

FACTOR THAT IMPACT ATTRITION AND RETENTION RATES AMONG ACCOUNTANCY DIPLOMA STUDENTS: EVIDENCE FROM SAUDI ARABIA

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ABSTRACT

Studies to current day that examined dropout factors at higher education institutions has inclined to emphasis on groups of factors which may or may not influence college dropout. Also such studies are mainly focused on one-institution. This study expands the current literature and developed a model to assess attrition. Three essential groups of factors which influence dropout are acquired into the model. These are external factors, internal faculty factors, and demographic factors. The model was then tried on diploma accounting students and departmental heads of community colleges that offering accountancy diploma programs in Saudi Arabia. The model recognized numerous impacting factors from the three essential groups. Acceptable clarifications were also accessible as to why additional factors were not found to be important, in this specific challenging environment. The model is also helpful in that it offer an opportunity to assess whether some factors are more significant than others in impacting dropout rates in any specific setting. The outcomes are also important in that the model proves the tendency for factors impacting dropout are vary from institution to institution. The outcomes also exposed some arguments between the reasons specified by students and administrators as to the causes of dropout. The model can be tried in other countries and other setting (universities) not just community colleges settings.

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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 and Brown, 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), noted that corporate and lawful environments should be inspiring the

growth 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 discovered that 40% of accountants stated that their accounting firm had finds difficulty in employing staff with the accurate accounting abilities, 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 Marne 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. The literature suggested that different factors contributing to higher dropout rates in community colleges. 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.

King Saud University was the first university opened in Saudi Arabia. It was founded in 1957 in the capital city of Riyadh. Currently, the university is the biggest in Saudi Arabia. King Saud University has 13 colleges, and more than 100,000 students enrolled between the 2001 and 2011 Academic years. Also, the university has other branches in other cities (Education Encyclopaedia, 2012). King Abdul-Aziz University was created in 1967 and is the second largest university in Saudi Arabia. It was established in the city of Jeddah. Previously the university had branches in Madinah and Macca. However these branches became independent universities (Umm Al-Qura University and Taiba University) in 1981 and 2003 respectively. The programs offered are comparable to those programs offered by King Saud University but the university is well known for its excellence in science, medicine, economics, humanities, and engineering programs. The University has nine colleges and more than 61,323 students enrolled between 2001-2011 (Education Encyclopedia, 2012). King Fahd University of Petroleum and Minerals was created in 1963 in the city of Dhahran. It was the first Saudi University to offer programs in energy and the first one to have a centre that specialized in scientific research and innovation. It also offered a one-year orientation English program, and a four-year engineering program in different fields. Only male students were (and still are) admitted and the university has eight colleges with student enrolment of 9,450 students during the 2011-2012 academic year (MOHESaudi. 2012).

In 2003 only eight universities were functioning in Saudi Arabia. Since that time 100 more universities and colleges have been established and the annual budget for higher education in Saudi Arabia has increased to \$USD15 billion, for 23 million citizens (Romani, 2009, Baki 2004). The country has built about 56 colleges and universities, specialized in certain fields such as education, medicine and technology. It has also set up about 70 centres to train students in the fields of agriculture, commerce, and technical education (Baki 2004). The reason for university expansion is due to the belief of the Saudi Government that higher education has an important effect on a society. Also the Saudi society considers university education has great prestige, and undervalues the importance of technical and vocational education (Ramady, and Al-Sahlawi, 2005). The problem of attracting young Saudis to enroll at these colleges still exists. This is due to the belief of many Saudis that these colleges are created only for school leavers and academically weak individuals. This belief is strengthened by employment procedures that, until lately, supported this educational structure, by offering priority employment opportunities in the government sector to university graduates. This therefore makes technical and vocational education less appealing and socially less attractive (Ramady and Al-Sahlawi, 2005).

In the mid-1980s, most of these Universities created community colleges that offered two to three year diploma programs in order to meet the demands of the workforce. The objectives of these colleges are to

ensure that enrolled students receive quality education, equal to other colleges operating around the world. (Saudi Ministry of higher education, 2012). Furthermore; Ramady and Sahlawi (2005), noted that school dropouts and less academically prepared students are more likely to register at these community colleges or at technical colleges, as opposed to Universities. Many Saudis consider college education has a lower standard than universities and therefore they are not recommended. This perception encouraged the government to establish a new employment policy that promotes technical and community college education, in order to meet society expectations in regard to higher education. In summary, college education in Saudi Arabia is becoming more in demand. This has forced the ministry of labor to change their policy as well, to encourage Saudi nationals to enroll in colleges (technical or community colleges) to obtain a degree that enables them to secure a job. This policy called *Saudiation*, by the Saudi Ministry of Labor (SaudiMOL, 2012) implicitly recognizes the need for accounting graduates by the labor market. So community colleges in Saudi Arabia can play a major role in economic development and growth. Issues of college attrition and retention rates therefore need to be addressed. This paper add to the current literature by developing a model that can evaluate attrition rates in community colleges. The paper structured as follow: Literature review, Methodology and data collections, result, concluding comments and limitation

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. But the King's declaration of 2011, which stated that all Saudi citizens should have access to free education, eliminated this particular drop out factor. Marital status is an additional factor impacting students' attrition. According to Astin (1975) been married during college studies has small impact on college dropout rates for men, but is a significant factor influence dropout 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 (2003) 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 most 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), noted that a certain level of English proficiency, language and competence are important factors for assuring academic achievement. 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 Africa 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 insufficient or ineffective tries by colleges to help them improve their educational and social attachment in the college 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 scholars stated that this factor is more connected to two years colleges than university due to the different educational settings of the two groups. This is observed upon by many scholars (Leone and Tian, 2009; Kinloch, 2012; Mikiko *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 Santos (2008) a undesirable opinion of accounting studies seem to be reinforced in the primary year of college education. This is exacerbated when out-dated 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.* (2000), 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 finished researches that focused on the importance of the college registration system and its influence on dropout and retention rates. The outcomes of these researches found that the college registration system clearly influence dropout and retention 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, previous 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 model will be tested in three different environments. The first two environments are Sudan and Saudi Arabia, and the third environment is Australia. The model is anticipated to evaluate attrition in these three different environments. It is anticipated, due to the different socio-economic and demographic issues discussed in chapter 2, that in different environments, factors that impact attrition could be different. The overall intention of the model is to show that it can be used as an evaluative tool with which to analyse attrition decisions in different environments. The following chapter will explain how the model will be tested. Hale

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. The researcher travelled to Saudi Arabia on two separate occasions. The first time the researcher spent about five months in 2011, during that time he met with five community

college deans to get their permission to run the survey at their institution. All five deans agreed. All deans allowed the researcher to distribute the questionnaires to their students and program directors. The second time the researcher travelled to Saudi Arabia for about three months in 2012 to meet with an additional four deans from four additional colleges to get their permission to distribute the survey to their students and program directors, all four deans agreed, the researcher was able to visit two of these colleges to distribute and collect the survey from students, and program directors, the other two colleges the program directors distributed and collected the questionnaires from students, and then send to the researcher by post.

The survey instrument was therefore distributed to the accounting/business students and their program directors in nine community colleges in Saudi Arabia that offer a two-year accountancy diploma program. The students completed them during lecture time under the supervision of the researcher and one accounting faculty staff belonging to the college. The institutions included in this research come from two different regions within Saudi Arabia. 6 colleges were from the eastern province and three from the central region of Saudi Arabia. Interviews were also conducted face-to-face with the nine program directors. Actual attrition rates were taken from the universities’ records, through the directors, during these interviews. In total, 546 students’ questionnaires were collected from the nine colleges and nine administrators’ (the program directors) questionnaires. Also, nine interviews were conducted with the program directors. The attrition rates were 28%, 13%, 35%, 5%, 21%, 25%, 29%, 26%, and 23%. The researcher attending accounting lectures and also meeting with program directors during the interviews. They also show the college facilities at some of these Saudi Arabian institutions. The Response rate were 90% from 700 which about 546 students who completed the survey. It is argued that this convenience sampling approach is suitable for this research and resulted in a geographically dispersed and representative sample of Saudi Arabia 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. All data collected from students and program directors in Saudi Arabia were entered into SPSS for analysis. The research consisted of reliability, and the analysis of the mean.

Table 1: Reliability Statistics - External Factors (SA)

External Factors	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha
1	42.5730	50.844	0.157	0.706
2	42.6432	49.078	0.288	0.688
3	41.7387	49.359	0.311	0.685
4	41.7802	49.825	0.277	0.689
5	42.1117	47.172	0.400	0.673
6	42.1045	48.556	0.299	0.686
7	42.5333	49.531	0.302	0.686
8	42.2108	47.809	0.317	0.684
9	42.1676	47.981	0.362	0.678
10	41.6937	48.058	0.386	0.675
11	41.6577	48.471	0.368	0.678
12	41.5676	49.690	0.308	0.685
13	42.1550	48.467	0.313	0.684
14	42.0450	49.397	0.324	0.683
Overall Cronbach's Alpha N of Items	0.70 14			

The Cronbach Alpha for the external factors for all colleges in Saudi is 0.70. Therefore as 70% of the items are measuring the same construct, the percentage is acceptable. This table contains summary data of the reliability of the external factors.

Table 2: Reliability Statistics - Internal Factors (SA)

Internal Factors	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha if item deleted
Registration (Process)	121.8703	580.767	0.471	0.93
Registration (Course selection)	122.045	574.747	0.492	0.93
Registration (No Delays)	121.9063	583.338	0.423	0.93
Registration (Warning system)	121.9676	582.587	0.427	0.93
Registration (Announcement)	122.0703	577.08	0.462	0.93
Registration (Overall)	121.9784	579.574	0.495	0.929
Lecture and Exam (Flexibility)	122.0667	574.438	0.473	0.93
Lecture and Exam (Course conflict)	121.6721	584.17	0.394	0.93
Lecture and Exam (Exam conflict)	121.9117	578.438	0.439	0.93
Lecture and Exam (Overall)	121.9532	578.954	0.5	0.929
Curriculum (High Expectation)	121.6865	584.429	0.458	0.93
Curriculum (Transferable)	121.8595	580.125	0.495	0.929
Curriculum (Interesting)	122.0901	582.169	0.461	0.93
Curriculum (Contents)	122.1045	576.17	0.559	0.929
Curriculum (Overall)	121.8306	580.459	0.54	0.929
Exam and Feedback (Criteria)	121.8468	583.029	0.452	0.93
Exam and Feedback (Feedback)	121.7874	589.077	0.413	0.93
Exam and Feedback (Overall)	121.8234	586.615	0.411	0.93
Teaching Satisfaction (Knowledge)	121.5351	584.592	0.473	0.93
Teaching Satisfaction (Availability)	121.8324	579.981	0.516	0.93
Teaching Satisfaction (Cares)	121.7532	577.381	0.542	0.93
Teaching Satisfaction (Style)	121.9333	577.979	0.56	0.93
Teaching Satisfaction (Overall)	121.9153	579.446	0.507	0.929
Facilities (Computer lab)	122.1081	569.505	0.567	0.929
Facilities (Teaching facilities)	122.2216	570.444	0.583	0.929
Facilities (Class Size)	122.1207	578.384	0.485	0.93
Facilities (Overall)	122.2468	571.652	0.575	0.929
Technology Used (E-mail account)	122.0613	574.722	0.545	0.929
Technology Used (Support)	122.2252	572.951	0.605	0.928
Technology Used (Facility)	122.3387	576.903	0.582	0.929
Technology Used (Overall)	122.2811	571.394	0.6	0.928
Service (Learning resources)	122.0234	572.243	0.605	0.928
Service (Bookstore)	122.3676	576.421	0.512	0.929
Service (Gym-Health facilities)	122.5333	573.61	0.532	0.929
Service (Support services)	122.3027	572.67	0.585	0.929
Service (Careers services)	122.027	575.748	0.599	0.929
Service (Overall)	122.1027	568.605	0.374	0.933
Overall Cronbach's Alpha	0.933			
N of Items	38			

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

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 93.3% of the items are measuring the same construct.

Table 3: Students’ Rankings of Importance of External Factors (EX)

External Factors	Mean	STDV
EX 12: Interest in other major	3.7308	1.0591
EX 11: Loss interest	3.6410	1.1118
EX 10: Academic	3.5934	1.1315
EX 3: Job	3.5568	1.1044
EX 4: personal and family sickness	3.5403	1.1051
EX 14: Other	3.2692	1.0660
EX 5: No transport	3.2125	1.2125
EX 6: English Lang	3.2051	1.2525
EX 9: Absence of policy	3.1648	1.1756
EX 13: Family Pressures	3.1429	1.2406
EX 8: Issues with Administration	3.1026	1.3218
EX 7 :Demographic reason	2.7656	1.0937
EX 1: Financial	2.7509	1.2880
EX 2: Marriage	2.6575	1.2122

Notes: This table presents the mean and the standard deviation for external factors, the table also shows the most effective external factors that influence attrition to less effective factors, according to student’s opinion in all colleges in Saudi Arabia.

H1SA: External Factors Will Impact Attrition Rates of Accountancy Programs

The first analysis of means and independent sample *t*-tests were used to test hypothesis 1, whether external factors contribute to attrition in Saudi Arabia. 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. Based upon the students’ responses it is valid to conclude that in Saudi Arabia 11 of the 14 external factors appear to positively impact attrition. In order of importance these are: increasing interest in other majors, losing interest in studying accounting, academic performance, getting a job, personal and family sickness, lack of transportation, English language, and absences of clear policy, family pressures, issues with the administration and “other reasons”. The open ended “other reasons” question offered the following issue as impacting attrition: having to leave community college due to difficulty of transferring to the bachelor programs at a university. Another reason the students stated was the lack of a monthly allowance. This is offered to students enrolled in university only, not to students enrolled in community colleges. These results tend to indicate that external factors identified in previous literature do indeed affect attrition rates in Saudi Arabia, but some factors appear to have more influence on attrition than others.

Table 4: Students and Administrators Satisfaction with Internal Factors

Factors Clusters	Students		Administrators	
	Means	STDV	Means	STDV
GrandTech (Average of Technology sub-factors)	3.1502	0.96872	4.5833	0.53033
Grandserv (Average of college services sub- factors)	3.1511	0.97450	4.5556	0.44876
Grandfacility (Average of facilities sub-factors)	3.2010	1.09377	4.7222	0.42287
GrandReg (Average of registration sub-factors)	3.4063	0.87123	4.6852	0.35789
Grandcur (Average of curriculum sub-factors)	3.4659	0.82940	4.6889	0.47022
GrandLectur (Average of lecture-scheduling sub-factors)	3.4794	0.98132	4.6944	0.46398
GrandExam (Average of examinations sub-factors)	3.5592	0.84028	4.8889	0.33333
GrandTeaching (Average of teaching sub-factors)	3.5868	0.86054	4.7778	0.36667

Notes: This table presents the mean and standard deviation of the total of each internal factor cluster, and the difference between students and administrators.

H2A: Institutional Internal Factors Will Impact Attrition Rates of Accountancy Programs

Students were asked how satisfied they were with the listed internal factors. As per the Sudanese results, 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), just like Sudan an alternative analysis methodology was selected.

Therefore, this time when analyzing the scores on the 1 to 5 scale, factors with lower means (explained below) were deemed to impact attrition, without using a specific cut-off point the purpose with the internal factors was to evaluate which factors would have the greater influence upon a decision to terminate accounting studies. 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 stated above the lower the mean, the greater the dissatisfaction and therefore, the greater the propensity to quit accounting studies. Three factors appear to have the strongest influence based on the student's responses. These are: the lack of technology, standard of college services, and standard of college facilities.

Internal factor means in ascending order, as classified by students, and then lists the program administrators' means alongside. Both groups did not concur in the order of the factors noted above. Furthermore, from the students' responses the first three means are very close (3.15 to 3.20) and then there is a gap to the remaining five means (3.40 to 3.58). For the administrators the difference is even more pronounced. The first two means (4.55-4.58) are close in range while the remaining six range from (4.68 to 4.88). The first three factors therefore appear to be contributing more to attrition than the other five internal factors. Students appear less happy with technology, college facilities and college services. These are viewed as more likely contributors to attrition than the other remaining internal factors, (scheduling of lecture/examination, curriculum, and registration, grading, and teaching). This is because the first two of the three were ranked by both administrators and students as the most likely to cause dissatisfaction and the third factor was ranked by the students at almost the same unsatisfactory level as the first two. Therefore, H2 is accepted. Let us now consider H3.

H3SA: 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 this to be significant factors impacting upon attrition decisions. Table 5.11 provides the raw data distribution of the participants. In the current sample of the nine colleges in Saudi, the result was significant enough to assess the participant's attitudes and their attrition decisions. As regards age, of the 546 respondents, 71.8% are in the 21-25 years of age, 23.6% are in the 17-20, and 4.6% are in the 26-30 categories. The number of students above 21 years of age totaled 417 (392 aged 21-25, and 25 aged 26-30). This combined percentage of 76.4% can be compared to the 23.6% of students aged 17-20. The age factor then reveals a significant impact on four of the external factors (English language, issues with administration, absence of clear policy, and loss interest in studying accounting

A further analysis concerning these factors shows that a significant number of students above age 21 have different attitudes towards the strength of the impact of these external factors than younger students. 33% of students aged 21-30 stated that English language and issues with administration could force them to leave college. Comparable figures for students aged under 21 were 9% and 7% respectively. Similarly, 29% and 49% respectively of students aged 21 and above stated that the absence of a clear policy and loss of interest in accounting could force them to leave their college. These figures fell to 6% and 11% respectively of students under 21 years of age. These results suggest that older students are more likely to drop out of accounting programs as compared with students less than 21 years of age. A further demographic factor, level of computer skills, impacted three of the external factors. These are; factor one (financial), factor 2 (marriage), and factor 5 (English language). So, we conclude that computer skills have influenced students' decisions to leave college. When we considering marital status, the data showed that 100% of students who completed the survey were single, and therefore there was not a significant enough spread of participants in this category to assess its impact or otherwise upon attrition decisions. For culturally specific reasons,

another significant demographic detail, gender was omitted from the study. To comply with universities' policies, administrators asked the researchers to remove gender from the questionnaire. Two other demographic variables, reason for choosing accountancy as a field of study and whether the participant would encourage others to commence accounting studies, were subjected to ANOVAs to evaluate any significant differences in relation to the evaluation of the 14 external factors. In both instances only two factors were 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. A review of the raw data and responses to open ended questions offers further support to the concept of demographic factors influencing attrition decisions. Referring to question 8; the participants were asked whether they would recommend the accounting program to friends/family and to expand on their answer. The majority (82% - this explains the mean of 1.151, as the construct was 1 = yes and 2 = no) said they would. The main reasons they gave were, (i) more jobs in accountancy, (ii) a diploma will guarantee access to university abroad, and (iii) free education. These reasons support the results earlier identified, where students considered the external factor 'cost of education' would have no impact on their decision to drop out, but 'job opportunities' did have a significant impact on their attrition decisions. This demographic factor, attitude towards recommending accountancy to others, therefore, appears to not impact attrition decision making. H3 can therefore be said to be supported, as three of the eight factors (age, level of computer skills and years of study) impact attrition decision making. The specific population tested in this setting precluded testing of some traditional variables (marital status and gender) which the majority of studies have found to impact attrition.

The interaction of demographic and external factors noted above highlights the complexity of attempting to evaluate attrition from accountancy courses overall. For example, the actual attrition rates for the nine colleges reveal colleges 2 and 4 have the lowest rates (13% and 5%, respectively) as opposed to the other seven colleges. College 1 has an attrition rate of 28%, college 3 has 35%, college 5 has 21%, college 6 has 25% and colleges 7, 8, and 9 have 29%, 26%, and 23% respectively. Four *external* factors which showed a difference between the colleges were marriage (external factor 2), English skills (external factor 6), issues with college administration (external factor 8), and academic performance (external factor 10). College 2 had significantly lower mean, than other colleges in three out of the four cases, while college 4 had lower means than other colleges for 2 of the 4 factors. Finally, the college with the third lowest rate, college 5, had the lowest mean in two cases. These factors indicate students at these three colleges 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 colleges 6, 7 and 9 are actually lower than other colleges. This would suggest colleges 6, 7 and 9 students are more dissatisfied with their institutions but based upon the attrition figures they are less likely to leave their college. This suggests that external factors are more influential in a student's decision to leave the college than the internal factors. On further analysis colleges 6, 7, and 9 were found to be government institutions attracting less academically prepared students, and students enrolled there are not offered monthly financial rewards. Colleges 1, 3, and 5 also are government institutions, but students enrolled there are happier with their college than students enrolled in colleges 6, 7, and 9. Colleges 2 and 4 offer monthly financial rewards to their students. This may explain why colleges 2 and 4 have lower attrition rates than other colleges. This is a unique characteristic of the Saudi Arabian situation, differing financial benefits per institution, highlighting the problem of evaluating attrition issues.

Therefore, in summary, to this point, some traditional demographic factors could not be assessed and so only three demographic factors provided evidence of impact upon evaluation of attrition factors, and they are, age, level of computer skills and years of study. This result showed that indeed demographic factors impact the students' decision to leave college, and therefore H3 would be accepted. Let us now consider H4. Based upon the fourth hypothesis, it was anticipated there would be no significant differences between the participants of the nine institutions in their attitudes towards attrition factors. The data to evaluate this prediction. Considering the external factors firstly, factors evaluated. The significance levels when

independent t-tests were performed comparing the mean scores of the nine individual colleges. Only four of the 14 revealed differences. Students at college 7 differed from all other colleges in terms of how much influence ‘marriage’ (external factor 2) would have on their decision to leave the college. Students in colleges 1, 2,4,7,8 and 9 stated that English language skill levels (external factor 6) could force them to leave college. This factor was far more significant than noted by students at colleges 3, 5 and 6. Students at colleges 5, 6, 7 and 9 were more inclined than students at other colleges to consider issues with college administration would force them to leave the college. Students in all colleges (all means greater than 3.0) stated that their academic performance could force them to leave their colleges. The rest of the external factors demonstrated no significant differences in attitudes between colleges. Similarly, the overall means of combined external factors, row number 64, did not differ significantly (column 13 to 17). So, when considering the *external* factors, support exists for H4.

However, when the internal factors are considered, significant differences emerge. The means for the 37 internal sub-factors (extracted from the 8 internal cluster factors as listed in rows number 18 to 54), 31 reveal significant differences (at the .10 level or below) with only 6 revealing non-significant results, as per column 13. Similarly, the eight combined sub-internal factor means, listed at rows number 65 to 72 also reveal six significant differences (at the .10 level or below). So, when considering the *internal* factors, H4 must be rejected. It appears there are significant differences between institutions from the same geographical location (Saudi Arabia), as to factors impacting student satisfaction, and ultimately therefore, decisions to terminate their accounting studies. Significant differences of opinion exist among students in Saudi Arabia, therefore H4 is rejected. Let us now consider H5.

H5Sa: 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, table 5.19 demonstrates significant differences in attitudes between the administrators and the students in 4 of the 14 comparisons Administrators considered marriage (external factor 2) would have more weight on students’ decisions to drop out of college than students themselves thought. Students believe English skills factors and issues with college administrators contribute more to their decision to leave college than administrators. Finally, administrators are more concerned about students’ academic performance and they consider this factor strongly contributes to the students’ decision to withdraw from college. Students agree it is a significant factor, but it does not influence their decision to leave as strongly as the administrators think. Focusing on the internal factors, Table 5.20 demonstrates significant differences in attitudes between the administrators and the students in 6 of the 8 comparisons Students were significantly less satisfied with the registration/administration systems, lectures scheduling, exam and grading, teaching, facilities and service quality (internal factors 1, 2, 4, 5, 6 and 8) than the administrators considered they would be. Conversely, students were significantly more satisfied with course curriculum (internal factor 3) and technological issues (internal factor 7) than the administrators considered they would be.

CONCLUDING COMMENTS

Eleven factors were found to impact attrition in Saudi Arabia. These factors are; increasing interest in other majors, losing interest in studying accounting, academic factors, getting a job, personal and family sickness, “other reasons” (such as no financial rewards for community college students), lack of transportation, English language, absences of clear policy, issues with college administration, and family pressures. These results were also anticipated. Considering the first two factors (increasing interest in other majors, and losing interest in studying accounting) these suggest that students find accounting courses boring and not interesting enough for them to stay. The researcher met with many of these students and they stated that the

way the accounting course is taught is not interesting. As regards the curriculum, students appear satisfied with accounting courses, but when we look at their evaluation of the internal factor 'teaching', students are not happy. Hence it appears they are dissatisfied with the way the accounting courses are taught rather than the actual content. The methodology used in this research were mixed approach to analyze the questionnaires, the paper also finds out attrition and retention issues is very important and need to be studied further. Finally, we found that indeed some External and Internal factors impact attrition in retention rates for accountancy diploma students in Saudi Arabia

Limitations

The data disturbed to male students only if the survey distributed to female students that may have impact on the results. Future research maybe needed and to include female and male Students.

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