Joan Poor & Jeanette Snowball

The impact of student opinions of built heritage on their perceptions of institutional loyalty: implications for marketing strategies

Research has shown that the racial diversity of university student populations improves social tolerance and academic performance. However, students of colour are more likely to drop out than their white counterparts and to feel isolated and excluded from campus life. One possible reason for such feelings is the built heritage on campuses, in particular those with colonial-era style. This research uses student survey data from St Mary's College of Maryland in the US and Rhodes University in South Africa to investigate student attitudes towards, and knowledge about, campus built heritage and their perceptions of its impact on student loyalty.

Die impak van studentmenings omtrent gebou-erfenis op hul persepsies van institusionele lojaliteit: implikasies vir bemarkingstrategieë

Navorsing toon dat die rasse-diversiteit van studente-bevolkings sosiale verdraag-saamheid en akademiese prestasie verbeter. Studente van kleur is egter meer geneig om uit te sak relatief tot hul wit eweknieë en om geïsoleerd en uitgesluit van die kampuslewe te voel. Een moontlike rede vir sulke gevoelens is die geboue-erfenis op kampusse, veral dié met 'n koloniale-era styl. Hierdie navorsing gebruik data van 'n studente-steekproef vanaf St Mary's College, Maryland in die VSA en Rhodes Universiteit in Suid-Afrika, ten einde studente se houdings teenoor, en kennis van, die kampus geboue-erfenis te ondersoek sowel as hul persepsies van die impak daarvan op studente lojaliteit.

Prof P J Poor, Hobart Houghton 2008 Fellow, Rhodes University and Professor of Natural Resources and Environmental Economics, Truman State University, McClain Hall 203, 100 East Normal Avenue, Kirksville, Missouri, USA 63501-4221 & Prof J D Snowball, Dept of Economics and Economic History, Rhodes University, P O Box 94, Grahamstown 6140; E-mail: pjpoor@gmail.com & j.snowball@ru.ac.za.

SUN MEDIA
BLOEMFONTEIN

The built heritage of many university or college campuses, in particular older institutions, is an important part of their image creation and branding. Photographs of campus architecture are frequently used in marketing drives to distinguish universities from each other and to materially demonstrate the character and history of the institution (Bulotaite 2003). Williams June (2006) and Cain & Reynolds (2006) report that 62% of USA high school seniors mentioned that they chose their college mainly on the appearance of the buildings and grounds, demonstrating both the widespread use of campus architecture in recruitment and its impact.

Such marketing and the formation of a distinct "image" has become increasingly important in a climate of heightened competition to both retain current students and attract new ones. The improved international recognition of academic qualifications has increased student (and staff) mobility, as has more flexible, "modular" study programmes (Helgesen & Nesset 2007). In many countries government funding depends far more on student numbers and throughput, thus further increasing competition.

Another pressure on higher education institutions (HEIs) is not only to attract and retain students, but to cater to an increasingly diverse student population. Racial diversity, while a political imperative, also has many positive learning and social outcomes. Worthington *et al* (2008) list some of these, namely "... greater learning, increased interpersonal competencies, greater self-confidence among students, fewer irrational prejudices, greater gains in critical thinking, and greater involvement in civic and community service". Gottfredson *et al* (2008) also report that both diversity in the classroom and more informal "contact diversity" in other campus activities were positively related to such factors as cognitive openness, positive attitudes towards equal opportunities, and academic outcomes. Yet, most historically white institutions have had only limited success in attracting and retaining students of colour.

During the early to mid-twentieth century, historically black institutions of higher education in the USA and South Africa sought to emulate white institutions, graduating students with the attitude of assimilation into a predominantly white professional societal class or stature. This research uses data from twenty-first century students, at

a time when diversity is valued and assimilation is no longer viewed as a goal of higher education. Currently, a diverse student population may not view colonial architecture on university or college campuses as a symbol of societal success.

This article investigates the effect of student opinions of built heritage on their perceptions of institutional loyalty by comparing student survey responses from two HEIs, namely St Mary's College of Maryland (SMCM) in the USA and Rhodes University (RU) in South Africa. Both HEIs are historically, predominantly white and have campus buildings in the colonial-era style which are used extensively in marketing. Students of colour make up a small minority of the student body at SMCM, while at RU they make up slightly more than half the student population. Each of these institutions currently operate in very different contexts. However, each describes itself as a liberal arts and sciences institution. RU has a larger number of graduate programmes with a focus on research; a primarily undergraduate teaching baccalaureate institution. An acknowledged limitation of the research is that the two institutions operate in significantly different contexts and that, for the results to be generalised, the number and variety of case studies would have to be increased.

The article thus uses an international comparison of student opinions of the impact of campus built heritage on their perceptions of institutional loyalty. Such perceptions were captured by asking students to respond "yes" or "no" to the following question: Do you believe that built heritage on the campus promotes student loyalty to the College/University? Using a binary probit regression model, we investigate the impact of student knowledge of, opinions about, and willingness to pay for campus built heritage, as well as the effect of various demographic variables (race, sex, year of study and faculty of study) on perceptions of loyalty.

1.   Literature review

There are relatively very few published studies investigating the relationship between campus built heritage and student loyalty, and none (to our knowledge) investigating the research question using similar variables and method to this study. The literature review thus

draws from a wide variety of both qualitative and quantitative research in a number of related fields.

1.1   Student loyalty and university/college image

Studies of student loyalty are often framed in terms of "customer satisfaction" marketing theory (Henning-Thurau *et al* 2001). The concept of "students as customers" is not new and has been used extensively, in particular in discussions on branding and marketing. However, as Douglas *et al* (2008) point out, it has a rather uneasy fit with the aims of HEIs, which regard students as partners in the learning process, rather than as customers who purchase an already manufactured product. As far as student recruitment and retention are concerned, students' satisfaction with their higher education experience is an important consideration and has been found, in a number of studies, to be positively related to student loyalty (Helgesen & Nesset 2007).

Helgesen & Nesset (2007) define student loyalty as having two components, namely an attitudinal component and a behavioural component. Loyalty can play a role when students are registered at their university or college, but also after the degree or diploma has been completed, in terms of recommendations, alumni activities and subsequent enrolment for further study (Douglas *et al* 2008).

Using a critical incidents technique, Douglas *et al* (2008) found that, at a British university, student experiences such as communication and responsiveness within the teaching, learning and assessment areas, were found to be significant in both negative (where a bad experience decreased loyalty) and positive (where a good experience increased loyalty) aspects. In ancillary areas, access and socialising were both important determinants of student satisfaction and loyalty.

Henning-Thurau *et al* (2001) developed a relationship quality-based student loyalty model (RQSL model) and tested it by gathering data from 1162 German students who had left university, either because they had graduated or because they had dropped out. As expected, they found that the student perception of teaching quality is an important determinant of loyalty, but the level of emotional commitment to the institution, "which depends largely on the depth of the students' academic integration", is equally important.

Another important determinant of loyalty is the "image" of a university or college, which is defined as the way it is perceived by various societal groups. It can be influenced by tangible and intangible elements and can be made up of several components such as "… academic reputation, campus appearance, cost, personal attention, location, distance from home, graduate and professional preparation, career placement, among others" (Alves & Raposo 2010: 75). For example, surveys of students at public universities in Portugal (Alves & Raposo 2010) and at Aalesund University College in Norway both found strong links between student satisfaction, university image and student loyalty. Of particular interest in this instance is that causality seems to run from university image to student loyalty, both directly and indirectly, through overall student satisfaction, which impacts on image and thus on loyalty (*cf* Hegesen & Nesset 2007, Alves & Raposo 2010). The authors thus conclude that students' image of HEIs is an important determinant of student loyalty and should be carefully considered and monitored by marketing officials.

1.2 Student attraction, retention and race

An important component of student satisfaction with HEIs (and thus of their "image" of the university or college and their loyalty to it) is a sense of being part of the community or of "belonging" (Worthington *et al* 2008, Nunez 2009). Such feelings are related not only to social issues, but also to academic success. While this is true of all students, Sedlacek (1999) finds that this is especially the case for successful retention of black students at "white" institutions. Rodgers & Summers (2008) point out that, although African American students who went to predominantly white HEIs had higher school-grade point averages than those who went to historically black HEIs; black students attending predominantly white institutions had lower academic achievement levels than those at historically black colleges.

Rodgers & Summers (2008) thus argue that the effects of race and culture must be considered when examining student experiences at HEIs, in particular for minority groups. In a model by Bean & Eaton (2000), the social integration of students into a particular college or university is found to have a positive impact on both student attitudes about the institution and their intention to persist

(and actual persistence) with their studies. A strong determinant of social integration is the presence of subcultures (in this case, other black students, faculty members, and staff), which support and encourage students of colour. In predominantly white HEIs, the potential members of such subcultures are limited, thus making the development of effective support groups more difficult (Rodgers & Summers 2008).

An important factor of student persistence is the development of "self-efficacy" defined as having the resources to be successful and overcome difficulties (Rodgers & Summers 2008). At least part of developing self-efficacy is being able to observe how people similar to oneself deal with challenging situations. While historically black universities and colleges offer many opportunities for such observation, predominantly white institutions may offer far fewer such experiences, perhaps helping to explain why black students do less well when they are in a minority. In a study of the experiences of Latino students at public universities in the USA, Nunez (2009) also found that factors such as faculty interest, community service, positive interracial interactions, class participation, and environmental factors such as "ease of knowing the way around" (Nunez 2009: 49) positively influenced students' sense of belonging.

The perceived "match" between the culture and values of a particular institution and the culture and values of the student are also found to be an important determinant in students' choice of HEI (Nora 2004). While some of the attributes influencing student choice were found to be logical and rational (based on, for instance, high-school grades, preparation, experiences and the attributes of the HEI), a study of first-year students at three south-western universities in the USA showed that students also made their college choice on emotional and intuitive grounds (Nora 2004). These additional factors were influenced by habitus (defined in this instance as "psychosocial elements that inform and affirm students' decisions") and cultural capital (defined as the experiences and knowledge that students had prior to coming to the university). Students who "fitted in" to the institution and who felt accepted in the social and academic environment of the campus were more likely both to be satisfied with their HEI and to be loyal to it. Nora (2004) points out that, for minority groups, this process of finding the right fit is likely to

be even more challenging, perhaps explaining the failure of many historically white universities to diversify and to retain and graduate students of colour.

As mentioned earlier, the built heritage of universities and colleges can be a powerful tool in image formation. However, Cheng (2004) cautions that student perceptions of what campus built heritage signifies might differ across racial and ethnic groups. The Convention for the Protection of the Architectural Heritage of Europe (1985) defines architectural heritage as including monuments, groups of buildings and sites "of conspicuous historical, archaeological, artistic, scientific, social or technical interest", but admits, along with other commentators, that the status and protection given to such heritage is ultimately value-based and may be different for different groups of people.[1]

In campuses with colonial-era architecture, for example, the buildings may be an unpleasant reminder of the elitist beginnings of some predominantly or historically white institutions, and serve to alienate students from other racial and ethnic groups. Where such students are already (or are likely to be) in a minority, the effect might be even more pronounced, both on student retention and recruitment and ultimately on a "sense of belonging" and loyalty. This is not to say that buildings at historically black HEIs do not have colonial-era architecture, indeed many do as they were built during times when societal goals were more to assimilate, rather than celebrate diversity among people.

An important body of work on the relationship between place and identity from the field of environmental psychology is also relevant in this instance. Twigger-Ross & Uzzell (1996) put forward the idea that people may define themselves in relation to a specific location or place ("place identification") or even that their identity may be partly based on a particular place ("place identity"). Both these theories may be applied to universities or colleges, often referred to as the students' *alma mater* or "nurturing mother", playing an important role in shaping and preparing them for the rest of their lives. The research by Twigger-Ross & Uzzell (1996) on identification with a residential environment finds that those who identify more positively

1   <http://conventions.coe.int/treaty/en/treaties/html/121.htm>

with their neighbourhood can use this identification to help build and maintain positive self-esteem. However, they also conclude that a lack of identification with place can be perceived as a threat to identity.

Later research by Uzzell *et al* (2002: 28) supports these findings, adding that "… places with a strong identity help to enhance community awareness and bonding. In this sense, social cohesion contributes to place identity. At the same time, places with a strong identity make social cohesion easier". Manzo & Perkins (2006) concur, finding that place identity can foster greater social cohesion which can, in turn, lead to greater community participation and development.

2. Context of the research

This research focuses on student survey data from two historically white HEIs, namely St Mary's College of Maryland (SMCM) in the USA and Rhodes University (RU) in South Africa. Both institutions describe themselves as liberal arts and sciences institutions, while RU has graduate student programmes and as such a more research-focused mission. Although both HEIs are considered historically racially white, SMCM could be described as less racially diverse with approximately 82% of students not self-identifying themselves as members of a racial "minority" group which includes African Americans, Asians, Hispanic or Native Americans. However, RU has a decidedly more racially diverse student population. It must also be noted that, although both of these HEIs were historically white, the racial experiences of students attending HEI in the USA and South Africa must be considered socially and culturally separate. The following paragraphs provide greater context for each institution.

2.1 Rhodes University

RU was founded in 1904 in Grahamstown, a small town in the Eastern Cape province of South Africa. Its original architecture has a colonial-era style, to which subsequent developments have tried to conform. The main university building was designed by Herbert Baker and incorporated the Drostdy barracks building, begun in 1822 by the Afrikaner leader Piet Retief and, in 1836, turned into the military headquarters of the town. Baker designed many of the original buildings of the older South African universities as well as the Union

Buildings in Pretoria and the Cecil John Rhodes memorial in Cape Town (Buckland & Neville 2004). This central building with its clock tower is used most often on Rhodes University marketing literature, calendars, websites, and so on. As with most public universities in South Africa, the institution was originally for white students only, although this was never rigidly enforced. Nevertheless, much of the tradition and prevailing culture of the university is English in origin.

Rhodes is a residential campus of approximately 6 300 students, about a quarter of whom are postgraduates. While described as a "liberal arts college", Rhodes has a strong research tradition and is one of the better known research universities in South Africa. The humanities faculty is the largest (40% of students), followed by commerce (25%), science (16%), education, pharmacy and law (19%) (RU Statistical Digest 2009).

Over half (55%) of Rhodes students are black, including mainly Africans (46% of the total student body), but also a small number of Indian (5%) and mixed-origin or coloured students (4%). However, only 37% of the total student body consists of black South Africans. A fifth of Rhodes students are international, mostly from other Southern African countries, especially Zimbabwe. There are a greater number of black students in undergraduate courses (61% of the total) compared to postgraduate studies (50%) (RU Statistical Digest 2009).

While the diversification of faculty members is a priority, it is a slow process, constrained by the lack of black professionals interested in working in the higher education sector, since the private sector also has black economic empowerment (BEE) goals and offers better remuneration and faster promotion opportunities. The vast majority of academic and senior administrative staff are thus still white, with the majority of support staff at lower grades being black South Africans (RU Statistical Digest 2008).

On average, enrolment by African students at South African universities has been increasing, with African students now totalling 63% of all students at HEIs. However, there is also a high dropout rate, in particular among first-year students. A Department of Education study showed that, of the students who enrolled at university in 2000, only 38% had graduated by 2005, representing an approximate five-year graduation rate. For black students, completion rates are even

lower, which further increases the challenge of achieving staff and student diversity (HESA 2009).

2.2 St Mary's College, Maryland

SMCM was founded in 1840 as a state-funded public female seminary, commemorating the site of the seventeenth century colonial capital of the state of Maryland in the USA. Located in St Mary's City, the institution was founded as the Monument School of the People. The main building, known as Calvert Hall, was completed in 1845. The architectural design of this building was known as Greek revival with a main centre portico. A music hall, a classical colonial revival-style building, was constructed from 1906 to 1908, adjacent to the main building; the music hall is currently the oldest building on the SMCM campus. The main building was destroyed by fire in 1924, and was rebuilt by 1925 in a similar architectural style.

In 1928 the female seminary became a two-year junior college for women, and in 1949 the school became co-educational, ending its designation as a female institution. The school became a four-year college in 1968, following a significant expansion of the College's infrastructure, including a gymnasium, an academic building, a library, a student centre and dining hall, and separate female and male residence halls. Over the past two decades the college expanded further, renovating buildings, constructing new student residences as well as new academic buildings. During the first half of the twentieth century, the College buildings were of the classical colonial revival style and from the 1940s to the 1970s buildings were designed in a Georgian colonial revival style. From the 1970s to the end of the 1980s a few more modern neo-traditional architectural styles were used. Since the early 1990s numerous buildings were constructed, including student residences, academic buildings, and an administrative building, all being designed in a late-twentieth century colonial revival style. The overall architectural presence of the current campus could be described as distinctly colonial revival (Baptiste *et al* 2007).

During its first 100 years, SMCM educated white women from prominent families. Although publically funded, SMCM did not admit African American women until 1962 when the first African American woman was admitted. However, her application did not

include a customary photograph; she did not answer the race question on the application, and she did not reveal that she was graduating from a "coloured" high school. By the end of the 1960s, the USA Department of Education's Office of Civil Rights informed all Maryland HEIs that they were to "eradicate all vestiges of segregation" (Haugaard *et al* 2007).

At present SMCM is a primarily undergraduate, residential, liberal arts college enrolling approximately 2 000 students, of which approximately 56% are women. In 2007, of the 1 307 students with declared major areas of study, 41% were in the humanities, 25% in the natural sciences and 34% in the social sciences.

In 2008, 76% of students self-identified their race as white, 8% identified their race as African American, and 8% identified their race as Hispanic, Asian or Native American. In addition, 2.5% of the students enrolled were international. This group of "minority" students in total encompassed only 18% of the students enrolled at SMCM, making this institution less racially diverse than RU. In addition, only approximately 1% of the students enrolled at SMCM were graduate students enrolled in a Master of Teaching programme (SMCM, Maryland Higher Education Commission Report 2009).

The faculty members at SMCM are also predominately white. In 2008, 16% of tenured or tenure-track faculty members were considered ethnic "minorities" and only 5% were African American (SMCM, Maryland Higher Education Commission Report 2009). Increasing diversity among faculty members is considered a priority at SMCM. However, this has proven difficult, possibly due to the College's rural location, some 130 kilometres from the nearest city, Washington DC, and other factors beyond the scope of this research.

Four- and six-year graduation rates for students are tracked by SMCM. In 2008, these rates for "minority" students were 56% and 52%, respectively, compared to the less than 38% five-year graduation rate for the historically under-represented African students at RU. For all students these rates were notably higher at 70% and 75%, respectively, for four- and six-year graduation rates (SMCM, Maryland Higher Education Commission Report 2009).

3. Methodology and model

3.1 The questionnaire and the sample

The study made use of a self-completion questionnaire designed to elicit information from students at RU and SMCM on their level of knowledge, opinions about and willingness to pay for the built heritage on their campuses. In the introduction to the questionnaire, a clear distinction was drawn between non-material heritage (such as values and traditions) and material heritage (such as buildings, structures and landscapes).

The first part of the questionnaire gauged student knowledge about their campus built heritage, asking them to rank various buildings in terms of their age, identify the founding date of the university, questions about participation in campus-guided tours and accessing heritage information on the website. This was followed by opinion questions, eliciting information about the feelings, both positive and negative, that campus built heritage provokes and its importance (on a scale from 1 to 10) in making the decision to attend RU or SMCM. This was followed by a willingness to pay-question (further discussed in Poor & Snowball 2010) and demographic information.

Questionnaires were handed out in classes and tutorials randomly selected, but stratified to represent student populations across faculties and years of study. However, since SMCM is a primarily undergraduate institution (with less than 50 master of teaching-students), the study focused on undergraduates at RU and on making the samples comparable. The total number of completed responses was 636, of which 297 were from RU and 339 from SMCM.

The RU sample was a fairly accurate representation of the population: 82% of the sample was South African, with approximately half the respondents classifying themselves as white and the other half as African, Indian or "Coloured". Second-year students were some-what over-represented and those in the commerce faculty rather under-represented, but later analysis (Poor & Snowball 2010) did not show these attributes to be significant determinants of built heritage valuation.

The SMCM sample was also representative of the population in terms of gender, with 55% female. For the survey respondents who

indicated race, 87% indicated their ethnic or racial group as "white", higher compared to the 2008 enrolment for SMCM of 78%; 5% of respondents self-identified as African American, lower compared to the 2008 enrolment data of 8%, and 12.5% of respondents indicated another race including Asian, Hispanic and Native American, lower compared to the 2008 enrolment data of 18%. The sample is slightly underrepresented for self-identified "minority" groups. In terms of disciplinary study areas, the distribution of the St Mary's respondents included 35% from the natural sciences, 34% from the social sciences, and 31% from the humanities.

3.2 The model

Using a limited dependant variable probit model, we investigate what influences the probability that a student feels built heritage on their campus promotes student loyalty to their respective institutions. The limited dependant variable model (Maddala 1983) assumes that the underlying, unobservable, response variable, y_i^*, is defined by the following regression equation:

$$y_i^* = \beta'x_i + u_i \tag{1}$$

In practice, because the response variable y_i^* is unobservable, we define an indicator or index variable 'y' as follows:

$$
\begin{aligned}
y &= 1 \qquad if\, y_i^* > 0 \\
y &= 0 \qquad otherwise
\end{aligned}
\tag{2}
$$

If the respondents indicated that they believe that built heritage on their campus promotes student loyalty to their institution, y takes on a value of one, and correspondingly if they do not believe that built heritage on their campus promotes student loyalty to their institution, y takes on a value of zero. Where β is a vector of parameters to be estimated, that reflect changes in the corresponding vector of respondent opinions and values associated with their campus built heritage, along with a number of demographic variables as defined by the variable vector x, on the probability a respondent believes that built heritage on their campus promotes student loyalty to their institution. Table 1 provides variable descriptions and their means for each of the SMCM and RU probit regression models estimated.

Table 1: Variable descriptions

Name	Description	SMCM mean	RU mean
FEELNEG	Equals 1 if respondents indicated that they feel negative about the campus built heritage, else equals 0	0.003	0.013
PRESERVE	Equals 1 if respondents indicated that they feel it is important to preserve the campus built heritage, else equals 0	0.969	0.952
MAXWTP	The bid value selected from range of choices	42.41	66.92
ENRICH	Equals 1 if respondents indicated that they feel the campus built heritage or historic buildings have enriched their experience as a student, else equals 0	0.790	0.722
WEBHIST	Equals 1 if respondents had used the HEI's website to learn about the campus's history, else equals 0	0.279	0.32
TOUR	Equals 1 if respondent has gone on a campus tour, else equals 0	0.784	0.635
FEMALE	Equals 1 if respondents indicated that they are female, else equals 0	0.555	0.639
RACE	Equals 1 for students at RU who self-identified their race as 'black' (including coloured people), and at SMCM equals 1 if the respondents self-identified as a racial 'minority' including African American, Hispanic or Asian, else equals 0	0.125	0.502
RETENTION	Equals 1 if respondents indicated that they were in their third or higher year of study, else equals 0	0.448	0.265
NAT_SC	Equals 1 if respondents indicated that their major area of study was in the natural sciences, else equals 0	0.372	0.354
HUMANITIES	Equals 1 if respondents indicated that their major area of study was in the humanities, else equals 0	0.312	0.202
LOYALTY	The dependant variable in regression analysis, equals 1 if respondents indicated that they believe the built heritage on the campus promotes student loyalty to the HEI, else equals 0	0.659	0.722

The probit model is estimated by EVIEWS software, using the maximum likelihood method. The estimation results help explain what significantly influences the probability that a student believes that built heritage on his/her campus promotes student loyalty to his/her institution.

4.   Findings

4.1   Descriptive statistics

The majority of students (78% at RU and 64% at SMCM) reported taking a campus tour at some stage, most during orientation week at the beginning of the first year, but very few had been tour guides themselves. On both campuses, the majority of students reported feeling some pride in their campus heritage, but this was much more prevalent at SMCM (70%) than at RU (55%). A greater percentage of white students at both institutions reported positive feelings about campus built heritage than did students from other race groups (*cf* Table 2).

Table 2: Feelings about campus heritage by race groups

	St Mary's			Rhodes	
Feelings	Other race groups (n=23)	White (n=278)	African American (n=17)	Other race groups (n=169)	Black (n=122)
Neutral/Negative/ Don't Know	22%	27%	65%	35%	57%
Positive	78%	73%	35%	65%	43%

The majority of students (72% at RU and 79% at St Mary's) were still of the opinion that campus built heritage or historic buildings on the campus enriched their time at the university or college in some way and the vast majority (94% at RU and 96% at SMCM) believed that it was important to preserve campus built heritage for the future.

The majority of students (approximately half or 52% at RU and 68% as SMCM) were willing to pay some positive amount in order to protect the built heritage of their university or college, indicating the presence of student preservation value. Of those willing to pay

some positive amount, the lowest payment category (0.25% of annual tuition fees) was most popular (*cf* Table 3).[2]

Table 3: Willingness to pay for campus built heritage

WTP	St Mary's (%) n=?	Rhodes (%) n=?
Zero or don't know	37.5	48.5
0.25%	27.1	21.9
0.5%	19.5	12.8
1%	11.5	12.1
>1%	4.4	4.7
Total %	100	100

Students were also asked whether they believed that built heritage on the campus promoted student loyalty to the college or university. As shown in Table 4, 76% of white students from RU believed that built heritage promoted student loyalty, while only 68% of students from other race groups (black, coloured, Indian or Asian) believed that it did not. At SMCM 68% of white students and 65% of other students self identified as non-white and non-African American believed that the build heritage of their campus promoted student loyalty. For African American students in our sample from SMCM, the opposite was true. With regard to SMCM students self-identified as African American, only 35% believed that built heritage promoted student loyalty and 65% believed that it did not promote student loyalty.

Table 4: Percentage of students who agree that campus built heritage promotes student loyalty

	St Mary's			Rhodes	
	Other race groups	White	African American	Other race groups	White
Yes	65%	68%	35%	68%	76%
No	35%	32%	65%	32%	24%

2   *Cf* Poor & Snowball 2010 for a more detailed discussion of these results.

4.2 Empirical results

The probit model estimation results are presented separately for RU and SMCM. When the data sets were combined and a dummy variable for RHODES (equal to one for RU and zero for SMCM) was included, the coefficient estimate for the RHODES variable was significantly different from zero at the 5% level, indicating that the data from RU and SMCM were significantly different, supporting the use of separate models for each institution. This is consistent with our expectations that the empirical results are likely to be different between the less racially diverse SMCM and the more diverse RU student communities. Table 5 reports the empirical model results separately for both institutions.

Table 5: Probit model estimation results of the probability that students perceive that built heritage promotes institutional loyalty

Variable	SMCM model		RU model	
	Coefficient (std error)	P-Value	Coefficient	P-Value (std error)
	-1.315399** (0.39355)	0.0147	-1.804777*** (0.501696)	0.0003
FEELNEG	-7.141613*** (0.545371)	0.0000	0.131669 (0.657787)	0.8413
PRESERVE	0.844318 (0..529302)	0.1107	1.521658*** (0.441271)	0.0006
MAXWTP	0.004527** (0.001784)	0.0112	0.004728*** (0.001166)	0.0001
ENRICH	0.548155*** (0.194819)	0.0049	0.658440*** (0.193238)	0.0007
WEBHIST	0.468187** (0.186863)	0.0122	0.380092* (0.207712)	0.0673
TOUR	-0.296525 (0.186286)	0.1114	0.156990 (0.187724)	0.4030
FEMALE	0.146588 (0.167689)	0.3820	-0.169195 (0.195275)	0.3862
RACE	-0.406116* (0.22233)	0.0678	-0.183137 (0.188738)	0.3319
RETENTION	0.317072* (0.169388)	0.0612	-0.056987 (0.192963)	0.7677

	SMCM model		RU model	
Variable	Coefficient (std error)	P-Value	Coefficient	P-Value (std error)
NAT_SC	0.493617*** (0.188301)	0.0088	0.613058*** (0.207057)	0.0031
HUMANITIES	0..381070** (0.200681)	0.0576	0.230185 (0.241909)	0.3413
LR Statistic (11 df)	53.06927***	0.0000	67.42271***	0.0000
Mean of dependent variable LOYALTY	0.668		0.728	
Number of observations	313		279	

*, **, *** indicate level of significance at 10%, 5% and 1%, respectively

The likelihood ratio (LR) statistic for both models indicates that the null hypothesis, that none of the explanatory variables have a significant effect on the LOYALTY or dependent variable, is rejected. The dependant variable LOYALTY represents the respondents' belief that built heritage on their campus promotes student loyalty to their HEI (*cf* Table 1). As such the LR test indicates strong overall significance for both institutional models.

The empirical model includes six explanatory variables related to the respondents' opinions and values associated with their respective campus built heritage (described in Table 1). These include whether the respondents indicated that they feel negative (FEELNEG) about their campus built heritage; whether the respondents felt that it is important to preserve (PRESERVE) their campus built heritage; their maximum willingness to pay (MAXWTP) to preserve their campus built heritage; whether the respondents felt that built heritage enriches (ENRICH) their student experience; WEBHIST whether they used their institution's website to learn about their campus's history, and whether they had gone on a tour of their campus.

The model included five demographic variables (as described in Table 1). Whether the respondent was FEMALE; a RACE variable equal to one for students at RU who indicated their race was "black"

(including black African, coloured and Indian people) and zero otherwise. For SMCM the RACE variable equals one for students who identified themselves as a member of a racial "minority" group, including African American, Hispanic or Asian (and zero otherwise). The RETENTION variable was coded as one if the respondents indicated that they were in their third or higher year of study and zero for earlier years, in order to investigate whether perceptions of the impact of built heritage on student loyalty changes as students spend more time at the institution. A set of categorical dummy variables were also included for major areas of study, including the humanities (HUMANITIES), natural sciences (NAT_SC) or social sciences (SOC_SC). The social science variable was the omitted category to avoid collinearity among this set of categorical variables.

The SMCM empirical model results for the coefficient estimate on the NEGFEEL variable (student respondents were asked how they felt about their campus built heritage and to select among four categories: positive, negative, neutral or don't know), is negative and significant, indicating that if a student feels negatively toward campus built heritage, this reduces the probability that a student believes that built heritage promotes loyalty to their institution. This result is consistent with *a priori* expectations. The PRESERVE, MAXWTP, ENRICH and WEBHIST variables had positive coefficient estimates, as we expected, indicating a positive effect on the probability that built heritage makes a student feel loyal to his/her institution. The coefficient estimation on the PRESERVE variable, however, was not significantly different from zero for the SMCM model, but as noted later, was significant for the RU model. The coefficient estimate on the TOUR variable was negative, but not significantly different from zero.

With the exception of the coefficient estimate on the FEMALE variable, the other demographic variables (RACE, RETENTION, NAT_SC and HUMANITIES) have coefficient estimates for the SMCM model that are significantly different from zero up to the 10% significance level. The RETENTION, NAT_SC and HUMANITIES variables had a positive effect on the probability a student feels that built heritage promotes student loyalty. The coefficient estimate on the RACE variable, however, was negative, indicating that "minority" students at SMCM are less likely to feel loyal to their institution, when considering the campus built heritage.

Empirical estimation results for the RU model show some interesting contrasts. Most notably, the coefficient estimates on FEELNEG, RACE and RETENTION variables are not significantly different from zero, indicating that these variables have no significant effect on the probability that a student feels campus built heritage promotes student loyalty. However, consistent with the SMCM estimation results, the coefficient estimates on the PRESERVE, MAXWTP, ENRICH and WEBHIST variables are positive and significantly different from zero, indicating that these opinions and values have a positive effect on the probability that a student feels that campus built heritage promotes student loyalty. The coefficient estimate of the TOUR variable for the RU model is positive but not significantly different from zero. The coefficient estimates on the major areas of study variables were positive for the RU model, similar to the SMCM model. However, only the coefficient estimate on the NAT_SC variable was significantly different from zero for the RU model.

5. Conclusions and recommendations

Similar to other studies, we find that student perceptions associated with the appearance of their respective campuses in terms of built heritage, have a potentially significant impact on student feelings of loyalty and belonging (Alves & Raposo 2010, Worthington *et al* 2008, Nunez 2009). The results of this empirical analysis, comparing two historically white, international HEIs with colonial built heritage (one currently more racially diverse (RU) than the other (SMCM)), reveal that for the less racially diverse HEI, SMCM, empirical results for the "minority" student survey responses was a significant, negative student perception that built heritage promotes student loyalty on their campus. No such significant relationship was found among survey respondents on the more racially diverse RU campus. The empirical results suggest the need for further investigation regarding the use of campus built heritage for the marketing materials of historically white HEIs. In the USA, for historically white institutions that currently have less racial diversity among their students, using campus built heritage to market and promote their institution may have an unintended effect. In other words, in the USA HEIs that are currently predominately white, and were historically white,

the use of buildings with colonial-era architectural design in their marketing literature may have an adverse effect on creating student loyalty among students from racial "minority" groups. Contrasting these results with the more racially diverse, historically white RU, this study indicates that for the more racially diverse institution, RU, this negative effect on the probability that students are of the opinion that built heritage promotes institutional loyalty, was not found to be statistically significant. Further research regarding student opinions on their perceptions of institutional loyalty and the use of built heritage for marketing strategies is warranted.

This research adds a visual institutional identity component to the literature on student loyalty at HEIs. As HEIs strive to create a sense of loyalty among their students, visual marketing materials should be cognizant of the institution's built heritage and student perceptions. Student recruitment marketing strategies should be sensitive to a potential student's racial background and any perceived beliefs regarding the built heritage of a campus.

Bibliography

Alves H & M Raposo
 2010. The influence of university image on student behaviour. *International Journal of Educational Management* 24(1): 73-85.

Baptiste K, L Aument, L Knott, D Seifert & K Farnham
 2008. *Preservation master plan for St. Mary's College of Maryland*. Prepared by John Milner Associates, Inc. West Chester, Pennsylvania, USA.

Buckland R & T Neville
 2004. *A story of Rhodes: Rhodes University 1904-2004*. Braamfontein: Macmillan.

Bulotaite N
 2003. University heritage – An institutional tool for branding and marketing. *Higher Education in Europe* 28(4): 449-54.

Cain D & G L Reynolds
 2006. The impact of facilities on recruitment and retention of students. *Facilities Manager* March/April: 54-60.

Cheng D X
 2004. Students' sense of campus community: what it means, and what to do about it. *NASPA Journal* 41(2): 216-34.

Douglas J, R McClelland & J Davies
 2008. The development of a conceptual model of student satisfaction with their experience in higher education. *Quality Assurance in Education* 16(1): 9-35.

Gottfredson C, A Panter, C A W Daye, L Wightman & M Deo
 2008. Does diversity at undergraduate institutions influence student outcomes? *Journal of Diversity in Higher Education* 1(2): 80-94.

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

Hennig-Taurau T, M Langer & U Hansen
 2001. Modeling and managing student loyalty. *Journal of Service Research* 3(4): 331-44.

Higher Education South Africa (HESA)
 2009. *Pathways to a diverse and effective South African higher education system: strategic framework 2010-2020.* Higher Education South Africa report. <http://www.hesa.org.za/hesa/index.php/component/booklibrary/?task=view&id=25&catid=83>

HAUGAARD J B, S G WILKINSON &
J A KING
2007. *St Mary's: a 'when-did?'
timeline.* St Mary's City, MD: St
Mary's Press.

MADDALA G S
1983. *Limited-dependent and
qualitative variables in econometrics.*
New York: Cambridge University
Press.

MANZO L & D PERKINS
2006. Finding common ground:
the importance of place attachment
to community participation and
planning. *Journal of Planning
Literature* 20(4): 335-50.

NORA A
2004. The role of habitus and
cultural capital in choosing a
college, transitioning from high
school to higher education,
and persisting in college among
minority and nonminority
students. *Journal of Hispanic Higher
Education* 3(2): 180-208.

NUNEZ A
2009. A critical paradox? Predictors
of Latino students' sense of
belonging in college. *Journal of
Diversity in Higher Education* 2(1):
46-61.

POOR P J & J D SNOWBALL
2010. The valuation of campus
built heritage from the student
perspective: comparative analysis of
Rhodes University in South Africa
and St Mary's College of Maryland
in the United States. *Journal of
Cultural Heritage* 11(2): 145-54.

RODGERS K & J SUMMERS
2008. African American students at
predominantly while institutions:
a motivational and self-systems
approach to understanding
retention. *Educational Psychology
Review* 20(2): 171-90.

RU STATISTICAL DIGEST
2009. The Rhodes University Digest
of Statistics Ver13:2009. Rhodes
University Data Management Unit,
Grahamstown, South Africa.

SEDLACEK W
1999. Black students on white
campuses: 20 years of research.
Journal of College Student Development
40(5): 538-50.

ST MARY'S COLLEGE OF MARYLAND
2009. Report to the Maryland
Higher Education Commission.
<http://www.smcm.edu/
institutionalresearch/surveys/
mhec.html>

TWIGGER-ROSS C & D UZZELL
1996. Place and identity processes.
Journal of Environmental Psychology
16(3): 205-20.

UZZELL D, E POL & D BADENAS
2002. Place identification, social
cohesion and environmental
sustainability. *Environment and
Behaviour* 34(1): 26-52.

WILLIAMS JUNE A
2006. Facilities can play key role
in students' enrollment decisions,
study finds. *The Chronicle of Higher
Education*, June 9. <http://www.
chronicle.com/article/Facilities-
Play-a-Key-Role-in/26924/>

WORTHINGTON R, R NAVARRO,
M LOUWY & J HART
2008. Color-blind racial attitudes,
social dominance orientation,
racial-ethnic group membership
and college students' perceptions of
campus climate. *Journal of Diversity
in Higher Education* 1(1): 8-19.