

MODEL TO EVALUATE ATTRITION/RETENTION DECISIONS BY ACCOUNTANCY DIPLOMA STUDENTS: CASE STUDY EVIDENCE FROM SUDAN

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ABSTRACT

Research to date which has analyzed attrition at universities and community colleges has tended to focus on clusters of factors which may or may not impact attrition. This paper extends the current literature and develops a model to evaluate attrition. Three core groups of factors which impact attrition are developed into a model. These are external factors, internal faculty factors, and demographic factors. The model was then tested on accounting students and the departmental head of a public institution offering accounting diploma programs in Sudan. The model identified many impacting factors from the three core groups. Satisfactory explanations were also available as to why other factors were not found significant, in this particular testing environment.

JEL: I20, I29, M10

KEYWORD: Attrition, Accountancy Diploma Students, Attrition Model, Sudan

INTRODUCTION

The demand for accounting trainees has increased in recent years. Accounting governing bodies such as AICPA (2004), note how current business and legal environments should be encouraging an expansion of the accounting profession. However, evidence suggests the supply of competent accountants is insufficient to meet the current demand. Fielding (2005) notes a UK research study by 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. Similarly, in Australia, difficulty in recruiting competent accountants is noted by CPA Australia (2011).

According to Glass and Oakley (2003) this lack of supply can be attributed in part to the shortage of accounting graduates. According to Byrne and Flood (2005) and French and Cappage (2011) in several developed countries, whereas the demand for business studies has increased, the number of accounting graduates has decreased. Bean and Bernardi (2005), and Sullivan (2006) stated that there is a lot of negative publicity surrounding the profession. Rogers, Dillard and Yuthas (2005) noted that the accounting profession's appearance and reputation is based upon it being seen to act with the "highest sense of integrity". Enron and subsequent accounting scandals emanating from the global financial crisis, have contributed to the accounting profession's poor image and a loss of public trust in the profession. Heiat and Brown (2007), explained that this has led to a reduction in students considering majoring in accounting. Diamond (2005) stated that the accounting profession is heavily reliant upon accounting programs to produce trainee accountants any reduction in the number of accountancy graduates will impact the profession. Wilkerson (2010) further added that the accounting education can be viewed as underpinning the whole accounting profession.

Attracting potential students to study accounting is however only part of the issue. Retention of students within accounting programs during their studies, and to completion, is a separate and equally critical

issue. Accountancy attrition has become gradually more significant in higher education. In this study, the term attrition is used to refer to a student dropping out completely, transferring to a different college, or changing their major. Definitions of what exactly attrition is can vary, so this definition is selected as it is consistent with Dera (2004, p. 3) among others.

Bowler (2009) notes that attrition rates for universities and community colleges average 30% in the first year. Whereas a certain percentage of students can always be expected to drop out Mulverry (quoted in AAP (2005) considered a rate of 10-14% to be acceptable for an institution). This percentage should be minimised as much as possible. The purpose of the current study therefore is to develop a comprehensive model with which to evaluate factors which impact upon attrition rates in accountancy programs. Such a model will contribute to the extant literature in several ways by:

- (i) Adding to our understanding of the problems facing management of accounting training institutions, concerning low retention and high attrition rates among students;
- (ii) Investigating the factors that cause high attrition rates in accounting programs; and
- (iii) Comparing the attitudes of students to those of management, as to the most significant factors impacting attrition.

The paper extends current research on accounting attrition by developing a more comprehensive model than any previous study. Most extant research regarding attrition and retention focused on four years colleges and universities. Some focuses on community colleges. This research draws from both areas to investigate the attrition rate among accountancy diploma programs and develop the new model. The model is then tested on one institution and on both students and an administrator simultaneously. This factor is an extension of the traditional attrition studies which predominantly concentrate exclusively on student responses.

The remainder of the paper is structured as follows. The next section provides a literature review and hypotheses development. The third section describes the proposed attrition evaluation model. The fourth section outlines the research method. Section five provides the results and analyses. Finally the sixth section summarises and concludes.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Research to date on attrition rates in accountancy programs has tended to focus on clusters of factors which may or may not impact attrition. Some studies have used four year colleges or universities as their test institutions whereas others have used community colleges (a vocational education setting). From a review of all these studies three core groups of factors which impact attrition are identified. These are external factors, internal faculty factors, and demographic factors. Let us consider each in turn.

External Factors

“The first external factor in our model is financial factor. St. John, Paulsen, and Carter, (2005) stated that In the US financial assistance programs are very important in supporting students’ admission to community colleges, especially for students belonging to mid to lower socio-economic classes. According to Mendez, Horton, and Mendez (2012) college assistance programs offer the money needed to enrol in higher education, and without such programs students from these disadvantaged group, would not be able to obtain college education . Bharath (2009) and Clark (2012) found that in the US, being forced to pay for college is the number one factor that leads college students to dropout.”

“The second external factor in our model is Marriage and Relationship Involvements. Millar (2010) noted that marital status is an additional factor impacting students’ attrition, especially for female students Astin (1975 p.15) stated that getting married while in college has little impact on attrition rates for men but is an important factor impacting attrition rates of female students.”

“The third external factor in our model is Employment. Nakajima, Dembo and Mossler, (2012) note that in the US full time employment, while attending college full time, has a significant influence on college student dropout rates. King, and Bannon (2002), and Salisbury *et al*, (2012) stated that full time employed college/university students are less likely to prosper in college than students who do not have a job.

“The fourth external factor in our model is Personal and Family Illness. Roberts , McGill and Hyland (2012) conducted a study in Australia and discovered personal and family illness impact on female students’ decisions to withdraw from college. These facts are supported Sydow, and Sandel (1998) who reported about 32% of college students withdraw from college for family issues, such as death or illness of a close family member.”

“The fifth external factor in our model is poor English Skills. Bynum (2010) notes that in the US, English proficiency programs have influenced students’ decisions to stay in college. 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.”

“The sixth external factor in our model is Racial and Demographic Tension. Pender (2010) notes that under-represented racial students in the US (African American, Latinos, and American Indians) have higher dropout rates than other racial groups (i.e. white and Asian students). According to Summers and Hrabowski(2006) these students fail to continue their studies because of inadequate or unsuccessful efforts by colleges, to help them upgrade their academic and social involvement in the institution’s setting”

“The seventh external factor in our model is Lack of Transportation. Roberts, McGill, and Hyland (2012) found that several characteristics of commuting to university were found to be an issue impacting attrition, particularly among female students.”

“The eighth external factor in our model is Conflict with College Authorities. There is a lack of literature concerning this factor and most attrition research has failed to focus on the issue. This study therefore extends previous research by considering this factor and including it in an attrition evaluation model.”

“The ninth external factor in our model is Absence of Clear Policies and Rules. As with the previous issue, this factor has not been investigated by many researchers and so is included for consideration here as well.”

“The tenth external factor in our model is Poor Attendance and Grades. Bean and Metzner (1985) included GPA scores in their model of attrition among college students. Most researchers find that this factor is more related to community colleges than universities due to the different academic settings of the two groups. This is commented upon by many researchers such as Leone and Tian, (2009), Kinloch, (2012), and Mikiko *et al*, (2012).”

“The eleventh external factor in our model is increased interest in other Areas over Accounting. Challenges such as accounting programs losing their students to other areas (for example nursing) and the explosion of interest in information technology, have contributed to increased student attrition from accounting courses. This has been noted in studies such as the AAA (1986), Arthur Andersen perspectives Paper (1989), AECC (1990) , and Frederickson and Pratt (1995).”

“The twelfth external factor in our model is Loss Interest in Accounting Studies. According to Bougen (1994) and Ferreira and Santoso (2008) a negative view of accounting programs appears to be reinforced in the first year of college education, which is exacerbated when out-dated teaching styles are used to teach accounting.”

“The thirteenth external factor in our model is Family Pressure. López, Desmond, and Bruch (2010) noted that in the US when parents involve themselves in their kids’ lives, these children gain high educational rewards. According to Astin (1999) family backgrounds therefore play a vital role in bringing students to institutions and encouraging them to complete their studies.”

“The fourteenth external factor in our model is Other Issues. This an open ended questions to find out if there is any other reason that could force the student to leave the college and not listed in this model.”

First hypothesis is therefore stated as follows:

H1: External factors will impact attrition rates of accountancy programs.

Institutional Internal Factors

Institutional internal factors include all facilities and services provided by an accounting education institution, insofar as they relate to the accounting faculty. Eight such factors have been identified in the literature as potentially impacting upon attrition rates. Let us consider each in turn.

“The first internal factor in our model is Registration System. A few researchers such as Hale & 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.”

“The second internal factor in our model is Course Scheduling and Timetabling. According to Douglas, McClelland & Davies (2008) communication with students concerning modification to course timetables and exams has a significant impact on student satisfaction and attrition.”

“The third internal factor in our model is Curriculum. The college accounting curriculum factor has not been well investigated by researchers. Researchers such as Dorn (1993) and Ibrahim & Brihoum (2001) propose that college curriculum must be reviewed regularly to ensure it remains relevant to the requirements and demands of the industry. They stated industry built curricula not only assists in retaining students, but they also entice more students.”

“The fourth internal factor in our model is Course Assessments. Bailey (2009) noted that course assessment impacts college attrition, Bailey, Jeong, & Cho (2010) supported the above argument.”

“The fifth internal factor in our model is Teaching and College Instructors. The extant literature notes that “faculty-student collaboration” is a predictor of student attrition. Pascarella & Terenzini (2005 p. 394) as cited in Khan and Osman (2011); Tinto (1975), as cited in Khan and Osman (2011) agreed with this statements.”

“The sixth internal factor in our model is Classroom and Teaching Resources. There is little in the literature that addresses factors such as class rooms and teaching resources, and their impact on college attrition rates. Hence this study expands research into the area of attrition by considering if it is an internal institutional factor which may impact decision making.”

“The seventh internal factor in our model is Technology. 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 which can lead to better retention rates.”

“The eighth internal factor in our model is College Services and Resources, this factors is divided five sub sections (a, b. c. d, and e). Blackmore, Douglas, and Barnes (2006) note that student’s satisfaction with college services such as library, employment and IT services, assists students in remaining at college. It also leads to them endorsing the college to their friends.”

“The first sub section (A) in the eighth internal factor in our model is Counselling and advising. According to Noel *et al* (1985) counselling and advising have a significant positive impact on student satisfaction and therefore retention rates”

“The first sub section (B) in the eighth internal factor in our model is Students Services. Harvey-Smith, (2002) as cited in Brits *et al*, (2011), notes that the accessibility of student services provided by the college can have a huge impact on student’s persistence and retention.”

“The first sub section (C) in the eighth internal factor in our model is Library and College Facilities. According to Mallinckrodt, Sedlacek (2009) this another area which has not received much focus is the relationship between the rate of usage of college facilities and student retention rates (. It is therefore included here to consider its possible impact.”

“The first sub section (D) in the eighth internal factor in our model is Extracurricular and recreational Services. Windschitl (2008) and Fenzel (2001) found that several activities that help to maintain a healthy lifestyle also have a positive influence on college retention rates.”

“The first sub section (E) in the eighth internal factor in our model is Academic Support Services. Roberts and Styron (2010), Pascarella and Terenzini, (2005), noted that many educational institutions offer their students different types of academic services and resources, in order to enhance the chances of retaining them”

The second hypothesis is therefore stated as follows:

H2: Institutional internal factors will impact attrition rates of accountancy programs

Demographic Factors

Demographic factors relate to the specific personal situation of each individual and their personal attitudes and attributes. Many such factors have been assessed in the extant literature as impacting attrition. Six have been identified and selected for this study. Let us consider each in turn.

“The first demographic factor in our model is Age. Many researchers believe that the age factor is directly related to drop out decisions. Xenos, Pierrakeas, and Pintelas (2002) concluded that older students are more likely to dropout than younger ones.”

“The second demographic factor in our model is Marital Status. Jacobs and King (2002) as cited in Harpe and Kaniuka (2012) investigated the affiliation between marital status and graduation rates. The authors found that unmarried students with no children graduated at a greater rate than married students.”

“The third demographic factor in our model is Geographic Location and Nationality. A report by the Australian Education International (2006b) as cited in Jackling & Keneley (2009) noted international students dropped out at a lower rate than Australian (local) students. Other studies, such as Grebennikov and Shah (2012) similarly found that international students demonstrate better retention rates than local students.”

“The fourth demographic factor in our model is Years of studies. Horn (2009) noted how previous research revealed students’ dropout rates in community colleges tend to be utmost in the first year of study and then subsequently decreases. Bradburn (2002) supported these findings by noting 23 per cent of students withdraw from college in their first year, compared with 14 and 8 percent who withdraw in the second and third year.”

“The fifth demographic factor in our model is Level of Computing Skills. Research by Lim (2001) found that students with high computer skills tended to be more satisfied with their courses and were more likely to stay in college and even register for future courses.”

“The sixth demographic factor in our model is Reason for Choosing the Accounting Program. Mauldin *et al* (2000) cited in Uyar, Haydar and Kuzey (2011) investigated factors that influenced students’ decisions to choose accounting as a college major. They found that the accounting instructor was the most significant factor. Byrne and Flood (2005) summarised research from the USA, Canada, Australia and New Zealand which examined factors that impact students’ decisions to major in accounting and to seek a job in accounting.”

“The eighth demographic factor in our model is Encouraging Others to Major in Accounting. Studies by Pearson (2002) and Albert and Sacks (2000) noted earlier, commented upon accounting practitioners and educators, and their expressed opinion not to re-choose accounting as their first choice of study, if they were re-commencing. This research therefore will attempt to investigate this factor further, by asking current accounting students whether they would encourage others to take up accounting studies, and then link these responses to attrition rates.”

The third hypothesis is therefore stated as follows:

H3: Demographic factors will impact attrition rates of accountancy programs.

Finally, a stated objective of this paper in the introductory section was to extend current research in the area of attrition from accountancy courses by comparing the attitudes of students to administrators, as regards the significance of influencing factors. The fourth hypothesis is therefore stated as follows:

H4: 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.

DATA AND METHODOLOGY

Survey Instrument

Having developed the model, it was incorporated into a survey instrument suitable for testing on students and administrators. The survey instrument listed in three parts, the first Part listed the demographic details requested of the students. This comprised the seven factors outlined above with some additional subdivisions as appropriate. For example, the students were asked to specify their specific diploma course, as accounting or finance as that was the option available at the tested institution. The second section listed 13 external factors outlined above section (literature review section) and also added a final open ended

question, soliciting any other reasons a student might decide to drop out. Part 3 listed the 8 institutional internal factors outlined above as well. However each of these was sub-divided further into 2-5 sub-factors, before requesting an assessment of the 15 overall factors. For example the first internal factor was the registration system. This was then further sub-divided into five categories: pre-registration, ability to add another course, delays and penalties, warning systems, and announcements.

Finally, Part 4 of the survey instrument listed a further open question inviting overall comments. The completed survey instrument therefore contained 66 items for the respondents to assess. A five-point Likert scale (from 1 (strongly disagree) to 5 (strongly agree)) was used to rate responses regarding (i) the level of impact each of these factors would have on a student's decision to drop out of college; or (ii) their satisfaction level regarding current college factors.

Data Collection: The researchers collected the data for this paper in February 2011.

Participants

Sudan was chosen as a sample country in which to test the model. It was chosen for several reasons (location, economic, and social). Firstly its location in Africa. Differences exist in economic and political systems, cultural and religious beliefs, and ethnic backgrounds. All these have an impact on the education systems and are different when compared to continents such as Europe with a predominance of developed countries.

The survey instrument was distributed to the accounting/business students and their program director at one university in Sudan that offers a two year accountancy diploma program. The students completed them during lecture time under the supervision of one of the authors. The institution (University of Khartoum) administrator interview was conducted face-to-face with the program directors. The actual attrition rate was taken from university records, through the director, during the interview. 123 students' questionnaires were collected from the university and one administrators' (the program director) questionnaire. Also an interview was conducted with the program director. The attrition rate was 40%.

RESULTS AND DISCUSSION

H1: External factors will impact attrition rates of accountancy programs

First we used basic analysis of means and independent sample t-tests to test Hypothesis one, whether external factors contribute to attrition in Khartoum University (diploma program). Students were asked if the listed external factors would force them to terminate their accounting studies and 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. Out of the 14 external factors, nine were found to be significant, as they had means greater than 3.0. Table 2 lists them in order of importance as per the students' responses.

According to the students' responses we conclude that in Sudan financial factors, increasing interest in other majors, getting a job, academic factors, personal and family sickness, "other reasons", family pressures, losing interest in studying accounting, absences of clear policy, and English language, are the principal factors impacting attrition from accounting courses. The open ended "other reasons" question offered the following issues as impacting attrition: having to leave school to work, in order to support family; or finding difficulty in coping with the system, especially students from small towns and villages.

These results tend to indicate that external factors identified in previous literature do indeed affect attrition rates in the University of Khartoum, but some factors appear to have more influence on attrition

than others. The remaining four external factors, lack of transportation, demographic reasons, marriage, and issues with administration factors, had means less than 3.0 and so could not be considered as impacting upon attrition in this setting. This is discussed further below.

Table 1: Demographic Details

	Frequency and Percentage	
	No.	%
Age [^]		
17-20	122	100
21-25	-	-
26-30	-	-
Total	122	100.0
Marital Status [^]	No.	%
Single	122	100.0
Total	122	100.0
Diploma Type [^]	No.	%
Accounting	122	100.0
Finance	-	-
Total	122	100.0
Choice reason	No	%
academic advisor	12	9.8
Parents	18	14.8
high school result	70	57.4
others	22	18
Total	122	100.0
Year of study*	No.	%
1st	102	83.6
2nd	4	3.3
3rd	16	13.1
Total	122	100
computer skills*	No.	%
NO skills	19	15.6
beginners	42	34.4
good	43	35.2
Excellent	18	14.8
Total	122	100.0
Region***	No.	%
north Sudan	50	41.0
east Sudan	10	8.2
west Sudan	26	21.3
central Sudan	31	25.4
south Sudan	5	4.1
Total	122	100.0
Encouraging others**	No	%
Yes	58	47.5
No	64	52.5%
Total	122	100.0

Notes: This table presents each demographic factor, ANOVA were performed to see which factor impact the external factors regarding attrition ($F=MS$ between/ MS within), the first column shows the demographic details for each factors, column 2 is divided to two sections, section 1 the number of students and their responses, section two shows the percentage of students responses, the significance level of the demographic factors impact on the external factors is ... *=10%, ** = 5%, *** = 1% and no asterisk = no sig. [^] = not tested for sig

This time the students were asked how satisfied they were with the listed internal factors and the constructed measurement started with 1 (strongly dissatisfied) and ended with 5 (strongly satisfied). Hence, rather than cutting off at the mid-point of 3.0 and evaluating whether or not the factors impacted attrition (as with the external factors) the purpose with the internal factors was to evaluate which factors would have the greatest influence upon a decision to terminate accounting studies. The questionnaire contained 8 *internal* factor clusters: registration, scheduling of lecture and examination, curriculum, grading, teaching, facility, technology, and college services. These were then further sub-divided into 38 sub-factors. The lower the mean, the greater the dissatisfaction and therefore, the greater the propensity to quit accounting studies. According to student's responses three clusters of factors which appeared to have the strongest influence are: lack of technology, standard of college facilities, and standard of college services. Table 3 provides the support for these conclusions.

Table 2: Students’ Rankings of Importance of External Factors

External Factors	Mean	STDV
Ext1: Financial	3.729	1.253
Ext 12: Interest in other major	3.721	1.267
Ext3: Job	3.704	1.257
Ext10: Academic	3.426	1.390
Ext 4: personal and family sickness	3.245	1.484
Ext14: Other	3.237	1.390
Ext13: Family Pressures	3.106	1.365
Ext11: Loss interest	3.098	1.313
Ext9: Absence of policy	3.098	1.313
Ext 6: English Lang	3.041	1.307
Ext5: No trsport	2.885	1.286
Ext7 :Demographic reason	2.836	1.215
Ext2: Marriage	2.745	1.364
Ext8: Issues with Adm	2.565	1.304

Notes: This table presents the sample mean ($\bar{x} = \sum X/n$) and standard deviations ($s = \sqrt{\frac{\sum (x-\bar{x})^2}{n-1}}$) for external all factors according to the students opinions. The table also ranks these means from most to least effective factors that could impact student’s decision to leave the college, the first column lists all the factors, column 2 list all the mean, and column three list the standard deviation.

H2: Institutional internal factors will impact attrition rates of accountancy programs

Table 3: Students’ and Administrators’ Rankings of Importance of Internal Factor Groups

Factors	Students		Administrators	
	Means	STDV	Means	STDV
GrandTech(avg. internal factors Teaching)	3.481	1.0371	2.750	1.0349
Grandfacility (Avg. Internal factors-facilities)	3.545	1.0051	4.000	1.0018
Grandserv (Avg. Internal factors-College services)	3.627	0.8387	3.166	0.8362
GrandReg (Avg. internal factors-Registration)	3.695	0.658	3.000	0.6592
GrandExam (avg. internal factors examinations)	3.808	0.8623	4.6667	0.8622
Grandeur (Avg. Internal factors-Curriculum)	3.841	0.7752	4.000	0.7721
GrandTeaching (Avg. Internal factors-Technology)	3.888	0.8196	4.000	0.8163
GrandLectur (avg. internal factors-lecture-scheduling)	3.920	0.7436	4.000	0.7405

Notes: Notes: This table presents the sample mean ($\bar{x} = \sum X/n$) and standard deviations ($s = \sqrt{\frac{\sum (x-\bar{x})^2}{n-1}}$) for all the grand mean of all internal factors according to the students and college administrators opinions. The table also ranks these means from most to least effective factors that impacts students decision to leave the college, the first column list all the internal factors (average each factors), column 2 is divided to two section, section one list all the means, and section two list the standard deviation based on the students opinions, and column three is divided to two section, section one list the means, and section two list the standard deviation based on the administrators opinions.,

Table 3 lists the internal factor means in ascending order, as classified by both students and the program administrator. Both agreed on three of the first four factors noted above. Furthermore from the students responses the first 4 means are very close (3.48 to 3.69) and then there is a gap to the remaining five means (3.80 to 3.92). For the administrators the difference is even more pronounced. The first factor has a mean less than 3.0, the third and fourth mean are range (3.0 - 3.1). The remaining five range from 4.0 to 4.6. Based on students and the administers responses the first, third, and four factors therefore appear to be contributing more to attrition (technology, services, and registration) than the other five internal factors (scheduling of lecture/examination, curriculum, and registration, grading, and teaching), there is a difference in opinion between the students and administers regarding internal factor 2 (facility) students the stated they are not satisfied with college facility and it can force them to leave the college, administers in other hand believe otherwise..

H3: 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 decisions. Table 1 provides the raw data distribution of the participants. In the current sample, there was not a significant enough spread of participants in these categories to assess their impact or otherwise upon attrition decisions. As regards age, all are in the 17-20 years of age category. This did not leave a sufficient alternative cohort to gauge results against.

Similarly, when considering marital status, all the 122 students who completed the survey are single. For this culturally specific reason, the demographic factor of gender was omitted from the study. To comply with university policy, administrators asked the researchers to remove gender from the questionnaire. A further demographic detail, diploma type was also redundant in this institution as all participants are accounting students. A further demographic factor, choosing accounting as field of study, showed no significant difference when ANOVAs were performed, and so this factor was also found to be insignificant within this cohort.

Additional factor demographic factor choosing accounting as field of study showed no significant difference, when ANOVA is performed.

A further analysis of this particular cohort based upon the year of study demographic factor, revealed that of the 14 external factors only one, absence of policy, revealed a difference in responses (ANOVA results showing an F-score of 3.321, significant at .039).

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 case of level of computer skills this was found to be significant regarding the external factor, family pressure (F-score of 2.303 and significance level .081). Encouraging others to major in accounting, was found to be significant in relation to two external factors, the financial factor and marriage (financial factor showed an F-score of 3.793 and significance level of .054, and marriage showed an F-score of 4.819 and significant level of .030).

One demographic factor provided strong evidence of impact upon the evaluation of attrition external factors. In Sudan there were no international students enrolled in the university. However, the students enrolled in the accountancy diploma programs came from one of five different regions within the country. Analysis of evaluation of the impact of external factors on attrition decisions was found to be significantly impacted by which region the students came from. Table 4 summarises the results.

Considering the evaluation of the 14 external factors four were impacted by the respondents' region of origin. This demographic factor is therefore assessed as significantly impacting attrition decisions. Intuitively, this makes sense due to the fact the majority of these students came from small villages and rural areas within the county and many find the college environment is not pleasant (the researcher spoke to a large number of these students and they confirmed this result).

A review of the raw data and response to open ended questions offers further support to the concept of demographic factors influencing attrition decisions. Participants were asked whether they would recommend the accounting programme to friends/family and to expand on their answer. The majority (64% - this explains the mean of 1.47 as the construct was 1 = yes and 2 = no) said they would not. The main reasons they gave were, (i) no jobs in accountancy, (ii) a diploma will still not guarantee access to university to study for a degree, and (iii) the costs are too high. These reasons support the results earlier identified at Table 1, where students considered the external factors of costs and job opportunities having

significant impact on their attrition decisions. This demographic factor, attitude towards recommending accountancy to others, therefore appears to impact attrition decision making as well. H3 can therefore be said to be partially supported as well, as two of the eight factors impact attrition decision making and the specific population tested in this setting precluded testing of some traditional variables (age and gender) which the majority of studies have found to impact attrition.

Table 4 – Impact of Demographic Factor – Region of Origin – on Students’ Rankings of Importance of External Factors

External Factors	F	Sig
Ext1: Financial	2.471	*** 0.048
Ext2: Marriage	2.163	* 0.077
Ext3: Job	0.118	0.976
Ext 4: personal and family sickness	2.956	*** 0.023
Ext5: No trsport	1.587	0.182
Ext 6: English Lang	1.932	0.110
Ext7 :Demographic reason	0.822	0.513
Ext8: Issues with Adm	0.336	0.854
Ext9: Absence of policy	0.290	0.884
Ext10: Academic	0.183	0.947
Ext11: Loss interest	0.892	0.471
Ext 12: Interest in other major	2.249	** 0.068
Ext13: Family Pressures	0.282	0.889
Ext14: Other	1.279	0.282

Notes: This table presents the demographic factor(region of origin and its impact on the external factors), ANVOA were performed to see which external factor were impacted by this demographic factor (F=MS between/MS within), the first column shows the all the 14 external factors , column 2 is divided to two sections, section 1shows the F scores for each factors, section two shows the significant level for each factor, the significance levels stated at ... *=10%, ** = 5%, *** = 1% and no asterisk = no sig. ^ = not tested for sig.

H4: 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 forth hypothesis it was anticipated there would be no significant differences between students and administrators in their attitudes towards attrition factors. Tables 5 provide the data to evaluate this prediction.

Considering the external factors firstly, Table 5 demonstrates that there are no significant differences in attitudes between the college administrator and the 122 students. Focussing on the internal factors, Table 5 similarly demonstrates that there are no significant differences in attitudes between the college administrator and the 122 students in all comparisons of internal factors. As both external and internal factors revealed no significant different evaluations, H4 therefore has to be accepted.

Table 5: Comparison of Students and Administrators Assessment of External Factors and Internal Factors

		(n=123)				(n=123)	
		Mean	Sig			Mean	Sig
EF 1	Student	3.729	0.315	IF 1	Student	3.737	0.820
	Admin	5.000	.		Admin	4.000	.
EF 2	Student	2.745	0.205	IF 2	Student	4.024	0.981
	Admin	1.000	.		Admin	4.000	.
EF 3	Student	3.704	0.816	IF 3	Student	3.877	0.918
	Admin	4.000	.		Admin	4.000	.
EF 4	Student	3.245	0.614	IF 4	Student	4.000	0.373
	Admin	4.000	.		Admin	5.000	.
EF 5	Student	2.885	0.147	IF 5	Student	3.623	0.757
	Admin	1.000	.		Admin	4.000	.
EF 6	Student	3.041	0.123	IF 6	Student	3.688	0.788
	Admin	1.000	.		Admin	4.000	.
EF 7	Student	2.836	0.893	IF 7	Student	3.508	0.686
	Admin	3.000	.		Admin	3.000	.
EF 8	Student	2.565	0.234	IF8	Student	3.549	0.658
	Admin	1.000	.		Admin	3.000	.
EF 9	Student	3.098	0.941				
	Admin	3.000	.				
EF 10	Student	3.426	0.682				
	Admin	4.000	.				
EF 11	Student	3.098	0.520				
	Admin	4.000	.				
EF 12	Student	3.721	0.827				
	Admin	4.000	.				
EF 13	Student	3.106	0.938				
	Admin	3.000	.				
EF 14	Student	3.237	0.586				
	Admin	4.000	.				

*This table compare the mean for all the external factors and the internal factors ($\bar{x} = \sum X/n$) between the students and administers. The first column shows the all the 14 external factors, column 2 list the participants (students/or administrator), column 3 list all the mean for the external factors, column 4 shows the significant level (external factors), column5 shows the grand mean of each of the internal factors, and column 6 list the participants (students/or administrator), column 7 shows the mean for all the internal factors, and column 8 shows the significant level for the internal factors. The significance levels stated at ... * = 10%, ** = 5%, *** = 1% and no asterisk = no sig. ^ = not tested for sig.*

SUMMARY AND CONCLUSION

Attrition from accountancy programs is a significant issue impacting both the accountancy profession and academia. This study develops a model with which to gauge the impact of various factors upon attrition. It expands upon the extant literature by developing a model with three categories of factors, namely external, internal institutional and demographic which may impact attrition decisions. A sample college was then chosen, and the model tested on students enrolled in the accountancy diploma. Results revealed that factors from all three categories have the capacity to impact attrition to varying extents. The results also indicated that there are no differences between students and administrators as to the significance of some factors to an attrition decision.

The results of this study should be viewed in the context of several limitations however these limitations form the basis for proposed future research into this critical area, discussed below the first limitation. Concerns the limited sample, and the fact that the sample was drawn from particular geographic region. This may or may not be generalizable to other regions. Future research intends to test the model on more than one institution within a jurisdiction and then in different jurisdictions, to compare results. The model can also hopefully be refined after reviewing each use and if accurate attrition rates are available, possibly even developed into a predictive tool.

Further limitations that any conclusions about factors causing attrition from accountancy courses should be based upon data extracted from students who have actually dropped out of such courses. The current model has been used on students who are still actually in their accounting program. Intuitively it appears

reasonable to assume that the factors current students consider would impact their decision to drop out of accounting studies are indeed similar to the factors which caused actual students to drop out. Similarly analyses of the factors students are most dissatisfied with during their current studies would seem logical indicators of potential to terminate accounting studies. However it is not feasible to automatically assume the factors current students identify are indeed the factors which made actual drop out students decide to leave. Similarly, although confidentiality was assured, the risk exists that students may be unwilling to give accurate responses to all questions for fear of reprisal from their institution. These limitations must be recognised while interpreting results.

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