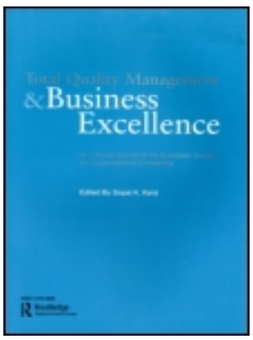

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Exploring perceived service quality, perceived value, and repurchase intention in higher education using structural equation modelling

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The present study proposed and tested a conceptual model incorporating perceived service quality, customer-perceived value, and repurchase intention in a higher-education context. The main purpose was to empirically investigate the relationships between these concepts; thus, three hypotheses were postulated. Empirical data were collected among undergraduate students in Bosnia and Herzegovina and Croatia. A total of 735 cases were used to assess the overall fit of the proposed model and to test hypotheses using covariance-based structural equation modelling. The results support the proposed conceptual model, showing that perceived service quality and customer-perceived value have a positive and significant influence on repurchase intention, as well as that perceived service quality has a positive and significant impact on customer-perceived value. Therefore, the study contributes to the existing literature reporting the findings on quality and value in an educational context, with evidence from South Eastern Europe. Implications of the results are discussed, and recommendations for future research are made.

Keywords: perceived service quality; customer-perceived value; repurchase intention; higher education

Introduction

One of the most important factors in human capital development is the system of higher education (HE). Hence, HE institutions (HEIs) are involved in much more than delivering course materials to students, especially now, when the Bologna system in Europe (and comparable systems in other continents) has introduced the lifelong learning concept. At the same time, the decision regarding what and where to study is one of the first major decisions in the life of young adults. However, a recent World Bank publication revealed that companies in the South Eastern European region (SEE region) increasingly complain that they cannot find graduates with the right skills (World Bank, 2011).

It is obvious that global HEI competition is increasing without consideration of the knowledge gap identified by the World Bank. It is also stressed that in HEI, emphasis is not on acknowledging quality from the holistic perspective, as the total quality management (TQM) perspective sees it. Furthermore, TQM considers a process as a connection that unifies all aspects of quality, as well as a driving force for its continuous improvement (Chen, Chen, & Chen, 2012). HE suffers from overpopulation, insufficient financial input,

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and inefficient structures (Euromonitor International, 2009). In order to close the gap, a key challenge for universities is to determine how to attract and retain students by identifying and satisfying students' expectations (Coccari & Javalgi, 1995).

The student has to be appreciated as a consumer of HEI, and that is how the student is integrated into the TQM framework. Several scholars link student satisfaction with service quality at universities and schools (Gapp & Fisher, 2006; Koslowski, 2006; Mizikaci, 2006). Even though the term *quality* has broad and subjective meanings, with concepts of standards, excellence, and 'fitness for its purpose', there has always been a great relevance and concern for quality in HE (Ali, Mahat, & Zairi, 2010). Satisfied students are less prone to move to other universities, thereby increasing the retention rate. Satisfied students also provide positive referrals to future students, and this keeps the targeted students load in schools (Elliott & Shin, 2002; Temtime & Mmereki, 2011). As international competition for students intensifies, differentiating the service offerings through quality management and building strong relationships with students have become imperative for providers of HE service (Durvasula, Lysonski, & Madhavi, 2011). Incorporating a TQM perspective in the quality offer is evident through the involvement of the entire workforce. That is not just about providing students with valuable lectures and modern teaching process but also about including the administrative staff in this quality provision. Hence, constant striving towards quality among faculty members, as well as among administrative staff, is needed.

One of the biggest challenges faced by service providers is providing good-quality service, because their success and competitive advantage depend on the quality of service (Srivastava, Sharfuddin, & Datta, 2012; Yeo & Li, 2012). Therefore, the question 'What does HEI service quality mean to students?' has emerged as a key consideration in the development of universities' offerings (Durvasula et al., 2011). Knowledge on this issue is not only demanded by policy-makers, firms, and students, but also by the broader community. Improvements to HE will help develop human capital and contribute to higher overall productivity and housing incomes. Applying a broader perspective, the user of the HEI product that is education is the whole economy, not just a single person (Grbac & Meler, 2009). Education will not just have an effect on an individual student, it will also have an effect on the overall society, meaning that improving the quality of HEI has twofold benefits. But the starting point in this process should be the individual. Therefore, the aim of this paper is to empirically investigate relationships between perceived service quality, customer-perceived value, and repurchase intention in an HE context from the undergraduate students' perspective. The main purpose of this study is to offer new insights on how to improve the quality of HE in order to retain students and influence their repurchase intention.

Trends in HE service quality

One of the most important trends in HE is internationalisation (Altbach & Knight, 2007; de Rijke & Plucker, 2011). As a part of the internationalisation process, international accreditations serve as a substitute for a guarantee of quality. This means living up to a different set of standards that assure quality of content and learning outcomes. There are contrasting views on the influence of accepting accreditation standards on a school's strategy. On the one hand, these processes influence faculty shortage, increased competition, reductions in funding and, moreover, reduction in the flexibility of HEIs (Lightbody, 2010). On the other hand, some authors claim the exact opposite – that accreditation standards increase flexibility and that they have a positive impact on the strategic performance of schools

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(Hedrick, Henson, Krieg, & Wassell, 2010; Romero, 2008; Trapnell, 2007). In both cases, in terms of achieving quality and internationalisation, major challenges for HEIs are described through: programme design, continuous improvement, delivery, and partnership with the business community. Therefore, accreditation standards serve as a framework under which a constant level of quality is guaranteed for HEI students. The quality level is constantly under supervision and also constantly upgraded. Hence, quality is approached as a process that is implemented into HEIs.

An additional question that preoccupies practical and research agendas is the reliability and validity of students' quality assessments (Chatterjee, Ghosh, & Bandyopadhayay, 2009) and their usefulness in improving the effectiveness of teaching. However, Durvasula et al. (2011) stress the importance of students' expectations when it comes to service quality in HE.

In the context of HE, TQM practices have been analysed over the years (Ali et al., 2010; Cheng & Tam, 1997; Coate, 1990; Mergen, Grant, & Widrick, 2000; Owlia, 1996; Quinn, Lemay, Larsen, & Johnson, 2009; Sahney, Banwet, & Karunes, 2006; Sallis, 1993; Saunders & Walker, 1991; Srivastava et al., 2012). Industrial theories and methods of TQM were introduced a long time ago in HE (Owlia, 1996), adding dilemmas about the appropriateness and suitability of TQM in a higher-educational environment. Through TQM, managing quality in education, as in any other sector, should be focused on managing inputs, processes, and outputs (Li & Kaye, 1998), while developing consistent measures to establish organisation and control (Mergen et al., 2000).

Sohail and Shaikh (2004) acknowledge that, due to the increased competition between universities, higher quality in HE services has become one of the rare possessions for differentiation and for gaining competitive advantage. HE is a typical high-contact service that, as such, is characterised by intangibility, perishability, heterogeneity, inseparability of service delivery and service consumption process, customer presence during service delivery, and lack of ownership (Irons, 1997). These characteristics underline the importance of people (faculty members and administrative staff at HEIs), processes (whose development and strengthening influence the standardisation and flexibility of the institution) and physical evidence, as three additional elements of the marketing mix in services (Babić-Hodović, 2010).

Service characteristics served as a basis for a large number of studies that explored the different aspects of HE and its quality assurance. The focus has been on service quality in terms of learning and teaching, and other attributes that influence HE processes (Barnes, 2007; Harrop & Douglas, 1996; Narasimhan, 1997; Shank, Walker, & Hayes, 1995), where most of the studies analyse students' quality evaluations (Barnes, 2007). This is also a consequence of the service characteristic that quality is assessed by service consumers and, in the case of HEIs, by students. In the research conducted by Barnes (2007), focus was put on international students and their expectations within business universities, with the implementation of SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988). This research underlines the coherence and stability of five original dimensions of SERVQUAL measure in the HEI context, which will be analysed in more detail further on.

Conceptual model and hypotheses development

The main concepts underlying this study are drawn from extensive literature review. In this section, the definitions of the main concepts of interest are discussed first, and subsequently the relationships between them are hypothesised.

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Perceived service quality

One of the most-cited definitions of service quality is the one relating to the comparison that customers make between their expectations and perceptions of service experience (Grönroos, 1982; Parasuraman et al., 1988). There are several different ways to assess quality of HE services, such as: product-driven TQM, quality function deployment, six sigma, and ISO 9001 (Quinn et al., 2009). All these different approaches emphasise constant quality provision and improvement. According to Parasuraman et al. (1988), service quality is conceptualised as a five-dimensional concept (SERVQUAL) and includes the following dimensions: tangibles, reliability, responsiveness, assurance, and empathy. As an instrument, SERVQUAL (Parasuraman, Berry, & Zeithaml, 1985, Parasuraman et al., 1988) consists of two sections (expectations of excellent service and actual performance of provided service), each containing 22 items. The level of service quality is represented by the gap between expected and perceived service.

SERVQUAL 'survived' many modifications and extensions – as each service branch has its particular context and characteristics. For example, Yeo and Li (2012) extend SERVQUAL in HE and include customer orientation, course design and delivery, and support services. They outline the importance of both academic and non-academic personnel in providing services, a perspective that is used in this paper. However, they position the analysis from the perspective of the institution, not its customers. A problematic issue in services is that customers have the final word about quality. Customers evaluate an institution's quality, not the providers.

Service quality in HE can be evaluated from the perspectives of different stakeholders (e.g. students, faculty staff members, and governments). However, authors such as Hill (1995) and Sander, Stevenson, King, and Coates (2000) regard students as primary customers of HE services; thus, assessing service quality from their perspective is important. In accordance with the general definition of service quality, O'Neill and Palmer (2004) define service quality in HE as the difference between what a student expects to receive and his/her perceptions of actual delivery.

The authors acknowledge the perspective that students' knowledge can be regarded as an output of the HE service quality and, accordingly, the industry (i.e. employers) should also be involved in assessing education service quality. However, due to the scope of the paper, the present research focuses only on students, as primary customers of HE services. Thus, for the purpose of this study, perceived service quality of HEIs is defined as an attitude resulting from student perceptions of school performance, regarding the main SERVQUAL dimensions.

Customer-perceived value

Customer-perceived value is usually defined as the customer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given (Zeithaml, 1988). More specifically, the concept represents the difference between received benefits and given costs (e.g. financial and psychological). Customer-perceived value can be measured as a uni-dimensional concept, using just one statement (e.g. value for money) for evaluating overall value (Sweeney, Soutar, & Johnson, 1996), or as a multi-dimensional concept (Sweeney & Soutar, 2001). As the foundations for the latter approach, the literature usually considers the dimensions suggested by Sheth, Newman, and Gross (1991), namely functional value, emotional value, social value, conditional value, and epistemic value. When defining the concept of perceived value in an HE context, the trade-off approach is emphasised. The existing practices for teaching

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assessment, such as student feedback questionnaires and on site peer evaluation, are mostly limited to in-class teaching performances (Chen et al., 2012). For instance, Ledden, Kalafatis, and Samouel (2007) suggest that the value perceived by a student is the overall evaluation made of the utility of the service based upon the perception of that which is received and that, given which could be achieved through all previously mentioned tools. The concept of customer-perceived value in this study is multifaceted, and it considers the functional aspects of HE experience, student emotions, and comparison with alternatives. Hence, a holistic approach to quality in a certain HEI is used.

Repurchase intention

According to Oliver (1997), loyalty is a deeply held commitment to re-buy or re-patronise a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behaviour. Furthermore, Bloemer and de Ruyter (1998) suggest that commitment is a necessary condition for repurchase to occur.

The conceptualisation of repurchase intention has evolved over the years, and it is regarded as one of the consumer behaviour outcome variables resulting from high value and satisfaction and resulting in loyalty. The literature review indicates that initial research emphasised only the behavioural dimension loyalty – the repurchase dimension (Caruana, 2002). Over the years, attitudinal and cognitive dimensions were incorporated as well (Bowen & Chen, 2001; Caruana, 2002). Behavioural loyalty is considered as being consistent, repetitious purchase behaviour, while attitudinal loyalty reflects an emotional and psychological attachment (Bowen & Chen, 2001). Cognitive loyalty is a higher-order dimension and involves the customer's conscious decision-making process in the evaluation of alternative brands before a purchase is effected (Caruana, 2002).

In an HE context, student repurchase intention also contains an attitudinal and behavioural dimension and refers to the time both during and after the student's period of study (Henning-Thurau, Lager, & Hansen, 2001). Rojas-Mendez, Vasquez-Parraga, Kara, and Cerda-Urrutia (2009) indicate that student repurchase intention can be viewed as a competitive advantage, because keeping the existing students is more cost effective than attracting new ones. What is more, it is assumed that loyal students continue to support the institution after they have completed their formal education by positive word of mouth (recommendations), by offering jobs to new graduates, and by returning to the institution to update their knowledge. Therefore, focusing on customers as sources of value for an HEI is needed.

In this study, the concept of customer loyalty is operationalised through repurchase intention. However, it encompasses both the behavioural and attitudinal dimension. Thus, it is defined as students' favourable attitude and behaviour towards the faculty, implying that they will recommend the faculty to others and that they intend to continue their education at the same faculty in the future.

Hypotheses development

Past studies have suggested that perceived service quality directly and significantly influences customer-perceived value (Petrick & Bachman, 2002; Zeithaml, 1988). In addition, authors such as Andreassen and Lindestad (1998) and Sweeney and Soutar (2001) report that this relationship is positive. Similar conclusions were pointed out in different service contexts. Hsu, Chen, and Hsueh (2006) (banking services in Taiwan), Turel and Serenko (2006) (mobile services in Canada), Wang, Zhang, Gu, and Zhen (2009) (tourist

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destination in China) confirm that perceived service quality is positively and significantly related to customer-perceived value. What is more, Cronin, Brady, and Hult (2000) state that perceived service quality is, generally, the best predictor of customer-perceived value. Therefore, the following hypothesis is proposed:

H1: Perceived HE service quality has a direct, positive, and significant effect on student-perceived value.

In the literature, perceived service quality has been recognised as the antecedent of repurchase intention. Thus, high service quality can lead to more positive customer behavioural intentions. Cronin et al. (2000) argue that service quality has a direct effect on customer loyalty. Kuo (2003) points out that the service quality of the online community is positively related to continuous use, referral, and repurchase. A similar conclusion was made by Lee, Lee, and Lee (2005) in the tourism context, airline services in Taiwan (Chen, 2008), telecommunication services in China (Lai, Griffin, & Babin, 2009), and heritage tourism services in Taiwan (Chen & Chen, 2010).

Considering the lack of studies regarding the relationship between perceived service quality and repurchase intention in the HE aspect, the following hypothesis is proposed:

H2: Perceived HE service quality has a direct, positive, and significant effect on student repurchase intention.

Among the studies in the HE sector, Roostika and Muthaly (2008) and Sanchez-Fernandez, Iniesta-Bonillo, Schlesinger-Diaz, and Rivera-Torrez (2010) reveal that customer-perceived value influences repurchase intention. The studies were conducted at universities in Yogyakarta (Indonesia) and Spain. Therefore, the hypothesis is proposed as follows:

H3: Student-perceived value has a direct, positive, and significant effect on student repurchase intention.

Based on the literature review, the authors present the proposed conceptual model, linking quality, value, and behavioural intentions in HE as seen from Figure 1. The model simultaneously examines relationships between three latent concepts, namely perceived service quality, customer-perceived value, and repurchase intention.

Thus, the study objectives are defined as follows: (a) to empirically assess students' perceptions and identify the main dimensions of perceived service quality in HE, (b) to explore relationships of perceived HE service quality with student-perceived value and student repurchase intentions, (c) to examine the relationship between student-perceived value and student repurchase intentions, and (d) to validate the proposed conceptual model.

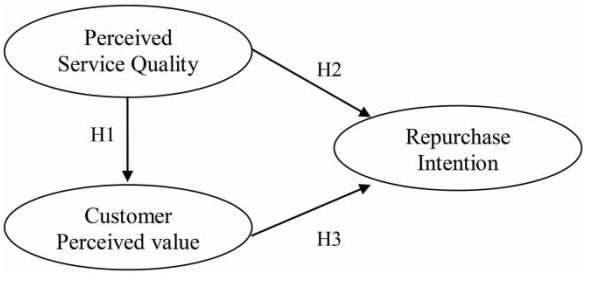

Figure 1. Proposed conceptual model.
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Research methodology

Sample and sampling procedure

To test the proposed hypotheses, as well as to fulfil the research objectives, a field research was conducted in Bosnia and Herzegovina (University of Sarajevo, School of Economics and Business), and Croatia (University of Rijeka, Faculty of Economics and Faculty of Tourism and Hospitality Management). Research was conducted on undergraduate students in the period between October and December 2011, using a questionnaire designed specifically for the purpose of this study. Undergraduate students were asked for their e-mail addresses in order to conduct the survey. In order to avoid response bias, printed questionnaires were distributed to respondents who did not provide their e-mail addresses. In total, 735 questionnaires were collected. Because the *t*-test did not show a significant difference between respondents coming from different countries, they will be treated as one sample from now. The research sample consists of mostly full-time students (96.7%) who are attending the first year (22.2%), second year (28%), third year (33.1%), and fourth year of undergraduate study (16.7%). Respondents are mostly females (71.3%), 21 years old (27.9%) who have mostly finished professional high schools (59.5%) and are living in families that have an average household income of EUR 800–1300 (41.8%).

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Measures

The questionnaire was designed to gather empirical data from undergraduate students. It included all concepts of the proposed conceptual model and was based on an extensive literature review. In order to ensure content validity, measures that had been used in previous studies were adopted (Hansen, Samuelsen, & Silseth, 2008; Jones, Mothersbaugh, & Beatty, 2000; Jones & Taylor, 2007; Parasuraman et al., 1985, 1988). Perceived service quality was measured with a modified SERVQUAL scale (Parasuraman et al., 1985, 1988), using 30 items. Modifications were applied to the items that concerned HEI staff. As differences between first-line personnel (contact personnel) types in HEIs exist, items referring to staff quality were doubled, in order to separately evaluate the quality of teaching and non-teaching staff. Therefore, students were asked to separately evaluate academic staff (professors and teaching assistants) and administrative staff (non-teaching staff). This principle was applied each time when there was an item related to staff evaluation in the SERVQUAL scale.

The second part included seven items for measuring customer-perceived value, adapted from Hansen et al. (2008). The third part measured customers' repurchase intentions. These items were adapted from Jones et al. (2000), and Jones and Taylor (2007). All the aforementioned measures used a 7-point Likert-type scale, anchored with 'strongly disagree' (1) and 'strongly agree' (7). The fourth part of the questionnaire presented respondents' demographic information.

Findings and discussion

The data analysis was conducted in two stages. First, exploratory factor analysis (EFA) was performed on perceived service quality items to justify the main dimensions of the SERVQUAL construct since the structure of the original SERVQUAL scale was slightly modified in this study by distinguishing between academic and administrative staff. The second stage included structural equation modelling (SEM). SEM analysis was conducted

by developing a measurement and structural model. The data were analysed using the statistical software SPSS 20.0 and LISREL 8.80.

The first step of analysis focused on perceived service-quality construct and an examination of its dimensions through EFA with oblique rotations. Field (2009) suggests the usage of oblique rotations (e.g. Direct Oblimin) in situations in which theory suggests that factors might correlate. Given that our literature review offered theoretical insights into the correlation of latent variables, Direct Oblimin rotation is used. Results are presented in Table 1. EFA using Oblimin rotation with Kaiser Normalisation was conducted, and a five-dimensional structure is noted. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of sphericity are above the accepted level of 0.7 and significant, respectively, as Hair, Black, Babin, and Anderson (2009) suggest. In the analysis, all item loadings with values less than 0.40 are suppressed. Some items from the original scale were excluded due to high cross-loadings and low communalities. Five factors account for 69.74% of total variance in the results. Also, Cronbach's alphas for all dimensions have acceptable values, in accordance with Nunnally (1967) who initially provided a rule of thumb as to the acceptable levels of alpha. According to this, a value of 0.7 is usually sufficient as a 'good indicator' of internal consistency reliability.

Results obtained for perceived service quality indicate similarity with the proposed SERVQUAL scale dimensions. However, specificities in item loadings are observed: what is regarded as two factors in the original scale (responsiveness and reliability) is one factor according to our results, and what is regarded as one factor in the original scale (tangibles) is now split into two factors. The factors obtained are labelled as follows: assurance, empathy, responsiveness and reliability, tangibles-hardware, and tangibles-contact personnel. Sohail and Shaikh (2004) show that 'contact personnel' (interpreted as faculty and staff at HEIs) represents the factor of highest influence in students' evaluation of service quality, hence its distinction is expected in this high-contact service type.

After EFA, a confirmatory factor analysis (CFA) was conducted to test how well the measured variables represent a latent construct that was not measured directly (Hair et al., 2009). Specifically, the purpose was to provide evidence on the validity of individual measures (factors extracted in EFA) in the perceived service-quality construct. Also, CFA was used to identify how well the measurement (theoretical) model represents actual data, and to set the basis for testing the structural model.

Therefore, CFA was performed with conceptualisation of the SERVQUAL scale as a reflective–reflective second-order model (Parasuraman, Zeithaml, & Malhotra, 2005). Goodness-of-fit statistics indicate mediocre fit of the model according to Diamantopoulos and Siguaw's (2000) suggestions of acceptable fit. The reliability and validity of items were also analysed. Composite reliability (CR), as well as average variance extracted (AVE), for each dimension of service quality were calculated (Table 1). Results indicate that values are above the acceptable level of 0.6 for CR (Bagozzi & Yi, 1988 in Diamantopoulos & Siguaw, 2000), and above 0.5 for AVE (Fornell & Larcker, 1981). Convergent validity is also assessed. According to Anderson and Gerbing's (1988) criterion, all *t*-values are statistically significant, indicating that convergent validity for individual indicators exists (Table 1). Also, all AVE's for latent constructs are over the 0.5 criterion (MacKenzie, Podsakoff, & Podsakoff, 2011), once again indicating convergent validity.

Customer-perceived value, as well as customers' repurchase intention, was tested. Hence, EFA and CFA using principal components analysis with Oblimin rotation on these two constructs were applied (Table 2). The KMO measure and the Bartlett test

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Table 1. EFA and CFA for perceived service quality.

		CFA		EFA – factors				
Codes	Items	Loadings	*t*-Value	Assurance	Empathy	Responsiveness and reliability	Tangibles-hardware	Tangibles-contact personnel
V21	Polite non-teaching staff	0.678	18.227	0.813				
V18	Trustful non-teaching staff	0.783	21.274	0.796				
V23	Adequate job support for non-teaching staff	0.753	20.391	0.643				
V19	Feeling safe with transactions with staff	0.734	19.834	0.592				
V22	Adequate job support for teaching staff	0.757	20.523	0.568				
V7	Sympathetic and reassuring faculty management	0.736	Fixed	0.529				
V20	Polite teaching staff	0.794	21.608	0.528				
V17	Trustful teaching staff	0.782	17.237	0.508				
V8	Dependable faculty	0.749	20.269	0.478				
V25	Teaching staff provides personal attention	0.827	27.339		−0.929			
V24	Faculty provides personal attention	0.847	Fixed		−0.894			
V26	Non-teaching staff provides personal attention	0.820	26.650		−0.763			
V27	Teaching staff knows students' needs	0.785	25.217		−0.638			
V28	Non-teaching staff knows students' needs	0.769	24.410		−0.535			
V29	Best interest at heart	0.712	21.878		−0.431			
V13	Receiving prompt service from non-teaching staff	0.851	24.452			0.832		
V12	Receiving prompt service from teaching staff	0.820	Fixed			0.786		

(*Continued*)

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Table 1. Continued.

Codes	Items	CFA		EFA – factors				
		Loadings	*t*-Value	Assurance	Empathy	Responsiveness and reliability	Tangibles-hardware	Tangibles-contact personnel
V15	Willingness to help students (non-teaching staff)	0.686	19.230			0.588		
V14	Willingness to help students (teaching staff)	0.713	20.134			0.545		
V2	Visually appealing physical facilities	0.856	19.194				0.944	
V1	Up-to-date equipment	0.749	Fixed				0.661	
V5	Appearance of physical facilities	0.654	16.315				0.561	
V3	Well dressed and neat teaching staff	0.912	Fixed					−0.843
V4	Well dressed and neat non-teaching staff	0.881	22.186					−0.709
	Cronbach's alpha			0.920	0.910	0.891	0.852	0.777
	CR (ρ_c)	–		0.921	0.911	0.854	0.805	0.892
	AVE (ρ_v)			0.505	0.631	0.595	0.583	0.805
	Goodness-of-fit statistics: $\chi^2 = 2798$, df = 247, CFI = 0.928, NNFI = 0.919							

Source: Authors.

Table 2. EFA and CFA for customer-perceived value and repurchase intention.

Code	Items	CFA		EFA	
		Loadings	*t*-Value	Customer-perceived value	Repurchase intention
CPV1	My relationship to *school* is very beneficial to me	0.780	Fixed	0.780	
CPV3	It is more valuable to me to study at *school* than with other schools	0.758	22.047	0.858	
CPV4	I consider it very advantageous to be a student of *school*	0.943	28.496	0.951	
CPV6	As a student of *school* I get more value for money	0.851	25.505	0.911	
RI1	I will probably use services of the school again	0.510	8.688		0.946
RI2	I intend to repurchase services from school again in the future	0.891	fixed		0.762
	% of variance explained			59.099	17.235
	Cronbach's alpha			0.898	0.614
	CR (ρ_c)			0.902	0.675
	AVE (ρ_v)			0.699	0.527
	Goodness-of-fit statistics indicates mediocre fit as indices are following: $\chi^2 = 2973$, df = 384, CFI = 0.942, NNFI = 0.934				

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exhibit adequate values. In the analysis, all item loadings with values less than 0.30 are suppressed. Some of the factors from the original scale were dropped due to high cross-loadings. These two factors account for 76.33% of total variance in the results. Furthermore, Cronbach's alpha reliability of the factors is at an acceptable level following the suggestion of Kline (2000), who claimed that values below 0.7 are acceptable due to the diversity of measured constructs. Convergent validity is present as *t*-values are all above the 8.668 value, and all AVE are above the 0.5 threshold.

Discriminant validity is assessed with latent constructs intercorrelations (MacKenzie et al., 2011). According to this criterion, a low to moderate correlation is considered as evidence of discriminant validity. It is evident from Table 3 that, for all constructs that are used, low-to-moderate intercorrelation is present and that all correlations are below 0.71, indicating that discriminant validity is present. Discriminant validity was also tested with χ^2 difference tests between pairs of latent constructs (MacKenzie et al., 2011, p. 324), where a significant increase in the χ^2 statistic in every instance (χ^2 values with 1 df were all significant at $p < 0.01$) demonstrated high discriminant validity across the five-tested dimensions.

The next stage of analysis was the assessment of paths and relationships between proposed constructs validated through an analysis of the structural model. Table 4 shows standardised coefficients and *t*-values for the proposed conceptual model.

The results (Table 4) confirm positive relationships between variables in the conceptual model. The relationship between perceived service quality and customer-perceived value is significant ($\gamma_{11} = 0.535$; $p < 0.001$), thus supporting *H1*.

Moreover, perceived service quality significantly influences repurchase intentions ($\gamma_{21} = 0.162$; $p < 0.001$). This result supports *H2*. The results also show that customer-

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Table 3. Correlations among analysed constructs.

	Perceived service quality						
Latent constructs	Assurance	Empathy	Responsiveness and reliability	Tangibles-hardware	Tangibles-contact personnel	Customer-perceived value	Repurchase Intention
Perceived service quality							
Assurance	1.000						
Empathy	0.632	1.000					
Responsiveness and reliability	0.552	0.694	1.000				
Tangibles-hardware	0.636	0.352	0.322	1.000			
Tangibles-contact personnel	0.589	0.300	0.380	0.553	1.000		
Customer-perceived value	0.469	0.338	0.244	0.529	0.364	1.000	
Repurchase intention	0.378	0.230	0.246	0.290	0.322	0.553	1.000

Source: Authors.

Table 4. Tested relationships.

Relationship	Hypothesis	Std. parameter	*t*-Value
Perceived service quality → customer-perceived value	*H1* (+)	0.535	12.854***
Perceived service quality → repurchase Intention	*H2* (+)	0.162	3.488***
Customer-perceived value → repurchase intention	*H3* (+)	0.447	9.642***

Source: Authors.
Note: Goodness-of-fit statistics indicates mediocre model fit: $\chi^2 = 3211$, df = 397, CFI = 0.937, NNFI = 0.931, RMSEA = 0.1, SRMR = 0.0786.
***$p < 0.001$.

perceived value has a significant effect on repurchase intentions ($\beta_{21} = 0.447$; $p < 0.001$), supporting *H3*.

The validity of the set of sub-dimensions can be assessed with the adequacy coefficient (R_a^2) (Edwards, 2001; MacKenzie et al., 2011, p. 313), which is 0.51 for perceived service-quality dimensions, that is, 51% of the variance in service quality is explained. Additionally, the nomological network is used in assessing nomological validity (MacKenzie et al., 2011, p. 322). Nomological validity is used to evaluate whether the indicators of the focal construct are related to the measures of other constructs specified in the construct's theoretical network. This construct validation criterion is the most complex and difficult to satisfy (Steenkamp & van Trijp, 1991). Relationships between perceived service quality and perceived value, as well as with repurchase intentions, are explored separately due to possible under-identification. In two χ^2 difference tests that were conducted, a significant deterioration in model fit is noticed. Hence, adding direct relationships does not explain the additional significant percentage of variance in the consequence construct. This supports the nomological validity of perceived service quality. Therefore, perceived service-quality dimensions are not significantly related to other constructs in nomological network, ensuring that the construct was adequately operationalised.

Conclusion, limitations, and further research

The proposed conceptual model was proven. The results indicate that perceived service quality is a significant predictor of both perceived value (*H1*) and repurchase intention (*H2*), while customer-perceived value significantly influences repurchase intention (*H3*). The present study has significant academic and practical implications. The results may broaden the knowledge on the relationship between perceived service quality, customer-perceived value, and repurchase intention in an HE context, and are suitable for broader international comparisons. This research is the first of its kind conducted in HE in SEE.

Moreover, the proposed model offers reliable and useful information that HE institutions can apply in their strategic policies. The findings confirm the importance of perceived HE service quality and students' perceived value for students' repurchase intention. Thus, HE institutions need to seek ways of increasing students' perceptions of quality and the value of the educational experience in order to increase students' propensity to recommend the faculty to others and to continue their education at the same faculty in the future. It is obvious that, in order to enhance the perceived value of educational experience, HE institutions should emphasise excellence in providing reliable service that is delivered by empathetic and competent academic and administrative staff in visually appealing and appropriately equipped facilities. However, this should be undertaken in accordance with the TQM framework that emphasises constant quality provision

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and quality improvement. Hence, HEI management should be quality-oriented, because with emphasis on quality, students express loyalty to the same HE. Approaching students as the customers of an HEI is also important. Further on, quality standardisation that is present through accreditation standards is needed as the HEI assures students that they will receive a certain level of quality service.

Quality is perceived both through faculty members as well as through administrative staff. Teamwork and leadership spirit should be present among them. Assuring this will enhance the quality level that is provided to students. This is possible through training and additional education with an aim of enhancing the organisation's quality level. Therefore, quality provision is present through several different aspects in one HEI. Using all these aspects contributes to TQM practice.

Having in mind the broader perspective of HEI which assumes that the user of the HEI is the whole economy, not just a single person (Grbac & Meler, 2009), the limitation of this study could be seen in the fact that this research has treated perceived service quality only from the students' perspective. Further research could be directed towards quality evaluation by other users of the education process output (i.e. by the employing organisations), not just by the students. Therefore, the authors believe that besides the students' perspective, it is highly important to understand the standpoint of the business environment, as well as the perspective of HE service providers (HEI). This would allow a comparison of the expectations coming from different stakeholder groups. The findings of this type of research could help to fill the identified gap between the perceptions of different stakeholders. For improving the quality of teaching in HE, as Chen et al. (2012) suggest, attention could be paid to teachers and their 'teaching processes'. Present research could be improved using the recently developed teaching capability maturity model (Chen et al., 2012).

The limitation of the study is in the fact that generalisation of the results is uncertain, especially because it is context limited to the countries where research has been conducted. In addition, the respondents in the present research were local students. In order to enhance generalisability, it would be advisable to expand the present study to include international students, as well as to expand research to other countries and study destinations in order to validate the results. In addition, the sample consists of only undergraduate, mostly full-time students. Having in mind that full-time and distance learning students in the observed universities follow considerably different programmes, the authors believe that our results could not be generalisable to distance learning students. The fact that only students from undergraduate studies were included in the sample limits the reported results to only this group of students.

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