

IDENTIFICATION OF EDUCATION SERVICE QUALITY-RELATED FACTORS THAT INFLUENCE RETENTION AND EXPANSION OF STUDENT CUSTOMER BASE

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Abstract

In order to evaluate the education service provided by a private university in Ireland, this investigation utilized an extension of Cronin, Brady & Hult's (2000) explanatory model. The overall prediction of this model is that positive perceptions of quality, value and satisfaction in relation to the education service encounter will lead to positive word of mouth, and future intention to use the service again. The Arts undergraduate student sample size was 260. The research was conducted using a cross-sectional (Student survey) design. Despite a slight majority stating that the service quality was above average, and the majority stating they were satisfied overall, only a minority indicated that they would use the service again. In addition, on average, the undergraduate students only recommended the private university to one other person.

Introduction

A possible scenario could be that the company is not providing an education service that matches the student customers' expectations (Zeithaml, Bitner and Gremler, 2006). That is, a gap between the student customers' expectations/ perceptions and the service delivered/ promised by the university may have developed, leading to dissatisfaction in relation to service quality levels. As a result the university could miss out on repeat customers, and the benefits of positive word of mouth, as student customers' expectations are not being met. Thus universities should assess quality, not only through the traditional avenues of accreditation and module review but also by evaluating what students feel are important aspects in service quality provision (Oldfield & Baron, 2000).

This research examines the effects of student customer perceptions of service quality, student customer satisfaction levels and student customer estimation of the value of the service on customer's behavioral intentions. These behavioral intentions are in relation to

repeat service usage and spreading positive evaluations of the education service to other future customers. This approach also takes into consideration the sacrifices (effort, price and time) made by the student customer into account. The extension of the Cronin, Brady & Hult (2000) model entails examination of whether or not students have been recommending the service to others. The overall model to be tested is indicated in Figure 1.

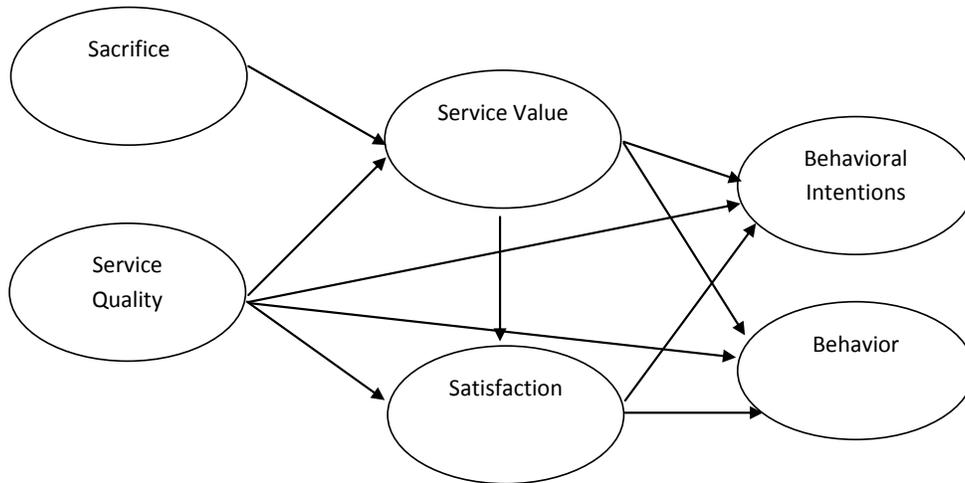


Figure 1. Student intentions and behavior model to be tested

Consistent with previous research, sacrifice is conceptualized as what the customer sacrifices in order to receive a service (Cronin et al, 2000). Rudd & Mills (2008) identified that high prices set by universities limit the number of potential possible students who could afford these courses. Not limited to money, other sacrifices such as time and effort are components of sacrifice (Cronin, Brady, Brand, Hightower & Shemwell, 1997). Therefore, one hypothesis regarding sacrifice is proposed:

H1: There will be a significant relationship between sacrifice and service value.

Service Quality has been measured using the SERVQUAL scale using the gap model as its foundation (Parasuraman, Zeithaml & Berry, 1985; Parasuraman, Zeithaml & Berry, 1988). However, Cronin & Taylor (1992, 1994) went as far as to argue for the discarding of the expectancy component of the SERVQUAL scale, which then led to the construction of the

SERVPERF scale, which had the advantage of being half the length of the SERVQUAL scale. The validity of using SERVPERF was supported by existing marketing literature thinking that the sole use of performance perceptions can reflect service quality (Parasurama, Zeithaml & Berry, 1994; Zeithaml, Berry & Parasuraman, 1996). The SERVPERF scale was used to measure *service quality* in this research. Each of the ten dimensions of service quality proposed by Parasuraman et al (1985) are included in the measure used in this research investigation (i.e. 1. Reliability, 2. Responsiveness, 3. Competence, 4. Access, 5. Courtesy, 6. Communication, 7. Credibility, 8. Security, 9. Understanding the customer, 10. Tangibles). In addition, three overall direct measures of service quality are also included in this survey of student customers, consist with the research conducted by Cronin et al (2000).

Service quality has a critical impact on competitiveness (Lewis, 1989), as poor service quality can adversely affect the re-purchase intentions of consumers if customer expectations are not meet by the adequate delivery or standards of the service (Ghobadian, Speller & Jones (1994), in a higher education sense, return to the university to undertake other courses (Marzo-Navorro, Pedraja-Iglesias & Rivera-Torres, 2005; Mavondo, Tsarenko & Gabbott, 2004; Schertzer & Schertzer, 2004). Quality shortfalls can lead to possible loss-of-reputation costs, including negative word of mouth reports about the university (Eagle and Brennan, 2007). In contrast, service quality positive perceptions can also attract new students through the spread of positive word of mouth (Voss, Gruber & Szmigin, 2007). Additionally, Guolla (1999) identified that perceived good service quality is a positive precursor to student satisfaction. Of course, it can be argued that if a service is seen as having a high level of quality it will be also be valued (Athanassopoulos, 2000; Chenet, Tynan, & Money, 1999; Clow & Breisel, 1995; Fornell, Johnston, Anderson, Cha & Bryant, 1996; Garbarino & Johnston, 1999; Roest & Pieters, 1997; Spreng, Mackenzie & Olshavsky, 1996; Zeithaml et al, 1996). Therefore, four hypotheses regarding service quality are proposed:

H2: Perceptions of good service quality will have a significant positive impact on behavioural intentions towards the university.

H3: Perceptions of good service quality will have a significant positive impact on number of word-of-mouth recommendations.

H4: Perceptions of good service quality will have a significant positive impact on satisfaction.

H5: Perceptions of good service quality will have a significant positive impact on service value.

Value reflects the utility of the service by the customer; previously Cronin et al (2000) found that a perception of good service value had a positive impact on behavioral intentions towards the university and satisfaction. Suggesting, that students who perceived more value with the educational service they received were more likely to hold more satisfaction towards the college but also more likely to engage with their university program, leading possibly to more positive recommendations to others. In the current investigation the impact of service value will be expanded to looking at its impact on number of word-of-mouth recommendations. Therefore, three hypotheses regarding service value are proposed:

H6: Perceptions of good service value will have a significant positive impact on behavioral intentions towards the university.

H7: Perceptions of good service value will have a significant positive impact on number of word-of-mouth recommendations.

H8: Perceptions of good service value will have a significant positive impact on satisfaction.

One aspect of *satisfaction* is evaluation (Oliver, 1980), which is the emphasis of this research investigation. The evaluative *satisfaction* questions used in this research investigation are those used by Cronin et al (2000), which were originally developed from questions used by Oliver (1980). The scenario tested in this investigation is that satisfied students will have favorable future intentions in relation to the higher education service, as argued by Cronin & Taylor (1992). Therefore, two hypotheses regarding student satisfaction are proposed:

H9: High levels of student satisfaction will have a significant positive impact on behavioural intentions towards the university.

H10: High levels of student satisfaction will have a significant positive impact on number of word-of-mouth recommendations.

Behavioral intentions are one of the final outcome variables in this model. Of course, increasing customer retention is a major component in relation to the power of a service provider to be profitable (Zeithaml et al, 1996). Specifically, favorable behavioral intentions are correlated with a service provider's power to persuade customers to "1) say positive things about them, 2) recommend them to other consumers, 3) remain loyal to them (i.e., repurchase from them), 4) spend more with the company, and 5) pay price premiums" (Cronin et al, 2000,

p. 204-205). Thus behavioral intentions are included as an indicator of customer retention, and the probability of gaining positive word of mouth.

The extension of this model (Cronin et al, 2000) entails the inclusion of actual behavior in relation to repeat custom and actual recommendations of the service to others. As per Cronin et al's (2000) study, the overall prediction of this investigation is that positive perceptions of quality, value and satisfaction in relation to the service encounter will lead to favorable outcomes. The outcomes in this investigation are positive word of mouth, and future intention to use the service again.

It has been found that part-time students had lower satisfaction levels than full-time students, as they cannot fully appreciate all the facilities that full-time students had more time to access (Moro-Egido & Panades, 2009). In addition, Soutar and Turner (2002) argued that these types of student had different motivations when choosing higher education courses and different expectations of education service provision. The amount of time spent within the university may also affect satisfaction (Oldfield & Baron, 2000). Thus, this investigation will compare mode of study (full or part-time) and course year groups on all the constructs within the model. The validity of the model in relation to the whole sample will also be examined. Therefore, one hypothesis regarding demographic factor effects is proposed:

H11: The research model and its components will yield significantly different results for the mode of study and year groupings.

Method

Research Design and Procedure

A cross-sectional descriptive survey study design was used. Structural Equation Modeling (SEM) allows the researcher to test complex hypotheses within one pre-specified theoretical model (Hoyle, 1995). The SEM analysis was conducted using the LISREL 8.7 program (Jöreskog & Sörbom, 2004).

Materials

A 7-point Likert style self-report questionnaire survey strategy was used to examine sacrifices made by the student customer in order to receive the service (for example, fees), service quality, overall service quality (including service provision from teaching, administration, IT and facilities staff), service value, satisfaction, behavioral intentions is included as an indicator of

customer retention, and the probability of gaining positive word of mouth. The extension of this model (Cronin et al, 2000) entails the inclusion of actual *Behavior* in relation to repeat custom and actual recommendations of the service to others.

Sample

The overall population, Arts undergraduate students attending the private university in Ireland, was 1376. In order to facilitate the use of SEM statistical analyses stratified random sampling was used. That is, students were randomly chosen from Arts classes to control for stratified variations in length of time studying at the private university, gender and mode of study. The final Arts student total sample size was 260 with 43.8% of the sample being full-time students, 56.2% part-time, and the majority of the sample was female (70.4%). The amount of time the students had been studying at the private university was also taken into account with students included from year 1 (22.4%), year 2 (42.3%), year 3 (29.6%) and year 4 (5.7%) of their respective courses. The sample size met Barrett's (2007) minimum criteria, more than 200 participants, for facilitation of an in-depth examination of the model and its features.

Results

Before examination of the descriptive statistics for the total construct scores, reliability checks were made to ensure that the items chosen to measure each construct were answered in a consistent manner demonstrating that they could then be summed up to represent the overall construct. The Cronbach's Alpha estimates for the items associated with service quality performance (Alpha=0.88), overall service quality (Alpha=0.85), service value (Alpha=0.83), satisfaction (Alpha=0.85) and intentions (Alpha=0.87) were adequate enabling the summing up of these items. However, the sacrifice items did not reach an acceptable level, as argued by Miles & Banyard (2007), of internal consistency reliability (Alpha=0.64), so only the item relating to fees is included in Tables 1 and 2, and the subsequent model.

Table 1. Descriptive statistics and t-test mode of study grouping comparisons for model constructs

	Mean		SD		Minimum		Maximum		Possible range
	F	P	F	P	F	P	F	P	
Sacrifice: Fees	5.79	5.71	1.17	1.03	1	2	7	7	1 to 7
Service quality perform**	55.75	52.50	7.96	8.78	34	20	70	70	10 to 70
Overall service quality*	24.64	23.10	5.17	6.04	11	8	35	35	5 to 35
Service value	9.16	8.94	2.70	2.53	2	3	14	14	2 to 14
Satisfaction	9.65	9.88	2.88	2.71	4	3	14	14	2 to 14
Intentions	12.43	13.48	4.77	4.24	3	3	21	21	3 to 21
Recommendations*	1.18	2.07	2.59	3.61	0	0	20	20	N/A

Note: F=Full-time, P=Part-time. A higher score indicates that participants feel there is a high level in relation to the particular construct. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, 2 tailed

In terms of the effects of demographic factors (H11), to some extent the hypothesis stating that the research model components will yield significantly different results for mode of study groupings is supported as there are significant differences between full-time and part-time students in relation to feelings about service quality performance, overall service quality and number of recommendations made (See Table 1). In the cases of feelings about overall service quality and service quality performance full-time students rated these areas significantly more highly, while the part-time students made significantly more recommendations of the service to others.

Across all the groupings, mode of study and year groupings, fees were seen as slightly high. Taking into account the possible ranges, the total ratings in relation to quality, service

value, satisfaction and intentions were over half the way, on average, towards the highest possible ratings. Thus students could be said to be moderately satisfied, on average, with the areas examined but there is definite room for improvements. The SD (Standard Deviation) indicates that some students were very dissatisfied with the higher education services provided.

Continuing in terms of the effects of demographic factors (H11), to some extent the hypothesis stating that the research model components will yield significantly different results for year groupings was also supported as there are significant differences across the years in relation to feelings about service quality performance and overall service quality (See Table 2). There was a definite trend for feelings towards service quality performance and overall service quality to become more negative the longer the student attended. There are also declines in relation to service value, satisfaction, intentions and recommendations the longer the students attended the university, although these are not significant. A relatively large SD in relation to year 4 groupings' service quality performance ratings suggests that there is some variation in ratings in relation to this construct but this is not the case in relation to overall service quality.

Table 2. Descriptive statistics and t-test year grouping comparisons for model constructs

	Mean				SD			
	Year		Year		Year		Year	
	1	2	3	4	1	2	3	4
Sac:	5.78	5.77	5.73	5.86	1.2	0.9	1.2	0.86
Fees					2	2	6	
S q pf***	58.4	54.5	51.1	47.5	7.6	6.6	8.8	12.8
	3	2	3	7	2	3	8	1
O s q***	26.5	24.6	21.8	19.4	5.3	5.0	5.7	5.84
	8	6	1	3	3	5	1	
Serv val	9.77	8.97	8.82	8.07	2.7	2.4	2.6	2.50
					5	8	1	

Satisfact	10.3	9.92	9.31	9.29	2.4	2.6	3.0	2.67
	9				5	7	1	
Intentions	13.6	13.3	12.4	12.0	4.8	4.2	4.4	4.38
	8	7	0	7	4	1	6	
Recommendation	1.25	1.75	1.87	0.93	3.1	3.0	3.8	1.49
					6	7	0	

*Note: A higher score indicates that participants feel there is a high level in relation to the particular construct. *p<0.05, **p<0.01, ***p<0.001, 2 tailed. See Table 7 for the possible ranges. Sac: Fees= Sacrifice: Fees; S q pf= Service Quality Performance; O s q= Overall service quality; Serv val= Service value; Satisfact= Satisfaction*

The observed variables indicated that item level indicators were acceptable representations of their respective latent variables and the fit indices (Hu & Bentler, 1999) indicate that support was found for the acceptability of the model (see Figure 2) as a good description of the relationships between the selected variables ($\chi^2(27) = 42.01, p < 0.05$; RMSEA = 0.05; SRMR = 0.02; CFI = 0.99; IFI = 0.99). The model does yield a valid description of the relationships found between the constructs for the study sample.

The amount of variance explained in the endogenous variables varied from 84% (Behavioral Intentions $R^2 = 0.84$) to the lowest variance explained in relation to Word of Mouth (WOM) behavior (17%: $R^2 = 0.17$). In relation to satisfaction, 70% ($R^2 = 0.70$) of variation in responses to this concept was explained by the exogenous predictor variables associated with it, and 48% ($R^2 = 0.48$) of variation in Service Value responses. The significant levels of variation explained in satisfaction, service value and behavioral intentions, further support the validity of the model.

As for the direct effects in the model (See Figure 2) there was support for a number of model-related hypotheses. There were significant positive and strong effects between service quality and service value (H5), service value and satisfaction (H8), satisfaction and WOM behavior (H10), and between satisfaction and behavioral intentions (H9). This means that perceptions of good service leads to students valuing the service more (H5), valuing the service more relates to high satisfaction levels (H8), high satisfaction leads to more WOM recommendations (H10) and greater likelihood of the student intending to return to the university (H9). In addition, sacrifices had a significant weak negative effect on service value (H1). That

is, the higher the students' felt the fees were the more likely they did not value the service as much, but this relationship was weak. However, a number of model-related hypotheses were not supported. There were no significant effects between service quality and behavioral intentions (H2), service quality and WOM behavior (H3), service quality and satisfaction (H4), service value and behavioral intentions (H6), and between service value and WOM behavior (H7).

In order to test the equivalence of the model for the full-time and part-time student groupings within the overall sample (H11), a multi-group analysis was conducted. A comparison between the *no restrictions* model (Model tested simultaneously on both groupings with latent means and regression paths varying freely) and the *fully restricted* model (latent means and regression paths restricted to be equal across mode of study groupings) indicated no significant difference, S-B χ^2 (19) = 19.48, $p > 0.05$. This indicated that there was no significant difference between full-time and part-time student samples in relation to latent means and regression paths within the model tested. This does not support the eleventh hypothesis that the model will yield significantly different results for the mode of study groupings.

Conclusions

In the current investigation student customers' higher education quality expectations of teaching, administration, facilities and IT were examined using Cronin et al's (2000) model. The overall model tested was a good description of the relationships between the variables and also explained a significant amount of variation in satisfaction and future intentions responses but not word of mouth customer recommendations, which supports the validity of Cronin et al's (2000) model but calls into question the usefulness of the extended model.

More specifically, consistent with Cronin et al's (2000) study, this investigation tested the prediction that sacrifice, including fees paid by students, would have a significant impact on service value perceptions (H1). This hypothesis (H1) was supported though weakly. Nonetheless this result showed that in some cases the higher the students felt the fees were, the less they valued the service. Indeed, the majority of the student sample felt the fees were too high. This calls into question the accuracy of the pricing system for the target market. Overpricing can have dire consequences; where over charging too high a price can drain the pool of too many prospective students (Rudd & Mills, 2008).

Service quality has previously been reported to impact on competitiveness (Lewis, 1989) and directly on users satisfaction, re-purchase intention and the spread of positive word of mouth (Cronin et al, 2000; Ghobadian et al, 1994; Marzo-Navorro et al, 2005; Mavondo et al, 2004; Schertzer & Schertzer, 2004). However, the current investigation contradicts these studies, as service quality had no direct impacts on intentions, word of mouth behavior and satisfaction, which also contradicted the predictions made prior to testing the model (H2, H3 and H4). Its significant impact on value (H5) did confirm that perceptions of good service quality will have a significant positive impact on service value. This suggests that if a service is seen as having a high level of quality it will also be valued (Athanasopoulos, 2000; Chenet et al, 1999; Clow & Breisel, 1995; Fornell et al, 1996; Garbarino & Johnston, 1999; Roest & Pieters, 1997; Spreng et al, 1996; Zeithaml et al, 1996). The current study then also found that high levels of student satisfaction had a significant positive impact on behavioral intentions and word of mouth recommendations, confirming predictions made (H9 and H10) based on Cronin et al's (2000) model.

Previously Cronin et al (2000) found that a perception of good service value had a positive impact on behavioral intentions towards the university (H6) and satisfaction (H8). In the current investigation the impact of service value was expanded to looking at its impact on the number of word of mouth recommendations (H7). However, service value was only found to directly impact satisfaction, supporting only one of these hypotheses (H8) and consequently only partially supporting Cronin et al's (2000) findings.

In terms of the effects of demographic factors (H11), there were significant differences between full-time and part-time students in relation to feelings about service quality performance, overall service quality and number of recommendations made. In the cases of feelings about overall service quality and service quality performance full-time students rated these areas significantly more highly. This supports research (e.g. Soutar & Turner, 2002) that suggested differences in expectations of education provision according to school leaver and mature student groups; which could be due to the fact that part-time student cannot fully appreciate all the facilities that the full-time students have more time to access (Moro-Egido & Panades, 2009). In addition, the part-time students made significantly more recommendations of the service to others. However, there were no reported differences reported in relation to perceptions relating to fees, service value, satisfaction and behavioral intentions, plus the overall model did not yield significantly different results for the mode of study groupings.

There was a definite trend for feelings towards service quality performance and overall service quality, to become more negative the longer the students attended the private university (H11). There were also declines in relation to service value, satisfaction, intentions and recommendations the longer the students attended the university, although these were not significant. This supports (H11) previous research by Oldfield & Baron (2000) which reported that first and final year students saw key elements of education service provision differently. In the current investigation, the weaknesses of various services may have become clearer the longer the student attended.

Despite a slight majority in current sample stating that the service quality was above average, and the majority of the sample stating they were satisfied overall, only a minority indicated that they would use the service again. However, participants only recommended the private university to one other person. Thus improvements in the service could be made to ensure that it matches the customers' expectations (Zeithaml, et al, 2006) and the service delivered/ promised. This means that the private university may well be missing out on repeat student customers, and the benefits of positive word of mouth, as customers' expectations are not being met. There is no doubt that there are aspects of the service provided that students were satisfied with, including the quality of teaching and administration. Based on the findings of the study there are a number of recommendations that can be made to further increase the chances of fully meeting student service expectations.

This investigation highlights a number of areas where further actions could close the gap between the promised service and actual service delivered. These areas are (1) fees, (2) new courses and (3) influence of student demographic factors. Some monetary costs would occur in freezing or reduction of fees, generation of new postgraduate courses, and further research investigations into reasons for differences according to mode of study and length of time attending the university, but this could be minimal in comparison to the gains in relation to service provision these recommendations could bestow.