive TV: a shared experience – 5th European Conference, EuroITV 2007, Amsterdam, The Netherlands, May 24-25, 2007. Proceedings*, Springer-Verlag, Berlin, Germany, pp. 215–225.
- Papacharissi, Z. and Rubin, A.M. (2000), "Predictors of internet use", *Journal of Broadcasting & Electronic Media*, Vol. 44 No. 2, pp. 155–174.
- Peters, O. and ben Allouch, S. (2005), "Always connected: A longitudinal field study of mobile communication", *Telematics and Informatics*, Vol. 22 No. 3, pp. 239–256.
- Ping, R.A. (1995), "A parsimonious estimating technique for interaction and quadratic latent variables", *Journal of Marketing Research*, Vol. 32 No. 3, pp. 336–347.
- Podsakoff, P.M. and Organ, D.W. (1986), "Self-reports in organizational research: Problems and prospects", *Journal of Management*, Vol. 12 No. 4, pp. 531–544.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: A critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879–903.
- Raney, A.A. (2006), "Why we watch and enjoy mediated sports", in Raney, A.A. and Bryant, J. (Eds.), *Handbook of sports and media*, Routledge, London,

- England, pp. 313–329.
- Raney, A.A. (2008), “Motives for using sport in the media: Motivational aspects of sport reception processes”, in Schramm, H. (Ed.), *Die Rezeption des Sports in den Medien*, 2nd edition, Halem, Cologne, Germany, pp. 52–77.
- Ringle, C.M. (2005), “Erfolgswirkung strategischer Allianzen aus Sicht der Kooperationspartner“, in Bliemel, F.W., Eggert, A., Fassott, G. and Henseler, J. (Eds.), *Handbuch PLS-Pfadmodellierung. Methode, Anwendung, Praxisbeispiele*, Schäffer-Poeschel, Stuttgart, Germany, pp. 307–320.
- Robinson, M.J., Trail, G.T. and Kwon, H. (2004), “Motives and points of attachment of professional golf spectators”, *Sport Management Review*, Vol. 7 No. 1, pp. 167–192.
- Rogers, E.M. (2003), *Diffusion of innovations*, 5th edition, Free Press, New York, NY.
- Rubin, A.M. (1983), “Television use and gratifications: The interactions of viewing patterns and motivations”, *Journal of Broadcasting*, Vol. 27 No. 1, pp. 37–51.
- Ruggiero, T.E. (2000), “Uses and gratifications theory in the 21st Century”, *Mass Communication & Society*, Vol. 3 No. 1, pp. 3–37.
- Saaksjarvi, M. (2003), “Consumer adoption of technological innovations”, *European Journal of Innovation Management*, Vol. 6 No. 2, pp. 90–100.
- Santomier, J. (2008), “New media, branding and global sports sponsorship”, *International Journal of Sports Marketing and Sponsorship*, Vol. 10 No. 1, pp. 9–22.
- Satorra, A. and Bentler, P.M. (2001), “A scaled difference chi-square test statistic for moment structure analysis“, *Psychometrika*, Vol. 66 No. 4, pp. 507–514.
- Schafmeister, G. (2007), *Sport im Fernsehen – Was wollen eigentlich die Zuschauer? Eine Analyse der Kundenpräferenzen für mediale Dienstleistungen*, Deutscher Universitätsverlag, Wiesbaden, Germany.
- Schuurman, D., De Marez, L. and Evens, T. (2010), “Content for mobile television: Issues regarding a new mass medium within today’s ICT environment”, in Marcus, A., Roibas, A.C. and Sala, R. (Eds.), *Mobile TV: Customizing content and experience*, Springer, London, England, pp. 143–163.
- Seo, W.J. and Green, B.C. (2008), “Development of the motivation scale for sport online consumption”, *Journal of Sport Management*, Vol. 22 No. 1, pp. 82–109.
- Shim, J.P., Park, S. and Shim, J.M. (2008), “Mobile TV phone: Current usage, issues, and strategic implications”, *Industrial Management & Data Systems*, Vol. 108 No. 9, pp. 1269–1282.
- Shin, D.H. (2007), “User acceptance of mobile internet: Implications for convergence technologies”, *Interacting with Computers*, Vol. 19 No. 4, pp. 472–483.
- Sobel, M.E. (1982), “Asymptotic confidence intervals for indirect effects

- in structural equation models”, in Leinhardt, S. (Ed.), *Sociological Methodology*, Jossey-Bass, San Francisco, CA, pp. 290–312.
- Sutton, W.A., McDonald, M.A., Milne, G.R. and Cimperman, J. (1997), “Creating and fostering fan identification in professional sports”, *Sport Marketing Quarterly*, Vol. 6 No. 1, pp. 15–22.
- TNS/Google (2014), “Connected Consumer Survey”, available at: <https://www.consumerbarometer.com/en/about/#methodology> (accessed 9 April 2017).
- Trail, G.T., Anderson, D.F. and Fink, J. (2000), “A theoretical model of sport spectator consumption behavior”, *International Journal of Sport Management*, Vol. 1 No. 3, pp. 154–180.
- Trail, G.T., Robinson, M., Dick, R. and Gillentine, A. (2003), “Motives and points of attachment: Fans versus spectators in intercollegiate athletics”, *Sport Marketing Quarterly*, Vol. 12 No. 4, pp. 217–227.
- Turner, P. (2000), “Innovations in the delivery of television broadcasting within Australia: The role sport programming plays in the diffusion process”, *The International Journal of Sport Management*, Vol. 1 No. 3, pp. 181–199.
- Turner, P. (2007), “The impact of technology on the supply of sport broadcasting”, *European Sport Management Quarterly*, Vol. 7 No. 4, pp. 337–360.
- Vargo, S.L. and Akaka, M.A. (2009), “Service-dominant logic as a foundation for service science”, *Service Science*, Vol. 1 No. 1, pp. 32–41.
- Vargo, S.L. and Lusch, R.F. (2004), “Evolving to a new dominant logic for marketing”, *Journal of Marketing*, Vol. 68 No. 1, pp. 1–17.
- Vargo, S.L. and Lusch, R.F. (2008), “Service-dominant logic: Continuing the evolution”, *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 1–10.
- Vargo, S.L., Maglio, P.P. and Akaka, M.A. (2008), “On value and value co-creation: A service systems and service logic perspective”, *European Management Journal*, Vol. 26 No. 3, pp. 145–152.
- Wann, D.L. (1995), “Preliminary validation of the sport fan motivation scale”, *Journal of Sport & Social Issues*, Vol. 19 No. 4, pp. 377–396.
- Wann, D.L., Ensor, C.L. and Bilyeu, J.K. (2001), “Intrinsic and extrinsic motives for originally following a sport team and team identification”, *Perceptual and Motor Skills*, Vol. 93 No. 2, pp. 451–454.
- Wann, D.L., Schrader, M.P. and Wilson, A.M. (1999), “Sport fan motivation: Questionnaire validation, comparisons by sport, and relationship to athletic motivation”, *Journal of Sport Behavior*, Vol. 22 No. 1, pp. 114–139.
- Wang, Y.-S., Lin, H.-H. and Luarn, P. (2006), “Predicting consumer intention to use mobile service”, *Info Systems*, Vol. 16 No. 2, pp. 157–179.
- Wei, R. (2008), “Motivations for using the mobile phone for mass communications and entertainment”, *Telematics and Informatics*, Vol. 25 No. 1, pp. 36–46.

- Wenner, L. and Gantz, W. (1989), "The audience experience with sports on television" in Wenner, L. (Ed.), *Media, sports and society*, SAGE publications, Newbury Park, CA, pp. 241–268.
- Wenner, L.A. and Gantz, W. (1998), "Watching sports on television: Audience experience, gender, fanship, and marriage", in Wenner, L. A. (Ed.), *Mediasport*, Routledge, London, England, pp. 233–251.
- 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.
- Wouters, J., Schepers, J., Van't Land, M. and Wetzels, M. (2007), "Consumer acceptance of innovative mobile telecommunications services: Integrating technology readiness into the technology acceptance model", paper presented at the 36th European Marketing Academy Conference (EMAC), 22-25 May 2007, Reykjavik, Iceland.
- Yoshida, M., Gordon, B., Nakazawa, M. and Biscaia, R. (2014), "Conceptualization and measurement of fan engagement: Empirical evidence from a professional sport context", *Journal of Sport Management*, Vol. 28 No. 4, pp. 399–417.

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