Journal of Hospitality, Leisure, Sport & Tourism Education 18 (2016) 81–91

Contents lists available at ScienceDirect

Journal of Hospitality, Leisure, Sport & Tourism Education

journal homepage: www.elsevier.com/locate/jhlste

Critical Perspectives

# Influence of curriculum quality and educational service quality on student experiences: A case study in sport management programs

Jingxian Zhang [a], Junqi Wang [b], Sophia D. Min [c], Kenny K. Chen [d], Haiyan Huang [a,*]

[a] Institute of Sport Industry Development of SUS, Shanghai University of Sport, 399# Changhai Rd, Yangpu District, Shanghai 200438, China
[b] Sport Management Program, Department of Kinesiology, University of Georgia, 363 Ramsey, Athens, GA 30602, United States
[c] School of Health, Physical Education & Leisure Services, University of Northern Iowa, Wellness Recreation Center 131, 2301 Hudson Rd, Cedar Falls, IA, 50614-0241, United States
[d] Department of Physical Education, Hong Kong Baptist University, Kowloon Tong, Kowloon, Hong Kong

ARTICLE INFO

*Article history:*
Received 15 November 2014
Received in revised form
10 October 2015
Accepted 25 April 2016

*Keywords:*
Sport Management education
Curriculum quality
Educational service quality
Perceived value
Satisfaction
Loyalty

ABSTRACT

Building upon the American Customer Satisfaction Index model, the current study initially explored the influence of educational quality of Sport Management programs (including curriculum quality and educational service quality) on student educational evaluation. The results of confirmatory factor analysis show that four major dimensions of curriculum quality in Sport Management education, and five dimensions of educational service quality. The results of structural relationship model indicated that the influence of curriculum quality and educational service quality first leads to a change in students' perceived quality; this change in perceived quality further directly impact loyalty and indirectly impact loyalty via satisfaction.



## 1. Introduction

In recent years, the number of institutions of higher education around the world has grown remarkably (Altbach, Reisberg, & Rumbley, 2009; U.S. Department of the Treasury & U.S. Department of Education, 2012; Universities UK, 2012). Marketing strategies to attract students have become much more competitive (Zhang, Han, & Gao, 2009). Meanwhile, students are more often treated like (and consider themselves) consumers who purchase educational products from institutions (Cardoso, Carvalho, & Santiago, 2011; Singleton-Jackson, Jackson, & Reinhardt, 2010). This trend has forced higher education providers to pay attention to student perceptions rather than focusing exclusively on the outlook of university administrators (Ivy, 2001; Vaira, 2004). Therefore, effectively meeting the growing demand for high-quality education among students has become a crucial agenda for numerous educational institutions (Altbach, Gumport, & Berdahl, 2011; LePine, Podsakoff, & LePine, 2005), especially for the young but rapidly developing disciplines such as Sport Management

* Corresponding author.
*E-mail addresses:* jingxianzhang28@foxmail.com (J. Zhang), jqwang@uga.edu (J. Wang), sophia.min@uni.edu (S.D. Min), kuanchou@hkbu.edu.hk (K.K. Chen), huanghaiyan@sus.edu.cn (H. Huang).

http://dx.doi.org/10.1016/j.jhlste.2016.04.001
1473-8376/

(Chalip, 2006; Parkhouse & Pitts, 2004).

The current study explores the major antecedents that contribute to student evaluations of educational quality and the consequences of those evaluations for Sport Management programs in higher education. According to the American Customer Satisfaction Index (ACSI) model (Fornell, Johnson, Anderson, Cha, & Bryant, 1996), perceived quality plays a crucial role in individuals' affective (e.g., satisfaction) and conative (e.g., loyalty) responses. In higher education, quality as perceived by students primarily involves two components: curriculum quality (Aman, 2009; May Jr, 2010; Temizer & Turkyilmaz, 2012) and educational service quality (Asaduzzaman, Hossain, & Rahman, 2013; Hanaysha, Abdullah, & Warokka, 2011; Hasan, Ilias, Rahman, & Razak, 2009). Therefore, in the current study, curriculum quality and educational service quality were hypothesized to exert a positive influence on satisfaction and other behavioral responses of Sport Management majors. Three phases comprised the study: (a) hypothesizing the relationships among student perceived quality, perceived value, satisfaction, and loyalty based on a comprehensive literature review; (b) assessing the reliability of measurement scales found in existing literature; and (c) empirically testing the proposed structural relationship model.

## 2. Literature review

### 2.1. Sport Management education

Since 1966 when the first Sport Management program was initiated at Ohio University (Parks, Quarterman, & Thibault, 2011), the discipline of Sport Management has been experiencing a significant development, especially over the past decade. According the report of North American Society for Sport Management (NASSM), 166 universities/colleges in United States offered the Sport Management education in 2003 (Jones, Brooks, & Mak, 2008). In 2015, this number has tripled to 473 (NASSM, 2015). On a global scale, the Sport Management education is also thriving. The number of international Sport Management program identified by NASSM has increased to 79 in 2015, nearly doubling the program number in 2003. Additionally, there are some international programs out of NASSM's statistics. For example, more than 20 Chinese educational institutions offer the Sport Management major in 2015, but only one university is included on NASSM's list. Although the growth of Sport Management education is remarkable, it is still a relatively young field compared with the mature disciplines (e.g., Physics, Management, and English), leading to very few research endeavors focusing on its educational quality. Therefore, the current study aims to enrich this research topic by identifying the major components of perceived quality in Sport Management education and exploring their influences on student experiences.

### 2.2. American Customer Satisfaction Index model

Initially introduced by Fornell et al. (1996), ACSI (see Fig. 1) is a general theoretical framework for assessing customer satisfaction. In ACSI, three major antecedents (i.e., perceived quality, perceived value, and customer expectation) and two consequences (i.e., complaint and loyalty) of satisfaction were identified. In higher education research, students are regarded as customers who purchase educational products from institutions (Cardoso et al., 2011; Singleton-Jackson et al., 2010). Therefore, the application of ACSI to Sport Management could shed light on the best way to assess student perceptions and help program administrators improve student experiences based on those perceptions.

In the current study, a revised ACSI was used to construct the relationship model between perceived quality and several key variables that capture the educational experiences of students (i.e., perceived value, student satisfaction, and student loyalty). The modified model omits "complaints" and focuses exclusively on positive relationships. In addition, because the links from customer expectations to perceived value and customer satisfaction are weak, customer expectations could be safely omitted (Blogger, 2009). For the revised ACSI model, perceived quality of curriculum and educational service within Sport Management programs are the antecedents of perceived value, satisfaction, and loyalty. Student loyalty, representing current and future support intention, is an outcome variable. Perceived value and satisfaction were hypothesized to mediate the influence of perceived quality on loyalty.

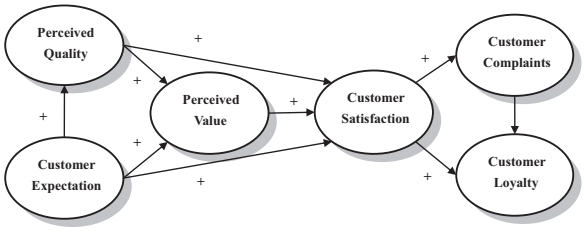


**Fig. 1.** American Customer Satisfaction Index Model (Fornell et al., 1996).

### 2.3. Perceived quality

Perceived quality has been defined as "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives" (Aaker, 1991, p. 81). Extending this definition to the setting of education, perceived quality refers to the functionality of education and its delivery system offered by an educational institution to relevant stakeholders, such as students (Shrestha, 2013). In various higher education settings, curriculum and educational service quality are crucial aspects of perceived quality that are likely to influence students' affective responses (Mansori, Vaz, & Ismail, 2014) and behavioral intention (Berthon, Ewing, & Napoli, 2008; British Columbia College and Institute Student Outcomes Survey, 2003; Fornell et al., 1996).

#### 2.3.1. Curriculum quality

Curriculum is all of learning interaction planned and guided by a school that students can carry out in groups or individually through instructional content, materials, resources, and processes for evaluating the attainment of educational objectives (Moore, 2006). In the field of Sport Management, the development of curricular guidelines started since 1980 s under the leadership of National Association for Sports and Physical Education (NASPE) and NASSM (NASPE-NASSM, 1993). The NASPE-NASSM curricular guidelines were initially published in 1987 and further refined in 1994, providing a fundamental framework for offering the Sport Management education in terms of competency areas, course work, and faculty qualification (Jones et al., 2008). The advancement of curriculum plays as a driving force in promoting Sport Management education (Skinner & Gilbert, 2007).

Curriculum quality reflects the extent to which students perceive the curriculum to be of high quality (Pretti-Frontczak, Robbins, Jackson, Korey-Hirko, & Harjusola-Webb, 2008). Dennis (2002) specified that the overall curriculum quality involves four major dimensions: instructional content, curriculum provision, instructional methods, and course evaluation. Based on this general dimensionality of curriculum quality, other scholars have proposed specific factors in particular educational settings, such as early childhood education (Pretti-Frontczak et al., 2008) and technical education (Lawrenz, Appleton, & Keiser, 2004). Assessing curriculum quality is a critical element in elevating student responses (Billups, 2008; Elliott & Healy, 2001; Özgüngör, 2010; Peters, 1988; Ratcliff, 1992) because it directly impacts perceived value. For example, Chrysler, and Auken (2006) concluded that curriculum quality has a significant impact on students' perceived value of management-oriented curriculum. Komarraju, and Karau (2008) suggested that various teaching techniques, comprising one dimension of curriculum quality, are significantly associated with distinct aspects of students' academic motivation. Furthermore, achievement motivation was positively related to perceived value of traditional lectures.

Higher perceived curriculum quality is likely to lead to higher student satisfaction. Among the six antecedents of student satisfaction (i.e., curriculum, teaching, analytical skills, communication skills, social skills, and personal growth) in Canadian higher education, the role of curriculum was the most significant (British Columbia College and Institute Student Outcomes Survey, 2003); Grace, Weaven, Bodey, Ross, and Weaven (2012) indicated that student experiences with curriculum in terms of good teaching, clear goals/standards, appropriate assessment, and appropriate workload impacted their satisfaction level. Similar conclusions were reached in Farahmandian, Minavand, and Afshardost (2013); they suggested that perceived curriculum quality significantly correlated with student satisfaction ($r = 0.523$). Therefore, the following hypotheses were proposed:

**H1.** Curriculum quality will positively influence students' perceived value.

**H2.** Curriculum quality will positively influence student satisfaction.

#### 2.3.2. Educational service quality

Perceived service quality is overall impression that customers have of an organization and its services (Bitner & Hubbert, 1994) and involves the comparison of expectation and service performance (Lewis & Booms, 1983). Consistent with general service quality, educational service quality could be considered "the difference between what a student expects to receive and his/her perceptions of actual delivery" (O'Neill & Palmer, 2004, p. 42).

According to the widely-adopted SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1985), overall service quality involves five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Extending these dimensions to the setting of Sport Management education, the tangibles of educational service quality are the appearance of equipment, physical facilities, and personnel of an educational institution; reliability refers to an educational institution's ability to perform the promised service dependably and accurately; responsiveness indicates an educational institution's ability to provide prompt service to students; assurance refers to the knowledge and courtesy of faculty and staff, as well as their ability to convey trust and confidence to students; and empathy refers to the willingness of an educational institution to provide individualized attention to students.

The empirical significance of each dimension in overall educational service quality varies in previous studies. Ham and Hayduk (2003) suggested that reliability was the most important component, followed by responsiveness, empathy, assurance, and tangibles. Hasan et al. (2009) showed that empathy had the strongest relationship with positive evaluation from students, followed by assurance, tangibles, responsiveness, and reliability. In the study of Mansori et al. (2014), students considered tangibles the most important, followed by empathy and responsiveness, reliability and assurance exerted

non-significant influences. These varied conclusions might be caused by the different educational setting in which the studies were conducted. As to Sport Management education which highlights the knowledge (Chalip, 2006; Costa, 2005) and real-world practicum (Cuneen & Parks, 1997; Light & Dixon, 2007), students' demand about educational supporting service might differ with other disciplines. Therefore, assessing the weight of each dimension of educational service quality in Sport Management is meaningful to deliver the appropriate education.

The positive relationship between overall educational service quality and students' attitudinal responses (e.g., perceived value and satisfaction) has been well documented (e.g., Brown & Mazzarol, 2006; Dlačić, Arslanagić, Kadić-Maglajlić, Marković, & Raspor, 2014; Ham & Hayduk, 2003; Hasan et al., 2009; Mansori et al., 2014). Therefore, the following hypotheses were proposed for Sport Management setting:

**H3.** Educational service quality will positively influence students' perceived value.

**H4.** Educational service quality will positively influence student satisfaction.

### *2.4. Perceived value*

Consumers' perceived value is influenced both by the physical attributes of a product/service and by individual mental factors, such as personality, personal preferences, and needs. It not only refers to tangible utilitarian value but also includes intangible and intrinsic value, such as emotional effect (Sánchez-Fernández, Iniesta-Bonillo, & Holbrook, 2008). That is, objective perception and subjective feeling can coexist in perceived value. In higher education research, perceived value refers to the overall assessment of the attributes and benefits of an education program against its price and costs (Netemeyer et al., 2004).

According to ACSI (Fornell et al., 1996), perceived value is an antecedent of individual satisfaction and loyalty, meaning that an individual can form a judgment of the value of a marketing stimulus and then generate corresponding affective and conative responses. Higher perceived value leads to higher consumer satisfaction and loyalty (Alves, 2011; Lee, Uniremidy, & Overby, 2004; Wang, Lo, Chi, & Yang, 2004). Multiple studies in higher education have reached similar conclusions: students who more favorably perceive the value of an education program are more likely to experience higher levels of satisfaction and loyalty (Altbach et al., 2009; Brown & Mazzarol, 2009; Cronin Jr, Brady, & Hult, 2000; Webb & Jagun, 1997). Therefore, the current study proposes that perceived value predicts student satisfaction and loyalty:

**H5.** Students' perceived value will positively influence student satisfaction.

**H6.** Students' perceived value will positively influence student loyalty.

### *2.5. Student satisfaction and loyalty*

In the current study, student satisfaction and loyalty are two major consequences of educational quality. Student satisfaction refers to "the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education" (Elliott, & Shin, 2002, p. 198). It reflects how well students' expectations are fulfilled (Temizer and Turkyilmaz, 2012). Intensive studies have suggested that student satisfaction directly contributes to their loyalty (e.g., Altbach et al., 2011; Brown & Mazzarol, 2009; Helgesen & Nesset, 2007; Serenko, 2011; Temizer & Turkyilmaz, 2012).

Student loyalty is the attachment or deep commitment to an educational institution. It reflects their perceptions on the education offered by an institution and is likely to encourage them to be involved in the institution's development (Chitty & Soutar, 2004; Webb & Jagun, 1997). Although loyalty behaviors involve various activities, they primarily include three types: encouraging other people to apply to the institution, continuing education at same institution if needed, and donating money to the institution (Fontaine, 2014; Shaver, 2012). Consistent with the majority of studies on student loyalty (e.g., G. A. Jones et al., 2000; Zeithaml, Berry, & Parasuraman, 1996), the current study focused on conative loyalty, which refers to loyalty as reflected by the students' intention to consume the educational products of an institution or support its development above others. The relationship between student satisfaction and loyalty was hypothesized as follows:

**H7.** Student satisfaction will positively influence student loyalty.

## 3. Methodology

The Sport Management program at *** was selected as the target program due to its representativeness in Sport Management education: (a) it offers both undergraduate and graduate education, (b) it emphasizes both the teaching and research of Sport Management, and (c) it features a representative faculty size in the field.

### *3.1. Procedures and participants*

The preliminary questionnaire was submitted to a panel of five experts in Sport Management education to examine content validity, primarily the relevance, clarity, representativeness, and format of the questionnaire. Based on the feedback

of each panel member, the preliminary questionnaire was further modified and improved. A pilot study was then conducted using a small sample of the target population ($n=59$) to assess content validity from the perspective of participants. At this stage, modifications and improvements were all minor and primarily related to wording.

Three hundred and fifteen undergraduate students majoring in Sport Management at *** voluntarily participated in the current study. Excluding two severely incomplete questionnaires (i.e., greater than 30% of all items), the data from 313 participants was considered valid and used in data analysis. The sample size ($N=313$) reached the suggested minimum size of 200 to examine the proposed structural model (Anderson, Fornell, & Lehmann, 1994; Hair, Tatham, Anderson, & Black, 2006; Harris & Schaubroeck, 1990; Weston & Gore, 2006). In terms of gender, 46.0% of the respondents were male, and 54.0% were female. In terms of program year, 20.2% were freshmen, 28.9% were sophomores, 29.4% were juniors, and 21.5% were seniors. About 4.2% of the respondents were younger than 19 years old, 11.8% were 19 years old, 14.3% were 20, 21.6% were 21, 23.5% were 22, 18.7% were 23, and 5.9% were older than 23.

### 3.2. Instrument development

For sample description purposes, questions related to socio-demographic background included gender, age and program year. Items from existing scales were adapted with minor modifications. The questionnaire consisted of 48 items, including 15 items for curriculum quality, 19 items for educational service quality, 5 items for perceived value, 4 items for student satisfaction, and 5 items for loyalty.

The curriculum quality scale from the Report of and Pretti-Frontczak et al. (2008) was revised and used to measure curriculum quality in the following four dimensions: instructional content (4 items), curriculum provision (3 items), instructional methods (5 items), and course evaluation (3 items). Educational service was assessed using revised versions of the scale from Asaduzzaman et al. (2013) and the SERVQUAL model (Parasuraman et al., 1985), including five dimensions: tangibles (5 items), reliability (4 items), responsiveness (4 items), assurance (4 items), and empathy (2 items). Five items for perceived value were adapted from the scale from Alves (2011), including future goals, trade-off price/quality, and comparison with alternatives, emotion, and promotion. Student satisfaction was measured using the scale from Temizer and Turkyilmaz (2012), including satisfaction with curriculum, satisfaction with educational service, fulfillment of expectations, and program achievements. The student loyalty scale from Alves & Raposo (2007); Fontaine (2014) was used in the current study, including intention to recommend my educational institution, intention to recommend my major, retention to stay at current university, retention to keep the current major, and intention to choose the same major and institution for further education. All aforementioned items were phrased into 5-point Likert-type scales.

### 3.3. Data analyses

Descriptive demographic statistics for the participants, such as gender, age, and academic major, were calculated using Statistical Package for the Social Sciences (SPSS) 19.0. Given the advantage of structural equation modeling (SEM) in estimating relationships among latent variables and exploring multivariate relationships in an integrated manner, SEM was used to test a series of proposed hypotheses. The suggested two-step process of SEM was adopted for the following data analyses: (a) examining the psychometric properties of the proposed measurement model through confirmatory factor analysis (CFA) and (b) assessing the structural relationship model after confirming the adequacy of the measurement model (Anderson & Gerbing, 1988). Both two steps were executed by Mplus 7.0 in which the MLR (maximum likelihood estimation with robust standard errors) estimator was employed due to its two-fold advantage: (a) MLR is robust with both multivariate normality data and non-normality data and (b) MLR deals well with missing values. With the MLR estimator, the chi-square test statistic is "asymptotically equivalent to the Yuan-Bentler T2* test statistic" (Muthén & Muthén, 2012, p. 603).

In terms of goodness of fit, the following indices were adopted: chi-square ($\chi^2$), normed chi-square ($\chi^2/df$), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), comparative fit index (CFI), and Tucker-Lewis Index (TLI) (Hair et al., 2006; Hu & Bentler, 1999; Kline, 2011). The reliability of the measurement model was assessed using Cronbach's alpha ($\alpha$), composite reliability (CR), and average variance extracted (AVE). The first two show the extent of the scale's internal consistency (Fornell & Larcker, 1981; Kline, 2011), and the last assesses the variance of the indicators accounted for by the latent construct (Hair et al., 2006). To assess construct validity, convergent validity and discriminant validity were examined. Convergent validity refers to the extent to which each observed variable loads on its underlying construct and was evaluated using significant factor loadings (Anderson & Gerbing, 1988). Discriminant validity refers to the extent to which a given construct differs from other constructs and was assessed using inter-factor correlations (Fornell & Larcker, 1981; Kline, 2011).

## 4. Results

### 4.1. Measurement model

The goodness of fit of the hierarchical measurement model was reasonably good: $\chi^2=1911.74$, $p<.01$, $\chi^2/df=1.80$ met the recommendation of Kline (2011), who suggested that this value be lower than 3.00. RMSEA value of the model was.05

**Table 1**
Factor loadings (λ), Cronbach's alpha (α), construct reliability (CR), and average variance extracted (AVE) for measurement scale.

| Factors and variables | λ | α | CR | AVE |
|---|---|---|---|---|
| Instructional content (CQ1) | | .85 | .85 | .59 |
| Content of compulsory courses | .77 | | | |
| Content of elective courses | .77 | | | |
| Content of practicum | .75 | | | |
| Availability of courses | .79 | | | |
| Curriculum Provision (CQ2) | | .81 | .81 | .59 |
| Structure of major courses | .80 | | | |
| Schedule of courses | .76 | | | |
| Variety of courses | .75 | | | |
| Instructional Methods (CQ3) | | .86 | .86 | .56 |
| Logic of instruction | .76 | | | |
| Interaction between instructors and students | .78 | | | |
| Frequency of group study | .72 | | | |
| Frequency of discussion | .74 | | | |
| Frequency of case study | .73 | | | |
| Course Evaluation (CQ4) | | .89 | .90 | .74 |
| Methodology of grading system | .89 | | | |
| Grading of major courses | .82 | | | |
| Match-up between performance and grade | .87 | | | |
| Tangibles (ESQ1) | | .83 | .85 | .54 |
| Lighting system in buildings | .75 | | | |
| Appearance of buildings | .84 | | | |
| Cleanliness of campus | .78 | | | |
| Decoration and atmosphere | .76 | | | |
| Access to the internet | .51 | | | |
| Reliability (ESQ2) | | .82 | .82 | .54 |
| Accuracy of records | .73 | | | |
| Punctuality of classes | .74 | | | |
| Punctuality of service | .73 | | | |
| Teaching quality | .73 | | | |
| Responsiveness (ESQ3) | | .85 | .86 | .61 |
| Availability of faculty and staff for assistance | .83 | | | |
| Emergency management of faculty | .80 | | | |
| Emergency management of staff | .71 | | | |
| Efficiency of service delivery | .77 | | | |
| Assurance (ESQ4) | | .81 | .82 | .53 |
| Research competence of faculty | .73 | | | |
| Service competence of staff | .72 | | | |
| Soundness of rules and regulations | .78 | | | |
| Security of campus | .67 | | | |
| Empathy (ESQ5) | | .63 | .63 | .46 |
| Availability of learning resources | .64 | | | |
| Level of individualized consideration | .72 | | | |
| Perceived Value (PV) | | .90 | .91 | .66 |
| The value of received education in the job hunting | .80 | | | |
| High quality of received education with low costs | .84 | | | |
| High quality of received education compared with other majors | .88 | | | |
| Being happy about choosing my major | .82 | | | |
| Value of received education in future education | .71 | | | |
| Satisfaction (SA) | | .93 | .93 | .77 |
| Satisfaction with curriculum quality | .89 | | | |
| Satisfaction with educational service quality | .88 | | | |
| Fulfillment of my expectations | .89 | | | |
| Satisfaction with learning achievement | .86 | | | |
| Loyalty (LY) | | .94 | .95 | .77 |
| Intention to recommend my educational institution | .86 | | | |
| Intention to recommend my major | .90 | | | |
| Retention to stay at current university | .88 | | | |
| Retention to keep the current major | .90 | | | |
| Intention to choose the same major and institution for further education | .86 | | | |
| Curriculum Quality | | | .94 | .78 |
| CQ1 | .92 | | | |

**Table 1** (*continued*)

| Factors and variables | λ | α | CR | AVE |
|---|---|---|---|---|
| CQ2 | .89 | | | |
| CQ3 | .90 | | | |
| CQ4 | .83 | | | |
| Educational Service Quality | | | .95 | .80 |
| ESQ1 | .76 | | | |
| ESQ2 | .94 | | | |
| ESQ3 | .94 | | | |
| ESQ4 | .91 | | | |
| ESQ5 | .91 | | | |

(90% confidence interval =.047 – .054), indicating good fit (Hu et al., 1999). The values of CFI and TLI were.91 and.90, respectively, satisfying the suggested criterion of.90 (Hu et al., 1999). SRMR (.06) was superior to the suggested cut-off value of.09 (Kline, 2011).

As shown in Table 1, all values of Cronbach's alpha and CR reached the threshold value of .60 (Fornell & Larcker, 1981), ranging from .63 to .95. Except for the AVE value of empathy (0.46), all exceeded the suggested value of .50 (Hair et al., 2006). Therefore, the overall reliability of the measurement model was acceptable.

Table 1 also shows that all factor loadings were significant and above the suggested value of.50, ranging from.51 to.94. To be more specific, the factor loadings of only three items were below the ideal level of.70, indicating good convergent validity of the measurement model as a whole. In terms of discriminant validity, all correlations among the first-order factors of curriculum quality and educational service quality fit the suggested criterion of.85 (Kline, 2011), except for the correlation between the dimensions of reliability and responsiveness, the value of which was.88 (see Table 2). As for the discriminant validity of the second-order factors, only the inter-factor correlations between curriculum quality and educational service quality ($r$=.87) and between perceived value and satisfaction ($r$=.87) were slightly above the suggested value of.85 (see Table 3). However, considering the conceptualized differences of the relevant constructs and the theoretical soundness of the research model, no modification regarding discriminant validity was done. Overall, the results of CFA suggest that the hierarchical measurement model was adequate for conducting further structural analyses.

### 4.2. Structural model

The proposed structural model fit the data well: $\chi^2$=1912.54, $p<.01$; $\chi^2/df$=1.80; RMSEA=.05, 90% confidence interval=.047–.054; CFI=.91; TLI=.90 SRMR=.06. Adequate structural model fit can be achieved if there is a non-significant chi-square difference between the measurement model and the structural model (Hair et al., 2006). In the current study, the result of this test was not significant ($\Delta\chi^2$=0.803, $p>.05$), indicating adequate structural model fit.

Table 4 and Fig. 2 show the results of SEM analysis. Hypothesis 1 was supported, indicating that quality of provided curriculum directly and positively influenced students' perceived value (β=.30, $p<.05$). Hypothesis 2, which proposed that curriculum quality would directly impact student satisfaction, was rejected (β=.12, $p>.05$), whereas the former did indirectly influence the latter via perceived value (β=.20, $p<.05$). Hypothesis 3, which proposed that educational service quality would directly influence perceived value, was supported (β=.54, $p<.01$). Similar to Hypothesis 2, Hypothesis 4, which proposed that educational service quality would directly influence satisfaction, was rejected, whereas the indirect effect of educational service quality on satisfaction via perceived value was supported (β=.35, $p<.01$). Hypotheses 5 and 6 were confirmed, indicating a direct and positive effect of perceived value on satisfaction (β=.64, $p<.01$) and on loyalty (β=.59, $p<.01$). Additionally, Hypothesis 7, which proposed that satisfaction would positively influence student loyalty, also was supported (β=.28, $p<.05$).

**Table 2**
Correlation matrix of the first-order factors of curriculum quality and educational service quality.

| | CQ1 | CQ2 | CQ3 | CQ4 | ESQ1 | ESQ2 | ESQ3 | ESQ4 | ESQ5 |
|---|---|---|---|---|---|---|---|---|---|
| CQ1 | 1.00 | | | | | | | | |
| CQ2 | .82 | 1.00 | | | | | | | |
| CQ3 | .82 | .80 | 1.00 | | | | | | |
| CQ4 | .76 | .75 | .75 | 1.00 | | | | | |
| ESQ1 | .61 | .59 | .59 | .55 | 1.00 | | | | |
| ESQ2 | .75 | .73 | .73 | .68 | .72 | 1.00 | | | |
| ESQ3 | .75 | .73 | .73 | .68 | .71 | .88 | 1.00 | | |
| ESQ4 | .73 | .71 | .71 | .66 | .70 | .85 | .85 | 1.00 | |
| ESQ5 | .73 | .71 | .71 | .66 | .69 | .85 | .85 | .83 | 1.00 |

Note: CQ1=instructional content; CQ2=curriculum provision; CQ3=instructional methods; CQ4=course evaluation; ESQ1=tangibles; ESQ2=reliability; ESQ3=responsiveness; ESQ4=assurance; ESQ5=empathy.

**Table 3**
Correlation matrix among CQ, ESQ, PV, SA, and LY.

| | CQ | ESQ | PV | SA | LY |
|---|---|---|---|---|---|
| CQ | 1.00 | | | | |
| ESQ | .87 | 1.00 | | | |
| PV | .78 | .81 | 1.00 | | |
| SA | .76 | .79 | .87 | 1.00 | |
| LY | .65 | .70 | .83 | .79 | 1.00 |

Note. CQ=curriculum quality; ESQ=educational service quality; PV=perceived value; SA=satisfaction; LY=loyalty.

**Table 4**
Standardized Path Value, Standard Errors of Hypothesized Structural Model.

| Path between factors | β | SE | *p* | H |
|---|---|---|---|---|
| *Direct effect* | | | | |
| CQ → PV | .30* | .15 | .04 | H1 |
| CQ → SA | .12 | .15 | .42 | H2 |
| ESQ → PV | .54** | .14 | .00 | H3 |
| ESQ → SA | .16 | .14 | .26 | H4 |
| PV → SA | .64** | .10 | .00 | H5 |
| PV → LY | .59** | .13 | .00 | H6 |
| Satisfaction → Loyalty | .28* | .14 | .04 | H7 |
| Path between factors | β | SE | *p* | |
| *Indirect Effect* | | | | |
| CQ → PV → SA | .20* | .09 | .03 | |
| CQ → PV → LY | .18 | .10 | .06 | |
| CQ → PV → SA → LY | .05 | .04 | .13 | |
| ESQ → PV → SA | .35** | .11 | .00 | |
| ESQ → PV → LY | .32** | .11 | .00 | |
| ESQ → PV → SA → LY | .10 | .05 | .07 | |
| PV → SA→ LY | .18* | .09 | .04 | |

*Note:* * p < .05, ** p < .01.

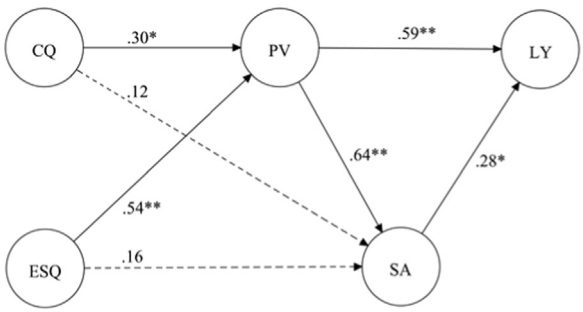


**Fig. 2.** Final research model. Note: $\chi^2$=1912.54, $p$ < .01; $\chi^2/df$=1.80; RMSEA =.05; CFI =.91; TLI =.90; SRMR =.055. * $p$ < .05,** $p$ < .01. Dash lines indicate insignificant paths.

## 5. Discussion

In recent years, Sport Management programs in higher education around the world have grown in number and enrollment. However, knowing how to meet students' educational demands and improve their educational experiences is still a challenge for many universities. To address this issue, the current study initially explored the influence of curriculum quality and educational service quality of Sport Management programs on students' perceived value, satisfaction, and loyalty. The empirical data identified the major components of curriculum quality and educational service quality and confirmed their crucial role in how students evaluation their educational experiences.

The results of CFA suggest that the proposed dimensions of curriculum quality and educational service quality fit Sport Management programs in higher education. In terms of curriculum quality, all factor loadings of the four dimensions (i.e., instructional content, curriculum provision, instructional methods, and course evaluation) were high and close, ranging from .83 to.92, indicating that all four dimensions are crucial and contribute evenly to overall curriculum quality. To provide higher quality curriculum, Sport Management programs are advised to advance all indicators under each sub-dimension (see Table 1).

In terms of educational service quality, five dimensions were also shown to be important, but comparatively, students seemed more concerned with service quality in terms of reliability ($\lambda = .94$), responsiveness ($\lambda = .94$), assurance ($\lambda = .91$), and empathy ($\lambda = .91$) than tangibles ($\lambda = .76$). Therefore, administrators of Sport Management programs should preferentially focus on the indicators under dimensions of reliability, responsiveness, assurance, and empathy (see Table 1).

The proposed structural relationship model was partially supported. Hypotheses 1, which proposed a positive influence of curriculum quality on perceived value, and hypothesis 3, which proposed a positive influence of educational service quality on perceived value, were both supported, confirming the arguments of previous scholars who noted that curriculum and educational service quality are independent variables of perceived value (Alves, 2011; Caruana, Money, & Berthon, 2000; Chrysler and Auken, 2006; Ulaga & Eggert, 2006). Furthermore, the standardized path value of Hypothesis 1 ($\beta = .30$, $p < .05$) and Hypothesis 3 ($\beta = .54$, $p < .01$) also show that educational service quality contributes more to students' perceived value than curriculum quality, indicating that students are more inclined to be influenced by intangibles and supportive educational service.

Hypotheses 2 and 4, which proposed that curriculum quality and educational service quality would directly influence student satisfaction, were rejected, contrary to the conclusions of prior analogous research (British Columbia College and Institute Student Outcomes Survey, 2003; Elliott & Healy, 2001). However, the indirect influences of curriculum quality and educational service quality on student satisfaction via perceived value were supported (see Table 4). These results indicate that perceived value is a full mediator in the relationship between curriculum quality and satisfaction and in the relationship between educational service quality and satisfaction. That is, a student is likely first to assess the value of received curriculum and educational service based on objective value and his/her personal needs or preferences and then to feel a level of satisfaction. Simultaneously accounting for perceived value and satisfaction in the model more comprehensively illustrates the way students process outside educational stimuli.

Furthermore, Hypotheses 5 and 6 were supported, indicating that the perceived trade-off between perceived benefits and cost influences student satisfaction and loyalty. These findings are consistent with previous studies that identified perceived value as an antecedent of consumer/student satisfaction and loyalty (e.g., Brown & Mazzarol, 2009; Mansori et al., 2014). Hypothesis 7, which proposed that satisfaction would positively influence loyalty, was also supported, confirming the causal relationship between individual affective responses and conative responses. Hypotheses 5, 6, and 7 together triggered a potential partial mediating effect among perceived value, satisfaction, and loyalty, where satisfaction mediates the relationship between perceived value and student loyalty. After detecting a significant influence of perceived value on loyalty via satisfaction (see Table 4), this partial mediating effect was confirmed.

The overall structural relationship model comprehensively illustrated how students process educational stimuli (e.g., curriculum quality and educational service quality) in Sport Management settings. More specifically, when students are exposed to educational stimuli, the influence of those stimuli first leads to a change in perceived quality. This change in perceived quality has two paths, further impacting behavioral intention: (a) a direct impact on loyalty and (b) an indirect impact on loyalty via satisfaction.

Overall, the results of the current study provide concrete information to help administrators in Sport Management programs understand student demands for educational quality and, in turn, build more successful programs that meet these demands. More broadly, the insights offered by this study are also valuable to other Sport Management-related disciplines in the academy, such as Tourism Management, Leisure and Recreation Management, and Hospitality Management.

## 6. Limitations and future studies

The current study has several limitations that should be addressed in future research. First, due to the relatively limited sample size, this study did not subdivide the student body by grade year or gender to obtain more specific results for different groups. Future studies should pursue more specific results. Second, a convenient sampling technique was adopted to collect data, possibly creating a bias in the data. Future studies could use systematic sampling to generate more precise results. Third, the data in the current study was collected from only one university, possibly decreasing the generalizability of the conclusions. Therefore, the data of multiple Sport Management programs from various countries would benefit future studies. Despite these constraints, this project represents a successful attempt to understand student needs in Sport Management education and offers avenues for future research to advance this inquiry.

## Acknowledgements

This work was supported by Graduate Students visiting abroad program at Shanghai University of Sport (stfx20140216), and the program for New Century Excellent Talents in University (NCET-12-1055).

## References


Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name*. New York: Simon & Schulter.

Altbach, P. G., Gumport, P. J., & Berdahl, R. O. (2011). *American higher education in the twenty-first century: Social, political, and economic challenges*. Maryland: JHU Press.

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. France: United Nations Educational, Scientific And Cultural Organization.

Alves, H. (2011). The measurement of perceived value in higher education: A unidimensional approach. *Service Industries Journal*, *31*(12), 1943–1960.

Alves, H., & Raposo, M. (2007). Conceptual model of student satisfaction in higher education. *Total Quality Management*, *18*(5), 571–588.

Aman, R. R. (2009). *Improving student satisfaction and retention with online instruction through systematic faculty peer review of courses* (Doctoral dissertation). Oregon: Oregon State University. Retrieved from ⟨http://hdl.handle.net/1957/11945⟩.

Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, *58*(3), 53–66.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411.

Asaduzzaman, Hossain, M., & Rahman, M. (2013). Service quality and student satisfaction: A case study on private universities in Bangladesh. *International Journal of Economics, Finance and Management Sciences*, *1*(3), 128–135.

Berthon, P., Ewing, M. T., & Napoli, J. (2008). Brand management in small to medium-sized enterprises. *Journal of Small Business Management*, *46*(1), 27–45, http://dx.doi.org/10.1111/j.1540–627X.2007.00229.x.

Billups, F. D. (2008). Measuring college student satisfaction: a multi-year study of the factors leading to persistence. Paper presented at the the *39th annual meeting of the Northeastern Educational Research Association*, Rocky Hill, CT.

Bitner, M. J., & Hubbert, A. R. (1994). *Encounter satisfaction versus overall satisfaction versus quality: the customer's voice. service quality: new directions in theory and practice*. Thousand Oaks, CA: Sage.

Blogger (2009). ACSI (American Customer Satisfaction Index) model: Strengths and weaknesses.

British Columbia College and Institute Student Outcomes Survey (2003). Understanding Student Satisfaction (Vol. 3). Canada: The BC Outcomes Working Group.

Brown, & Mazzarol, T. (2006). Factors driving student satisfaction and loyalty in Australian universities the importance of institutional image. Paper presented at the *20th Annual Australia & New Zealand Academy of Management (ANZAM) Conference Paper*, Yeppoon, Australia.

Brown, & Mazzarol, T. W. (2009). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, *58*(1), 81–95.

Cardoso, S., Carvalho, T., & Santiago, R. (2011). From Students to Consumers: reflections on the marketisation of Portuguese higher education. *European Journal of Education*, *46*(2), 271–284.

Caruana, A., Money, A. H., & Berthon, P. R. (2000). Service quality and satisfaction–the moderating role of value. *European Journal of Marketing*, *34*(11/12), 1338–1353.

Chalip, L. (2006). Toward a distinctive sport management discipline. *Journal of Sport Management*, *20*(1), 1–21.

Chitty, B. & Soutar, G. (2004). Is the European customer satisfaction index model applicable to tertiary education. Paper presented at the *Marketing Accountabilities and Responsibilities, Australian and New Zealand Marketing Academy Conference*, Wellington.

Chrysler, E., & Auken, S. V. (2006). Using indices of student satisfaction to assess an MIS program. *International Journal of Information and Communication Technology Education*, *2*(2), 38–52.

Costa, C. A. (2005). The status and future of sport management: A Delphi study. *Journal of Sport Management*, *19*(2), 117–142.

Cronin, J. J., Jr, Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, *76*(2), 193–218.

Cuneen, J., & Parks, J. B. (1997). Should we serve sport management practice or sport management education? A response to Weese's perspective. *Journal of Sport Management*, *11*, 125–132.

Dennis, K. (2002). Quality education through a post-modern curriculum. *Hong Kong Teacher's Centre Journal*, *1* 1–1.5.

Dlačić, J., Arslanagić, M., Kadić-Maglajlić, S., Marković, S., & Raspor, S. (2014). Exploring perceived service quality, perceived value, and repurchase intention in higher education using structural equation modelling. *Total Quality Management Business Excellence*, *25*(1–2), 141–157.

Elliott, K. M., & Healy, M. A. (2001). Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education*, *10*(4), 1–11.

Elliott, K. M., & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, *24*(2), 197–209.

Farahmandian, S., Minavand, H., & Afshardost, M. (2013). Perceived service quality and student satisfaction in higher education. *Journal of Business and Management*, *12*(4), 65–74.

Fontaine, M. (2014). Student relationship management (SRM) in higher education: Addressing the expectations of an ever evolving demographic and its impact on retention. *Journal of Education and Human Development*, *3*(2), 105–119.

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose, and findings. *The Journal of Marketing*, *60*(4), 7–18.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 39–50.

Grace, D., Weaven, S., Bodey, K., Ross, M., & Weaven, K. (2012). Putting student evaluations into perspective: The course experience quality and satisfaction model (CEQS). *Studies in Educational Evaluation*, *38*(2), 35–43.

Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (2006). *Multivariate data analysis*. Vol. 6. Upper Saddle River, NJ: Pearson Prentice Hall.

Ham, L., & Hayduk, S. (2003). Gaining competitive advantages in higher education: analyzing the gap between expectations and perceptions of service quality. *International Journal of Value-Based Management*, *16*(3), 223–242.

Hanaysha, J., Abdullah, H. H., & Warokka, A. (2011). Service quality and students' satisfaction at higher learning institutions: The competing dimensions of Malaysian Universities' competitiveness. *Journal of Southeast Asian Research*, *1*(3), 163–175, http://dx.doi.org/10.5539/ibr.v1n3p163.

Harris, M. M., & Schaubroeck, J. (1990). Confirmatory modeling in organizational behavior/human resource management: Issues and applications. *Journal of Management*, *16*(2), 337–360.

Hasan, H. F. A., Ilias, A., Rahman, R. A., & Razak, M. Z. A. (2009). Service quality and student satisfaction: A case study at private higher education institutions. *International Business Research*, *1*(3), 163–175, http://dx.doi.org/10.5539/ibr.v1n3p163.

Helgesen, Ø., & Nesset, E. (2007). Images, satisfaction and antecedents: Drivers of student loyalty? A case study of a Norwegian university college. *Corporate Reputation Review*, *10*(1), 38–59.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.

Ivy, J. (2001). Higher education institution image: A correspondence analysis approach. *International Journal of Educational Management*, *15*(6), 276–282.

Jones, D. F., Brooks, D. D., & Mak, J. Y. (2008). Examining sport management programs in the United States. *Sport Management Review*, *11*(1), 77–91.

Jones, G. A., Thornton, C. A., Langrall, C. W., Mooney, E. S., Perry, B., & Putt, I. J. (2000). A framework for characterizing children's statistical thinking. *Mathematical Thinking and Learning*, *2*(4), 269–307.

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York City: Guilford Press.

Komarraju, M., & Karau, S. J. (2008). Relationships between the perceived value of instructional techniques and academic motivation. *Journal of Instructional Psychology*, *35*(1), 70–82.
Lawrenz, F., Appleton, J., & Keiser, J. (2004). Evaluation of materials produced by the ATE program. *ATE Research & Evaluation*.
Lee, E. J., Uniremidy, C. A., & Overby, J. W. (2004). Creating value for online shoppers: Implications for satisfactions and loyalty. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, *17*, 54–67.
LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, *48*(5), 764–775.
Lewis, R. C., & Booms, B. H. (1983). The marketing aspects of service quality. *Emerging Perspectives on Services Marketing*, *65*(4), 99–107.
Light, R., & Dixon, M. A. (2007). Contemporary developments in sport pedagogy and their implications for sport management education. *Sport Management Review*, *10*(2), 159–175.
Mansori, S., Vaz, A., & Ismail, Z. M. M. (2014). Service quality, satisfaction and student loyalty in Malaysian private education. *Asian Social Science*, *10*(7), 57–66.
May Jr., D. S. (2010). *Curriculum control and teachers' perceptions of professional discretion and satisfaction.* (Doctoral thesis). Florida: University of Central Florida. Retrieved from ⟨http://etd.fcla.edu/CF/CFE0003210/May_Donald_S_EdD.pdf⟩.
Moore, A. (2006). *Schooling, society and curriculum*. New York: Routledge.
Muthén, L., Muthén, B. (2012). *Mplus user's guide*. Los Angeles, CA: Muthen and Muthen.
NASPE-NASSM. (1993). Standards for curriculum and voluntary accreditation of Sport Management education programs. *Journal of Sport Management*, *7*, 159–170.
NASSM (2015). *Academic programs*. From ⟨http://www.nassm.org/Programs/AcademicPrograms⟩.
Netemeyer, R. G., Krishnan, B., Pullig, C., Wang, G., Yagci, M., Dean, D., & Wirth, F. (2004). Developing and validating measures of facets of customer-based brand equity. *Journal of Business Research*, *57*(2), 209–224.
O'Neill, M. A., & Palmer, A. (2004). Importance-performance analysis: a useful tool for directing continuous quality improvement in higher education. *Quality Assurance in Education*, *12*(1), 39–52.
Özgüngör, S. (2010). Identifying Dimensions of students' ratings that best predict students' self efficacy, course value and satisfaction. *Eurasian Journal of Educational Research*, *38*, 146–161.
Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, *49*(4), 41–50.
Parkhouse, B. L., & Pitts, B. G. (2004). History of sport management. In B. L. Parkhouse (Ed.), *The management of sport: Its foundation and application* (4th ed.). New York: McGraw-Hill.
Parks, J. B., Quarterman, J., & Thibault, L. (2011). Managing sport in the 21st century. In P. M. Pedersen, J. B. Parks, J. Quarterman, & L. Thibault (Eds.), *Contemporary sport management*. Champaign, IL: Human Kinetics.
Peters, T. (1988). Individual attention: The key to keeping students in school. *ACU-1 Bulletin*, 4–8.
Pretti-Frontczak, K., Robbins, S. H., Jackson, S., Korey-Hirko, S., & Harjusola-Webb, S. (2008). *Curriculum rating rubric*. Ohio: Kent State University.
Ratcliff, J. L. (1992). *Assessment and curriculum reform: new directions for higher education*. San Francisco, California: Jossey-Bass Inc.
Sánchez-Fernández, R., Iniesta-Bonillo, M. Á., & Holbrook, M. B. (2008). The conceptualisation and measurement of consumer value in services. *International Journal of Market Research*, *51*(1), 93–113.
Serenko, A. (2011). Student satisfaction with Canadian music programmes: the application of the American customer satisfaction model in higher education. *Assessment Evaluation in Higher Education*, *36*(3), 281–299.
Shaver, B. J. (2012). Meeting undergraduate students' expectations of the University experience: how enrollment managers can secure students' loyalties. *UC San Diego Electronic Theses and Dissertations*. Retrieved from: ⟨http://escholarship.org/uc/item/5980f3vc⟩.
Shrestha, B. K. (2013). Public perception of the quality of academic education program. *Journal of Education and Research*, *3*, 52–64.
Singleton-Jackson, J. A., Jackson, D. L., & Reinhardt, J. (2010). Students as consumers of knowledge: Are they buying what we're selling? *Innovative Higher Education*, *35*(5), 343–358.
Skinner, J., & Gilbert, K. (2007). Sport management education: Teaching and learning for the future. *Sport Management Review*, *10*(2), 125–131.
Temizer, L., & Turkyilmaz, A. (2012). Implementation of student satisfaction index model in higher education institutions. *Procedia-Social and Behavioral Sciences*, *46*, 3802–3806.
U.S. Department of the Treasury, & U.S. Department of Education (2012). *The economics of higher education*.
Ulaga, W., & Eggert, A. (2006). Value-based differentiation in business relationships: gaining and sustaining key supplier status. *Journal of Marketing*, *70*(1), 119–136.
Universities UK. (2012). *Patterns and trends in UK higher education*. UK: Higer Education Statistics Agency.
Vaira, M. (2004). Globalization and higher education organizational change: A framework for analysis. *Higher Education*, *48*(4), 483–510.
Wang, Y., Lo, H. P., Chi, R., & Yang, Y. (2004). An integrated framework for customer value and customer-relationship-management performance: a customer-based perspective from China. *Managing Service Quality*, *14*(2/3), 169–182.
Webb, D., & Jagun, A. (1997). Customer care, customer satisfaction, value, loyalty and complaining behavior: validation in a UK university setting. *Journal of Consumer Satisfaction Dissatisfaction and Complaining Behavior*, *10*, 139–151.
Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, *34*(5), 719–751.
Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 31–46.
Zhang, L., Han, Z., & Gao, Q. (2009). Empirical study on the student satisfaction index in higher education. *International Journal of Business and Management*, *3*(9), 46.