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FACTORS THAT IMPACT ATTRITION AND RETENTION RATES FOR ACCOUNTANCY DIPLOMA STUDENTS: EVIDENCE FROM AUSTRALIA

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ABSTRACT

The Paper examined attrition and retentions rates factors for technical and further education colleges in Australia, the paper examined three factors eternal factors , internal factors and demographic factors, the eternal factors are factors beyond the college control, the internal factors these are factors the college can control, the demographic factors these factors also can lead to high attrition and low retention rates in Australia, also the paper developed a model that can be tested in different environments setting. The finding showed that some of external factors, internal factors and demographic factors indeed impacts the attrition and retention rates in Australia.

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KEYWORDS: Accounting Attrition, Accounting Retention, Community Colleges

INTRODUCTION

Accounting education underpins the whole accounting profession (Wilkerson Jr. 2010). According to Diamond (2005) accounting programs taught inside business schools supply a substantial amount of students entering the profession. This implies the profession is heavily reliant upon accounting programs to produce trainee accountants.

Currently, there is a lot of negative publicity surrounding the profession (Lampe and Garcia, 2013, and Sullivan, 2006). Similarly, Gerstein and Friedman (2013), Gordon (2011) Rogers, Dillard and Yuthas (2005) stated that the accounting profession's appearance and reputation are based upon it being seen to act with the "highest sense of integrity". Enron and other accounting scandals have contributed to the accounting profession's bad image and loss of public trust in the profession. This has led to a reduction in students considering majoring in accounting (Hung, 2014, Heiat et al 2007).

The demand for accounting trainees has however increased in recent years. This high demand can be attributed in part to the shortage of accounting graduates. This argument is supported by Campbell et al. (2013), Wessels and Sumner (2013) and accounting governing bodies. The American Institute of Certified Public Accountants (AICPA, 2004), note that business and legal environments should be encouraging an expansion of the accounting profession. This is because the supply of competent accountants is insufficient to meet the current demand. Similarly, Fielding (2005) noted a UK research study by Robert Half International (RHI, 2001) which found that 40% of respondents reported their accounting firm had faced difficulty in recruiting staff with the right accounting skills, to fulfil their increased workload. In Australia, difficulty in recruiting competent accountants is also noted by Certified Public Accountant Australia (CPA,

2011), and the Institute of Public Accountant Australia (IPA, 2007). According to Byrne and Flood (2005), Jackling and Calero (2006), and French and Capage (2011) in Australia and other developed countries around the world the demand for business studies has increased, but the number of accounting graduates has decreased.

Meanwhile, a white paper commissioned by the American Accounting Association (AAA, 2000) revealed disturbing news for the accounting profession. The report stated that both capacity and value at accounting faculties in community colleges were experiencing major decreases. Currently all universities and colleges are working to develop retention strategies, not only for accounting but for all majors. For example, Griffith University, Australia in 2013 developed a 'student's success program' to assist students achieving success at University.

This section looks at the history of TAFE development, their characteristics, and their role in Australia. Goozee's seminal book, titled the development of TAFE in Australia, published in 2001 is highly instructive. The first Australian university launched in Sydney in 1850, motivated each of the six states to create their own university, and also led to the creation of the Australian National University in Canberra. After the Second World War, the number of students that enrolled in higher education increased. So, in order to meet this demand, more universities were opened, and by 1987 they were 400,000 students enrolled in 19 Universities and 46 colleges of higher education (Yorke and Longden, 2004). Some of these colleges are named TAFEs (Technical and Further Education). Both states and commonwealth government are obligated to oversee TAFE institutions in Australia. TAFE colleges share mutual roots but all established their own separate formation. This formation was a result of diverse social, economic, demographic, geographic and political systems in each state (Goozee, 2001).

In summary, TAFEs are playing an important role in economic and development growth in Australia by providing graduates that are needed in the labour market, including accountancy. Evaluation of attrition rates therein, and comparison to other countries is therefore considered an important ground for research. The rest of the paper is organized as follow Literature Review, Data and Methodology, Results, Concluding Comments, Appendix, References and Biography.

LITERATURE REVIEW

External factors are factors that relate to students' lives outside college. Burgess (2008) identified that these factors can be used as predictors of student dropout rates. Thirteen individual factors have been extracted from the extant literature. Some of these factors are: financial issues, jobs, family problems, physical or emotional challenges, and motivational characteristics. Each of the 13 factors is taken in turn. Initially we consider college (two-year) studies and then we consider university studies which have incorporated these factors.

In the US, financial assistance programs are very important in supporting students' admissions to community colleges, especially students belonging to mid to lower socio-economic classes (St. John, Paulsen and Carter, 2005). For these students, college assistance programs offer the money needed to enrol in higher education, and without such programs students from these disadvantaged groups, would not be able to obtain a college education (Dowd and Coury, 2006;, Mendoza, Horton and Mendez, 2012).

Furthermore, Nakajima, Dembo and Mossler (2012) and Vieira (2012) note that college fees are a very important factor impacting both attrition and retention rates. Their research found that some students discontinue their studies for a sometime, to seek employment that earns them money, and then they re-enrol to continue their studies. However, in some cases they do not go back to college to continue their studies. This finding is supported by other researchers such as Bynum (2010), who noted how students who receive financial support are more likely to stay in college to complete their degree. Similarly, Clark et al. (2012)

and Bharath (2009) found that being forced to pay for college was the number one factor that leads college students to dropout.

Khan and Osman (2011) discovered that 59% of students enrolled in Dammam community college (Saudi Arabia) said they would withdraw from college due to their financial situations. This was especially true of students enrolled in the evening diploma program. Marital status is an additional factor impacting students' attrition. According to Astin (1975) getting married while in college has little impact on attrition rates for men, but is an important factor impacting attrition rates of female students. Subsequent studies support this finding.

According to Ge (2011) who notes that marriage, de factor and committed relationships in the US play a major role in females' decisions to attend college. In the US marital status is a factor impacting student's attrition, especially for female students (Millar, 2010). According to Millar (2010), college students (two-year) tend to have extra family and marriage responsibilities, compared to four-year college (i.e. university type) students. This can lead to their withdrawal from college. This argument is supported by Tinto, (1993), Stratton, O'Toole and Wetzel (2008) and Urwin et al. (2010). Other scholars also noted that the marriage factor is positively associated with attrition (Bean and Metzner, 1985). This suggests that female's students are more concern about family responsibilities than male's students which may impact their decision to drop out from college.

Employment is an additional factor impacting students' attrition. Many scholars stated that getting a job while studying can lead to students' decisions to drop out from college or university.

According to Nakajima, Dembo and Mossler (2012) note that in the US engaging in full time employment while attending college full time has a significant influence on college student dropout rates. Full time employed college/university students are less likely to prosper in college/university than students who do not have a job (King and Bannon, 2002; Salisbury et al. 2012). According to Cuccaro-Alamin (1997) and Riggert et al. (2006) students employed full time are less likely to attain a college or university degree than other students; this because the job takes must of the time for these students.

Personal and family illness is an additional factor impacting students' attrition. A few scholars linked this factor to students' drop out decisions from college or university.

According to Roberts, McGill and Hyland (2012) who conducted a study to find out the reasons female students withdraw from college, a number of current and former students specified they had been influenced by severe illness (3.7%) family fatality and illness (7.4%) or pregnancy (7.4%). These factors had forced them to dropout from college. Kelly et al. (2007) similarly reported that about 23% of college students withdraw from college for family issues, such as death or illness of a close family member, and pregnancy.

This current paper will investigate whether getting sick (self or family member) while studying can force students to dropout from college. Another factor that can impact students' decisions to drop out from college is poor English skills. As this study cover two environments in which English is not the native language, it is considered this can lead to higher attrition rates. This factor becomes a very important issue impacting students enrolled in universities who teach their courses entirely in English and where this is not their native language. In a US study, Bynum (2010) notes that English proficiency programs have definitely influenced students' decisions to stay in college, and have encouraged them to remain and obtain their degrees.

In South Africa Brits et al. (2011), note that a confident level of English proficiency, linguistic and study abilities are crucial factors for guaranteeing academic success. According to Del Vecchio and Guerrero (1995) students should be skilled in English language if it is the language of instruction. They also should be competent enough to ask questions and understand their college instructors.

Another factor that can impact a student's decision to drop out from college is racial/ demographic tension. College students enrolling in city colleges may come from different part of the country. Living away from home, especially in Sudan can lead to higher attrition rates.

According to Pender (2010) who noted that students from under-represented communities in the US (African American, Latinos, and American Indians) have the highest dropout rates compared to other racial groups of students (i.e. white and Asian students). These students fail to continue their studies partly because of inadequate or unsuccessful efforts by colleges to help them upgrade their academic and social involvement in the institution's setting (Summers and Hrabowski, 2006). Similarly, Mangan and Trendle (2010) found that in Australia, college attrition rates among indigenous students enrolled at VETs and TAFEs are higher than for other groups of students.

Lack of transportation is an additional factor impacting students' attrition decisions. A few scholars linked this factor to students' dropout decisions from college or university. This factor can impact a student's decision to drop-out and as this study has three different environments, it will be tested in this research to see its relevance.

Roberts, McGill and Hyland (2012) found that several characteristics of commuting to university were found to be an issue among female students. The distance between the university and the student's home was an issue for 22% and transportation availability was a problem for 22% as well. The researchers stated that these factors make it hard for students to be completely involved with their education and are more likely to work in combination with other factors, which can lead to increased student attrition.
This paper will look how lack of transportation impact student's decision to drop-out from college.
Conflict with college authorities is an additional factor impacting students' attrition. This factor may influence students' decisions to drop out of college. This issue is very sensitive and that is why there is no available literature considering it. This study is the first of its kind to link this factor to attrition rates.

There is a lack of literature concerning this factor and most attrition research has failed to focus on this issue. This is possibly due to the fact that most research on attrition has emanated from Academic who views attrition as the "student's" problem, rather than any fault of the institutions. Also getting information or data needed to investigate this issue it's not easy, so views of Academic and difficulty of collecting data played in this lack of literature.

In this paper will therefore investigate this issue to see if there is any evidence that it can impact a student's decision to withdraw from college or suspend their studies. Absence of clear policies is an additional factor impacting students' attrition. This issue is also very sensitive and explains why there is no available literature considering it. This research is the first of its kind to link this factor to attrition rates.

As with the previous issue, this factor has not been investigated by many researchers. Again, this could possibly be due to the potential for a negative image to emerge of universities and colleges. It is unlikely colleges and universities are going to admit that their policies are weak and these factors contribute to students' dropping out. Dockery (2012) stated that college dropout issues should be blamed on high school counsellors. He noted high school policies should be focused on this fact, to prevent or at least reduce college dropout ratios. He stated that high school policies should focus on Academic performance and offers extra Academic programs to help students academically by doing so students will perform better at college.

This paper will include the above factor in the devised model to find out if this factor is significant in contributing to college attrition rates. Another factor that can be linked to attrition rate is poor attendance/grades. Prior research demonstrates this factor has a strong influence on student's drop-out decisions.

Bean and Metzner (1985) included GPA and its relationship to attrition among college students in their model. Most researchers find that this factor is more related to community colleges than university due to the different academic settings of the two groups. This is commented upon by many researchers (Leone and Tian, 2009; Kinloch, 2012; Nakajima et al., 2012).

Another factor which may cause students to drop out is increased interest in other areas of study. Prior research, listed below, linked this issue to high attrition rates. Currently accounting programs facing many challenges such as losing their students to other areas (for example nursing, IT, etc.) and the explosion of interest in information technology; have contributed to increased student interest in other area of studies over accounting. Several studies and reports attest to this. These include AAA (1986) AECC (1990) Arthur Andersen & Co. Perspectives Paper (1989) Frederickson and Pratt (1995) and French and Cappage (2011). Accounting programs requires certain skills that are needed to enter the accounting profession, student's views these skills is challenging and demanding which contribute to their drop-out from accounting program, and enroll in other majors that are less demanding, Kavanagh and Drennan, (2008).

This paper will include the above factor in the devised model to find out if this factor is significant in contributing to college attrition rates.

According to Bougen (1994) and Ferreir and Santoso (2008) a negative view of accounting programs appears to be reinforced in the first year of college education. This is exacerbated when outdated teaching styles are used to teach accounting. For example when faculty teach bookkeeping and other quantitative problems, students perceived this as negative because it is viewed as boring due to the way it is taught. This can then impact on the students' decision to continue (or discontinue) their studies in the field of accounting. Another issue students sometime enrolling in program without known what skills the profession requires which also can lead to high attrition rates. Johnston et al (2010), Dewey (1912)

Family pressure is another factor that can impact a student's decision to drop out from college. Many researchers wrote about this factor and its influence on attrition rates. Shah and Widin (2010) note that education level of college students' parents is an important factor in determining whether those students persist at college. Parent education levels also play a major role in determining student accomplishment, especially students from lower social class groups (which most community college students belong to).

Ishitani (2006) and Whitehead (2012) both note students who are the first person in their family to attend college have higher dropout rates than other students. Similarly, minority group students and students belonging to lower socio-economic classes, demonstrate higher dropout rates. This is supported by other researchers such as Chen et al. (2005), Majer (2009) and Savi (2011).

This present paper expands upon previous studies of attrition models by using institutional internal factors as well as external and demographic factors to predict attrition rates. These factors are linked to student engagement in curricular and extra-curricular activities, for example, communication with faculty, involvement in college activities, and interactions with other students. Many researchers have focused on student characteristics regarding attrition. This paper will supplement findings as regards these characteristics but will also investigate students' satisfaction levels regarding their institutions

The general importance of these factors is highlighted in the literature in business management which shows that customer satisfaction is very significant in retaining customers. Douglas, McClelland and Davies (2008) conclude that, "the concept of the student as customer is not new". They stated that students should be considered as customers and their approval is significant to their retention. High levels of approval among students will help in increasing college retention rates (Chandler, 2001).

According to Petruzzellis and Romanazzi (2010) in Italy, student satisfaction is related to retention and has become a very critical issue for colleges and administration. If students are not pleased, they will send negative messages about the college to others. This will harm the image of the college. Students who will not endorse their college to others create other issues such as engorging other students to drop-out, not paying school fees (Blackmore, Douglas and Barnes, 2006). As Voss (2009) concluded, German student approval increases not only student retention but also the potential enrollment of new students. It is therefore important to know the aims of students. If these aims are fulfilled, then the overall satisfaction level will increase

An institution's registration system is a factor, which if students are not satisfied with, can increase the attrition rate. A few researchers such as Hale and Bray (2011) Andrews (2003) and Angelo (1990) have completed studies focusing on the influences of the college registration system and its impact on retention and attrition rates. The findings of these researchers state that the college registration system strongly impacts retention and attrition rates. Course scheduling/timetabling is another factor that may decrease the satisfaction level of students. If it does, this can also be associated with high attrition rates.

According to Douglas, McClelland and Davies (2008) communication with students concerning modification to course timetables and exams has a significant impact on student satisfaction and attrition these due to fact students might have other plans and also this create impact students plan agenda. The authors stated that keeping students notified about course syllabus, instructions, changes in schedules, and paying attention to their comments, enhances student confidence and satisfaction.

The college accounting curriculum, as a potential attrition factor, has not been well investigated by researchers. Most researchers (Allensworth and Nomi, 2009; Harris and Tienda, 2012; LeBeau et al.,2012) focus on high school curriculum and its impact on college retention rates. Other researchers (Dorn, 1993 Ibrahim and Brihoum, 2001) propose that college curriculum must be reviewed regularly to ensure they remain relevant to the requirements and demands of the industry.

Course assessment (exam grading, assignments, etc.) is another factor that many researchers investigated, which also can be linked to attrition. According to Bahr (2012) students who do not pass their course the first time are unlikely to enrol again in that course. Other researchers such as Bailey (2009) have also noted that course assessment impacts college attrition, students who getting bad grades in exams are more likely will not enrol in the same course again, this can impact course attrition rate. Bailey, Jeong and Cho (2010) supported the above argument. Teaching and college instructors are another internal factor that can be linked to attrition. Many researchers find this factor is highly associated with college attrition.

The teacher-student relationship has a major impact on students' satisfaction levels and retention decisions (Khan and Osman, 2011). The extant literature notes that 'faculty-student collaboration" is a predictor of student attrition (Pascarella and Terenzini, 1991). Tinto (1975) agreed that increased collaboration between students and faculty supports the ties between students and their college, and helps in decreasing student attrition rates. Another factor which may impact attrition is college facilities. This factor may not have been investigated sufficiently by others.

Lau (2003) stated that course instructors can aid to keep constructive learning environment for their students by using multimedia tools and creative instructional techniques such as cooperative and collaborative learning in their classroom which can help to reduce attrition rate. An additional factor which may impact attrition is technology. Many researchers have investigated this factor and its impact on college attrition.

The extant literature is inconclusive regarding the connection between student satisfaction, the utilization of technology in higher education, and their relationship, if any, to student attrition rates. Green and Gilbert (1995) supported the opinion that utilization of information technology improves the learning progression

among college students. This can lead to better retention rates. Roy and Elfner (2002) and Khan and Osman (2011) reviewed the benefits of utilizing technology in the classroom. Both studies noted the use of several IT instruments such smart board and module, webtv can be valuable in the student learning process and improves their satisfaction levels.

College services are an additional factor that may impact college attrition. Many researchers find that this factor is highly associated with college attrition. According to Noel et al. (1985) counseling and advising have a significant positive impact on student satisfaction and therefore retention rates. The authors believe that employment preparation, and counseling and advising services by a college are crucial factors in student retention.

Harvey-Smith (2002) notes that the accessibility of student services provided by the college can have a huge impact on student's persistence and retention decisions. The author also notes that students' involvement in student unions, as well as their participation in college activities, will help in increasing retention rates.

Another area which has not received much focus is the relationship between use of college facilities and student retention rates. Mallinckrodt and Sedlacek (2009) tested this in the US and discovered that the use of college facilities is indeed positively connected to students' retention rates. Also the authors noted that use of the library is positively related to retention as well. Their research concluded that the use of non-academic facilities such as GYM, sport facilities was a particularly important factor that impacted attrition decisions, especially for African American students. According to Windschitl (2008) and Fenzel (2001) both found that several of the activities that help to maintain a healthy lifestyle also have a positive influence on college retention rates.

According to Roberts and Styron (2010) and Pascarella and Terenzini (2005), note that many educational institutions offer their students different types of academic services and resources in order to enhance the chances of retaining them. Miller (2005) and Seidman (2005b) argued that if students are admitted to an institution, then the institution should provide services that will assist these students to succeed.

The seven demographic factors included in this research are as follows: age, marital status, geographic location/nationality, year of study, computer skills, and reasons for choosing an accounting program, and willingness to encourage others to major in accounting. Some of these factors have been evaluated in previous studies. Others however, it is argued, need more attention and so are included in this updated model used to assist in evaluating factors impacting attrition decisions. The age factor can impact attrition rates and many researchers have investigated this factor and its impact on attrition.

According to Khan and Osman (2011) note that literature which discusses student dropout rates in relation to student age, shows inconsistent results. Some researchers believe that the age factor is directly related to drop out decisions. Cooper (1990) stated that the age factor has a limited yet significant effect on student attrition. Xenos, Pierrakeas and Pintelas (2002) concluded that older students are more likely to drop out than younger ones. Hoyt and Winn (2004) reported that both stop outs (temporary withdrawals) and drop outs were likely to be older students with children Anionwu et al. (2005) commented that young students are less likely to finish their studies. Marital status is an additional factor that can impact attrition. Many researchers have investigated this factor and its impact on college attrition.

According to Bradburn (2002) tested the characteristics impacting students' withdrawal at two and four-year colleges. His findings showed that around 62 percent of married students drop out from college within a three years period.

Geographic location and students' nationality is an additional factor that may impact attrition. Prior research has investigated this factor and its impact on college attrition.

A report by the Australian National Audit Office (as cited in Jackling and Keneley 2009), studied 485,983 tertiary students, including 102,868 international students. The study took place in the 2006 academic year across 32 Australian universities. The study investigated student retention rates and the findings showed that 89.5% remained at university, and only 10.5% withdrew. The 89.5% of students who stayed in their course either finished their course or continued their studies from the previous year. 7.6% of the 102,686 international students dropped out which is a lower than the domestic students with an 11.3% drop out rate.

Other studies, such as Grebennikov and Shah (2012) similarly found that international students demonstrate better retention rates than local Australian students. Other researchers have also noted that country of origin has been classified as an element which influences students' decisions to choose accounting as an area of study and career (e.g. Mauldin et al., 2000 Tan and Laswad, 2006 and Jackling and Keneley, 2009).

Years of studies are an additional factor that can impact attrition. Prior research has investigated this factor and its impact on college attrition. A study by Horn (2009) found that after three years of enrolment, forty nine percent of community college students had remained as students. Reason for choosing the accounting program is an additional factor that can impact attrition. Here again prior research has investigated this factor and its impact on college attrition.

According to Uyar, Haydar and Kuzey (2011) investigated the reasons that influence students' career choices in accounting. They began by summarizing the results of earlier studies. Mauldin et al (2000) investigated twelve factors that influenced students' decisions to choose accounting as a college major. These factors are: career opportunities, accounting instructor, money, interest in the subject, parents, enjoyment, pervious experience, life style, challenge, prestige, and usefulness. They found that the accounting instructor was the most significant factor

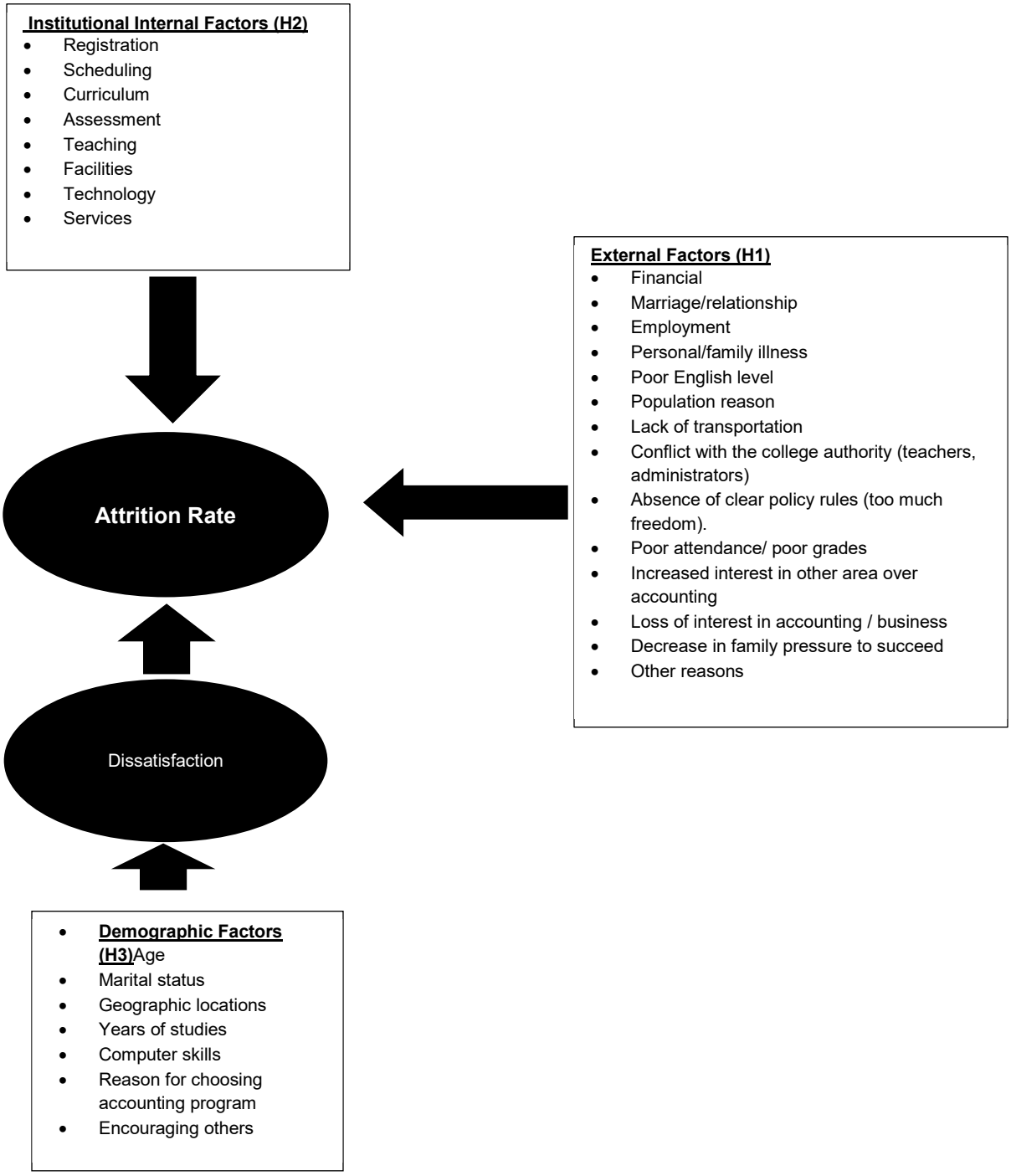
Encouraging others to major in accounting is an additional factor that may impact attrition rates. Not many scholars have investigated this factor and its impact on attrition, so it is included here to test its impact.

There is a lack of literature regarding whether students encourage other students to major in accounting and the impact, if any; this has on student retention rates. Studies by Person (2002) and Albert and Sacks (2000) stated that accounting practitioners and educators, if they had to redo their studies, would not choose accounting as their choice of topic.

Based upon the discussions above a model to evaluate the impact of various factors on attrition rates has now been developed. It has been developed from Bean and Metzner's (1985) model, Tinto's (1975) model of student departures, and Astin's (1975) work on student involvement.

This model also includes some new variables not previously evaluated. The model identifies three categories of variables which impact upon attrition rates (i) external factors; (ii) internal factors; and (iii) demographic factors. A diagram of the full model is presented on the next page. The overall intention of the model is to show that it can be used as an evaluative tool with which to analyze attrition decisions in different environments.

Figure 1: Research Model



METHODOLOGY AND DATA COLLECTION

This paper study uses a mixed methodology approach of both quantitative and qualitative methods. Mixed methods research is well supported by Lieberman (2005), Mertens (2009) and Creswell (2009) as it can supply more extensive results for a specific research problem. Creswell further observed that quantitative and qualitative methods in the fields of social and human sciences are well known, well justified and appropriate. Woolley (2009) and Johnson and Onwuegbuzie (2004) also support mixed methods approaches, claiming they offer an integrated approach to collecting data and can supply numerous viewpoints to the same research questions, based on the above studies mixed methodology is the appropriate one to use in the paper because it can supply extensive result for attrition problem, also its offer numerous viewpoints to the research questions.

Data for this research was collected through questionnaire surveys completed by students and administrators and structured interviews with administrators only. The questionnaires were then distributed to the accounting/business students and their program directors in four TAFE colleges in Australia. Paper-based questionnaires were distributed to collect the data. The reason for using a paper-based survey is because of its reliability and emphasis on a broader population.

The researcher contacted six TAFEs in Queensland. Some of the colleges requested more clarification and they enquired about the aims of the research which the researcher and his supervisors elaborated on. Then a request for data collection was sent for higher management for approval after 4 weeks during fall 2013. Only two directors out of the six colleges approved the researcher's requests and their program directors of business and accounting studies ultimately assisted in collecting the data. The researcher visited the first of these two colleges two times which allowed the researcher on both occasions to distribute and collect from students with the program directors present. The second college choose a different method with the program director distributing and collecting the questionaries' and then calling the researcher by phone to collect them. Two additional colleges were contacted and also agreed to participate. At those two colleges the college staff organized the survey completions and mailed all completed questionnaires to the researcher. These interviews were conducted with the interviewee completing the list of questions and the reviewer following up via phone conversation.

In summary, the survey instrument was distributed to the accounting students and their program directors in four Australian TAFE colleges that offer a two year accountancy diploma program. In college one the students completed the questionnaires during lecture time under the supervision of the college administer. The second college allowed the researcher to visit the class rooms during lecture hours to distribute the survey questionnaires to students. Administrators' questionnaires and interview questionnaires were sent to the program directors by e-mails and/or letter. The researcher subsequently collected the hard copies from the program directors and also conducted the face-to-face interviews with the program directors at this time.

Data from New South Wales and Western Australia TAFEs were distributed to accounting students during lecture hours by course instructors and then submitted to the program directors. The data was collect during the fall and spring semester of 2013The program directors subsequently sent all completed questionnaires to the researcher by post. A total of 197 questionnaires were collected overall and actual attrition rates for the four colleges were 20%, 40%, 20%, and 25%. It is argued that this convenience sampling approach is suitable for this research and resulted in a geographically dispersed and representative sample of Australian colleges participating in the study.

RESULTS

Initially two reliability tests were performed. The first test measured the internal consistency of the external factors, and the second measured the internal consistency of the internal factors. Tables 1 and 2 below summarize the outcomes of these tests.

Table 1: Reliability Statistics –External Factors (A)

Cronbach's Alpha	0.84	N. of Items	14	
External Factors	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha
1	33.8557	86.714	0.383	0.838
2	34.5672	85.967	0.416	0.836
3	34.0746	88.209	0.344	0.840
4	33.9254	92.369	0.160	0.851
5	35.1642	84.398	0.486	0.831
6	35.2338	84.380	0.541	0.828
7	34.9950	83.495	0.537	0.828
8	34.8756	83.019	0.617	0.823
9	34.9403	83.476	0.578	0.825
10	34.4726	81.890	0.590	0.824
11	34.4279	81.446	0.608	0.823
12	34.7761	82.975	0.626	0.822
13	34.9801	86.490	0.461	0.832
14	34.3980	88.121	0 .383	0.837

Note: This table contains summary data of the reliability of the external factors

The Cronbach Alpha for the external factors for all colleges in Australia is 0.84. This implies 84% of the items are measuring the same construct. This percentage is considered acceptable because it meets the scale set in the previous chapter, as supported by Davidshofer (1988, p. 89, quoted by Peterson 1994).

The result of the reliability factor analysis of the internal factors provides a satisfactory measure when compared to Nunnally's (1967) benchmark. The result implies 90.3% of the items are measuring the same construct.

H1A: External factors will impact attrition rates of accountancy programs

First basic analysis of means and independent sample t-tests were used to test Hypothesis 1, whether external factors contribute to attrition in Australia. The students were asked if the listed external factors would force them to terminate their accounting studies. The constructed measurement started with 1 (strongly disagree) and ended with 5 (strongly agree) on the 5-point Likert scale. Therefore, all factors with means greater than 3.0 are considered to impact upon attrition. Referring to Table 2 rows 4 to 17, of the 14 external factors; three were found to impact on attrition, as they had means greater than 3.0.

Based upon the students' responses it is valid to conclude that in Australia three external factors identified in previous literature do indeed affect attrition rates in Australia. These are: financial issues, getting a job, and personal/family sickness.

Another three factors displayed means close to 3.0, so the researchers concluded that these factors also have some effect on students' decisions to leave college. These were: loss of interest in the subject, academic performance, and "other reasons". The open ended "other reasons" question offered the following three issues as impacting attrition: working full time leaving no time to attend classes, family responsibilities, and the need to save more money for college.

The remaining eight external factors, marriage, interest in other major, issues with administration, absence of clear policy, family pressure, demographic reason, lack of transportations, and English language issues,

had means less than 2.75 and so could not be considered as impacting upon attrition in the Australian setting. This is discussed further below.

Table 2: Reliability Test: Internal Factors (A)

Cronbach's Alpha	**0.903**	**N. of Items**	**38**	
Internal Factors	**Scale Mean**	**Scale Variance**	**Total Correlation**	**Cronbach's Alpha If Item Deleted**
Registration (Process)	131.4776	283.431	0.481	0.900
Registration (course selection)	131.3731	286.285	0.408	0.901
Registration (no Delays)	131.3731	286.635	0.41	0.901
Registration (Warning system)	131.7065	285.978	0.467	0.900
Registration (Announcement)	131.5473	270.629	0.315	0.911
Registration (Overall)	131.4975	286.281	0.423	0.901
Lecture and Exam (Flexibility)	131.6169	284.118	0.471	0.900
Lecture and Exam (Course conflict)	131.4826	287.251	0.405	0.901
Lecture and Exam (Exam conflict)	131.6567	288.837	0.34	0.902
Lecture and Exam (Overall)	131.5174	284.791	0.508	0.900
Curriculum (High Expectation)	131.3284	282.262	0.576	0.899
Curriculum (Transferable)	131.2239	287.975	0.404	0.901
Curriculum (Interesting)	131.2687	282.897	0.562	0.899
Curriculum (Contents)	131.1393	287.28	0.101	0.916
Curriculum (Overall)	131.2338	284.74	0.589	0.899
Exam and Feedback (Criteria)	131.3284	282.232	0.569	0.899
Exam and Feedback (Feedback)	131.3881	283.319	0.494	0.900
Exam and Feedback (Overall)	131.2786	285.082	0.494	0.900
Teaching Satisfaction (Knowledge)	131.2040	281.023	0.58	0.899
Teaching Satisfaction (Availability)	131.2139	282.339	0.53	0.899
Teaching Satisfaction (Cares)	131.1045	284.264	0.537	0.900
Teaching Satisfaction (Style)	131.1343	284.677	0.504	0.900
Teaching Satisfaction (Overall)	131.1542	281.751	0.629	0.898
Facilities (Computer lab)	125.8307	285.828	0.494	0.900
Facilities (Teaching facilities)	125.7937	285.794	0.461	0.901
Facilities (Class Size)	125.9339	284.915	0.511	0.900
Facilities (Overall)	125.7963	284.28	0.584	0.899
Technology Used (E-mail account)	131.4080	283.863	0.533	0.900
Technology Used (Support)	131.4527	284.369	0.53	0.900
Technology Used (Facility)	131.5274	285.38	0.519	0.900
Technology Used (Overall)	131.4826	286.251	0.464	0.901
Service (Learning resources)	131.393	286.88	0.434	0.901
Service (Bookstore)	131.5323	287.49	0.382	0.902
Service (Gym-Health facilities)	131.8209	288.478	0.361	0.902
Service (Support services)	131.5572	284.038	0.535	0.900
Service (Careers services)	131.5373	286.53	0.438	0.901
Service (Overall)	131.4279	286.506	0.505	0.900

Note: This table contains summary data of the reliability of the internal factors

These results indeed showed that external factors impact attrition rates in Australia, therefore H1 is accepted. Let us now consider Hypothesis 2

H2A: Institutional internal factors will impact attrition rates of accountancy programs

The students were asked how satisfied they were with the listed internal factors. This time the constructed measurement started with 1 (strongly dissatisfied) and ended with 5 (strongly satisfied). Hence, rather than cutting off at the midpoint of 3.0 and evaluating whether or not the factors impacted attrition (as with the external factors) an alternative analysis methodology was selected. The questionnaire contained 8 internal

factor clusters: registration, scheduling of lecture and examination, curriculum, grading, teaching, facilities, technology, and college services. These were then further sub-divided into 37 sub-factors.

As classified by both students and program administrators. Interestingly, both groups agreed on the order of the two of the first four factors (Lecture scheduling, and registration), as noted above. Furthermore, from the students' responses the first four means are very close in raw scores (3.47 to 3.57) and then there is a gap to the remaining four means (3.70 to 3.87). For the administrators the differences are not that significant except for the lecture factor and registration which are below 4.00. According to the students and administrators' responses they agreed that the internal factors examination, facilities, curriculum, and teaching are not contributing to students' decisions to drop out of college. On the other hand, students think the first four factors impact their decision to leave college (lecture scheduling, college service, technology and registration).

The administrators disagreed with students in two of these factors which were college services and technology. They think these two factors should not have such an impact on student attrition. But they agreed with the students on the other two which are lecture scheduling, and registration processes. They believe these two factors are related to attrition. As students appear less than satisfied with four of the eight factors (registration, technology, college services, and lecture scheduling) H2 is therefore accepted. Let us now consider H3

H3A: Demographic factors will impact attrition rates of accountancy programs

The first two demographic factors to be assessed were age and marital status. Previous studies, as mentioned above had found these to be significant factors impacting upon attrition decision. In the current sample of four TAFE colleges, the numbers were significant enough to spread the participants in these categories to assess their impact or otherwise upon attrition decisions. As regards the age factor, of the 197 respondents, 31 students are aged 17-20 years, 36 aged from 21-25, 51 aged from 26-30, and 79 aged 31+. For this category colleges 1 and 2 have more students aged 31+ than the other two colleges.

Similarly, when considering marital status, of the 197 students who completed the survey 87 students are de-facto or married and 110 single. College three had more single students compared to married ones. Another significant demographic detail was gender with 79 students being female and 118 students male. Only college 4 has more female students than male.

A further demographic factor, impact of years of study, also yielded a split which enabled analysis. 105 students who responded to the survey were in their first year and 92 were in their 2ndyear of study. Finally 58 students were international as opposed to 139 domestic.

A further analysis of the six demographic factors' (age, marital status, nationality, year of study, reason choice and gender) impact on external factors revealed that of the 14 external factors 4 were impacted. Age had a significant influence on one external factor. This was external factor 11, loss of interest in accounting with ANOVA results showing an F-score of 2.250 (significant at .084). Marital status had a significant influence on a different external factor (external factor 4: personal/family sickness) where ANOVA results showed an F-score of 3.840, significant at .051. Students' nationality did not show any significant impact on the external factors. Years of study significantly influenced three external factors; external factors 1 (financial, ANOVA results showing a-score of 3.083, significant at.081) 4 (personal/family sickness, ANOVA results showing an F-score of 6.674, significant at.010), and 10 (academic, ANOVA results showing an F-score of 3.478, significant at.064).

'Reason choice' had significant influence on three external factors (Ext 1: financial, ANOVA results showing an F-score of 4.874, significant at .003, Ext 10: academic, ANOVA showing F-score of 2.441,

significant at .066, and Ext 11: lost interest in the accounting subject, ANOVA showing F-score of 3.900, significant at .010), Gender had significant influence on two of the external factors(Ext1: financial ANOVA results showing a F-score of 4.311., significant at .039, Ext4: personal/family sickness, ANOVA results showing a F-score of 6.663., significant at .011).

Two other demographic variables, level of computer skills, and whether the participant would encourage others to commence accounting studies, were subjected to ANOVAs to evaluate any significant differences as regards evaluation of the 14 external factors. In the two instances only one factor was noted as having significantly different results and it was a different factor in each instance. Hence, these are deemed not to have provided evidence of impacting attrition decision-making in this setting.

Additional evaluation of the impact of demographic characteristics on external factors was conducted on an individual college by college basis. This produced the following not tabulated results, on a college-by-college basis.

College 1 revealed 2 external factors were impacted by the respondents' age (external factors 3, and 7). Student's nationality impacted six of the factors (external factors 1, 5, 8, 9, 12, and 14). Computer skills impacted only one external factor, which was external factor 2. Other demographic factors did not impact any of the external factors for college 1.

For college 2, years of study impacted seven of the external factors (external factors 1, 2, 3, 4, 10, 11 and12). Marital status impacted three external factors (external factors 4, 9 and 13) Nationality impacted three factors (external factors 5, 6 and 13). Other demographic factors were not impacted by any of the external factors for college 2.

For college 3 computer skills impacted on one external factor, number 2. No other impacts were noted.

Finally, for college 4, 'reason choice' impacted seven factors (external factors 2, 5, 6, 7, 8, 10 and 11). Age impacted two external factors (external factor 2 and 9). Students nationality impacted two external factors (external factor 1 and 5) and computer skills impacted two factors (external factors 4 and 7).

Despite the many cross-impacts, there was not one common factor across the four colleges. In other words, different demographic factors impacted the students' external factor evaluations. As 13 of 14 external factors revealed differences when evaluating results from the four colleges, these demographic factors are assessed as significantly impacting attrition decisions.

A review of the raw data and response to open ended questions does not support the concept of demographic factors influencing attrition decisions. The participants were asked whether they would recommend the accounting programs to friends/family and to expand on their answer. The majority 163 (82.5% - this explains the mean of 1.18 , as the construct was 1 = yes and 2 = no) said they would. The main reasons they gave were, (i) many jobs in accountancy, (ii) entry accounting level positions require at least an accounting diploma, and (iii) the diploma program is a pathway for university education. This demographic factor, attitude towards recommending accountancy to others, therefore, appears to have no impact on attrition decision-making.

The interaction of demographic and external factors noted above highlights the complexity of attempting to evaluate attrition from accountancy courses overall. The actual attrition rates from the four colleges reveal colleges 1 and 3 have the lowest rate (20% as opposed to two colleges with 40% and 25%). The only three external factors which showed a difference between the colleges were financial factors (external factor 1) employment opportunities (external factor 3) and personal/family sickness (external factor 4). College 3 had a significantly lower mean in all three cases thus indicating they were less worried about these factors

and so their lower attrition rate makes sense intuitively. However, when the ratings for the internal factors, summarized by category are investigated, they reveal the means for college 2 are actually lower than colleges 1, 3, and 4. This would suggest that college 2 students are more dissatisfied with their institution and based upon the attrition figures they are more inclined to leave. These results indeed showed that demographic factors impact attrition rates in Australia, therefore H3 is accepted.

H4A: There will be no difference in the attitudes of students between institutions, as to the impact of influencing factors, on attrition rates of accountancy programs.

Based upon the fourth hypothesis, it was anticipated there would be no significant differences between the participants of the four institutions in their attitudes towards attrition factors. Considering the external factors firstly, 14 factors evaluated. A significance levels when ANOVAs were performed comparing the mean scores of the four individual colleges. Four of the 14 revealed significant differences. These are financial issues, academic performance, family pressure, and 'other'. In three instances, financial problems (external factor 1) academic performance (external factor 10), and other (external factor 14) students at colleges 2 and 4 were more inclined to think they would be forced to leave, than students in colleges 1 and 3. The means for both colleges, in all three instances, being greater than the means for college 1 and 3. This clearly demonstrates that there is a significant difference in attitudes of students between institutions, as to the impact of influencing factors, on attrition rates of accountancy programs when considering the external factors, H4 is therefore rejected.

However, when the internal factors are considered, no significant differences emerge. The means for the 37 internal sub-factors, extracted from the 8 institutional internal factors are, none of the factors reveal significant differences (at the .10 level or below). Similarly the eight combined sub-internal factor means reveal no significant differences (at the .10 level or below, column 5). So, when considering the internal factors, it appears there are no significant differences between institutions from the same geographical location, as to factors impacting student satisfaction, and ultimately therefore, decisions to terminate their accounting studies. When we considered the internal factors no significant difference in opinions emerged, so, H4A must be accepted as regards internal factors.

H5A: There will be no difference between the attitudes of students and administrators as to the impact of influencing factors, on attrition rates of accountancy programs.

Based upon the fifth hypothesis, it was anticipated there would be no significant differences between students and administrators in their attitudes towards attrition factors.

Considering the external factors firstly, some significant differences in attitudes between the administrators and the students in 4 of the 14 comparisons. Administrators considered financial pressures, poor attendance and grades, family pressure, and other reasons (motivations, program structures) would be more likely to force students to leave their accounting studies than students.

Focusing on the internal factors, significant differences in attitudes between the administrators and the students in all eight comparisons. Only college 4 showed some significant differences in attitudes. Students were significantly less satisfied with course scheduling and time tables, curriculum, facilities, technology (internal factors 2, 3, 6, 7 and 8) than the administrator considered they would be, at that institution.
Considering the external factors firstly, some significant differences in attitudes between the administrators and the students in 4 of the 14 comparisons. Administrators considered financial pressures, poor attendance and grades, family pressure, and other reasons (motivations, program structures) would be more likely to force students to leave their accounting studies than students.

Focusing on the internal factors no significant differences in attitudes between the administrators and the students in all eight comparisons Only College 4 showed some significant differences in attitudes. Students were significantly less satisfied with course scheduling and time tables, curriculum, facilities, technology (internal factors 2, 3, 6, 7 and 8) than the administrator considered they would be, at that institution.

The results for the external factors revealed some significant differences of opinion between students and administrators for 4 of the 14 factors. This result offered some support for H5. The internal factors revealed significant differences only at one of the four institutions. H5 has to be rejected as regards internal factor.

CONCLUDING COMMENTS

In Australia only three external factors were found to impact attrition rates. These factors are; financial, getting a job, and personal/family sickness. This suggests that attrition from accountancy courses in Australia is less impacted by external factors.

Students in Australia appear to be dissatisfied with four of the eight clusters. They appeared to be dissatisfied with lecture scheduling, registration, technological services, and college facilities and services. This result was not anticipated due to technological advances, newer facilities, and relatively easier enrolment procedures. In Australia four demographic factors were found to impact the external factors and therefore lead to high attrition. These factors are years of study, gender, reasons for choosing accounting studies, and marital status.

In Australia results showed significant differences in attitudes between administrators and students in 4 of the 14 external factor comparisons. Administrators considered financial issues, poor attendance and grades, family pressure, and other reasons (motivations, program structures etc.) would be likely to force students to leave their accounting studies but the students disagreed.

When the internal factors were compared, there were no significant differences in attitudes between the administrators and students in all 8 comparisons. On an individual institutions basis, only college 4 showed some significant differences in attitudes.

The model used in this research helps us to a better understanding of factors impacting college attrition and retention. It also appears flexible enough to be used in environments that are similar to Australia, and hopefully elsewhere as well.

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