



The role of involvement and identification on event quality perceptions and satisfaction

A case of US Taekwondo Open

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Abstract

Purpose – Since the introduction of martial arts in the global community through a variety of international sport events, the sport of Taekwondo (TKD) has grown rapidly. Although the magnitude of the TKD market has increased, few systematic studies have been conducted to understand TKD participants, particularly consumer variables associated with TKD events. The rapid growth of TKD as a global cultural product warrants a better understanding of event consumers and their decision-making processes. Accordingly, the purpose of this paper is to investigate consumers' quality perceptions and satisfaction by focusing on their sport involvement and identification.

Design/methodology/approach – Research respondents ($n = 215$) were spectators of the 2007 US Open TKD Championship, an annual event held by USA Taekwondo Inc.

Findings – Results suggest that identification and involvement positively influence event quality perceptions and satisfaction. Specifically, highly identified fans/competitors are highly satisfied and perceive service quality more positively. This study proceeds to a discussion of theoretical implications and future opportunities for event managers.

Originality/value – Until now, there has not been substantial research on these issues. It is anticipated that the results of this study may enhance the understanding of a particular TKD market in the USA and provide guidance for developing effective marketing strategies and maintaining current event successes. Therefore, the scholarly effort aimed at understanding these issues will make both scientific and practical contributions.

Keywords Customer satisfaction, Customer services quality, Sporting events

Paper type Research paper

Introduction

As a variety of martial arts forms crossed national borders, awareness of and involvement in martial arts around the world has increased. Today, the martial arts industry is rapidly evolving into a mature and highly competitive marketplace (Ko, 2003). For example, in recent years, the number of commercial martial arts schools has increased substantially all across America. In the USA, there are approximately 13,950 martial arts schools (Info-USA, 2007). The number of martial arts participants has increased from 3.8 million in 1993 to 4.6 million in 2004 (Sport Business Research Network, 2008). The increased number of martial arts organizations, events, products,



and practitioners indicate that martial arts have become ingrained in the consumer culture of the global community (Ko and Yang, 2008).

While this growth trend provided martial arts organizations with new business opportunities, it also created many challenges. Two of the many challenges include the competitive business environment and changing customer needs. For example, thousands of martial arts events are being held every year, from grassroots events such as youth tournaments to mega-sport events such as the Olympics. Managers cannot always generate sufficient revenues due to the short history of a particular event, ineffective event operations, failure of marketing promotions, and lack of event management professionals (Crompton and McKay, 1997). More significantly, as event ticket sales are the primary revenue stream, customer retention becomes an important task for event managers. This is true particularly in today's competitive business environment where the total number of private and public martial arts organizations is continuously increasing. The success of martial arts organizations are dependent on how well they adapt to continuously changing and highly competitive market environments (Ko and Yang, 2008).

One approach for thriving in a challenging business environment is to develop a better understanding of this niche market and to satisfy customers by offering quality products (Kim *et al.*, 2009; Ko, 2003; Ko and Valacich, 2004). Events are service-driven with customer satisfaction as the key to success. Event managers should understand the meaning and importance of quality as applied to their specific type of event and its goals (Getz, 2005).

Due to an increasing dominance of services within martial arts events, martial arts organizations need to be innovative in managing services and pay close attention to the issues of service quality perceptions and customer satisfaction. Revealing customer perceptions of service experiences has always been important for the success of organizations (Cronin *et al.*, 2000; Kelly and Turley, 2001; Rust and Oliver, 1994). From a management standpoint, managers should systematically examine their current services from customers' perspectives and (re)design them, as warranted to provide spectators with high-quality services which should then eventually lead to increases in event attendance.

Although a substantial amount of research on service quality perceptions and satisfaction can be found in the marketing literature (Getz, 2005; Kelly and Turley, 2001), current literature has neglected martial arts participants and limited scholarly efforts have been attempted to better understand this market segment. As a result, there is very little known about martial arts participants and factors that influence their decision making processes. This topic has historically been of little interest to this industry and so its application is relatively new (Ko, 2003).

In response to calls for more research on martial arts participants and their decision making processes, in this study, the researchers investigate service quality perceptions and satisfaction of martial arts event participants with a focus on the two salient consumer variables of involvement and identification. Specific research questions include:

- RQ1.* Are there any differences in martial arts event quality perceptions between customers with high and low involvement/identification levels?
- RQ2.* Are there any differences in customer satisfaction between customers with high and low involvement/identification levels?

As of yet, there has not been substantial research on these issues. It is anticipated that the results of this study may enhance our understanding of a particular market in the USA

and provide guidance for developing effective marketing strategies and maintaining current event successes. We believe that more research is warranted primarily to further develop Taekwondo (TKD) as a global cultural product. Therefore, the scholarly effort aimed at understanding these issues will make both scientific and practical contributions.

Literature review

Diffusion of TKD as a global cultural product

The development of martial arts as a global cultural product can best be illustrated in the case of TKD (Ko and Yang, 2008). In South Korea, although various forms of traditional martial arts have existed, leaders of Korean martial arts chose TKD as the definitive Korean national martial art in an attempt to promote its development internationally (International Olympic Committee, 2007). Min (1996) noted:

the modern version of Taekwondo owes its character to those masters who joined together after Korea's liberation from [Japanese] colonial rule to establish a Korean martial art that would be able to transcend national borders and allow Korea to share some of its fine traditions with the rest of the world (p. 4).

The diffusion of TKD around the world did not occur until World War II when America had a significant level of exposure to Asian martial arts. When American troops occupied Korea, Okinawa, and some parts of China, many GIs had an opportunity to learn some forms of Asian martial arts, and to bring these arts back to the USA. In some cases, they invited their foreign instructors to come to the USA to teach their arts (USTU, 1990).

With the popularity gained through diffusion of martial arts around the world, in the 1970s, Asian martial arts in the USA underwent significant changes that gave momentum to the popularization of martial arts. One change was that American practitioners achieved instructor status and promoted TKD as a self-defense tool and educational program. Another milestone was the Vietnam War, which was an important event for the international diffusion of TKD. With the Korean army as a Western ally, a TKD instructor unit was dispatched primarily to teach US military forces and civilians, but also resulted in spreading the art to other American soldiers. After the war, soldiers who learned the art, and more significantly their Korean instructors, moved to the USA, accelerating the diffusion of TKD (Yang, 1996).

Meanwhile, behind the development of modern TKD is the strong support of the Korean government. Government leaders emphasized the importance of promoting Korean culture overseas and utilized this cultural network to develop diplomatic relationships. TKD was perceived to be one avenue for this international development. As a part of promoting Korean cultural identity, the diffusion of TKD around the world was an important strategic goal for the Korean government (Kim, 1996; Ko and Yang, 2008).

In 1973, the World Taekwondo Federation (WTF) was formed as the legitimate governing body of the sport which is made up of TKD national governing bodies. Currently, the WTF has become one of the largest martial arts organizations representing members in 185 countries with more than 70 million participants (WTF, 2007). This multinational sport organization has developed organizational structures, policies and procedures to enhance the effectiveness and efficiency of administration and daily management (Ko and Pastore, 1998). The WTF developed a grass-root program targeted to the global community and successfully implemented sportification of TKD (competition oriented TKD). In addition, the WTF developed specific regulations and policies to resolve such issues as competitors, coaches,

referees, sponsors, training programs, facilities and equipment, media and daily management and administration procedures (Ko and Yang, 2008; Yang, 1997).

The USA Taekwondo (USAT) is one of the 185 members of the WTF with over 3 million participants (WTF, 2007). The United States Olympic Committee (USOC) recognized the USAT as the national governing body for TKD. The USAT has the right as the national governing body to develop and enforce regulations, policies, and standards. This governing body organizes and manages all national and regional competitions. One of the important goals of the USAT is to enhance the success of the USAT team in the Olympic Games and other international sport events (Morrison, 2005). These and other factors have driven the participation level in TKD to over 3 million participants in the United States (WTF, 2007).

TKD became an official event in major international sport events such as Olympics, Commonwealth Games, Pan-American Games, and Asian Games. WTF and its member organizations have contributed to the globalization of TKD by actively promoting the sport to be a formal competitive game in the Olympics. In 1988, TKD was first staged in the Olympic Games as one of the demonstration sports in the 24th Olympic Games in Seoul, Korea. It became an official Olympic medal sport at the 2000 Olympic Games in Sydney, Australia (WTF, 2007).

Ko and Yang (2008) summarized the major factors of the globalization of martial arts including modern TKD, which include:

- the transformation of values of martial arts training;
- modernization of the instructional curriculum;
- promotional efforts made by governments of the martial arts countries-of-origin and increased marketing efforts in the martial arts business;
- global expansion of martial arts through sportification and formalization; and
- the diversification of martial arts products such as movies, fitness programs, and the emergence of a new genre of martial arts events.

In 2005, the Korean government established The TKD Promotion Act to further improve and develop the global position of TKD. The strategic plan of building and managing the TKD Park, a multi-purpose mega facility, is perceived to be a catalyst of this movement. To help in developing and managing TKD Park, the government established The TKD Promotion Foundation. The increased popularity of TKD and its addition to the Olympics clearly indicates that TKD has become a global sport and will continue to grow to be a global cultural product (The Ministry of Culture and Tourism, 2006).

Service quality and satisfaction in event management

Event management is a fast growing professional field that incorporates such fields as tourism, leisure, hospitality, marketing, and sport (Getz, 2008). Graham *et al.* (2001) defined sport event management as “the organization, marketing, implementation, and evaluation of any type of event related to sport” (p. 3). Events can increase media attention and create positive outcomes among community residents (Chalip *et al.*, 2003; Kim and Petrick, 2005). In particular, previous studies indicate that there has been acknowledgement of the social and economic benefits that events can create to the host city, region, and/or country (Gratton and Kokolakis, 1997).

There are innumerable and diverse martial arts events. In consideration of the phenomenal growth of martial arts and increased importance of event management and marketing, it is very important for managers to understand event participants and

theoretical backgrounds of this behavior. Currently, there is a lack of systematic study that examined spectator and participant perceptions of service quality and satisfaction associated with martial arts events. To date, scholarly efforts on this issue have been limited to professional sport events and their spectators (Getz, 2005; Kelly and Turley, 2001).

From a sport event management perspective, success of a sporting event depends on the degree to which it satisfies participants and spectators with quality service. Customers develop overall impressions about the service delivery system, service performance, and overall consumption experience (Getz, 2005; Graham *et al.*, 2001; Kelly and Turley, 2001). When higher quality perceptions are developed, customers stay with an event longer, buy additional services, and recommend the organization and services to other consumers. Thus, service quality is obviously very important for the long-term profitability of any organization or event (Zeithaml *et al.*, 1996, 2006).

Service quality is recognized as one of the primary topics in service management and marketing (Gronroos, 1984). Parasuraman *et al.* (1988) defined perceived service quality as consumer attitudes relating to the superiority of service. Similarly, Bitner and Hubbert (1994) suggested that service quality is “the consumer’s overall impression of the relative inferiority/superiority of the organization and its services” (p. 77). Parasuraman *et al.* (1988) developed SERVQUAL, a measurement scale of service quality, which included 22 items that represent five factors: Tangibles, Reliability, Responsiveness, Customer Assurance, and Empathy. The scale has been widely used in various service industries.

Scholars attempted to develop conceptual frameworks and measurement scales of service quality in the context of sporting events (Dale *et al.*, 2005; Getz *et al.*, 2001; Kelly and Turley, 2001; Ko, 2005; McDonald, *et al.*, 1995; Theodorakis and Alexandris, 2008; Theodorakis *et al.*, 2001; Wakefield and Blodgett, 1999). By modifying the SERVQUAL, McDonald *et al.* (1995) developed TEAMQUAL, a 39-item scale. The authors measured the performance of ticket takers, ticket ushers, merchandisers, concessionaires, and customer representatives by using professional basketball fans. Wakefield and Blodgett (1999) also found that both tangible (i.e. physical environment) and intangible elements (i.e. SERVEQUAL factors) of service quality positively impact spectators’ perceptions of event operations, which positively influence their repatronage intentions. In addition, Theodorakis *et al.* (2001) developed the SPORTSERV scale to assess perceptions of service quality among sport spectators. This scale is comprised of 20 items representing five dimensions of service quality: Tangibles (i.e. cleanliness of the facility), Responsiveness (i.e. personnel’s willingness to help), Access, Security, and Reliability (i.e. team delivers its services as promised). Recently, Theodorakis and Alexandris (2008) documented evidence of psychometric properties in SPORTSERV in the context of professional sports in Greece. Through an exploratory factor analysis, Kelly and Turley (2001) developed a nine-factor structure including Employees, Facility Access, Concessions, Fan Comfort, Game Experience, Showtime, Convenience, Price, and Smoking. The authors found that the influence of each factor differs across a variety of demographic and sport consumption levels.

Recently, Ko (2005) developed a Scale of Service Quality in Spectating Sport (SSQSS), a 40-item scale, by adapting Ko and Pastore’s (2005) multidimensional and hierarchical model. The SSQSS was developed to test the psychometric properties of a five-dimension framework including Quality of Game, Augmented Services, Interaction, Outcome, and Physical Environment. Several corresponding subdimensions were operationalized within each primary dimension as follows:

- (1) Game Quality – skill performance, game schedule, and information;
- (2) Augmented Service Quality – in-game entertainment and concessions;
- (3) Interaction Quality – spectator-employee interaction and inter-spectator interaction;
- (4) Outcome Quality – valence and sociability; and
- (5) Physical Environment Quality – ambience, design, and sign/scoreboard.

Confirmatory factor analyses provided evidence that the scale has sound, valid, and reliable characteristics.

The enhancement of service quality has been identified as a key strategy for increased levels of customer satisfaction. Rust and Oliver (1994) stated that “Without a doubt, the customer’s overall satisfaction with a particular service provider, and perceptions of service quality are interrelated and many instances highly correlated” (p. 73). Increased customer satisfaction offers many benefits. Satisfied customers are less price sensitive, buy additional products, and maintain customer loyalty for longer (Hansemark and Albinson, 2004). Thus, customer satisfaction has become a major corporate goal (Rust and Oliver, 1994).

Sport involvement and identification

Researchers agree that levels of involvement can be understood by the degree of personal relevance or importance (Park and Young, 1985; Celci and Olson, 1988; Zaichkowsky, 1985). Havitz *et al.* (1994) defined involvement “as an unobservable state of motivation, arousal, or interest, that is evoked by a particular stimulus or situation and has drive properties” (p. 39). Specifically, Shank and Beasley (1998) defined sport involvement as “the perceived interest in and personal importance of sports to an individual” (p. 436).

Consumer involvement provides a powerful explanation of social behavior such as the fanatical loyalty of sports fans (Meenaghan, 1991). In the context of sport consumption behaviors, application of the involvement construct would provide better understanding of motives and which stimuli and situations direct sport consumption behaviors (e.g. event participation, travel, media consumption, and purchase of sponsor’s products) and attitude formation (e.g. fan loyalty and commitment) (Funk *et al.*, 2003; Lascu, *et al.*, 1995). For example, Lascu *et al.* (1995) found that highly involved spectators in a golf event have high levels of motivation for attendance, and they actually attended, played, and watched significantly higher number of golf tournaments than did low-involvement spectators.

Understanding the relationships between individuals and their organizations is of fundamental interest to researchers in marketing. The organizational identification is a specific form of social identification where the individual defines him or herself in terms of their membership in a particular organization (van Dick, 2001). Trail *et al.* (2000) define identification as “an orientations of the self in regard to other objects, including a person or group, that results in feelings or sentiments of close attachment” (pp. 165-166). All organizations desire the loyalty and commitment from key constituencies that comes with identification. Previous research found that people who identify with their organization sacrifice more effort and time, offer more financial support, participate more frequently in the organization’s activities, and stay longer with the organization (Mael and Ashforth, 1992). The spectator who is highly identified with a team or event regards the team or event as an extension of himself or herself.

In sum, previous studies identified positive relationships between service quality and other consumer variables such as customer satisfaction, customer purchase intentions, and loyalty (Cronin and Taylor, 1992; Patterson and Spreng, 1997; Theodorakis *et al.*, 2001; Tian-Cole *et al.*, 2002; Zeithaml *et al.*, 1996, 2006). In addition, consumer identification positively influences spectator satisfaction and loyalty. An examination of relationships among the salient consumer variables assist in developing better understandings of consumer decision making processes and effective marketing strategies. Accordingly, this study will make both scientific and practical contributions.

Methods

Characteristics of the participants

Descriptive statistics for demographic variables are presented in Table I. The individuals ($n = 215$) were competitors and spectators at the 2007 US Open Taekwondo Championship in Florida. Female respondents made up 50.2 percent

Variable	Category	<i>n</i>	%
Gender	Male	106	49.8
	Female	107	50.2
Age (<i>M</i> = 40.7) (<i>SD</i> = 11.80)	18-30	43	20.8
	31-45	99	47.8
	Over 45	65	31.4
Ethnicity	Asian-American	21	9.8
	African-American	20	9.3
	Hispanic-American	18	8.4
	White	143	66.5
	Other	2	1.0
Education	Some high school	8	3.7
	High school graduate	35	16.3
	Some college	47	21.9
	College graduate	66	30.7
	Graduate degree	49	22.8
	Other	4	1.9
Household Income	Under \$9,999	4	1.9
	\$10,000-\$14,999	2	0.9
	\$15,000-\$24,999	7	3.3
	\$25,000-\$34,999	7	3.3
	\$35,000-\$49,999	22	10.2
	\$50,000-\$74,999	37	17.2
	\$75,000-\$99,999	40	18.6
	Over \$100,000	68	31.6
Expenditure event (<i>M</i> = 978.9) (<i>SD</i> = 928.7)	Under \$100	41	19.1
	\$100-\$499	42	19.5
	\$500-\$999	33	15.4
	\$1,000-\$1,999	67	31.1
	\$2,000-\$2,999	27	12.6
	Over \$3,000	5	2.3
Expenditure year (<i>M</i> = 1,865.9) (<i>SD</i> = 2,523.9)	Under \$999	60	49.3
	\$1,000-\$1,999	40	31.1
	\$2,000-\$2,999	37	29.3
	Over \$3,000	31	24.3

Note: $n = 215$

Table I.
Descriptive statistics for
the demographic
variables

($n = 107$) and males 49.8 percent ($n = 106$) of the total sample. The spectators ranged in age from 18 to 75 years old ($M = 40.7$; $SD = 11.8$) and more than half of the spectators were under 42 years old (51.2 percent). The 56.7 percent of respondents had at least a college education and 58 percent of participants earned more than US\$50,000 annually. White (66.5 percent) was the primary ethnic composition. In addition, Asian-American (9.8 percent), African-American (9.3 percent), and Hispanic-American (8.4 percent) were among the remaining ethnic groups. The spectators were of various educational backgrounds, with a majority having at least some college experience (52.6 percent). Regarding household income levels, 67.4 percent of spectators reported more than \$50,000 annually. With respect to this event's expenditures, spectators spent an average of \$978 on event-related activities (i.e. lodging, airfare, food, and souvenirs). In addition, the respondents spent an average of \$1865 on TKD-related activities (e.g. membership fees, equipment, seminars, and tournament participation) each year.

Procedure

A survey packet was formulated that included consumer service quality variables, satisfaction, involvement, identification, and sociodemographic variables. Also included were a cover letter and consent forms. After approval was obtained from the institutional review board involving human subjects, the researchers contacted the director of the US Open Taekwondo Championship to request for permission and assistance with data collection.

US Open Taekwondo Championship, an annual event hosted by USAT, is one of the premier TKD events in North America. In 2006, over 1,300 TKD athletes and 450 coaches participated in the four-day event with over 4,000 spectators in attendance. Event participants had diverse background. The age of participants in the US Open ranged from 11 to 70 years. Former Olympians and national champions from 44 countries competed at the event. The event also has a special opening ceremony including entertainment and local dignitaries (USAT Bid Manual, 2006). According to USA Taekwondo (2008), the economic impact of the US Open Taekwondo Championship has measured \$4-6 million in the host community in terms of hotels, restaurants, tourist attractions, transportation, and other purchases. The average family stayed a minimum of three nights in the 2006 host city.

A total of 500 survey packets were administered to both competitors and spectators who attended the 2007 event held in Orlando, Florida. The survey was limited to those adults 18 years of age or older. The researchers gave a brief overview of the study before beginning the survey. Participants were asked to complete the questionnaire and return it to assigned locations. Overall, 215 successfully completed packets were returned, representing a response rate of 43 percent.

Instrumentation

The questionnaire consisted of an identification with the sport (sport ID) subscale from the Points of Attachment Index (Robinson and Trail, 2005), three involvement items from the Consumer Involvement Profile (Laurent and Kapferre, 1985), three satisfaction items from Oliver's study (1997), and three intention items from Cronin and Taylor's study (1992). To measure event quality, the researchers used a modified version of service quality items from Ko's (2005) SSQSS and Kwon and Ko's (2006) single item service quality measurement scale.

The psychometric properties of the aforementioned scales have been tested in separate data collection efforts and results have demonstrated good internal

consistency and construct reliability (sport ID (Trail *et al.*, 2000); involvement (satisfaction, intentions)). Results of a confirmatory factor analysis (CFA) and reliability test provided evidence of construct validity and reliability of SSQSS. Cronbach's α ranged from 0.75 to 0.91. All average variance extracted (AVE) values were greater than 0.50 standard, ranging from 52 to 78 (Bagozzi and Yi, 1988; Hair *et al.*, 1998, p. 612). Except four items, the factor loadings for all items (90 percent) were greater than the conservative threshold of 0.70 (Hair *et al.*, 1998). The alpha values (0.75-0.91) of modified single item measures of service quality were equivalent to the results (0.76 and 0.91) of Ko's (2005) SSQSS. The values indicated that the 12 sub-dimension's items have good internal consistency based on Nunnally and Bernstein's (1994, p. 265) criteria.

Data analyses

Descriptive statistics and internal consistency measures (Cronbach's alpha) were obtained by using SPSS 15.0. A CFA was performed using LISREL 8.80 to confirm the existence of the specified factor structure. We used standard root mean squared residual (SRMR) and comparative fit index (CFI) following Hu and Bentler (1999). We ran multivariate analysis of variance on perceived service quality (i.e. skill performance, entertainment, social interaction, interaction with other fans, fan-employee interaction, ambience, valence, information, concession, design, operating time, and sign/scoreboards), satisfaction, and intentions using the general linear model procedure in SPSS 15.0. Independent variables were sport ID and involvement.

Results

CFA for the measurement model of sport ID, involvement, satisfaction, and intention yielded a satisfactory model fit (CFI = 0.99, SRMR = 0.04). In addition to the overall measures of model fit, there were no standardized residuals above +3 or below -3, indicating that no individual element of the analyzed matrix was considerably misrepresented in the models (Raykov and Marcoulides, 2000). Table II presents factor loadings, Cronbach's alpha coefficients, and AVE values for the CFA. AVE values ranged from 0.70 to 0.81 and the alpha coefficients ranged from 0.86 to 0.92 showing good construct reliability and internal consistency.

The results of multivariate tests are presented in Table III. With the use of Wilk's criterion, combined DVs were significantly influenced by sport ID [$F(28, 388) = 2.77$, $p < 0.05$; $\eta^2 = 0.17$; CI = 0.05, 0.33], involvement [$F(28, 388) = 2.90$, $p < 0.05$; $\eta^2 = 0.17$; CI = 0.06, 0.33], and their interaction [$F(42, 576) = 1.87$, $p < 0.05$; $\eta^2 = 0.12$; CI = 0.02, 0.19]. Confidence limits for effect size was computed by entering exact F , hypothesis df, error df, and the desired confidence coefficient into Smithson's (2003) NoncF.sav and running it through NoncF3.sps.

To examine the influence of sport ID, involvement, and their interaction on the individual DVs, a Roy-Bargmann step-down analysis was performed on prioritized DVs. In step-down analysis, each DV was analyzed, in turn, with higher-priority DVs treated as covariates and with the highest-priority DV tested in a univariate ANOVA. Skill, satisfaction, intention, social interaction, ambience, valence, and concession significantly differed by identification (see Table IV). Skill, interaction with other fans, and ambience significantly differed by involvement (see Table V). In addition, intention, social interaction, ambience, and operating time were significantly affected by the IDs' interaction (see Table VI).

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Factors and items	λ	α	AVE
<i>Identification</i>			
Taekwondo is my favorite sport	0.93	0.86	0.78
Of all sports, I prefer Taekwondo	0.90		
First and foremost, I consider myself as a Taekwondo fan	0.81		
<i>Involvement</i>			
I enjoy discussing Taekwondo with my friends	0.87	0.91	0.87
Taekwondo is important to me	0.96		
Taekwondo interest me	0.96		
<i>Satisfaction</i>			
I am satisfied with my decision to participate in 2007 US Open Taekwondo championship	0.94	0.86	0.80
My experience of the game event is favorable	0.93		
Based on all of my experience in this tournament, I feel very satisfied	0.80		
<i>Intention</i>			
I will probably participate in this championship again	0.96	0.83	0.86
If someone asked me, I would say that it is likely that I'll participate in this championship again	0.90		
I will continue to participate in US Open Taekwondo Championship	0.92		

Table II.
Summary results for confirmatory factor analysis

Effect	<i>F</i>	Hyp. <i>df</i>	Error <i>df</i>	Sig.	η^2	CI
Identification	2.78	28.00	388.00	0.01	0.17	0.05, 0.33
Involvement	2.90	28.00	388.00	0.01	0.17	0.06, 0.33
Identification involvement	1.87	42.00	576.00	0.01	0.12	0.02, 0.19

Table III.
Multivariate tests results

Source	DV	Hyp. <i>df</i>	Error <i>df</i>	<i>F</i>	Sig.	η^2	CI
Identification	Skill	2.00	207.00	38.32	0.01	0.27	0.17, 0.36
	Satisfaction	2.00	206.00	11.37	0.01	0.09	0.03, 0.18
	Intention	2.00	205.00	7.71	0.01	0.07	0.01, 0.14
	Social interaction	2.00	203.00	8.33	0.01	0.08	0.02, 0.15
	Ambience	2.00	200.00	4.29	0.02	0.04	0.01, 0.10
	Valence	2.00	199.00	4.16	0.02	0.04	0.01, 0.10
	Concession	2.00	197.00	4.40	0.02	0.04	0.01, 0.10

Table IV.
Test of between-subjects effects for identification

Discussion

As the martial arts industry becomes a mature market, competition in the market is intense. At the same time, customers are developing higher expectations than ever, which create a significant challenge for managers. Thus, market research becomes key not only for a better understanding of the needs and wants of customers and their perceptions of services offered, but also for staying competitive in the market. In particular, examination of service quality perceptions and member satisfaction is beneficial for managers in martial arts events for developing effective marketing strategies. In response to the call for more research on martial arts participants and their decision making processes, we investigated the effects of sport involvement and identification on service quality perceptions and satisfaction of martial arts event participants.

We found that highly identified fans perceived service quality more positively. Our result was consistent with idea of Cast and Burke (2002) that people tend to behave in ways that can either increase or at least maintain positive evaluation of self. In addition, the result showed that identification influenced satisfaction and intention. This finding was consistent with a previous study, which suggested that salience and importance of identity directly and indirectly influenced spectator satisfaction and conative loyalty. Highly identified participants perceived service quality more positively when compared to the lower identification group.

Based on previous research suggesting that involvement with products is expected to lead one to search for more information and spend more time searching for the right selection (Celci and Olson, 1988), we hypothesized that perceived quality would be influenced by involvement. This hypothesis was supported when three service quality variables (i.e. skill, interaction with other fans, and ambience) differed by involvement. This result was also consistent with the Lascu *et al.* (1995) finding that involvement influenced golf participants' perceptions on various golf event aspects. To our understanding, this is the first study to examine factors (identification and involvement) that influence service quality rather than factors (e.g. loyalty) that are influenced by service quality.

From a practical standpoint, this study contributes to the field of sport and martial arts event management by developing a better understanding of event consumers, in this case mainly TKD participants. In addition, the result of this study provides marketers with empirical evidence about why developing high levels of identification

Source	DV	Hyp. <i>df</i>	Error <i>df</i>	<i>F</i>	Sig.	η^2	CI
Involvement	Skill	2.00	207.00	7.07	0.01	0.08	0.01, 0.13
	Interaction fan	2.00	202.00	3.24	0.01	0.03	0.01, 0.09
	Ambience	2.00	200.00	4.77	0.01	0.05	0.01, 0.10

Table V.
Test of between-subjects effects for involvement

Source	DV	Hyp. <i>df</i>	Error <i>df</i>	<i>F</i>	Sig.	η^2	CI
Identification involvement	Intention	2.00	205.00	3.85	0.01	0.05	0.05, 0.11
	Social interaction	2.00	203.00	4.66	0.01	0.06	0.00, 0.13
	Ambience	2.00	202.00	3.89	0.01	0.06	0.00, 0.12
	Operating time	2.00	195.00	4.00	0.01	0.06	0.00, 0.12

Table VI.
Test of between-subjects effects for interaction

and involvement among their target market is important for the success of event operations. There are significant positive relationships among key consumer variables such as service quality, identification, involvement, and satisfaction in TKD events. In this study, the results suggest that the event managers of US Open Taekwondo Championship offered high-quality services to their participants and spectators. As a result, their customers showed high levels of satisfaction and maintained strong intentions to attend this event in the future. However, as the respondents in this study are highly committed to the sport of TKD and this particular event, it is presumed that their preexisting identification level significantly influenced their quality perceptions of the events. In general, the mainstream public shows a low level of interest in the sport of TKD competition as spectator sport. Thus, we strongly recommend that event professionals develop a better understanding of their customers and continue to make efforts to develop effective promotional and marketing strategies to increase attendance among these general markets. Ultimately, this may help improve the quality of martial arts events and develop effective marketing strategies for future success of martial arts events.

These findings provide useful insights into the effects of service quality factors on customer satisfaction and revisit intentions. However, as in other studies, several limitations of this study should be addressed. First, subjects were sampled at a single event. It would be desirable for future research to seek a broader representative sample of TKD spectators. Moreover, further research identifying potential determinants of future purchasing decisions seems necessary to provide helpful information in developing effective market segmentation strategies. Nonetheless, all in all, we conclude that the findings of this study provide useful information to managers of martial arts events.

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