

## **Student satisfaction with Canadian music programmes: the application of the American Customer Satisfaction Model in higher education**

Alexander Serenko\*

*Faculty of Business Administration, Lakehead University, 955 Oliver Road, Thunder Bay,  
Ontario P7B 5E1, Canada*

The purpose of this project is to empirically investigate several antecedents and consequences of student satisfaction (SS) with Canadian university music programmes as well as to measure students' level of programme satisfaction. For this, the American Customer Satisfaction Model was tested through a survey of 276 current Canadian music students. The results indicate that customer satisfaction is strongly affected by programme quality, is slightly impacted by its perceived value but is not influenced by prior student expectations. Satisfaction strongly increases programme loyalty and positive word-of-mouth, marginally raises tuition change loyalty, and slightly decreases complaining behaviour. Contrary to expectations, tuition-related constructs play only a minor role in the model. Therefore, money is a marginal factor in the educational environment; this empirically demonstrates the flaws underlying the premises of the students-as-customers metaphor. The resulting satisfaction index may facilitate the comparison among institutions. It was also found that the level of SS with Canadian music programmes was somewhat lower than those with services in other industries.

**Keywords:** student satisfaction; music programmes; American Customer Satisfaction Model; causal model; partial least squares

### **Introduction**

The purpose of this study is two-fold. The first is to empirically explore antecedents and consequences of student satisfaction (SS) with Canadian music programmes. The second objective is to measure the actual level of SS with their current programmes. For this, the American Customer Satisfaction Model (ACSM) was adapted and served as a lens of analysis. The model was tested through a survey that was administered to 276 students from two Canadian universities. The results offer insights for those involved in the development and delivery of higher education in the field of music.

The contemporary literature offers various metaphors on the roles of students in higher education. Students may be viewed as customers, products, clients, citizens, subjects or co-workers, and no agreement among academics has been reached (Franz 1998; Bailey 2000; Sharrock 2000; Halbesleben, Becker, and Buckley 2003). At the same time, most scholars conclude that SS with their educational experience is an important factor worth exploring (Aldridge and Rowley 1998; DeBourgh 2003; Bryant 2006). The rationale is that SS may lead to a variety of important outcomes

---

\*Email: [aserenko@lakeheadu.ca](mailto:aserenko@lakeheadu.ca)

that are of interest to college and university administrators, policymakers and instructors. In Canada, SS is an important issue that the general public should be concerned about since a major part of educational expenses for Canadian residents is subsidised by the government. It is often suggested that institutions with higher SS rates produce better graduates, enjoy higher enrolment and graduation rates, have fewer dropouts, reduce probability of loan defaults and raise ample alumni donations. It is, therefore, vital to know both antecedents and consequences of SS with their education experience as well as to reliably measure SS levels.

This project concentrates on the Canadian music programmes. On the one hand, it is always desirable to document SS with the comprehensive university offerings. On the other hand, it is likely that student perceptions depend on the actual programme in which they are enrolled. For example, a university may have strength delivering specific degrees resulting in higher satisfaction levels of students from these faculties compared with other ones. In addition, to the best knowledge of the author, there is no documented attempt to establish antecedents and consequences as well as to measure SS with music programmes. For instance, a keyword search on 'satisfaction' and 'music' in the Education Resources Information Center (ERIC) database produced no results. At the same time, music programmes are important components of the contemporary education system that require attention.

In this study, the ACSM (Fornell et al. 1996) is adapted for the education environment. The model views SS with their programme as a central variable that has a number of antecedents and consequences. This model is robust; it has been applied in a variety of projects on customer satisfaction with products and services. The employment of the ACSM facilitates the calculation of the American Customer Satisfaction Index (ACSI) that reflects an overall level of people's satisfaction with a specific product or a service. This index may be compared across different industries as well as across different organisations within an industry. It is believed that the application of the ACSM in the new settings may shed some light on factors leading to SS with music programmes and to help scholars comprehend major outcomes of SS. The ACSI may also be compared across different Canadian music programmes.

The rest of this paper is structured as follows. The second section outlines theoretical background. It emphasises the importance of SS, presents the ACSM and ACSI and proposes a set of hypotheses. The third section presents methodology and results. The concluding part elaborates on the findings, outlines several research limitations and offers avenues for future research.

## **Theoretical background**

### ***Student satisfaction***

There are various metaphors that may be used to describe the role of students in colleges and universities. According to the students-as-customers approach, students and their educators are engaged in a value exchange relationship. Students exercise educational choices by selecting institutions and enrolling in classes that best meet their personal needs. Students also pay for their education, expect their schools to offer a certain level of instructional quality and view faculty members and staff as primary service providers (Halbesleben, Becker, and Buckley 2003). The advocates of this metaphor tend to use catchphrases such as 'the customer is always right', 'the customer is king', 'customer-focused service', etc. (Driscoll and Wicks 1998; Albanese 1999; Bailey and Dangerfield 2000; Baldwin and James 2000). Based on the

students-as-products approach, students are considered raw material that needs to be processed (i.e. educated) and delivered to a job market (Franz 1998). Students may also be viewed as customers waiting routine information, citizens with certain rights, clients in need of expert guidance, subjects with some obligations, co-workers in the educational enterprise, labour contributors and clients in a professional/client relationship (Franz 1998; Bailey 2000; Sharrock 2000; Halbesleben, Becker, and Buckley 2003). Even though a variety of conceptualisations on the role of students in academia exists, most scholars agree that, regardless of a metaphor, SS with their educational experience is a key factor (Smart 1987; Allen 1996; Athiyaman 1997; Umbach and Porter 2002; Suhre, Jansen, and Harskamp 2007).

Academics have explored the phenomenon of SS for decades. This line of research is based on the seminal publications of Feldman and Newcomb (1969) and Pascarella and Terenzini (1978, 1991) who introduced the satisfaction concept in the context of education. At the beginning of the 1980s, Ramsden and Entwistle (1981) explored a relationship between SS with their learning environment and learning outcomes. Alumni surveys have quickly gained a momentum as a powerful tool for measuring the impact of post-secondary education on graduates, especially, their workplace experience (Pace 1979). For example, it was found that alumni who are satisfied with their college or university education are also more satisfied with their current jobs (Pike 1994). Currently, all educational institutions periodically conduct alumni surveys. A major advantage of alumni surveys is that they allow the participants to assess the overall quality of their education and acquired skills in terms of their actual relevance on the job. A key limitation is that there are many factors beyond the school's control that affect the alumni satisfaction ratings. For instance, economic downturns or industry displacement may make the graduates' skills obsolete and may potentially affect their programme satisfaction ratings.

A major line of research on SS focuses on establishing its antecedents and consequences. With respect to antecedents, a number of individual and environmental factors that affect SS and development have been proposed. Individual characteristics may include grades (Centra and Rock 1971), gender (Drew and Work 1998) and ethnicity (Helm, Sedlacek, and Prieto 1998). For example, many instructors believe that there is, to some extent, a positive relationship between the final course grade and the level of overall satisfaction with this course. Female students tend to report lower satisfaction levels than male students. Environmental factors include student-faculty informal contact (Pascarella 1980), actual classroom experience (Hearn 1985), campus diversity, overall culture and departmental environment (Hurtado et al. 2003). For instance, Ewell (1989) argues that the existence of several cultural and institution functioning factors, including mission differentiation, are strongly related to overall student experience. A more recent line of inquiry on environmental factors is devoted to novel education delivery modes, particularly, online learning (Smart and Cappel 2006; Palmer and Holt 2009). Student satisfaction with online courses is a complex construct that is predicted by the degree of interaction with the instructor, timely feedback, course management approaches, relevance of assignments, clarity of communication, access to resources, technical support, opportunity for peer-to-peer interaction, lack of technical problems and quality of equipment (Johnston, Killion, and Oomen 2005). Overall, all antecedents discussed above are related to a general construct of perceived quality (PQ) of education. Whereas each of these antecedents may only partially affect satisfaction, it is believed that PQ of a course or programme may relatively accurately explain the degree of SS.

With regard to consequences of SS, several factors have been identified. These include institution loyalty, student retention, positive word-of-mouth (WOM), the probability of making donations after graduation, intellectual development and overall programme reputation. For instance, overall dissatisfaction with the programme quality, manifested through poor academic guidance, limited school-related information, inadequate instruction and institutional alienation, dramatically increases the probability of disenrolment even close to graduation (Mohr, Eiche, and Sedlacek 1998). In contrast, successful formal and informal interaction with faculty contributes to students' satisfaction that, in turn, increases their institutional and personal commitment and, therefore, reduces voluntary attrition (Lampton 1993). Positive student experience also leads to higher satisfaction and boosts personal intellectual development (Ewell 1989). Satisfied alumni are more likely to make financial donations, participate in various fund-raising activities and encourage prospective students.

As such, hundreds of researchers have explored the concept of SS in order to fully understand its nature and impact. For example, in June 2009, the ERIC database identified 1117 publications that included 'student satisfaction' as a keyword. The extant literature presents many empirical attempts to measure the degree of SS. These works are too numerous to list them all. For example, Emanuel and Adams (2006) developed and administered the instrument to measure student perceptions of instructor service. Arambewela and Hall (2006) adapted SERVQUAL to study international education satisfaction, and Nauta (2007) presented and validated an Academic Major Satisfaction Scale to measure global satisfaction with one's major. In fact, most North American universities conduct SS surveys at the end of each academic course. Student or graduate satisfaction scores are often employed in national university rankings. Despite a variety of approaches and instruments, more research is needed to understand the antecedents and consequences of SS with their educational experience. To the best knowledge of the author, no documented attempt to apply the ACSM exists in scholarly literature. The advantage of using the ACSM is two-fold. The first is that it is a causal model; it may be employed to identify the impact of SS antecedents, such as perceived programme quality and value, and its consequences, for example, student loyalty, tolerance to tuition changes, the ability to recommend the programme and complaining behaviour. The second benefit of using the ACSM is that it allows measurement of the extent of satisfaction and comparison with those of other institutions and even other (i.e. non-education) service domains. The following sub-section describes the model in detail.

### ***The American Customer Satisfaction Model***

The ACSM is a general model explicating several antecedents and consequences of people's satisfaction with products and services. It was initially introduced by Fornell et al. (1996) in order to investigate and measure customer satisfaction. The model is very robust; it applies across various manufacturing and service sectors. Overall, it employs a number of constructs that capture various aspects of customer experience. In the present project, this model was adapted in the educational settings and augmented by several important consequences that may be influenced by SS (see Figure 1).

According to the proposed model, prior expectations (PE) of the degree to which the programme is supposed to meet personal student requirements and to consistently offer high-quality education have a positive direct effect on the programme's PQ. Prior expectation is a forward-looking belief reflecting a student pre-enrolment assessment of the programme's ability to deliver required services in future. Perceived

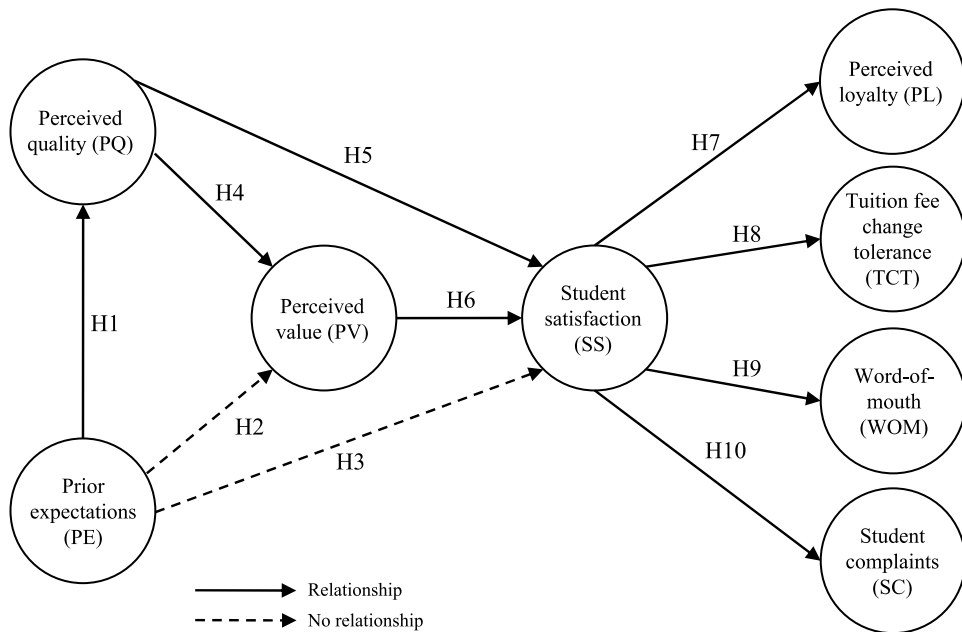


Figure 1. The research model.

quality is the actual students' evaluation of programme services based on their school experience (Athiyaman 1997). Its conceptualisation and operationalisation are similar to those of PE with only a time difference; whereas PE is formed by the programme's expected ability to meet student requirements, PQ captures an actual programme performance. The following hypothesis is suggested:

- H1: There is a positive association between prior expectations and perceived quality of a university music programme.

Perceived value (PV) brings a price dimension to student perceptions of the programme because it reflects programme quality given the tuition paid. This construct is based on the concept of PV that originated in the marketing discipline where it is defined as overall product or service quality perceptions given its price (Zeithaml 1988; Dodds, Monroe, and Grewal 1991; Slater 1997; Woodruff 1997). This construct plays two major roles. First, it controls for budget limitations and income differences. Second, it facilitates cross-sector comparisons, for example, it allows comparison of construct scores of subjects from different universities who have different income levels. Perceived value is influenced by PQ, it is expected that those who more favourably perceive the quality of a university programme also find it of higher value. Both PQ and PV have a positive effect on SS. Student satisfaction reflects the extent to which the programme has met student expectations. It is formed based on overall student experience with the programme and is determined by the difference between what students initially expected from the programme and what they actually experienced after being enrolled. It is noted that PE should have no effect on both PV and SS. In fact, it is argued that the impact of PE on PV and SS is fully mediated by PQ. This proposition is consistent with prior empirical evidence in other domains (Gorst, Wallace, and Kanji 1999; Turel et al. 2006). The following hypotheses are proposed:

- H2: There is no association between prior expectations and perceived value of a university music programme.
- H3: There is no association between prior expectations and student satisfaction with a university music programme.
- H4: There is a positive association between perceived quality and perceived value of a university music programme.
- H5: There is a positive association between perceived quality and student satisfaction with a university music programme.
- H6: There is a positive association between perceived value and student satisfaction with a university music programme.

Student satisfaction is a central construct of the model, and it leads to four important outcomes. It captures an overall perception of the state of service fulfilment (Oliver 1997) and positively affects perceived loyalty (PL). Perceived loyalty is the student positive predisposition towards the programme. It is defined as the extent to which students would enrol in the same programme again when they think about the past given what they already actually experienced. In other words, PL reflects student perceptions whether they made a right choice selecting a specific education service provider. Loyalty has become one of the leading management topics (Reichheld 2003) since it is directly related to financial outcomes such as profitability and overall business performance. Consistent with prior research in the educational domain (Lamport 1993; Mohr, Eiche, and Sedlacek 1998), it is hypothesised that:

- H7: There is a positive association between student satisfaction and perceived loyalty towards a university music programme.

Tuition change tolerance (TCT) refers to the extent to which students are likely to stay in their current programme if it increases tuition, or if a similar-quality competing programme decreases tuition. It is noted that even though it is highly unlikely that a higher education institution reduces its current tuition, this possibility must be considered based on the ACSM methodology. Tuition change tolerance is related to two types of switching costs: transactional and learning (Willis, Serenko, and Turel 2007). When a student decides to transfer to another institution, transactional costs are associated with financial expenses and inconvenience incurred when a student has to move to another place, take additional courses not offered by his/her previous programme, interrupt employment, etc. Learning costs are associated with the efforts required to achieve the same level of comfort in a new programme. For example, a transfer student may have to learn a new culture, values and programme structure. When a current programme raises tuition or a same-quality competing programme lowers tuition, students consider both transactional and learning costs when making a decision whether to leave or stay. It is noted that PL and TCT differ in nature and capture different aspects of student behaviour. In this study, it is proposed that those students who are more satisfied with their education are less likely to leave when their current institution raises tuition fees or when a competing one decreases it:

- H8: There is a positive association between student satisfaction and tuition change tolerance with respect to a university music programme.

WOM is the student inclination to express a positive opinion about the programme to others such as prospective students or family members (Browne et al. 1998). For example, WOM represents the likelihood of recommending a current programme to a friend

or encouraging others to apply to this programme. The marketing literature advocates that more satisfied customers are more likely to promote a product or service than their less satisfied counterparts do (Anderson 1998). Accordingly, a positive link between SS and WOM is suggested:

- H9: There is a positive association between student satisfaction and positive word-of-mouth with respect to a university music programme.

Student satisfaction is supposed to be negatively associated with student complaints (SC). The SC construct determines whether students have ever officially or unofficially complained about their current programme. In the case of unsatisfactory experience with products or services, customers often formally or informally express their concerns (Bearden and Teel 1983). In fact, dissatisfaction is the major reason for customer complaining behaviour. The same relationship between satisfaction and complaints holds true in the educational domain (Wang 2003). Therefore, it is proposed that:

- H10: There is a negative association between student satisfaction and student complaints about a university music programme.

The advantage of using the ACSM is its robustness. It is a general model that may be applied to virtually any product or service. It was utilised in over 40 different product- and service-oriented sectors, including those delivering intangible services, such as banking, academic conferences and telecommunications (Gorst, Wallace, and Kanji 1999; Turel and Serenko 2006; Bontis, Booker, and Serenko 2007). Therefore, it may be fruitfully applied in educational settings including university music programmes.

Recall that an advantage of the employment of the ACSM is that it facilitates the calculation of the ACSI. Although this index is referred to as 'American', prior research demonstrates that this measure may be successfully obtained in any country given that the satisfaction scores are obtained at an individual level (Turel and Serenko 2006; Turel et al. 2006). As a matter of fact, the ACSI is built upon the Swedish satisfaction barometer (Fornell 1992). This index is published quarterly and annually for a number of industries on the website of the National Quality Research Center, University of Michigan. Many studies have applied the index to measure customer satisfaction in a variety of settings (Dow et al. 2006). Therefore, it would be interesting to compare the level of SS with educational services, specifically, Canadian music programmes, with those in other private and public service sectors. In addition, the calculation of the ACSI allows the comparison of the level of SS across educational programmes in different colleges and universities.

In order to test the suggested hypotheses and calculate the ACSI, a survey of music programme students at two Canadian universities was conducted. The following section describes the study's methodology and results.

## **Methodology and results**

### ***Data collection approach***

Consistent with prior studies that employed the ACSM, a self-administered survey of 276 music programme students from two Canadian universities was conducted. Overall, there were 206 students from University 1 and 70 from University 2. As such,

almost all current music programme students were surveyed. Note that University 1 has a dramatically higher enrolment which explains the bigger sample size. All students were enrolled in an undergraduate programme, except for 11 graduate students from University 1. The paper-based questionnaire was administered in winter 2008 in the classrooms at the beginning of a regular class. Participation was optional and no compensation was offered. In order to encourage respondents, several faculty members and programme deans made a brief presentation before survey administration to emphasise its importance. All measures were adapted from Fornell et al. (1996) and Lin, Sher, and Shih (2005). The Appendix presents the questionnaire. A 10-point Likert-type scale was used. The application of a large number of scale points allows respondents to make better discriminations which is frequently utilised in marketing research (Andrews 1984; Anderson and Fornell 2000). A number of demographic variables were also obtained. To address face validity of the survey items, several academics reviewed and commented on the instrument. Based on their feedback, several minor adjustments were made. During the survey, respondents had no difficulty understanding and interpreting the questions.

### *Descriptive statistics*

Table 1 outlines descriptive statistics of the sample and indicates that both samples were very similar in terms of student demographics.

### *Measurement model*

Both the measurement and the structural models were assessed using partial least squares (PLS) techniques in PLS-Graph v.3 (Chin 1998; Gefen, Straub, and Boudreau 2000). Partial least squares is a second generation variance-based structural equation modelling (SEM) method that is frequently employed in management empirical research. In this project, it was selected over a covariance-based SEM approach (e.g. LISREL or EQS) for the following reasons. First, it works well with small samples and places no restriction on data distribution normality. Second, PLS

Table 1. Descriptive statistics.

School/variable	Gender (% M/F)	Age (range)	Age (average)	Programme status (% full time)	Programme year
University 1	49/51	18–29	21	100	Year 1–56% Year 2–26% Year 3–16% Year 4–2%
University 2	46/54	18–25	21	97	Year 1–43% Year 2–18% Year 3–21% Year 4–18%
University 1 and 2 (total)	47/53	18–29	21	99	Year 1–52% Year 2–25% Year 3–17% Year 4–6%



has been continuously used to estimate the ACSM, starting with the classic Fornell's line of inquiry. The usage of PLS also facilitates the computation of the ACSI that cannot be achieved by other techniques.

It is noted that TCT was employed as a formative construct measured by two indicators. Consistent with the ACSM methodology, the first question asked if another university in the same location offers the same structure and quality of the programme, by how much its tuition fees should be lower than that the respondent was paying to transfer to another institution (increments at 10%). The second question asked by how much the respondent's current programme should raise its tuition fees for him/her to transfer to another similar university (increments at 10%). This construct meets the requirement for formative constructs for the following reasons. First, prior research indicates that students may perceive tuition fees changes at their own and other institutions differently (Shin and Milton 2006); they may also perceive their current tuition fee increases very negatively. In fact, this project's data revealed that it is sufficient for their current institution to raise its current tuition fees by only 26%, but for another to reduce them by 35% to facilitate a transfer. As such, students perceive tuition increases by their current institution very negatively. Second, there may be many other factors affecting their decision whether to transfer or stay. Tuition fees also may not be a major factor for well-off students. Some students may also be on a scholarship that may not be available at another university. Third, students react to tuition fees changes at their current and at other institutions depending on their tenure in the programme (Shin and Milton 2008). It is likely that newly enrolled students (e.g. first year) put more emphasis on other schools' tuition fees, whereas those in their final year may focus on their current institution's tuition fees since it is more difficult for them to move at this stage. Therefore, this construct was positioned as formative which is supported by PLS.

Age, gender and programme year were entered in the model as moderating variables, but no statistically significant effects were found. Therefore, these moderators were removed. The entire analysis below pertains to an unconstrained model (i.e. with no moderating variables).

The following steps were undertaken to validate the measurement model. First, construct reliability was assured since all Cronbach's alphas exceeded a recommended value of 0.7, and all item-to-total correlations were above 0.35. Second, except for PE1, all item loadings captured over 50% of its respective construct variance with relatively low residual errors (i.e. all loadings exceeded 0.7). Given that PE1 loading was very close to the recommended threshold (0.66), it was decided to keep this item in the model. Therefore, no items were removed (see Table 2 for detail). Third, to verify discriminant validity of the measures, a matrix of loadings and cross-loadings was obtained. Fourth, construct internal consistency and convergent validity measures exceeded the recommended values of 0.7 and 0.5, respectively. Fifth, a table of inter-construct correlations was constructed in which items along the diagonal represent the square root of average variance extracted (Fornell and Larcker 1981). Since all diagonal values exceeded inter-construct correlations, discriminant validity was assured. (The table of cross-loadings and the table of inter-construct correlations are available from the author.)

### ***Structural model***

Bootstrapping with 250 re-samples was done to derive *t*-statistics for the structural model. Based on the findings, all hypotheses, except for H1, were supported. As

Table 2. Item statistics and estimated loadings.

Variable	Mean	SD	Loading (weight)	Error
PE1	6.41	0.84	0.656	0.573
PE2	6.57	0.72	0.930	0.136
PE3	6.36	0.88	0.783	0.387
PQ1	7.54	1.50	0.893	0.202
PQ2	7.17	1.73	0.864	0.253
PQ3	7.20	1.53	0.790	0.375
PV1	7.09	1.87	0.952	0.094
PV2	6.97	1.90	0.950	0.097
SS1	7.50	1.59	0.911	0.169
SS2	6.35	1.63	0.894	0.201
SS3	6.61	1.95	0.916	0.160
PL1	7.40	2.35	0.952	0.093
PL2	7.67	2.04	0.960	0.078
TCT1	35%	24%	(0.631)	0.601
TCT2	26%	22%	(0.856)	0.090
WOM1	5.65	1.37	0.928	0.139
WOM2	5.64	1.34	0.963	0.072
WOM3	5.63	1.45	0.952	0.094
SC	37%	N/A	1.000	0.000

proposed, no relationship between PE and PV and between PE and SS was observed (see Figure 2).

### *American Customer Satisfaction Index*

Index scores were calculated for the entire sample (i.e. two universities together) and for each individual school. The following formula by Anderson and Fornell (2000) was utilised:

$$ACSI = \frac{\sum_{i=1}^3 w_i \cdot \bar{x}_i - \sum_{i=1}^3 w_i}{9 \cdot \sum_{i=1}^3 w_i} \times 100$$

where  $w_i$  is the weight of the  $i$ th item from the measurement model generated by PLS and  $\bar{x}_i$  is the average of the  $i$ th item loading on the SS construct. The following indices were obtained: both universities – 64.95, University 1 – 66.50 and University 2 – 60.24. They reflect overall SS scores with their music programmes. As of 2008, the National Quality Research Center did not report on the ACSI scores for the education sector. Therefore, the ACSI score obtained in the present project was compared with those of other select industries (see Table 3). It was observed that it was somewhat low. In fact, out of 44 industry scores reported by the National Quality Research Center, the Canadian music programmes scored the lowest.

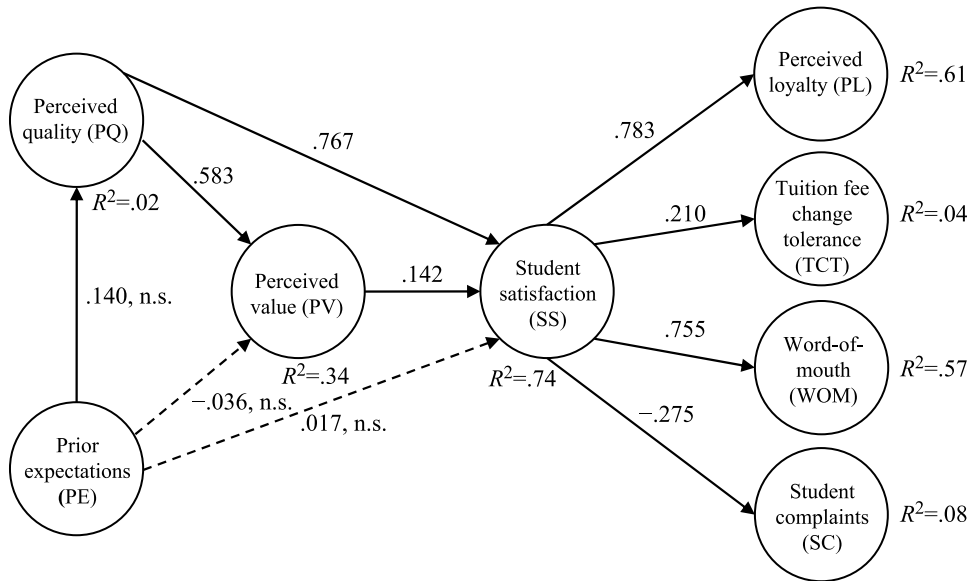


Figure 2. The structural model. Note: All links are significant at 0.001 level unless indicated otherwise.

Table 3. ACSI scores comparison.

Sector	Score
Ambulatory care	81
Full service restaurants	80
Banks	78
Hospitals	75
Cellular telephones	71
Network/cable TV news	69
Wireless telephone service	68
Canadian university music programmes	64.95

### Discussion

Recall the purpose of this project was two-fold. The first was to identify antecedents and consequences of SS with Canadian music programmes. The second goal was to obtain a score reflecting SS levels with their current programme. For this, the ACSM was adapted and tested through a survey of 276 music students at two Canadian universities. A number of important findings emerged that warrant discussion.

First, this study demonstrates the fruitfulness of applying the ACSM in educational settings. Since the ACSM was successfully tested in a new environment, such as education, its nomological validity and robustness was confirmed. R-squared value of the SS construct was 74% that is considered very high in management research. Overall, it is concluded that the model may be potentially extended to other service sectors as it was initially envisioned by the model developers.

*Second*, PQ of a music programme is a key antecedent of SS. It has a dual effect on satisfaction: direct ( $\beta = 0.767$ ) and indirect ( $\beta = 0.583 \times 0.142 = 0.083$ ) with an overall impact of  $\beta = 0.85$ . This is a very significant antecedent that should be taken into account. At the same time, the impact of PV on satisfaction is relatively low ( $\beta = 0.142$ ). Recall the PV construct captured a price dimension by measuring an overall programme value relative to the tuition paid by a student. Given that it explains only 2% of SS variance, it is argued that the role of tuition is very moderate when it comes to overall SS in the education field. For example, an increase in tuition that raises programme quality would lead to a higher satisfaction.

The fact that PQ is a very strong predictor of SS is not surprising. A number of prior studies also made a similar conclusion. Specifically, there are various aspects of the learning environment that influence student perceptions of education quality. The learning environment is the sum of various student experiences which are influenced by instructional effectiveness, campus climate, availability of extracurricular activities, spiritual atmosphere, support services, career counselling, financial aid options and student centredness (Browne et al. 1998; Elliott and Healy 2001). Recently, Arambewela and Hall (2006) empirically demonstrated that the five SERVQUAL dimensions that reflect PQ of an educational institution, such as service reliability, responsiveness, assurance, empathy and tangibles, affect SS. Overall, prior research confirms the finding of the present project on the critical role of education quality.

As hypothesised, PE did not influence PV and SS. However, PE also did not affect PV of a music programme. Therefore, it is concluded that PE do not play a significant role in the model and may be excluded in future model adaptations in the education sector. In other industries, customers form their PE based on their previous exposure to a product or a service, from their own research, media, advertisements, WOM, etc. With respect to education, this argument falls short since university applicants are extremely rarely exposed to a university programme prior to the actual enrolment. Therefore, they are unlikely to form reliable and valid expectations of a university offering before they at least complete their first school semester. As such, their satisfaction is mostly affected by a programme quality and, to a lesser extent, by programme PV.

*Third*, as the literature suggests, regardless of a metaphor describing the role of students in colleges and universities, SS is an important factor that should be always considered. Student satisfaction has a strong significant effect on PL to the current programme ( $\beta = 0.783$ ). Perceived loyalty is the degree to which students would have enrolled in the same programme in the past assuming they already knew about their actual experience with the programme. In other words, PL reveals whether students regret about selecting a specific educational programme. Student satisfaction also strongly impacts WOM ( $\beta = 0.755$ ). This is a very important factor since WOM represents free publicity, reduces advertising expenses, increases a number of applicants and boosts reputation that is a common factor in university rankings. Browne et al. (1998) also observed a strong positive correlation between WOM and SS ( $r = 0.50$ ,  $p < 0.0001$ ) that further confirms the validity of this study's findings.

Student satisfaction also has a moderate negative relationship with student complaining behaviour ( $\beta = -0.275$ ). It is reasonable to conclude that the more satisfied students are, the less likely they are to complain about their programme. For educational institutions, it is critical to increase SS and, therefore, reduce the number of complaints. The rationale is that when students complain, they distract themselves from important learning activities. Faculty and staff should also devote time and resources to handling complaints.

At the same time, SS only has a moderate effect on TCT ( $\beta = 0.210$ ). Tuition fee change tolerance is defined as the probability of students switching to another comparable programme if it reduces tuition fees, or if their current programme raises tuition fees. *R*-squared of this construct is 4% that has very limited managerial significance. Recall the PV construct, that also incorporated a financial aspect, also had a minor impact on satisfaction. Together, these two empirical findings suggest a moderate role of tuition in music programmes. Investigation of tuition effects on student enrolment and retention has a long-standing tradition in academic circles (St. John and Starkey 1995; Guest 2006). The objective is to establish a causal link between these factors that resulted in a number of theories, models and approaches. The projects exploring the tuition–enrolment link have often produced mixed and inconsistent conclusions (Shin and Milton 2008); whereas some studies found a negative tuition fee–enrolment relationship (Heller 1999), others did not (Shin and Milton 2006). The present investigation reveals that tuition fee-based factors (i.e. PV) have only a minor effect on SS, and the impact of SS on TCT is also small yet statistically significant. On the one hand, tuition fees are not a major factor considered by Canadian university music students. On the other hand, this factor should be still taken into account by university administrators and policymakers. It is possible that if the tuition fees level reaches a certain threshold, it will become an important factor.

As discussed in the literature review section, there are several metaphors that describe the role of students in higher education. One popular school of thought suggests that students may be viewed as customers of their post-secondary educational institutions (Glaser-Segura et al. 2007). A major argument is that students directly pay for their education, and therefore should receive the level of service that they expect. In the present project, a marginal role of financial aspects was observed. As such, the PV construct had a very limited effect on satisfaction, and satisfaction in turn weakly affected TCT. Therefore, money is a marginal factor in the educational environment; this empirically demonstrates the flaws underlying the premises of the students-as-customers metaphor.

*Fourth*, the ACSI for both universities was 64.95. For University 1 and 2, it was 66.50 and 60.24, respectively. These scores are somewhat lower than those of other services reported by the National Quality Research Center. On the one hand, this is an unfair comparison given a unique nature of the education sector. On the other hand, these indices offer an initial benchmarking point that may be utilised in future investigations. Most importantly, they allow comparing the overall SS across different educational programmes. In the present study, difference in the ACSI scores between two universities may be explained theoretically. According to the Maclean's Annual Canadian University Guide, University 1 has been consistently ranked higher on most criteria than University 2. This confirms the validity of this project's findings and suggests that the ACSI is a valid measure. It is also believed that the ACSI scores may be utilised to compare the level of SS among different institutions.

### Conclusions, limitations and directions for future research

Since the establishment of the education research domain, SS has become an important investigation topic. This line of research is especially significant given the growing challenges the education sector has been facing. These include the emergence of online programmes, globalisation trends, limited funding and government regulation. In addition, due to the Internet, prospective students may compare offerings from different

educational institutions, review their curricula and analyse alumni feedback. Current students often convey their educational experience to others through online media such as forums, mailing lists and surveys. As the education sector becomes more transparent and students have more choices, universities and colleges have to achieve a high level of SS in order to succeed in today's highly competitive environment.

The present investigation demonstrated that PE of Canadian music programme students have a very limited, if any, effect on their perception of education quality. In contrast to physical products and other services, it is almost impossible to accurately envision the entire educational process before becoming an actual student. Perceived quality is the key factor affecting SS. Financial factors play a marginal role in terms of their impact on satisfaction. The most important outcomes of SS are increased PL and WOM. Increased loyalty is important since it prevents students from transferring from one institution to another, and WOM represents an important mechanism for increasing enrolment at virtually no additional cost to the institution. Satisfied students are also less likely to complain, and they become slightly more tolerant to tuition increases. At the same time, it was observed that the overall level of SS with Canadian music programmes is somewhat low. This is a critical issue that programme administrators need to consider to ensure long-term programme success.

Despite its innovativeness, this project has several limitations. First, students from only two Canadian universities were surveyed. To form a better understanding of the phenomenon, a representative sample from each Canadian university should be obtained. Second, this project concentrated on music programme students only. Therefore, the findings may be potentially limited to the university music education field only. To ensure that this project's findings may be generalised to the entire higher education sector, this study should be replicated in other educational domains. In future, it would be interesting to compare antecedents and consequences of SS as well as the ACSI across different programmes and different institutions. Third, only one instrument measuring SS was utilised. However, there are other research instruments, for example, SERVQUAL (Arambewela and Hall 2006), the Noel-Levitz Student Satisfaction Inventory (Bryant 2006) and Quality of Instructor Service to Students (QISS) (Emanuel and Adams 2006), that were specifically developed for the education sector. In future, these tools may accompany the ACSM suggested in this project. Despite these constraints, none of these limitations were critical. As such, this project represents a successful attempt to better understand the issue of SS and offers avenues for future research.

### Notes on contributor

Alexander Serenko is an associate professor of management information systems in the Faculty of Business Administration at Lakehead University, Canada. Dr Serenko holds an MSc in computer science, an MBA in electronic business, and a PhD in management information systems from McMaster University. His research interests pertain to scientometrics, knowledge management and innovation. He has published over 40 articles in refereed journals, and received awards at several Canadian, American and international conferences. In 2007, Dr Serenko received the Lakehead Contribution to Research Award which recognises him as one of the university's leading researchers.

### References

- Albanese, M. 1999. Students are not customers: A better model for medical education. *Academic Medicine* 74, no. 11: 1172–86.

- Aldridge, S., and J. Rowley. 1998. Measuring customer satisfaction in higher education. *Quality Assurance in Education* 6, no. 4: 19–204.
- Allen, M.L. 1996. Dimensions of educational satisfaction and academic achievement among music therapy majors. *Journal of Music Therapy* 33, no. 2: 147–60.
- Anderson, E.W. 1998. Customer satisfaction and word of mouth. *Journal of Service Research* 1, no. 1: 5–17.
- Anderson, E.W., and C. Fornell. 2000. Foundations of the American Customer Satisfaction Index. *Total Quality Management & Business Excellence* 11, no. 7: 869–82.
- Andrews, F.M. 1984. Construct validity and error components of survey measures: A structural modeling approach. *The Public Opinion Quarterly* 48, no. 2: 409–42.
- Arambewela, R., and J. Hall. 2006. A comparative analysis of international education satisfaction using SERVQUAL. *Journal of Services Research* 6, special issue: 141–63.
- Athiyaman, A. 1997. Linking student satisfaction and service quality perceptions: The case of university education. *European Journal of Marketing* 31, no. 7: 528–40.
- Bailey, J.J. 2000. Students as clients in a professional/client relationship. *Journal of Management Education* 24, no. 3: 353–65.
- Bailey, J.J., and B. Dangerfield. 2000. Applying the distinction between market-oriented and customer-led strategic perspectives to business school strategy. *Journal of Education for Business* 75, no. 3: 183–7.
- Baldwin, G., and R. James. 2000. The market in Australian higher education and the concept of student as informed consumer. *Journal of Higher Education Policy and Management* 22, no. 2: 139–48.
- Bearden, W.O., and J.E. Teel. 1983. Selected determinants of consumer satisfaction and complaint reports. *Journal of Marketing Research* 20, no. 1: 21–8.
- Bontis, N., L.D. Booker, and A. Serenko. 2007. The mediating effect of organizational reputation on customer loyalty and service recommendation in the banking industry. *Management Decision* 45, no. 9: 1426–45.
- Browne, B.A., D.O. Kaldenberg, W.G. Browne, and D.J. Brown. 1998. Student as customer: Factors affecting satisfaction and assessments of institutional quality. *Journal of Marketing for Higher Education* 8, no. 3: 1–14.
- Bryant, J.L. 2006. Assessing expectations and perceptions of the campus experience: The Noel-Levitz Student Satisfaction Inventory. *New Directions for Community Colleges* 134: 25–35.
- Centra, J., and D. Rock. 1971. College environments and student achievement. *American Educational Research Journal* 8, no. 4: 623–34.
- Chin, W.W. 1998. The partial least squares approach for structural equation modeling. In *Modern methods for business research*, ed. G.A. Marcoulides, 295–336. Mahwah, NJ: Lawrence Erlbaum.
- DeBourgh, G.A. 2003. Predictors of student satisfaction in distance-delivered graduate nursing courses: What matters most? *Journal of Professional Nursing* 19, no. 3: 149–63.
- Dodds, W.B., K.B. Monroe, and D. Grewal. 1991. Effects of price, brand, and store information on buyers product evaluations. *Journal of Marketing Research* 28, no. 3: 307–19.
- Dow, K., A. Serenko, O. Turel, and J. Wong. 2006. Antecedents and consequences of user satisfaction with e-mail systems. *International Journal of e-Collaboration* 2, no. 2: 46–64.
- Drew, T.L., and G.G. Work. 1998. Gender-based differences in perception of experiences in higher education: Gaining a broader perspective. *Journal of Higher Education* 69, no. 5: 542–55.
- Driscoll, C., and D. Wicks. 1998. The customer-driven approach in business education: A possible danger? *Journal of Education for Business* 74, no. 1: 58–61.
- Elliott, K.M., and M.A. Healy. 2001. Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education* 10, no. 4: 1–11.
- Emanuel, R., and J.N. Adams. 2006. Assessing college student perceptions of instructor customer service via the Quality of Instructor Service to Students (QISS) questionnaire. *Assessment & Evaluation in Higher Education* 31, no. 5: 535–49.
- Ewell, P.T. 1989. Institutional characteristics and faculty/administrator perceptions of outcomes: An exploratory analysis. *Journal Research in Higher Education* 30, no. 2: 113–36.
- Feldman, K.A., and T.M. Newcomb. 1969. *The impact of college on students*. San Francisco: Jossey-Bass.

- Fornell, C.A. 1992. National Customer Satisfaction Barometer: The Swedish experience. *Journal of Marketing* 56, no. 1: 6–21.
- Fornell, C., M.D. Johnson, E.W. Anderson, J. Cha, and B.E. Bryant. 1996. The American Customer Satisfaction Index: Nature, purpose, and findings. *Journal of Marketing* 60, no. 4: 7–18.
- Fornell, C., and D.F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18, no. 1: 39–50.
- Franz, R.S. 1998. Whatever you do, don't treat your students like customers! *Journal of Management Education* 22, no. 1: 63–9.
- Gefen, D., D. Straub, and M.-C. Boudreau. 2000. Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association of Information Systems* 4, no. 7: 1–77.
- Glaser-Segura, D.A., S. Mudge, C. Brtianu, I. Jianu, and S. Vlcea. 2007. Quality improvement of business education in Romanian universities: The student as customer and client. *Higher Education in Europe* 32, nos. 2–3: 121–33.
- Gorst, J.K., W. Wallace, and G.K. Kanji. 1999. Customer satisfaction at the Sheffield World Congress. *Total Quality Management* 10, nos. 4–5: 561–8.
- Guest, R. 2006. The undergraduate fee and enrolment decisions facing Australian universities from 2005. *Education Economics* 14, no. 1: 59–73.
- Halbesleben, J.R.B., J.A.H. Becker, and M.R. Buckley. 2003. Considering the labor contributions of students: An alternative to the student-as-customer metaphor. *Journal of Education for Business* 78, no. 5: 255–7.
- Hearn, J.C. 1985. Determinants of college students' overall evaluations of their academic programs. *Research in Higher Education* 23, no. 4: 413–37.
- Heller, D.E. 1999. The effects of tuition and state financial aid on public college enrollment. *The Review of Higher Education* 23, no. 1: 65–89.
- Helm, E.G., W.E. Sedlacek, and D.O. Prieto. 1998. The relationship between attitudes toward diversity and overall satisfaction of university students by race. *Journal of College Counseling* 1, no. 2: 111–20.
- Hurtado, S., E.L. Dey, P.Y. Gurin, and G. Gurin. 2003. College environments, diversity, and student learning. In *Higher education: Handbook of theory and research*, ed. J.C. Smart, Vol. XVIII, 145–89. Dordrecht: Kluwer.
- Johnston, J., J. Killion, and J. Oomen. 2005. Student satisfaction in the virtual classroom. *The Internet Journal of Allied Health Sciences and Practice* 3, no. 2: 1–7.
- Lampert, M.A. 1993. Student–faculty interaction and the effect on college student outcomes: A review of the literature. *Adolescence* 28, no. 112: 971–90.
- Lin, C.H., P.J. Sher, and H.Y. Shih. 2005. Past progress and future directions in conceptualizing customer perceived value. *International Journal of Service Industry Management* 16, nos. 3–4: 318–36.
- Mohr, J.J., K.D. Eiche, and W.E. Sedlacek. So close, yet so far: Predictors of attrition in college seniors. *Journal of College Student Development* 39, no. 4: 343–54.
- Nauta, M.M. 2007. Assessing college students' satisfaction with their academic majors. *Journal of Career Assessment* 15, no. 4: 446–62.
- Oliver, R.L. 1997. *Satisfaction: A behavioural perspective on the consumer*. Boston: Irwin McGraw-Hill.
- Pace, C.R. 1979. *Measuring the outcomes of college*. San Francisco: Jossey-Bass.
- Palmer, S.R., and D.M. Holt. 2009. Examining student satisfaction with wholly online learning. *Journal of Computer Assisted Learning* 25, no. 2: 101–13.
- Pascarella, E.T. 1980. Student–faculty informal contact and college outcomes. *Review of Educational Research* 50, no. 4: 545–95.
- Pascarella, E.T., and P.T. Terenzini. 1978. Student–faculty informal relationships and freshman year educational outcomes. *Journal of Educational Research* 71, no. 3: 183–9.
- Pascarella, E.T., and P.T. Terenzini. 1991. *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.
- Pike, G.R. 1994. The relationship between alumni satisfaction and work experiences. *Research in Higher Education* 35, no. 1: 105–23.
- Ramsden, P., and N. Entwistle. 1981. Effects of academic departments on students' approaches to studying. *British Journal of Educational Psychology* 51: 368–83.



- Reichheld, F.F. 2003. The one number you need to grow. *Harvard Business Review* 81, no. 12: 46–54.
- Sharrock, G. 2000. Why students are not (just) customers (and other reflections on Life After George). *Journal of Higher Education Policy and Management* 22, no. 2: 149–64.
- Shin, J.-C., and S. Milton. 2006. Rethinking tuition effects on enrollment in public four-year colleges and universities. *The Review of Higher Education* 29, no. 2: 213–37.
- Shin, J.C., and S. Milton. 2008. Student response to tuition increase by academic majors: Empirical grounds for a cost-related tuition policy. *Higher Education* 55, no. 6: 719–34.
- Slater, S.F. 1997. Developing a customer value-based theory of the firm. *Journal of the Academy of Marketing Science* 25, no. 2: 162–7.
- Smart, J.C. 1987. Student satisfaction with graduate education. *Journal of College Student Personnel* 28, no. 3: 218–22.
- Smart, K.L., and J.J. Cappel. 2006. Students' perceptions of online learning: A comparative study. *Journal of Information Technology Education* 5: 201–19.
- St. John, E.P., and J.B. Starkey. 1995. An alternative to net price: Assessing the influence of prices and subsidies on within-year persistence. *Journal of Higher Education* 66, no. 2: 156–86.
- Suhre, C.J.M., E.P.W.A. Jansen, and E.G. Harskamp. 2007. Impact of degree program satisfaction on the persistence of college students. *Higher Education* 54, no. 2: 207–26.
- Turel, O., and A. Serenko. 2006. Satisfaction with mobile services in Canada: An empirical investigation. *Telecommunications Policy* 30, nos. 5–6: 314–31.
- Turel, O., A. Serenko, B. Detlor, M. Collan, I. Nam, and J. Puhakainen. 2006. Investigating the determinants of satisfaction and usage of mobile IT services in four countries. *Journal of Global Information Technology Management* 9, no. 4: 6–27.
- Umbach, P.D., and S.R. Porter. 2002. How do academic departments impact student satisfaction? Understanding the contextual effects of departments. *Research in Higher Education* 43, no. 2: 209–34.
- Wang, Y.-S. 2003. Assessment of learner satisfaction with asynchronous electronic learning systems. *Information & Management* 41, no. 1: 75–86.
- Willis, R., A. Serenko, and O. Turel. 2007. Contractual obligations between mobile service providers and users. In *Encyclopedia of mobile computing & commerce*, ed. D. Taniar, 143–8. Hershey, PA: Idea Group.
- Woodruff, R.B. 1997. Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science* 25, no. 2: 139–53.
- Zeithaml, V.A. 1988. Customer perceptions of price, quality and value: A means-end model and synthesis of evidence. *Journal of Marketing* 52, no. 3: 2–22.

## Appendix. Questionnaire

Please answer all questions below based on your **overall experience** as a student in music at **the \_\_\_ School of Music**. There are no right or wrong answers – all we are interested in is a number that truly reflects your feelings.

PE1. Prior to enrolment, what were your overall expectations of the programme quality of the \_\_\_ School of Music? (very low/very high)

PE2. Prior to enrolment, what were your expectations of the extent to which the programme at the \_\_\_ School of Music would meet your personal requirements? (very low/very high)

PE3. Prior to enrolment, what were your expectations of the consistent programme quality of the \_\_\_ School of Music? (very low/very high)

PQ1. What is your overall evaluation of the programme quality of the \_\_\_ School of Music? (very low/very high)

PQ2. What is your evaluation of the extent to which the \_\_\_ School of Music programme meets your personal requirements? (very low/very high)

PQ3. What is your evaluation of the extent to which the programme quality of the \_\_\_ School of Music is consistent? (very low/very high)

PV1. Please rate the quality of the \_\_\_ School of Music programme given your tuition. (very low/very high)

PV2. Please rate your tuition given the programme quality you receive. (unfair/fair)

SS1. Overall, how satisfied are you with the \_\_\_ School of Music programme? (all things considered) (very dissatisfied/very satisfied)

SS2. Considering your expectations, to what extent has the \_\_\_ School of Music programme fallen short or exceeded your expectations? (fallen very short/exceeded by far)

SS3. How close is the \_\_\_ School of Music programme to your ideal music programme? (very far from ideal/very close to ideal)

PL1. Thinking about the time when you entered the \_\_\_ School of Music programme, how likely is it that you would choose this programme again? (very unlikely/very likely)

PL2. To what degree do you believe that you made a right decision choosing the \_\_\_ School of Music programme? (totally wrong choice/totally right choice)

TCT1. If another university in the same location offers you the same structure and quality of the programme as you currently receive, by how much should their tuition be lower than this you are currently paying for you to transfer to another university (assuming it exists)? (increments from 1% to over 100%)

TCT2. If the \_\_\_ School of Music increases tuition given the same structure and quality of the programme, how much would they have to increase their tuition for you to consider switching to another university offering the same programme and located nearby (assuming it exists)? (increments from 1% to over 100%)

WOM1. I would say positive things about the \_\_\_ School of Music to other people. (strongly disagree/strongly agree)

WOM2. I would recommend the \_\_\_ School of Music to potential university applicants who seek my advice. (strongly disagree/strongly agree)

WOM3. I would encourage potential university applicants to apply to the \_\_\_ School of Music. (strongly disagree/strongly agree)

SC. Have you ever complained (either formally or informally) about the \_\_\_ School of Music programme? (yes/no. If yes, how many times?)