The Management of Retention:

A Case Study Examining Retention Strategy in a Private Lebanese University Business School

Diala Mahmoud Yassine

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TERMS

The research thesis employs the following terms that require definition and explanation.

Academic integration – consists of structural and normative dimensions. Structural integration involves the meeting of explicit standards of the university, whereas normative integration relates to an individual's identification with the normative structure of the academic system (Tinto, 1975, p. 104).

Attrition rate – refers to percentage of students leaving school.

Dropout - refers to a student who has discontinued his/her study with no immediate plan to re-enroll; describes the action of all students who leave despite their reasons or conditions (Astin, 1988b; Barnes, 1992).

Goal commitment – refers to the degree to which the student is committed or motivated to get a university degree in general (Tinto, 1993).

GPA – refers Grade Point Average.

Institutional commitment – refers to the degree to which the student is motivated to graduate from a specific university (Tinto, 1993).

Institutional experiences - refer to the experiences a student has during their time in LIU. According to Tinto's (1993) Longitudinal Model of Institutional Departure, Institutional Experience incorporates four areas: academic performance, faculty/staff interactions, extracurricular activities, and peer group interactions.

Peer Group interactions- refer primarily to informal experience within the social system of a student's institutional experiences.

Pre-Entry attributes- refer to attributes a student has prior to entering the University. According to the Longitudinal Model of Institutional Departure (Tinto, 1993), Pre-Entry Attributes incorporates three areas: family background, skills and abilities, and prior schooling.

Remedial courses - Extra English courses taken by the student to increase their academic Level.

Retained- refers to the students graduated from the university (Yorke and Longden, 2004).

Retention - refers to the ability of an institution to retain a student from admission to the university through graduation.

Retention rate - refers to the percentage of students who were enrolled at the university and stayed there until they graduated

Senior – refers to Third year students.

Social integration – refers to the degree of congruency between the individual student and the social system of a university (Tinto, 1975). Examples of social integration are informal peer group associations, extracurricular activities, and interaction with faculty and administrators.

Sophomore – refers to First year students.

ABSTRACT

The retention of students in higher education has received great attention from scholars. Understanding the determinants of students' decision to continue their studies would be essential for university managers and professors as well as future students. The aim of the present thesis is to investigate the factors that might affect student retention behaviour in the Lebanese International University. A survey was conducted to explore the characteristics of first-year and third-year students. The data collected is based on an extensive questionnaire that covers students' background information, peer-group and faculty interactions, academic performance, and their perception of the University. Overall, the findings support the Tinto's model of student integration. Furthermore, the results strongly suggest that students' proficiency in English may affect their retention decision directly.

The main findings of the study are on the role of academic and social integration in the students' decision to continue their education. Grade performance and intellectual development are observed to affect students' goal and institutional commitment. Similarly, commitment is found to be influenced by social interactions with peers and faculty members. The results agree with the Tinto's theory of student integration and suggest that background factors might have a direct impact on retention. This reflects the thesis's contribution to the existing theoretical literature which can be important in identifying the key factors behind student retention more accurately in the future research.

The study may also be useful in improving management practices in Lebanese universities as it is based on the analysis of the current state of the Lebanese International University. In particular, it supports the role of academic and social integration in the retention of students. This could be useful for developing practices that improve the experience of first-year students. Most notably, the findings indicate that Lebanese universities should focus on developing appropriate English courses.

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CHAPTER ONE
Introduction

1.1 Importance of the Study

This research thesis is a case study of the Lebanese International University (LIU). The population in Lebanon is about 4,000,000 people; thus, the number of Universities is more than needed. Competition among Universities to attract and retain students is fierce. For this reason, an extensive study into the factors that affect student retention is needed as it will help solve an urgent problem in the system of higher education of Lebanon. Moreover, the findings will also be important for institutions of higher education internationally as this research is based on a universal Tinto Model that can be applied in many contexts.

Students in LIU pay on average 4,400 pounds every year for three years. So knowing why students drop from the University is a critical issue from the financial point of view and from the academic point of view. This research thesis will provide a practical contribution to the field of education by singling out the main factors behind student retention and drop out decisions and making recommendations on how universities can retain more students. This will help universities remain financially healthy and attractive. These recommendations are listed at the end of the thesis in Chapter 5. In addition to this, the study provides recommendations for future researchers to address the limitations of this investigation that can be seen in Chapter 3. These recommendations are also available in Chapter 5 of this thesis.

At present, the attrition rate at the School of Business in LIU is about 20% whereas for the past three years it was 15%. Both the students as well as the university will greatly benefit from this research as knowing the factors that affect student retention will help Universities to implement actions to improve this indicator. This will encourage the university to initiate as well as implement the best strategies in order to address the problem.

This study is important for several reasons. First, this study will contribute to the literature on student retention. Although a large number of studies have examined factors affecting student retention in higher education, there is currently no study which has examined the retention of Lebanese students using the Tinto Model (1993). Thus, this research has an opportunity to be the first one to make such a contribution. Secondly, this study may be beneficial to staff and faculty at the Lebanese International University as it may give them a clearer picture of the factors affecting student retention and thus allow them to develop programmes that aim to prevent students from dropping out. Finally, the study may be beneficial to future students and their parents since it will provide evidence of the best predictors of student retention. Moreover, the results can be potentially applied to other universities in Lebanon and throughout the world.

1.2 Problem Statement

According to Soueid *et al.* (2004), the nation of Lebanon has 42 accredited universities out of which there is only one public University. Higher education (HE) performs a very critical function for the development of human capital. Additionally, higher education has been known for its effectiveness in enhancing the living standards of people. Furthermore, education has remained a priority for many governments largely because of its role in making and motivating people to achieve economic as well as social development.

There are more than 16,000 universities established across the world (Global University Network for Innovation, 2011).

Retaining students and advancing them towards successful graduation is a fundamental mission of higher Education Institutes (HEIs). In efforts to attain this mission, HEIs must be able to recognise and understand all the factors that are related to student retention and success (Bytheway & Venter, 2014). According to Tinto (2002), HEIs are fundamentally responsible

for student retention. In addition, failure to offer effective institutional environments, which promote student engagements in college activities as well as comprehensively understand student characteristics in addition to their cultural backgrounds, may bring about high attrition rates, which can actually work against the primary role of HEIs as reviewed in previous empirical studies covered in more detail in Chapter 2 (Pascarella, Terenzini & Wolfle, 1986; Friedlander & McDougall 1991; Tinto 2002). Furthermore, Tinto (2002) states that for the objectives of HEIs to be realised and put into perspective, there is a high need for these institutions to understand the relationship between student characteristics including cultural settings, student engagements, and learning outcomes.

The importance of student retention is one of the most intertwined and intricate issues facing the modern HEIs. One of the primary questions regularly asked in this regard is "how are institutions affected by student retention?" When asked why student retention is an important issue, many people argue that retention can influence every aspect of higher education setting including financial performance and reputation of universities (Zeithaml, Bitner, & Glemler, 2009).

1.3 Purpose of the Study

Student retention is one of the most debatable issues in the field of HEIs. In addition to the extensive body of research literature that now encompasses four decades of work, there are books, journals, and conferences focused in this area (Tinto, 2006). Over 100 studies have analyzed retention problems in higher education (e.g., Bai & Pan, 2009; Brown & Robinson, 1997; Hartley, 2011; Tinto, 1975). Additionally, several other studies (e.g., Allen, 1992; Thompson & Fretz, 1991; Torres, 2003) have identified specific student populations at-risk for their failure to persist (Hartley, 2011).

The main purpose of this study is to identify the factors affecting student retention at School of Business of the Lebanese International University. This purpose is attained along with several objectives pursued in this research thesis. The objectives are as follows:

- To investigate the effect of family background, individual attributes and pre-college schooling on decisions of students to continue their studies in the University;
- To examine to what extent grade performance and interactions with peers and instructors affect the retention decisions of students at the LIU;
- To evaluate the role of goal commitment and institutional commitment in achieving greater retention of students at the LIU.

This study is guided by Tinto's (1993) student integration theory, which is explained in detail in Chapter 2 devoted to review of literature. This theory is longitudinal and dynamic and views student retention decisions largely as the results of interactions between the student and the academic and social systems of the institution (Tinto, 1975, 1993). The theory suggests that students enter a particular college or university with a set of background characteristics. These characteristics include family background, individual attributes and pre-college schooling. The graphical representation of the Tinto model can be seen in Figure 3.1 in Chapter 3 of this thesis. Family background characteristics include family social status, parental formal educational level, and parental expectations. Examples of individual attributes include academic aptitude, race, age and gender. Pre-college schooling experiences include the characteristics of the student's secondary school, high school academic achievement and academic course work. These student entry characteristics directly influence students' initial goal and institutional commitments. Goal commitment represents the degree to which the student is committed or motivated to get a university degree in general or getting a particular major while institutional commitment represents the degree to which the student is motivated to graduate from a specific university (Tinto, 1993). Initial goal and institutional commitments affect students' degree of

integration into the academic and social systems of the university. Academic integration consists of both structural and normative dimensions. Structural integration involves the meeting of explicit standards of the university, whereas normative integration relates to an individual's identification with the normative structure of the academic system (Tinto, 1975, p.104). Social integration refers to the degree of congruency between the individual student and the social system of a university. Tinto indicates that informal peer group associations, extracurricular activities, and interaction with faculty and administrators are mechanisms of social integration (Tinto, 1975, p.107). Academic and social integration affect students' later goal and institutional commitments. Moreover, both later commitments are also affected by students' initial levels of commitments. Tinto has dominated student retention literature for over 30 years. His longitudinal model of institutional departure, described in Leaving College: Rethinking the Causes and Cures of Student Attrition (Tinto, 1993 pp.84-137), provides the dominant theoretical model informing this research. The model is frequently cited in retention research and has broad applicability to the holistic institutional led approach being applied in this research. Even though the model has been in existence for some three decades, it has never been implemented in the Lebanese University system. This explains why Chapter 2 does not provide a review of much evidence from Lebanon but discusses the studies of higher education institutions in the international context. Therefore, this research thesis attempts to fill in this gap and determine the significance of the factors that affect student retention rates. The results of the study can be used in practice by the management of the University to enhance the school reputation and financial performance. This contribution to practice is covered in Chapter 5 which summarises the findings of the research, draws limitations of the study and explains practical implications along with recommendations.

1.4 Overview of Methodology

The research methodology is based on the survey strategy, which is explained in much detail in Chapter 3. The survey of the students of School of Business at the Lebanese International University has been conducted using structured questionnaires as the main technique of data collection. Thus, the strategy has been applied to a single case study represented by the LIU. The non-probability sample of the research is comprised of 1,600 respondents among the first year students and 1,000 respondents among the third year students who filled in their questionnaires. Thus, the study covers cross-sectional dimensions as required by the Tinto model. The latter has been employed as the main conceptual framework of the research thesis. The response rate exceeded 93% in both samples. In particular, the response rate was 93% among the first year students and 96.3% among the third year students. This allows for considering the research participants as a population of the School of Business rather than a particular sample. The reasoning behind this is provided in Chapter 3. In addition to the survey, an interview with the Vice President has been conducted, but it was done only in order to inform him of the results and make recommendations. Therefore, the main output of the interview is contained in the contribution to management practices section in the final chapter of the thesis.

Among five schools at the Lebanese International University, only School of Business has been chosen for the research. One of the reasons for choosing School of Business is that this allowed the study to be more focused on a specific category of students that specialize in business, thus ensuring homogeneity of the sample.

The data from the survey has been analysed using quantitative methods using statistical software SPSS 22. The qualitative data collected by means of the structured questionnaires has been quantified using the Likert scale. Cronbach's alpha test has been employed to assess reliability of responses. The analysis of the factors of students' retention rates has been conducted using such statistical techniques as descriptive statistics, frequency tables, Levene's

test, t-test, Chi-square tests, Somers' delta, ANOVA tests and Linear Regression Analysis. The output of these tests and their interpretation are provided in Chapter 4 dedicated to the analysis of results.

1.5 Background of the Study

1.5.1 Lebanese System of Higher Education

Lebanon's higher education is the oldest in the region and dates back to 1866. The Lebanese University which is the only public university in the country was founded in 1951. Haigazian University was founded in 1955, followed by the Beirut Arab University in 1960, in collaboration with the Egyptian university of Alexandria. Most of the 42 HEIs currently in operation in Lebanon were recognized by government in the late 1990s when the private sector flourished in a sudden and rapid expansion following the 15-year civil war in Lebanon between 1975 and 1990. This has had a very damaging impact on the country's higher education sector. Both public and private universities mostly use French or English, the two most widely used foreign languages in Lebanon.

The American System of semester-based course completion is commonly adopted by Lebanese institutions. In particular, students may be divided into sophomore, senior, and junior students depending on the year of education. The academic year comprises three semesters, with the summer semester being shorter compared to fall and spring semesters. Students' performance is assessed by a grading system which is modelled after the American System. Second foreign languages could be used as main teaching languages which include French and English.

The choice of the teaching language may be regarded as a major difference in higher education between the Lebanese and American systems. Specifically, the Lebanese International University employs English which is not native to the majority of the students. This could create an additional barrier to higher education which might affect the students' ability and

willingness to continue their studies. Poorer knowledge a foreign language may deter students from higher education at the application stage. While additional courses might be offered for improving language proficiency, it is likely that main courses are taught without regard for students' level of English. This suggests that the Lebanese system of education might be associated with different retention patterns compared to the US.

The role of the teaching language is also prompted by the Tinto's model. The initial level of proficiency in a foreign language would likely affect the experience of students during the first year. Academic integration may be inhibited for Lebanese students that struggle with following the main courses. Additional English courses could alleviate the effect but they might be insufficient in bringing students closer in proficiency level. Social integration may also be affected as communication would be hindered for students with lower proficiency. This shows that the Lebanese education system is modelled after the US approach but does not rely on the students' native language, strongly indicating that the existing empirical results on retention might not be directly applicable to Lebanese students.

The freedom and independence of Lebanese higher education are protected by the constitution. Tertiary education in Lebanon is divided into two categories: vocational tertiary education and general or non-vocational higher education.

Tertiary education in Lebanon is composed of Technical and Vocational Institutes, University colleges, University Institutes and Universities. The Lebanese University is the only public institution. The Ministry of Education and Higher Education administrates the private and public sectors and Technical and Vocational Institutes are under the Directorate General of Technical and Vocational Education Directorate General of Higher Education has responsibility for University Colleges, University Institutes and Universities.

According to the World Bank database, the gross tertiary education enrolment rate increased from 21% in 1971 to 42.8% in 2014. With university graduates making up 30% of the labour market, it is clear that the Higher Education system needs to play a key role in resolving the problem of youth unemployment in Lebanon. One of the ways in which this can be achieved is to facilitate retention rates at schools.

There is no single governance model adopted in the Lebanese universities. Each institution has its own governance. The Lebanese University is governed by the Council of the University formed of its president and respective faculties' deans. The deans are generally selected by the Council of Ministers from a list elected by the faculty members.

Other universities, usually those adopting the American model, have a board of trustees that nominates the president and the deans. In these universities, the executive power is also in the Universities' Councils. Some private universities also have private owners who are on the board of trustees. In 2002, a Directorate General for Higher Education (DGHE) was established to regulate the private higher education sector and supervise and coordinate all actions related to it.

The DGHE is in charge of the 41 private higher education institutions currently in operation in the country, while the only state Lebanese University enjoys clear autonomy with its own system of governance.

Reliable and accurate financial information about the universities is unavailable even to the public authorities because of the peculiarities of the Lebanese system. However, it is a fact that spending on higher education can, broadly speaking, be divided into government spending, household spending and external or private grants. Direct government spending on higher education does not exceed 0.5 % of the country's GDP, which is below the average levels of

Organization for Economic Co-operation and Development (OECD) countries and lower middle income countries.

1.5.2 Historical Background

The Lebanese International University (LIU) was first founded as the Bekaa University under Presidential Decree No. 5294 in April 2001, with its first two campuses in Al-Khyara, in the western Bekaa valley and the capital Beirut. The University is a career-oriented institution with the mission of creating access to higher education for first generation students who otherwise would not have the opportunity to join the professional workforce. With a commitment to democratize higher education and empowerment, the university established seven additional campuses in Saida, Nabatieh, Tripoli, Mount Lebanon, Tyre, Rayak, and Halba-Akkar from 2003 to 2013.

LIU has also been elevating the university's regional and international prominence as extensive development and significant academic achievements took place from 2001 to present. LIU went beyond Lebanon and since 2006 has further established four campuses in Yemen (Sanaa, Aden and Taiz), one in Mauritania and Senegal.

Currently, each curriculum is based on a certain number of credit-hours. Due to the LIU system procedure, the University has been able to collaborate with other universities around the world to create a transfer system. These universities are Ohio University, Montana State University, Kaunas University of Medicine, Lithuania, Worms University of Applied Sciences, The Euro-Mediterranean University, and Brno University of Technology.

Presently, LIU has approximately 24,000 students enrolled in its five schools: Pharmacy, Engineering, Education, Arts and Science, and Business. This figure represents 13% of the overall number of students enrolled in private HEIs in Lebanon (World Bank, 2012). In addition, LIU employs over 1,000 faculty and staff members. With nine campuses spread

across major cities and geographical regions throughout Lebanon, LIU has become the leading university among the country's private higher education institutions.

LIU's mission states that the university strives to provide accessible and affordable quality higher education and to empower students to develop awareness and be culturally engaged to achieve innovative outcomes. Like many other universities in Lebanon, the LIU follows the American System of education where courses are completed on a semester by semester basis. Students are divided into sophomore, senior and junior. A sophomore is a student who is currently in their first year of education. A junior is a student who is currently in their second year of education. A senior is a student in the third year of education. The student should complete 99 credits in order to graduate from the School of Business. Typically, there are three semesters offered during the academic year. The fall and spring semesters last for around sixteen weeks, while the summer semester has duration of approximately six weeks. The well-known typical letter grading system is used to rate students' performance. LIU adopts English as the principal teaching language although Arabic is the official language as per government regulation and the native language spoken by the majority of the population. It must be noted that all schools in Lebanon are mandated to teach a second foreign language, typically English or French. High school students undergo an official examination to be able to graduate successfully and these are conducted in English/French for all scientific materials. The main mission of LIU since its inception has been to provide affordable and accessible quality education.

1.6 Organization of the Thesis

This thesis is comprised of five chapters. This introductory chapter presents the rationale for the study as well as the significance, importance of the study, statement of the problem, purpose of the study, and background for the study.

Chapter 2 provides a review of the academic literature on retention. It also provides an understanding of the models in the area. Furthermore, Chapter 2 also highlights previous implementation of the Tinto Model as the most appropriate framework to analyse student retention. The chapter concludes with a discussion of the theoretical framework and hypotheses arising from the literature review.

Chapter 3 discusses the methodology and research design implemented, and the rationale for the choice of methodology utilized. Chapter 3 also discusses quantitative approaches to education and educational management research as well as empirical data collection processes and procedures using questionnaire, and how the data was analysed. Chapter 3 includes a description of the research methodology, population, sample, data collection instrument, procedures, statistical hypotheses, data analysis, and methodological assumptions. Chapter 4 provides a discussion and interpretation of the statistical results arising from the analysis of data and hypotheses testing. Chapter 5 discusses the result and findings emanating from the analysis of data. Chapter 5 also summarises and makes recommendations about critical factors that impact on student retention in an education institution in Lebanon. Chapter 5 concludes with a discussion of the limitations of the research and provides suggestions for future research.

CHAPTER TWO

Literature Review

2.1 Introduction

This chapter discusses the literature on the problem of student dropout in higher education. Although the research is focused on the case of Lebanon, the chapter explores academic and theoretical studies developed for various countries. An analysis of theoretical models and approaches to student retention allow the researcher to develop a coherent view of the topic. A discussion of empirical literature leads to the identification of gaps in existing studies. This section investigates various strands in literature that examined the UK, US and Lebanon. The chapter also includes a discussion of the evidence from other countries. The chapter also discusses the costs of student attrition for universities and societies, analyses the use of retention rates as performance indicators by universities against other possible measures of performance, and examines the activities that are at the primary focus of higher education institutions. The aim of the chapter is to capture the limitations of the studies and to provide background for future research with application to a particular case of Lebanon.

2.2 UK and US Strands of Literature

There are several strands in literature on the topic of student retention that are observed both in the UK and in the US. The first strand pays attention to institutional factors that are likely to influence student persistence (Thomas, 2002; Lau, 2003). The second strand emphasises the prominence of student background and personal characteristics (Crede and Borrego, 2014; Morrow and Ackermann, 2012; Irizarry, 2002). Thus, the strands of literature on the problem of student dropout are not substantially different in the UK and US. However, the literature for the context of the US is abundant compared to the analyses of UK cases. At the same time,

retention activities are also similar in the countries. For example, both countries emphasise the importance of peer mentoring and supplemental instruction. The involvements families, friends, and employers to support students is also considered to be an important factor for retention, although such support is difficult to estimate. The importance of course choice is also underlined in both strands of literature in the two countries (Gibbs et al., 2006).

Activities to increase student retention rates in the UK are focused on various aspects and factors that are likely to influence student persistence. Tutors and self-referral are integration factors that may affect student retention. The findings of Johnes and McNabb (2004) underlined the prominence of matching and peer group effects that are considered to be not institutional but rather individual and social integration factors. This aspect is also emphasised by Collings et al. (2014) for the UK context, but the authors expanded the model by supplementing the variable of intention to leave with such variables as perceived stress and adaptation to university life. The research also showed that mentoring could moderate the effects of the transition to university at the levels of social support, self-esteem, and "positive affect" (Collings et al., 2014, p.15). At the same time, Sacredote (2001) demonstrated that peer factors were more prominent compared to institutional factors in the US. Thus, the research showed the importance of these characteristics in another country and confirmed that there are similarities across the UK and US in this respect. The author examined the dataset to estimate peer effects across college roommates and showed that peers affected both success and retention, while the effects were more significant than institutional features and activities.

Evidence in terms of the effects of entry rates on retention was provided by Soilemetzidis and Dale (2013). The authors studied the UK case and confirmed the relationships between retention and entry grades on the basis of UK national data. This confirms an assumption that entry grades and initial student background may be associated with subsequent retention. The research demonstrated that higher entry grades and better preparedness of students would be

associated with fewer academic challenges, which eventually transforms into a lower probability to withdraw from studies. The authors expanded the integration factors that were related to mentoring, peer effects, academic support, and social connectedness, suggested by earlier studies (Johnes and McNabb, 2004; Sacerdotal, 2001), and student background characteristics, such as pre-educational knowledge.

Some evidence from the US is more often focused on student characteristics, such as ethnicity. This factor can be viewed as another student background characteristic, following educational qualification on entry suggested by Ashby (2004) and Soilemetzidis and Dale (2013). For example, Crede and Borrego (2014) investigated the importance of student nationality using surveys. The authors captured several determinants of retention and proved that they were different for various nationality groups. The retention factors with large differences based on the nationality of respondents included value perception, expectations, climate, individual preferences, and project ownership. Indian and Middle East students were often above the average in the perception of value and individual preferences. Understanding the differences is prominent for developing ground rules and expectations that all students should follow.

At the same time, there are particular differences between UK universities and US colleges. For example, participation rates are different; meaning the share of the age group in higher education differs across the two countries. The differences in retention rates between the UK and US may be based on these participation rates, since students' educational qualification on entry is likely to influence their subsequent retention (Ashby, 2004). However, the author figured out several dimensions to expand the student dimension examined by Johnes and McNabb (2004), Collings et al. (2014) and Sacredote (2001). In Particular, the researcher added the institutional dimension and the employer dimension. The institutional dimension was associated with the factors an institution applied to estimate retention and to measure how well it was performing. The employer dimension focused on the role of the government that was

looking for value for money in its investments in higher education. Many studies confirm the importance of financial aid for student retention both in the UK and US (Kerkvliet and Nowell, 2005; Herzog, 2008; Dogson and Bolam, 2002). Financial aid to students may be correlated with student background and household factors, as well as governmental and institutional features.

Apparently, the interest in retention in the UK is lower than in the US, which may be explained by higher retention rates in the UK (Gibbs et al., 2006). At the same time, attrition in both countries follows a similar pattern, as most students drop out already before the first assignment. Furthermore, an increase in dropout is observed at the end of the first year in both countries. However, Johnston and Simpson (2006) argued that the retention policies in the UK are ambivalent. In particular, some considered increased retention can be considered to be an indicator of lower academic standards, which implies lower institutional status (Johnston and Simpson, 2006). Retention however can be improved with no impact on standards. Rather, faculty and administrators attitudes and institutional changes are required to improve student persistence in UK universities. The steps required for student retention include governmental activities and institutional level motivation and empowerment, according to Johnston and Simpson (2006).

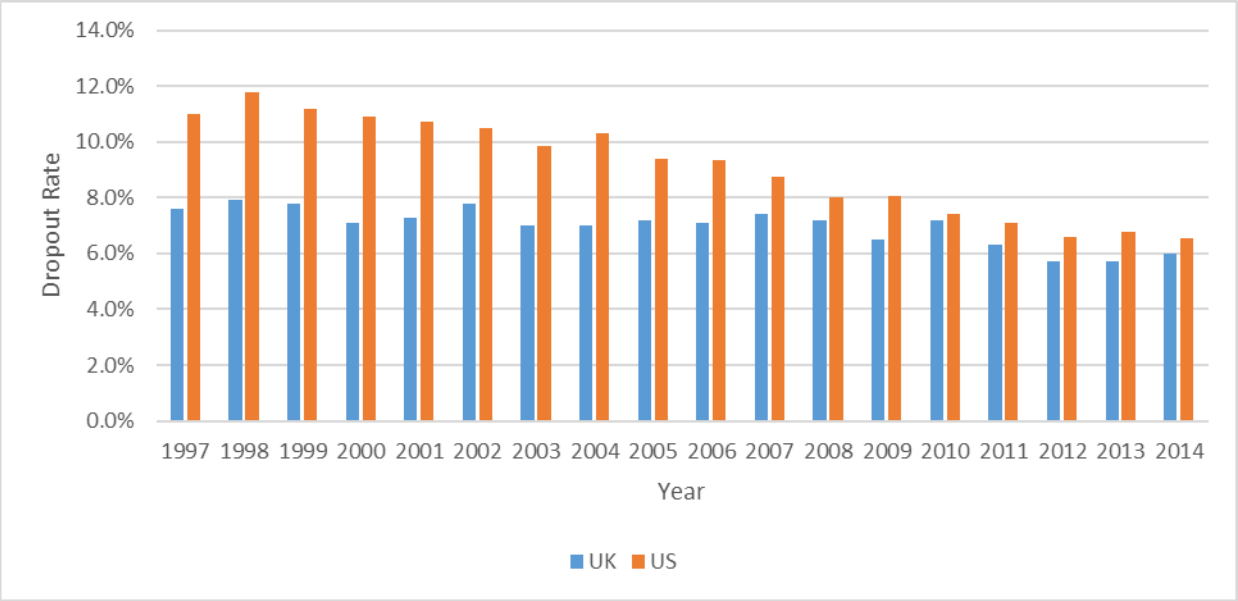
Such factors as governmental activities, institutional level motivation, and description of courses are related to institutional factors. Meanwhile, these factors are closely linked to student experience, motivation and success. Further support of the need to change institutional activities in terms of addressing the problem of student attrition was provided by Simpson (2004). The author argued that a student's initial course choice is a significant determinant of retention through the factor of success. However, institutional descriptions of the courses were found to be inadequate guides to the choice. So, changes are required in the methods of course choice advice. These methods may include preview materials, diagnostic materials, and

students' comments on courses. Such methods would enhance the confidence of students in their choice, and thus improve student retention in UK higher education. Moreover, empirical findings provided by Arulampalam et al. (2004) also confirmed that the key factors of student dropout in the UK were the subject studied and the level of academic success. The investigations of UK retention mostly demonstrate the importance of institutional factors. Nevertheless, Arulampalam et al. (2004) limited the sample to medical students only, which may imply the need to perform further analyses in this respect.

There are studies that focus on ethnicity of students with references to the UK as well. Wilson et al. (2007) studied the factors that determined black and minority ethnic and overseas student retention. Student motivation, course orientation, and institution support were found to be important. However, other studies underlined the prominence of these factors not only for ethnic minority students (Morrow and Ackermann, 2012; Trotter and Roberts, 2006). Furthermore, the research of Wilson et al. (2007) was based on a rather limited sample and the findings cannot be considered to be conclusive for a particular ethnic minority group. The research was related to black and minority ethnic students who came from overseas to study in a university in the North of England.

A reflection of UK and US dropout rates is presented below.

Figure 2.1 ***UK and US Dropout Rates***



Sources: HESA (2016); NCES (2016).

The figure shows that while the US faces higher dropout rates, it is able to achieve a decline and now is rather close to the UK in terms of the rates, compared to earlier periods. This can be related to a lack of analyses of the effects of pre-entry programmes, such as 'Aimhigher' in the UK, on retention (Thomas, 2011).

Another strand of US and UK literature focuses not on institutional or integration factors, but rather on personal student attitudes. This category is different from student background mentioned by some scholars (Crede and Borrego, 2014; Soilemetzidis and Dale, 2013; Ashby, 2004). In contrast to the student background factor, the category of student attitudes is related to the perceptions, beliefs, and expectations of students during their university rather than pre-university life. For instance, Yindra and Brenner (2002) demonstrated that student goals were important for student persistence in a US college. The authors also underlined the importance of career exploration services from which many students could benefit. Thus, the activities during university life were important for retention success. Irizarry (2002) showed that self-

efficacy and motivation were prominent for retention. This showed other attributes related to the student university experience. Similar observations were provided by Johnson-Lutz et al. (2015) for the US context.

Evidence both from the UK and the US demonstrate the importance of institutional and student-related factors in both contexts. However, the literature on student retention in the US is more abundant. This may be explained by lower retention rates in the United States. Nevertheless, the UK is also interested in the problem, as there is sufficient literature on the topic for this country as well. Further sections of the chapter examine the factors that may influence student retention in detail, discuss theoretical assumptions about student persistence, analyse the dominant theoretical framework on the topic by focusing on its key aspects, and explore peculiarities of student retention literature in the context of Lebanon.

2.3 Performance Indicators

Universities may refer to various indicators to measure their performance. For example, Katsikas and Dergiades (2009) showed how degree grades that assess academic performance of students were used as performance indicators at Greek universities. Another factor that measured performance was the duration of studies, estimated in extra years over the normal programme duration. Nevertheless, student dropout rates were not taken into consideration by universities, although it could be an important performance indicator for higher education institutions. Abramo and D'Angelo (2015) highlighted bibliometric methods to measure university performance. The suggested indicators include the performance of individual students and the performance of scientific fields that exist within the institution. Again, the suggested indicators lack dropout rates as a prominent performance indicator of a university.

In Australia student retention is considered to be an important performance indicator, as it is included as a key measure in educational quality through institutional statistics. The

Commonwealth Government's Learning and Teaching Performance Fund also pays attention to the retention factor. Student attrition rates are applied to estimate universities' equity performance. This determines their funding from federal programs (Wheelahan, 2007). Meanwhile, in the UK student retention is represented by two indicators. The first is the completion rate that estimates the share of starters in a year who continue the study until they obtain the qualification. Another measure of retention is the continuation rate, estimating the share of students enrolled in education in the year following the first entry (NAO, 2007). In the UK these indicators are aligned with a benchmark for each university, which takes into consideration students' entry skills and subjects studied. Nevertheless, the focus of managers and teachers is made on creating an environment for student learning and engagement that promotes student participation in activities (Crosling et al., 2009). This indirectly relates to integrational student retention factors, but does not explain how universities may manage retention per student.

The problem can also be related to inappropriate measurement of retention and the inability to develop a relevant performance indicator based on retention. For example, universities may assume that high graduation rates are likely to be associated with a good retention management program. Meanwhile, higher education institutions with lower graduation rates are considered to be less effective in terms of retention management. However, graduation rates may be viewed as institutional attributes. This implies that they reflect the demographic profile of its students rather than the activities of the university. Graduation rates are a function of the characteristics of an institution, and not of its retention management techniques (Hoover, 2008).

2.4 Costs of Attrition

Student retention is an important indicator not only as a measure of institutional quality. A large number of students who drop out after their first year at the higher education institution where they first enrol are associated with high costs. An analysis of US data demonstrated that during the five years over 2003-2008 local governments allocated over $6 billion to institutions to help pay for the education of students who eventually dropped out and did not return for a second year (Schneider, 2010). Furthermore, the States allocated almost $1.5 billion and the Federal government gave over $1.5 billion in grants to students who did not return for a second year. Nevertheless, there is an issue in identifying the means to increase student retention rates. UK data also shows impressive figures. According to the Higher Education Funding Council for England, over 8 per cent of undergraduate students drop out during their first year. This costs universities over £30,000 per student, apart from about the costs to students (Tickle, 2015). Dropouts are associated with the costs during student teaching, lost earnings and unrealised tax revenue. Furthermore, there are costs of student attrition to societies. Education contributes to human capital that promotes economic activity and development. Education is one of the key elements of economic growth, as it directly affects productivity growth, entrepreneurship, and employment opportunities (Latif, 2015).

At the same time, the estimation of exact economic consequences of increased student retention to governments cannot be calculated. For example, the estimation of 2005 showed that UK institutions lost in government grants more than £100 million annually (Ormond, 2005). The cost of dropout to UK institutions should also include the amount the UK government saves through not having to pay out the amount in grants to institutions. At the same time, governments have economic interests in retention due to long-term factors. These factors include increased income due to higher income taxes, net benefits of having more graduates in the workforce, and lower government expenditure (Ormond, 2005).

2.5 Student Attraction Strategies

Universities often focus on student attraction and concentrate on the way to increase student entrance rates rather than decrease attrition rates. For example, Alpay (2013) analysed several European universities in terms of entry strategies used by the institutions to attract students. Universities of the UK attracted students through the flexibility of schedules and breadth in the curriculum. Although the analysis was limited to engineering students only, it demonstrated that universities paid relatively little attention to the management of retention and concentrated on the management of student entrance. Research by Frolich and Stensaker (2010) related to several Norwegian institutions demonstrated that student recruitment strategies were based on student and institutional features. Higher education institutions revealed substantial creativity in trying to adapt to general trends and students' perceptions to attract students. Meanwhile, theoretical models (Tinto, 1975; Bean, 1980) underline the fact that student-level characteristics are also likely to influence retention rates. This fact is not taken into consideration by universities and there is a gap in the literature in this respect.

Academic studies pay little attention to the methods and models for student retention, but rather focus on student entrance. Literature that examines student attraction strategies contributes to the approaches that universities develop to recruit students. Higher education institutions follow marketing activities that are established to provide information and convince students to apply. These marketing techniques include outreach activities, such as school visits, post-offer activities, and attending fairs. Intermediate activities involve attending and holding professional conferences to influence high school counsellors. On-campus events may be related to online chats, visitors' centres, video conferences, and maintaining a university website to deliver up-to-date information to future students. Universities pay much attention to their reputation and program quality as ways to attract more students (Wang and Lang, 2010). While these factors are considered to be important for student attraction, higher education

institutions pay less attention to the management activities that could promote retention. However, some universities manage retention through special programmes. For example, fifteen UK universities are involved in the Higher Education Academy's Student Retention and Success Change Programme (HEA, 2016, p.1). The University of Leicester is involved in the Student Retention and Success Project (University of Leicester, 2016, p.1). At the same time, some UK universities use retention rates as a marketing tool, indicating that they have one of the lowest rates in the country (Durham University, 2016, p.1; University of Bath, 2013, p.1).

2.6 Importance of Retention in First Year

According to Gibbs et al. (2006), student attrition is often observed during the first year of studies, and the evidence is valid for several countries, including the UK and US. This underlines the importance of retention activities directed at first year students. Moreover, Ishler and Upcraft (2005) confirmed that the largest share of institutional leaving is observed during the first year and before the second year.

The importance of first-year student retention is emphasised by Noble and Flynn (2007), who found that the success of retention programs designed to target students in their first year was substantially higher during that year, compared to the programs targeted at other students. The authors provided an example of the ESSENCE program applied by the University of South Alabama and measured the effects of the program. The findings were explained by the ability of first-year programs to ensure student integration into communities and assist them in aligning personal and institutional goals. The importance of first-year student retention is underlined both by the magnitude of attrition during the first year compared to following years, and by the impact of first-year success on future academic and professional success of students. At the same time, first-year student retention is a shared responsibility between universities and students.

The prominence of student persistence during their first year can be justified by the conceptualised transitions approach (Bridges, 2011). This approach suggests that students' transition in higher education is a range of different identities, namely the pre-enrolment identity, tertiary identity, and professional identity. The identities are interconnected and coexist, and it is suggested that the first transition is most important. Specifically, the first year experience is considered to be crucial for student success at university (Nelson et al., 2009). Many first-year students who come to universities directly from school face difficulties. However, the activities of universities are not always able to sort out academically weak from academically strong students. Besides academic ability, students require appropriately developed organisational and time-management skills. Furthermore, social assimilation is also a prominent condition to ensure first-year student persistence (Blunden, 2002).

Fike and Fike (2008) showed that the effective measures for the retention of first-year students could involve development courses, student support service programs, internet courses. Financial factors and parents' education levels were also prominent determinants of first-year retention. However, these factors could be attributed not only to first-year students. Specific factors included the number of hours of student enrolment in the first fall semester and the number of hours dropped in this semester. However, Gifford et al. (2006) provided alternative evidence in this respect. The authors studied more than 3,000 first-year students and demonstrated that a pre-college predictor could determine student persistence. The ACT test score was associated not only with student success, but also with student retention. Meanwhile, Cuseo (2007) showed that an institutional factor, namely class size, could affect student retention, along with educational effectiveness. The analysis was performed on a sample of first-year students, so empirical evidence demonstrates numerous categories of factors that may influence student retention in first year.

2.7 Factors Influencing Student Retention

2.7.1 Integration Factors

An analysis of the US case in terms of student retention was undertaken by Roberts and Styron (2010) who examined the perceptions of services, experiences, and interactions of students in the College of Education and Psychology. The analysis was based on a questionnaire consisting of 51 items. The majority of items, namely 32, inquired about the attitudes and perceptions with respect to social connectedness, academic advising, on-campus engagement, faculty approachability, university business procedures, and learning experiences. The importance of residency was also confirmed by Schudde (2011), although the study focused on campus versus non-campus residency. An analysis of US students was based on propensity score matching drawn from national longitudinal data. The research showed that living in university-owned housing indeed could affect retention by decreasing the probability of a drop out. The differences between the two studies are related to the factors included in the models. While the research by Schudde (2011) was more focused and concentrated solely on residency, Roberts and Styron (2010) undertook a more extensive analysis to include other social connectedness factors. Nevertheless, both investigations confirmed the prominence of integrational factors for student retention.

Other items were used by Roberts and Styron (2010) to obtain demographic and status, as well as the utilisation by students of different campus resources. The findings revealed that social connectedness was the strongest determinant of retention. Retention was measured by students' return to the university during the semester. Meanwhile, faculty approachability was the second strongest determinant. At the same time, involvement and engagement was the only factor that affected retention negatively. Nevertheless, the study was limited to one university only and focused only on one semester to measure retention. A broader perspective could be developed if more evidence on the topic was collected. Another research study confirmed the importance

of academic advising, and it was more focused on this factor alone (Swecker et al., 2013). Empirical findings showed that the number of meetings with an academic advisor could substantially affect retention. The observations were obtained for first-year students and it was demonstrated that every meeting with an academic advisor increased the probability of the student's retention by more than 10%.Despite the differences in the factors that were at the focus of the studies, both Roberts and Styron (2010) and Swecker et al. (2013) showed that integration was an important feature that could reduce dropout rates.

A slightly different framework compared to that by Roberts and Styron (2010) was developed by Kim (2014) who figured out several categories of factors that could affect students' school life and ultimately retention. These categories were relational factors that involved student satisfaction with their campus life, educational factors, psychological factors, and external environment factors. The characteristics could also be attributed to the integrational area of retention determinants. Relational factors imply the networks students create. Educational factors are associated with relationship with faculty members as a determinant of motivation toward academic achievement. These relationships with members included university support in terms of educational activities, faculty-student relationships, and university administrative systems that were developed for the educational convenience for students. Meanwhile, negative relationships with faculty members could lead to a lower satisfaction level with the institution. Psychological factors involve psychological wellbeing that affects college choice and campus life satisfaction. External environment factors imply financial difficulties and transport to school. However, the investigation was also limited to one university in one country, namely Korea. The sample included 25 college students, which is relatively low and the findings may be inconclusive.

Student and faculty relationships were also explored by Lillis (2011). The study assumed that the frequency of student-faculty interactions and the intention to stay were positively

associated. In contrast to other studies (Schudde, 2011; Swecker et al., 2013), the research included another factor in the list of integration features that could influence retention. Specifically, it was suggested that mentor-level characteristics, such as emotional intelligence, could be important for attrition rates.

Empirical findings confirmed that student faculty interactions were able to forecast student attrition intentions. Moreover, faculty mentors with higher levels of emotional intelligence contributed to student retention, whereas faculty mentors with lower emotional intelligence implied higher attrition levels.

A research alternative to other studies in terms of data sources was undertaken by Eckles and Stradley (2012). The investigation was based on archival data rather than on survey data. The data was collected for first-year students in the Rhodes College in the US. The investigation used a logistic regression method of analysis, while the regression included both conventional variables of background and performance, and social network factors. The authors suggested a cohort network approach that determined the propensity of a student to retain. It was empirically demonstrated that the retention and attrition behaviour of students' friends substantially affected the student's retention probability. Furthermore, the effects of friends' behaviour were significantly stronger than the impact of other background or performance variables. However, the findings of Adidam et al. (2004) showed that student and institutional relations rather than student and friends relations were important. Building on the theory of relationship marketing the authors concluded that students' commitment to institutions were attributed to perceived benefits of attending the school, trust between the professor and the students, as well as perceived similarity in the values of the student and the faculty. These factors increased intentions to remain in the institution. Nevertheless, the analysis was limited to business schools only.

Another important factor for retention was the ability of a student to have a sense of belonging within the educational institution, according to O'Keeffe (2013), which is also related to integrational factors. The study underlined the importance of a supportive, caring and welcoming environment within the institution. Positive student and faculty relationships, well-resourced counselling centre and diversity and difference encouragement were found to be the key ways to success. However, the research was limited to rather broad categories without exact recommendations for universities.

A new context was examined by Heyman (2010), as the author investigated the factors influencing student retention in higher education online programs. Furthermore, in contrast to other studies (Roberts and Styron, 2010; Kim, 2014), the participants of the survey were administrators who had experience with fully online programs. The findings of the study underlined the importance of three factors. The first was student support and connection with the institution. The second factor was quality of interaction between faculty and students. The third factor was student self-discipline. The research introduced an internal student characteristic as opposed to external university-related factors. It can be seen that both university-level and student-specific characteristics are important for student retention. In particular, difficulty and workload can be interconnected with self-discipline.

2.7.2 Student Experience

Another strand of literature underlines the prominence of student experience rather than integration factors. Although these categories can be closely related, student experience implies the expectations and perceptions of students during their studies. This category involves motivation and commitment of students to their courses and educational process. For example, Campbell (2013) explored the case of the University of Maryland in the mid-Atlantic region and obtained data from several surveys and databases. The findings confirmed that the perceptions of students were prominent factors that contributed to enrolment patterns. The

study argued that a simple approach that measures a student's general attitude toward the university could have similar predictive power in terms of retention to the measures of financial aid, GDP, or other characteristics. The research emphasised the prominence of freshmen expectations, behaviours, and attitudes as the predictors of various enrolment patterns at a large public university.

At the same time, Soria et al. (2013) demonstrated a more specific university-level factor that could influence student retention. The authors examined the prominence of library use by undergraduate students. The analysis was limited to a single university in the US and focused on first-time, first-year students. The impact of library usage on the academic success and retention was confirmed. The findings were based on a regression analysis that demonstrated the ability of library usage to predict academic success and retention rates. However, the study explored association between the factors rather than causative influence. Empirical evidence revealed that library users had a higher degree of retention than non-library users. Thus, different studies underline the importance of analysing both university-level and student-level characteristics as possible determinants of student retention. Library use can be viewed as a form of students' motivation, which is related to student perceptions factors.

A quantitative analysis of the importance of library use for retention was undertaken by Haddow (2013). The analysis was based on undergraduate students who enrolled for the first time in an Australian university. The conclusions demonstrated that students who logged-in to authenticated sources and borrowed from the library at higher rates were more likely to be retained. The findings were in line with the observations of Soria et al. (2013), although they were obtained for a different sample. However, Haddow (2013) also included student background factors in the research and showed that socio-economic background was not associated with library use or retention. Library use may be viewed both as a part of student motivation category, and as an integration aspect. This demonstrates that the distinction

between different categories is not clear. At some points the categories of factors that affect student retention may overlap.

Integrative literature review on the topic of student retention was undertaken by Cameron et al. (2011). The authors attempted to determine student characteristics that contributed to retention. However, the findings revealed that not only student-level factors were prominent in this respect. Specifically, the research found that good support and personal commitment were significant determinants of the probability of students' stay on undergraduate programmes. While support is an integrative factor, personal commitment is related to student experience and perceptions. So, these two categories are closely related to each other. Nevertheless, the study examined only the literature that analysed nursing and midwifery students, whereas evidence from other contexts could be different. The findings were expanded by Copeland and Levesque-Bristol (2011) who examined a US university and a sample of 390 first-year students. The research concentrated on the needs, goals, and interests of the students to identify how their basic psychological needs and motivation affected retention. The research concluded that expectations and the influence of teachers, along with motivational processes, could improve learning outcomes. Furthermore, autonomy supportive environments addressed the students' basic need for perceived competence, which successfully influenced their self-determined motivation. Ultimately, first-year student satisfaction and success were found to positively affect retention.

2.7.3 Institutional Factors

Retention literature points out numerous categories that may affect student retention. One such factor is institutional context. It includes social climate, academic sphere, and physical setting. An Empirical study by Thomas (2002) explored the case of the UK with respect to student retention and success. The author proved the importance of institutional habitus in the context

of a college in England. The investigation examined such factors as academic experience, institutional expectations and commitment, academic preparedness, academic and social match, finance and employment, family support, university support, and financial issues. These factors are mostly related to student background, experience, and integration. However, the research proved that institutional factors were most significant. Furthermore, Lau (2003) found that such institutional factors as dormitories, study rooms, facilities for the disabled, career centres, social and professional organisations were important for student retention.

Adamopoulos (2013) showed that Professors were the most prominent factor in online course retention. Other positive determinants were Assignments and Course Material. Negative factors included difficulty, duration, and workload. Thus, the research provided evidence of rather specific characteristics. However, more general socio-political factors may also play an important role in student retention. These factors include higher education regulation, allocation of governmental resources, and scholarships. The prominence of scholarship programs was confirmed by Yelamarthi and Mawasha (2010), as they affected student retention rates. Furthermore, Dakin et al. (2015) found that government regulations on student loans affected student retention. An analysis of a higher education environment in the context of the US Gainful Employment Regulation of 2011 program revealed that the learning environment significantly affected student retention rates at for-profit institutions. A qualitative open-ended data analysis was applied and the research concluded that retention and governmental regulations were linked through the loan default problems.

2.7.4 Student Background

Student background is another factor that is likely to influence both academic success and retention rates of students. An interesting data mining approach was undertaken by Yu et al. (2010), who investigated possible determinants of student retention. The research was based on the dataset of over 6,600 sophomore students in a US university over two years. The

dependent variable of the research was a dichotomous retention variable. Retention was defined as persisting enrolment during the specified time period. The study found that residency, transferred hours, and ethnicity were the key pre-college factors that affected retention, and these factors were student-specific categories. Meanwhile, all other factors were characterised by mixed results depending on the method of analysis (Yu et al., 2010).

However, alternative results were obtained by Delen (2010) who also referred to a data mining technique. The research was also limited to a single US institution, although it was focused on five years of data. The findings demonstrated that the most significant determinants of student retention were those associated with past and current educational success. Another factor was related to financial support received by students. Retention could be improved through enrolment of more academically successful students and provision of financial assistance to them.

In contrast to the findings of Campbell (2013) and Delen (2010), empirical analysis by Kennamer (2010) demonstrated the issues with financial aid as one of the determinants of student retention. The research was based on the data from the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) over 2000-2006. The research examined institutions that received local funding and compared them to those that did not receive significant local funding. Furthermore, the study differentiated between rural, urban, and suburban community colleges by type. The finding revealed that enrolment increase during the five years was overwhelming compared to the federal direct grant student aid. The ability of student aid to have any positive influence on retention in the community colleges of the US was very limited.

An investigation by O'Keeffe (2013) was based on a slightly alternative approach, as it examined key risk factors that lead to attrition, rather than factors that support retention. The study figured out several risk factors, such as mental health issues, ethnicity, socioeconomic

status, and disability. The study showed that first year students and higher degrees by research students were more likely to not be retained.

At the same time, Baker and Robnett (2012) examined the importance of race and social support as the determinants of college student retention. The research was based on an observation that African American and Latino students were less likely to stay enrolled in college compared to students from other ethnic or racial background. Thus, some racial and ethnic minorities were found to be less likely to get a college degree. Empirical research was focused on a public university in California and university-limited evidence showed that African American students were significantly less likely to leave college compared to other students. Meanwhile, Latino students were considerably more likely to leave than other students. The success of minority students was determined by the experiences in college rather than by pre-college preparation. Furthermore, social support played a prominent role in retention.

2.8 Student Retention Theories and Models

2.8.1 Introduction

This section explores the academic literature on the topic of student retention and attrition. The focus is made on theoretical rather than empirical inferences in this respect. The chapter examines the studies that suggested theoretical models in the 1970s and gradually moves toward more recent theoretical propositions on the topic. The models suggested in the 2000s are finally examined and the integrative summary of the models is provided. The section finds

limitations and gaps of some of the models and shows how subsequent theoretical suggestions fill these gaps and address the limitations.

The first strand of theories was developed by Spady (1970) and Tinto (1975; 1982), as the authors suggested the integrative models. The models focused on the importance of student integration within the institution. The models were among the first approaches to the topic of student dropout, and the factors included in the theories are still considered to be important by modern theoretical and empirical researchers. This underlines the significance of integrative models. In the 1980s these models were expanded by attrition theories that incorporated student behavioural intentions and experiences that could be affected by external factors (Bean, 1980; Astin, 1984). The significance of the new strand of theories lies in their ability to fill the gap in initial theories and provide a more comprehensive view on the factors that may determine students' retention and attrition.

2.8.2 Integration Theories

One of the early theories of student retention and attrition was a student departure theory suggested by Spady (1970). The author's sociological model was developed for higher education students and was based on five key variables that determined attrition. These variables included academic potential, normative congruence, intellectual development, grade performance, and friendship support. These factors were viewed as complementary to social integration and could be associated with students' decision to leave school. The intervening variables in view of the theory were commitment and satisfaction. Another research by Spady (1971) empirically tested the factors and demonstrated that formal academic performance was the most important factor for student departure. The theory demonstrated how student attributes, such as interests, skills, dispositions, and attitudes, could be correlated with expectations, influences and demands imposed by different university environment areas.

One of the works by Tinto (1975) examined the nature of the process of students' dropout from higher education. The author suggested the model where attrition was associated with formal and informal academic experiences, along with social integration. Similar to the model of Spady (1971), Tinto (1975) based the theory on Durkeim's suicide model. However, the author also incorporated the category of informal academic performance. The model of Tinto (1975) suggested that the level of success of a student affects his or her commitment to an institution. The model also argued that students with a high degree of social integration in the campus community are more likely to be committed to the institutions, and thereby are less likely to dropout from higher education. More recent modifications of the theory also included motivation and goal commitment factors that implied career success (Tinto, 1982). The extension of the model suggested the need to match student expectations to institutional mission, to focus on the quality of faculty-student interaction, variations in policies required for different types of students and institutions (Tinto, 1987; Tinto, 1990).

Some criticism of Tinto's (1975) model was developed by Pascarella and Chapman (1983). The authors empirically tested the validity of the model on a sample of several institutions. The models tested by the authors included demographic variables, institutional characteristics, individual students' decisions about academic major and residential status, academic integration factors, social integration, and commitment to the institution. The findings showed that in contrast to the predictions of Tinto's (1975) theoretical model, the variables based on the model had little predictive power in terms of retention or attrition. Furthermore, the analysis of various institutions demonstrated substantial differences across colleges. This suggested that the model was not universal when the data were disaggregated. The effects of social and academic integration were indirect, as they mostly transmitted through institutional commitment and sometimes through goal commitment. The research concluded that although the model of Tinto (1975) was not fully confirmed empirically, it was a valuable framework

for understanding the process of attrition and retention decisions of students in postsecondary education.

A research by Pascarella and Wolfe (1985) further acknowledged the relationships between institutional size and social and academic integration. It was demonstrated that social and academic integration could be associated with numerous factors, including age, personality needs, past academic achievement, previous educational experience, initial experience in college, and socioeconomic status (Pascarella and Terenzini, 1983; Munro, 1981).

2.8.3 Attrition Theories

Student Involvement Theory suggested by Astin (1984) depicted the development of students throughout college experience. The model was based on three elements that could affect a student's involvement in higher education. These elements included demographics and previous experience; environment including college experience; and student characteristics, such as attitudes, beliefs, and knowledge.

Demographics and previous experience was further supported by the model of Bean (1980) that was based on an empirical analysis of the factors that determined student attrition in higher education. A causal model found the importance of gender in academic studies of attrition and retention, since males and females left colleges for different reasons. The findings revealed that males could leave the institution even if they were satisfied, whereas females who were satisfied were more committed to the college and were less likely to leave. The model of Bean (1980) underlined the prominence of background characteristics, including previous academic performance, student satisfaction, socioeconomic status, and distance from home. Meanwhile, institutional commitment was found to be the most significant variable that explained dropout for both sexes. In extension of previous models (Tinto, 1975), the author also captured the importance of opportunity variables that implied opportunity to transfer.

Student Involvement Theory model addressed one of the limitations of the model suggested by Tinto (1975), as the latter lacked focus on the role of external factors that could influence perceptions, preferences, and commitments of students. Student involvement was measured through the psychological and physical energy that the student devoted to the academic institution and experience. Such involvement could take different forms, including absorption in academic work, interaction with faculty, extracurricular activities. The theory suggested that the greater the involvement of a student in college was, the greater would be the amount of student development and learning. The peculiarity of the theory was that it considered student time and energy to be institutional resources. It was suggested that higher involvement of the student was likely to lead to higher retention rates.

Further development of the model demonstrated that the effects of peers on the decisions of students to retain or depart were prominent as well (Bean and Metzner, 1985). The model was extended to include non-traditional enrolments. These non-traditional students included older, part-time, and commuter students. The model showed that non-traditional students were more sensitive to external environment rather than to social integration factors. The model revealed the differences in the factors that affected retention rates of traditional and non-traditional students. The former category was mostly affected by social integration variables, whereas the latter group was influenced by external environment factors.

The model suggested by Kember (1989) incorporated numerous components that were interlinked in terms of affecting students' decisions to retain or withdraw from an institution. These components included student characteristics, goal commitment, integration components, academic aspects, social and work aspects, as well as opportunity costs analysed by students during the decision making process. The model also suggested that the variables would not remain constant throughout a student's academic career. Background characteristics could change, goal commitments might vary, the level of academic and social integration may be

moderated by changes in characteristics, nature of courses, support from institutions, student attitudes, social environments, and family.

2.8.4 Integrated Retention Models

Further developments in theoretical models for student retention were made by Cabrera et al. (1992) who confirmed several theories and suggested an Integrated Student Retention model. The author tested Sapdy's (1970) and Tinto's (1975) student integration theory and Bean's (1980) student attrition theory and provided confirmatory evidence for both approaches. Furthermore, the findings demonstrated a substantial amount of overlap across the two theories. Both models considered persistence to be an outcome of a complex range of interactions across time. Pre-college characteristics were also deemed to be important by both models.

The match between the student and the institution was considered to be another similar feature of the two theoretical approaches. However, the Student Integration Model stressed the prominence of external factors to the institution, which contradicted the Student Attrition Model. The Student Integration Model considered academic performance to be an indicator of academic integration. By contrast, the Student Attrition Model argued that college academic performance was a result of social and psychological processes. The findings of Cabrera et al. (1992) showed that a more comprehensive theory could be developed when two major models of student retention are combined. The study confirmed the validity of both Student Integration Model and Student Attrition Model, whereas an Integrated Retention Model could combine the key factors in each theory that could explain the process better.

A more recent research on the topic was performed by Trotter and Roberts (2006) who examined the ways to improve student experience in order to increase the levels of achievement and retention. The authors' model included such categories as pre-entry information, integration that was represented by induction, personal tutor support, paid employment and other commitments, attendance, and assessment. The analysis of these categories revealed the

importance of the provision of pre-entry information to students, student integration, personal tutorial support, facilitation of part-time employment, as well as teaching methods focused on active class involvement. However, in contrast to earlier arguments (Kember, 1989; Bean, 1980), the theoretical model did not include student-related factors, motivation, experience, and background.

Meanwhile, interesting evidence was provided by Tym et al. (2004) who showed that students whose parents did not attend college were less likely to be as academically prepared for college compared as to their non-first-generation peers. Such students did not have sufficient knowledge about the application for college and for financial assistance. They had more difficulties in integration within the college once being enrolled. Furthermore, the rates of retention of first-generation college students were lower. They were more likely to work full-time when enrolled. At the same time, the link between full-time employment and education was examined by Yorke (1999). The author suggested another potential factor that could negatively affect student retention. Specifically, the analysis demonstrated that higher education was required to ensure the effectiveness of the people in turbulent circumstances. However, the quality and standards of education were not always adequately tailored to the needs of companies that look for well-educated workers. This could negatively affect the motivation of students to remain in colleges.

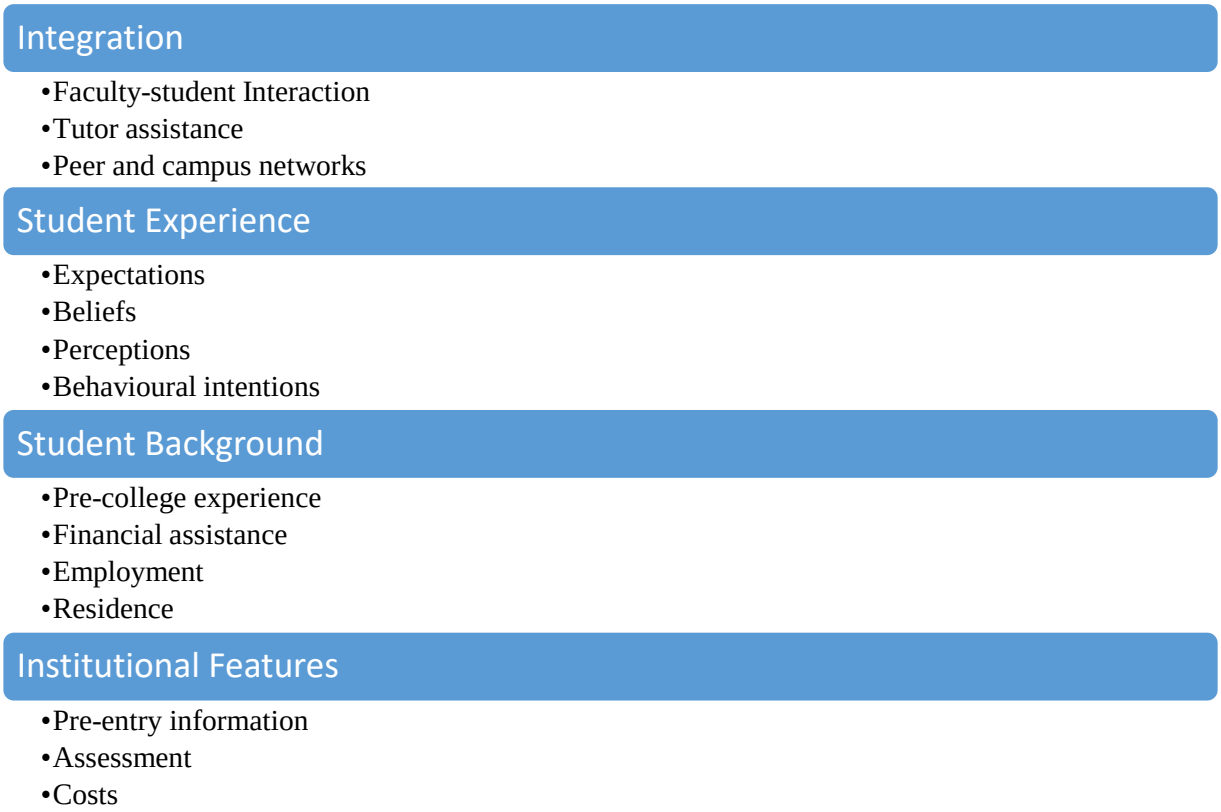
Further developments made by Yorke and Longden (2004) suggested four major categories that could explain why students leave their programmes. The first category was related to inappropriate decisions in terms of entering the programme. The second category was associated with the experience of students with the programme in particular and the institution in general. The third category was the inability to cope with the demand of the programme. The fourth category included events that affected students' lives outside the institution. The model developed by Yorke and Longden (2004) combined the factors suggested by previous

theories. Specifically, it underlined the prominence of student integration factors, personal characteristics, institutional features, and academic success. Each one of these categories was further broken down into various theories.

2.8.5 Summary

The models discussed in prior literature can be summarised according to the key categories, namely Integration, Student background, Institutional features, and Student experience in Figure 2.2.

Figure 2.2: Integration of Theoretical Models



Integrative factors were suggested by Spady (1970) and Tinto (1975). Their models showed that the ability of a student to integrate with the institution and the match between college and student characteristics and expectations could decrease the probability of student dropout. The theory was expanded by Bean (1980) who incorporated the category of expectations that were affected by external factors. Thus, the models of Bean (1980) and Astin (1984) combined student experience and student background categories. The importance of background characteristics was further emphasised by Kember (1989). Meanwhile, Cabrera et al. (1992) showed how the models could complement each other rather than compete with each other.

2.9 Dominant Theoretical Framework Informing the Research: Tinto Model

2.9.1 Development of Tinto Model

The Tinto Model is one of the most widely discussed theoretical models of student retention in academic literature. This model is rather comprehensive and covers various characteristics of

students, environment and institutions that are likely to affect student retention. So, the theory receives much attention and is considered to be the dominant theoretical framework.

The Tinto Model developed by Tinto (1975; 1982; 1987; 1993) is one of the most widely discussed approaches to the issue of student departure because of its comprehensiveness. It is the key interaction model that is based on a complex theoretical paradigm and refers to sociological roots. The origin of the model was determined by the assumptions suggested by Spady (1971).

The characteristics of the Tinto Model of student dropout include several categories. For example, it involves student background characteristics. These characteristics are high school grades, exam scores, family socioeconomic status, parents' educational levels, courses attended by students in high school.

Another category included in the Tinto Model involves the initial goal of the student and his or her institutional commitment. The level of commitment of the students at the start of college careers to the completion of the degree program as well as to the level of commitment they maintained to the institution itself were at the focus of the theory.

The third category included in the model was the intention of the student to persist. This category identified what the students were willing to do or even to tolerate in order to persist in college. The strength of the intention to persist increased the probability for the student to persist to the completion of the degree.

However, the most prominent aspect of the Tinto Model was the category of academic and social integration. Tinto (1994) suggested that the most prominent determinant of student retention is the degree of his or her linkage to the community of the college. The linkage could be measured both academically and socially. The Academic and social experiences that students face contributes to their integration within the life of the institutions. Thus, these

experiences heighten attachments and eventually strengthen personal commitments both to the goal of education and to the college (Tinto, 2005).

The Tinto Model suggests that the lack of social and academic integration can be caused by three key factors. Firstly, the failure could be caused by the inability of the new student to adjust to more rigorous academic and social demands that he or she faces in college life. Secondly, there could be a mismatch between the social and intellectual life of the college and the student. Thirdly, there could be a lack of contact between the college and the new student. This eventually leads to social withdrawal and isolation for the student (Kelly, 2008).

The applicability and relevance of the Tinto Model is based on its relatively rigorous structure. For example, Braxton et al. (1997) figured out several major elements of the model. The first is student entry characteristics that significantly influence the probability of persistence in college. The second is the level of academic integration that is associated with the degree of ultimate commitment to the goal of college graduation. The third is the degree of social integration that influences subsequent commitment to the college. The fourth is the level of commitment to the college graduation college, which in turn affects the probability of student persistence in college. The fifth is the degree of subsequent commitment to the institution that is associated with the probability of student persistence. Thus, the Tinto Model is a multi-faceted approach that takes into consideration various factors that are likely to determine retention and departure of students. Moreover, it is able to capture the factors at different periods of students' college career. Specifically, it takes into account initial student characteristics at the entry to college, and eventually considers the factors that emerge during his or her college career.

Nevertheless, the model is subject to some criticism, since empirical findings in terms of testing the model are mixed. For example, Weng et al. (2010) examined the case of Taiwanese students and the findings were not entirely supportive of the Tinto Model. The factors that were found

to be most significant included self-efficacy, career consultancies, and quality of teaching. However, the difficulties associated with empirical testing of the model can be related to the issue of operationalising the theoretical concepts suggested in the approach.

2.9.2 Critical Reflection on Tinto Model

The Tinto Model takes into consideration student background, such as prior qualifications, individual attributes, and family attributes as the inputs that contribute to goal commitment and institutional commitment (Tinto, 1975). However, these factors are not considered to be interrelated with commitment categories by the model, as only integrative factors are viewed as most prominent. However, household spheres are also considered to be prominent in empirical literature. These factors imply socioeconomic status; domestic obligations, educational experience, financial circumstances, and work responsibilities. The importance of socioeconomic factors was underlined by Thomas and Stockton (2003) and Holmes (2004). Nevertheless, the authors' studies were limited in scope, as they focused on particular aspects. Specifically, Thomas and Stockton (2003) explored the factors that contributed to success, including retention in the list of possible independent variables. Meanwhile, Holmes (2004) devoted the research to black student retention in a predominantly white college. However, there are other studies that underline the prominence of household factors. For example, Tyson (2012) analysed how employment could affect time management and retention of students. The author conducted interviews with faculty personnel, administrators, and students to examine the role of employment of undergraduate students. The students acknowledged the challenges of balancing work and school. The effects of employment on student retention were negative, although the research was limited to engineering programs only.

The Tinto Model pays attention to some of household factors as well. For example, it incorporates the educational background of students' parents, which can be viewed as one of the aspects of household spheres. However, the Tinto Model argues that these factors do not

influence retention per se, but rather affect students' social and academic integration. Students' performance, persistence intention, academic engagement, and institutional commitment depend on integration factors. The importance of parents' education factor was empirically confirmed by Friedman and Mandel (2011). The authors analysed New York state college freshman students during the academic year 2006-2007. The analysis was based on the degree of retention measured by the number of students who returned to the college after the freshman year. One of the important factors was students' parents' education represented by a dummy variable to reflect a college education of at least one of the parents.

Personal factors constitute another aspect of determinants of student retention. These factors include academic ability, commitment, motivation, desire to graduate, and other features. A research by Morrow and Ackermann (2012) assumed that motivation and sense of belonging could be associated with a student's intention to persist and with actual second-year retention. Positive motivational attitudes contributed to retention. However, the inclusion of sense of belonging into the model returned no significant results for this factor. Sense of belonging can be associated with integration, which is a different aspect. Meanwhile, motivation is a prominent factor that contributes to retention. The Tinto Model focuses on personal factors, as it also takes into consideration academic success, and institutional and goal commitment of students. The model suggests that goal commitment and institutional commitment are the key components of integration that affect dropout decisions (Tinto, 1975). The importance of academic success, as well as other personal factors, such as student engagement, was empirically confirmed by Kimbark et al. (2016), who explored the case of a US college

Organisational factors are figured out in literature as another category that is likely to affect student persistence. These factors are financial allocations, intellectual environment, appointment policies, departmental structures, and institutional resources. The prominence of these factors is underlined in the Tinto Model, as these factors are likely to influence students'

informal academic success and integration with the institutions. However, the Tinto Model considers support facilities to be a part of input factors that contribute to institutional and goal commitment, rather than directly affect dropout decisions. Empirical evidence in this respect was provided by Hawkins (2015) who examined urban community colleges in the USA. The analysis underlined the importance of student clubs and organisations, as organisational involvement affected persistence and retention. Meanwhile, organisational involvement and student clubs can be considered to be a part of integrative factors. This is another justification of the need to combine several retention and attrition models into a single approach that would unite various categories.

Academic performance factors, such as full-time versus part-time study, progress with a thesis, or faculty affiliation are also important according to academic literature. These factors are relevant in the context of the Tinto Model, since academic success is considered to be one of the key determinants of student retention mentioned by the approach under the category of academic success. The relevance of full-time study for student persistence was underlined by an empirical research of Buckley et al. (2015). The authors examined the link between faculty employment status and student persistence. The research measured retention through course completion rates. Although it was postulated that the work of full-time faculty is likely to be linked to retention, the study acknowledged the existence of other possible factors. The findings revealed that student success and retention improved at the institution that made a strategic decision to increase the use of full-time faculty.

Research factors include teaching and supervision, language, student attributes, and problems associated with research. These factors can be grouped in the category of formal academic integration of students. These factors are also taken into consideration by the Tinto Model. For example, Lindsay and Williams (2015) examined academic integration, social integration, and student motivation as the determinants of student retention. While student motivation is related

to student perception factors, it was assumed that academic integration is closely linked to research factors, such as teaching strategies applied in the classroom. The findings revealed that low social integration across commuter students led to lower retention rates. The research did not show any quantitative relationship between teaching strategies and retention. However, the study provided valuable knowledge about the impact of teaching strategies on social integration, academic integration, and motivation. Thus, the information could be interpreted in the view the effects of various integration categories on student retention.

Meanwhile, academic integration can be related not only to faculty mentoring, but also to peer mentoring, as suggested by the research of Collings et al. (2014). Furthermore, Davidson and Wilson (2013) argued that the parallel between academic and social integration can be harmful to obtaining further clarity on the topic of student retention. Collings et al. (2014) examined the UK higher education environment and estimated how peer mentoring affected student retention. The study explored direct, moderating, and mediating effects of mentoring on the degree of wellbeing, retention, and integration. Peer mentored students demonstrated higher levels of integration to university. Furthermore, non-peer mentored students had seriously considered leaving university four times more often compared to peer-mentored individuals. Integration mediated the association between mentoring and intention to retain at university. It was demonstrated that mentoring could buffer the impact of the transition to university. Thus, the research empirically confirmed Tinto's (1975) assumptions about integration as one of the institutional factors that contribute to retention**.**

Although the Tinto Model is one of the most popular approaches in literature, it is not fully comprehensive in terms of the integration spheres it incorporates. Specifically, the model concentrates on academic and social integration. Academic integration implies academic success, whereas social integration is related to peer interaction and mutual support. Thomas (2002) goes beyond the Tinto Model in terms of integration spheres and suggests not only

academic and social integration included in the Tinto Model, but also economic, support, and democratic categories.

The category of economic integration can be considered to be important. University support services, financial aid, scholarships are likely to affect both academic and social integration, and may be closely related to student dropout decisions (Crosling et al., 2009). The prominence of financial factors among other categories was empirically proven by Braunstein et al. (2006). Furthermore, MacCallum (2008) also confirmed the importance of financial aid processing policies. The research included three dependent variables, namely enrolment rate, retention, and success rate. The research showed that such external factor as demographics of the community college district influenced dependent variables though the financial aid category. Furthermore, institutional support of the financial aid office, financial aid delivery, and financial aid service policies were the institutional internal factors that could affect retention. The study showed that the Tinto Model could be unable to explain all factors that were related to retention and integration. However, Tinto (1982) argued that the impact of finance on dropout decisions was longitudinal and indirect. Specifically, financial implications could determine the choice of the university by the individual, which, in turn, is likely to influence the probability of dropping out.

At the same time, support and democratic categories suggested by Thomas (2002) may be viewed as the extensions of Tinto's spheres rather than new aspects. Support is related to counselling services and it can be considered to be a part of both academic and social integration. If it is mentioned as an occasional substitute for friends, it can be a sub-sphere of social integration category. Democratic aspect is related to students' unions and representativeness on different institutional bodies. However, this is only a form some students use for staff and peer interaction. The support and democratic spheres don't seem to influence most students. So, it can be suggested that the two spheres mentioned by Tinto already

incorporate most of the categories that may affect retention. The support and democratic spheres are rather subdivisions of Tinto's factors.

Empirical analysis of the Tinto Model was undertaken by Brunsden et al. (2000) who examined first year students at two different UK universities. The findings from the research showed that the Tinto Model was not able to provide an acceptable description of the data. However, the research did not measure actual levels of academic and social integration. Instead, the study estimated potential for integration. This discrepancy could explain the deviation from the assumptions of the Tinto model. At the same time, the research showed that integration depended on factors that were external to the student involved. Integration supplemented students' internal motivations and attitudes.

Meanwhile, it can also be argued that Tinto's model is not rigidly defined, but rather related to the subjective conceptualisations of researchers (Brunsden et al., 2000). From this viewpoint, the findings of scholars that are not in line with the model may differ with each separate conceptualisation of the model. Disparate definitions of the model are likely to crate issues with convergence of empirical research. The lack of definition limits the model to subjective concepts, rather than a theoretical approach that can deliver testable hypotheses with useful and pragmatic justification (Brunsden et al., 2000). Another limitation of the Tinto Model is associated with its applicability to 'traditional' students only. The model is applicable only to students who live on or near campus, and who enter university directly after leaving school. Rovai (2003) argued that an analysis of the persistence of non-traditional students may be limited if the Tinto Model is applied. The model is best suited to institutional analysis of the retention of traditional undergraduate students. Tinto's model is not useful for investigating the persistence of older students. Meanwhile, for this category of students, academic and social integration within the university may be less influential. At the same time, the model pays little attention to the effects of external factors in determining the perceptions of students.

Meanwhile, students' commitments, reactions, and feelings as a response to external factors are important (Yorke, 1999). However, Tinto (1982) responded to the criticism and argued that the model was developed to explain particular, not all, models of student behaviour. The model was not intended to explain everything and should not be overextended.

The present thesis seeks to investigate the role of academic and social integration between the students and the University. The effects of integration might be more easily assessed if Tinto's model is used without employing the concept of habitus. In particular, the notion of institutional habitus (Thomas, 2002) may be too limiting as it focuses on cultural groups, relational issues, and social practices, although it could be useful in further research when attempting to explain how specific dispositions may lead to positive and negative academic and social experience of the students. The role of integration in retention would be observable regardless of the underlying reasons behind formation of students' family and institutional habitus. Furthermore, the concept of habitus might be more challenging to operationalise which could limit the validity of the analysis. At the same time, the Tinto model may capture the impact of institutional practices as well as academic capabilities and financial issues of students. Therefore, the use of the model would allow for exploring factors influencing retention more fully as opposed to restricting the investigation to students' experience and perceived academic and social match. As such, the present study employs the Tinto model and does not invoke the concept of habitus.

An analysis of different categories of factors that are likely to affect student retention demonstrates that the Tinto Model is able to cover most of them. Although the focus placed on various factors is different, the model is still appropriate for the identification of the key elements and variables that may be relevant in the context of the research topic.

In particular, the operationalisation of variables based on the theoretical assumptions of the Tinto Model can be performed without the need to omit important characteristics or factors. The categories of academic integration and social integration are rather comprehensive and are able to cover the majority of other aspects that are likely to influence dropout decisions. Goal commitment and institutional commitment as the determinants of integration are based on teaching, learning, and support facilities. They are also related to prior qualifications, individual attributes, and family attributes. Besides counselling, personal and family events, the financial situation are also the factors that contribute to goal commitment and institutional commitment. Although the Tinto Model may omit some factors as it does not mention them directly, these omitted factors may be implied in the social and academic integration categories. This justifies the selection of the Tinto Model and demonstrates that it is able to address the categories suggested in other models. The Tinto Model comprehensively incorporates various categories that are likely to affect student retention, so it is chosen as a dominant paradigm in this research that investigates the management of retention and retention strategy in private Lebanese University Business School.

2.10 Student Retention Management

Empirical evidence suggests that student retention management in universities receives little attention. For example, Hovdhaugen et al. (2013) found that the strategies of universities to promote retention were not included in the strategy plans of the institutions. However, some representatives of the universities acknowledged that the emphasis on retention was fairly new to the institution. This can explain why retention management had not been incorporated in the universities' strategy plans. The measures that were undertaken to manage retention included organisation of the studies, pedagogical measures, socialisation, goal orientation, and mastering of the programmes. Nevertheless, these measures were not combined into a single

retention management strategy. Rather, the universities used the measures to address the issues related to all students, regardless of whether they were leaving for another institution or dropping out. The findings were limited to Norway, so further evidence is required in this respect.

Another study demonstrated that modern marketing techniques could be applied within universities to promote student retention (Fontaine, 2014). Relationship marketing approaches that involve individualised attention and communication and the creation of long-term relationships could alter the way higher education institutions think about their students. The success of an institution of higher education should be based on treating different customers differently, depending on specific individual aspirations, experience, satisfaction, and preparation. Meanwhile, current institutional activities are devoted mostly to student admission and attraction of first-year students, rather than retention. These management activities mostly include campus facilities and infrastructure and perceived service quality (Fontaine, 2014).

Research by Eshghi et al. (2011) revealed some alternative techniques that could be applied for student retention. Specifically, the management of higher education institutions could undertake an analysis of complicated relationships between student characteristics, programmes, and risk of attrition. The factors that could affect retention rates included students' curriculum, marriage status, entry grades, age, and education programmes. An application of specific techniques could allow universities to screen for high-risk students. Outreach programs could be introduced to improve retention rates after such identification. The support in this approach was also provided by Khoury et al. (2002). The authors examined students in science, technology, engineering, and mathematics programs and demonstrated that students often displayed signs that indicated they were at risk. The study underlined the need to identify at risk students early and to introduce effective strategies for intervention. One of

the tools in this respect could be the Total Quality Management approach. A database system would be needed to monitor the early intervention process to enhance retention rates.

Sardonis et al. (2012) filed a patent that depicts a workflow method and system for student retention management. Specifically, the authors developed a retention management system that identifies, assesses, and analyses student information. The information should be collected by the institution resource planning systems and learning management systems. The retention management system utilises an algorithm that obtains information and identifies at-risk students before they are lost to attrition. The retention management system also suggests techniques to ensure the communication with students on behalf of the personnel, introduce plans to address current issues with students, and forecast and prevent future issues. So, the retention management system not only identifies students that are likely to drop out, but also suggests ways to address the issue.

The problem of attrition sometimes attracts the attention of higher education institutions that devote time and money to enhance their graduation rates. Nevertheless, there are several reasons why university and college strategies may fail. For example, an absence of clear outcomes mitigates the effort of institutions. Administrators often discuss retention without reference to graduation rates, but rather focus on other results, such as improving educational attainment (Barro and Lee, 2013). The issue is that higher education officials may then tend to move their focus from a quantifiable and clear measure of success and fail to view retention as a valid prominent performance indicator. Besides, officials often postulate that retention is a responsibility of every individual in the university's staff. However, it could be more appropriate to establish a person or an office responsible for retention strategies. Otherwise, the approaches to retention are unlikely to succeed. Admissions to universities are also viewed as a comprehensive effort within the responsibilities of every member of the faculty and

administrators. However, normally there is an office in charge of admission and attraction strategies (Hoover, 2008).

Another cause of failures in student retention management can be related to excessive focus on outliers. Universities may pay too much attention and devote many resources to students who are at the highest risk of dropping out. Instead, administrators and officials could concentrate not on this category of students, but rather on reaching the students who are more distant from actual drop out (Hoover, 2008). Universities tend to measure student success through persistence, which is the proportion of students who continue from one academic year to the next. This approach is followed in the UK. However, the measure may be associated with particular issues. Persistence without progress can be an even worse outcome than pure attrition.

The analysis reveals that although retention management strategies receive some attention and recommendations in academic literature, they are not fully applied across universities. Meanwhile, even the focus of academic studies on retention is limited compared to the concentration of universities on student attraction, recruitment, acceptance and entrance.

2.11 Studies of Retention in Lebanon

One of the early studies that examined the case of Lebanon in terms of student retention was conducted by El-Hassan (1998). The author investigated a large sample of schools using questionnaires and explored various stages of education. The focus of the research was made on educational and home background factors. The findings demonstrated that gender, age, past school experience, and living area were significant determinant of retention. Furthermore, such demographic characteristics as family size, parents' education experience, and parents' socioeconomic status were found to be significant determinants of retention. The observations are in line with some evidence from the US provided by Wells (2008), who confirmed the

prominence of social and cultural capital, ethnicity and race. Thus, the researchers agreed on the significance of student background characteristics for retention. The findings of El-Hassan (1998) confirmed the importance of household and social background factors, which is in line with the Tinto Model. However, the research failed to test other possible factors that could be correlated with student attrition and retention in Lebanon.

Further analysis of private universities in Lebanon was undertaken by Nasser et al. (2009), who studied how financial aid could affect student satisfaction and retention. The investigation followed an analysis by Kerkvliet and Nowell (2005) who confirmed the importance of financial aid on student retention in the context of several US colleges. A total sample of around 2,000 students was analysed and the study showed that the frequency and amount of financial aid was associated with higher graduation percentages, which implies higher retention rates. At the same time, satisfaction of students with university programmes and services was not determined by their completion or non-completion of the degree requirement. The findings underlined the prominence of the financial factor in student retention. It was demonstrated that financial package results of private universities were associated with faster graduation rate. The research raised a problem of public universities that need improvement and change to compete with private institutions.

The studies about Lebanon can be complemented by investigations performed for other similar contexts, such as Arab and Middle East countries, due to geographical proximity and cultural similarity between the countries. For example, Al-Hawari and Mouakket (2010) examined the validity of the technology acceptance model (TAM) factors, along with other external factors as the determinants of satisfaction and retention of students. The variables that were tested by the authors included customisation, accessibility, responsiveness, reliability, and security. The findings of the research revealed that perceived usefulness significantly affected students' satisfaction and retention. Furthermore, perceived ease of use also had a positive and significant

impact on retention. Meanwhile, design features and enjoyment were associated only with satisfaction and did not affect retention. However, satisfaction was significantly correlated with retention, which may imply an indirect relationship between other factors that influence only satisfaction and retention. Nevertheless, research findings were limited to the UAE context and e-learning environment. Further research to expand the observations to other contexts may be required. For instance, Baroud (2004) showed general satisfaction of students with e-learning experience in Lebanon in terms of teacher support, course content and delivery, and facilities, while satisfaction can be related to retention.

Satisfaction is closely related to retention, according to the findings of Hawari and Mouakket (2010). In view of these results, a research by Nasser and Abouchedid (2005) can provide interesting and valuable information about education in Lebanon. The authors investigated the level of satisfaction across university graduates in Lebanon with reference to their occupational level. The research explored a sample of 11 private and public universities and surveyed over 650 students. The main observation showed that education and training were the most significant determinants of obtaining a job. Meanwhile, the research found an issue in terms of the fiscal needs of the Lebanese university, the only public university in the country. The quality of service was substantially higher in private universities, which may be associated with higher attrition rates in the public university. Private universities ensured more benefits from education and training in terms of practicing current occupation. This implied a better perception of the association between education and occupation compared to university graduates from the public university. However, the research was limited to the graduates of academic year 1993, which potentially limits the scope of the study and implies that the findings may be outdated. Furthermore, the study did not focus on retention per se, and this limitation is addressed in the analysis hereunder.

Another institutional characteristic that may be viewed as a representation of the quality of university service is associated with registration process. According to Abouchedid and Nasser (2002), the majority of students described the registration process as frustrating because of bureaucracy, space, and fees. The improvement of these factors is likely to increase the satisfaction of students and enhance their first impression about the institution. Consequently, it can be accepted that these factors may be associated with student retention. However, this link was not directly examined by Abouchedid and Nasser (2002) and can be explored further. Student satisfaction in the context of Lebanon was examined by Azoury et al. (2013) who explored one university in the country in terms of the effects of its image on student satisfaction. The study also focused on student-level characteristics and perceptions, similarly to strand of UK and US literature (Yindra and Brenner, 2002; Irizarry, 2002; Johnson-Lutz et al., 2015). An analysis of a sample of 200 students revealed that the overall image and the affective component were significant determinants of satisfaction. Furthermore, the affective component influenced the cognitive component and the overall image. University relationships were also affected by the affective component rather than by the cognitive component. The cognitive component was related to the beliefs of students, whereas the affective components included their feelings. However, the study also did not focus on student retention and only examined the aspect of satisfaction, which can be linked to student persistence from a theoretical viewpoint.

A limited analysis of the Lebanon environment was conducted by Ghamrawi (2014), as the author focused on one private school. The investigation referred to a sample of kindergartners and teachers and analysed surveys, interviews, and videotaped sessions. The investigation did not examine retention or satisfaction of students, but rather concentrated on the factors that could improve academic success. Meanwhile, the Tinto Model as well as other empirical findings (Delen, 2010; Levesque-Bristol, 2011) confirmed the importance of success for

student retention. Ghamrawi (2014) showed that multiple intelligences theory could be applied to determine student success in education. The theory implies that several intelligences are important for the educational process. The study was based on Gardner (1983; 1999) studies that determined intelligences as natural sources of information that were associated with the ability of people to develop skills that are prominent for their way of life and culture. The research of Ghamrawi (2014) confirmed the importance of applying multiple intelligences in classrooms, especially in the teaching and learning of vocabulary in the English classes in Lebanon. The study provided direction for attaining a better academic success in Lebanon, which may in turn be associated with higher retention. However, the study was not focused on retention per se and was conducted in the context of school pupils rather than higher education students. The expansion of the sample to universities can provide more observations on the topic of student persistence.

However, financial aid is not the only factor that may improve student enrolment or retention. For example, Nasser (2007) showed the prominence of remedial math courses for student enrolment in a private university in Lebanon. Furthermore, these courses were associated with the probability of dropout from the university. The courses were also related to academic success. These observations are in line from the evidence for the UK (Arulampalam et al., 2004; Simpson, 2004). The research showed that academic support as a part of student integration, as well as success in studies, can positively affect student retention. Another research of the environment of college education in Lebanon was conducted by Nasser and Nauffal (2012). The research examined how the frequency of repeating courses affected the performance of students in college. The link to student retention and persistence was examined as well. The research confirmed that students who repeated one course were more likely to persist compared to students who repeated several courses more than one time. Therefore, the

studies confirmed the importance of student performance, along with the prominence of academic courses, support, and curriculum for student persistence.

Another analysis of academic advising was conducted by Saba'Ayon (2015). However, in contrast to Nasser (2007) the investigation analysed not student advising per se, but rather student perception of their academic advising. A survey based on 185 students showed that the participants mostly received advising negatively. They had unsatisfactory experiences in this respect. Demographic characteristics, such as age, gender, or status, were not associated with the attitudes of students. At the same time, the respondents confirmed that they were aware of the prominence of academic advising and the advisor on their university career. The discrepancy between their expectations and academic advising were substantial and did not contribute to students' satisfaction. Meanwhile, the role of academic advising on student retention was emphasised in different empirical studies for different countries, including the UK and US (Morrow and Ackermann, 2012; Trotter and Roberts, 2006; Young-Jones et al., 2013; Hsu and Bailey, 2011). However, the studies about the link between academic advising and student retention were not focused on Lebanon, and this limitation needs to be addressed. Furthermore, the findings of Saba'Ayon (2015) were based on the answers of students that agreed to participate, and most of them had negative advising experience. This may point at the flaw of the advising process itself, while the research did not explore other possible factors that could affect student satisfaction and retention.

Not only academic advising on behalf of the faculty and teachers can be important for student success, satisfaction, and retention. Fadlallah (2009) examined the Arab Open University in Lebanon and showed that peer assisted student success support programme was able to improve students' results. Meanwhile, a research by Abouchedid and Nasser (2002) conducted an alternative investigation, as it focused on the comparison of private universities in Lebanon. Furthermore, the study concentrated on a specific area of student satisfaction, namely the

universities' service quality measured through registrar and academic advising. A comparison of students' perceptions and satisfaction across different faculties was performed. The research found that the satisfaction of students was determined by their gender and status. Differences between faculties were captured. Nevertheless, the study had a limited opportunity to examine the causality across factors due to a lack of instruments to quantitatively operationalise the factors.

2.12 Conclusions

An understanding of the literature on student retention is a pre-requisite to a consideration of the management of retention. The analysis of literature on the topic of student retention from the UK, US, Lebanon and other countries demonstrated that the factors that contribute to student persistence or determine dropout are similar across various nations. From a broad perspective, the factors can be related to country-level governmental features, institutional characteristics, and student-level aspects. The review of theories on the topic figured out attrition theories, integration theories, and combined stand of theoretical approaches. Integration theories pay attention to faculty-student interaction, academic support, as well as social factors, such as peer and campus networks. Attrition theories pay more attention to student experience, including expectations, attitudes, beliefs, perceptions, and behavioural intentions. Furthermore, student background is also considered to be an important factor. The key background characteristics are pre-college experience, financial aid, employment, residence and ethnicity. Institutional factors that are often mentioned in literature are related to pre-entry information provided to students, assessment processes, and costs of education.

The Tinto Model is the dominant theory of student retention that is most widely cited in literature. The model and its extensions are based on several categories that cover various areas of factors influencing student persistence and determining the probability of dropout. The

categories include institutional context, household spheres, personal factors, organisational factors, socio-political factors, academic performance aspects, research factors, and academic and peer integration. The coverage of all these areas by the Tinto Model justifies its domination in literature. The comprehensiveness of the models explains its popularity among academic researchers.

A review of studies in the field of student retention management by universities shows a gap both in academic literature and in universities' practices. There is a need to enhance student retention management approaches to ensure higher education attainment by a larger number of entrants. This thesis contributes to literature by providing a better grasp of student retention, which would allow universities to develop better retention management practices.

An analysis of literature on student retention in Lebanon demonstrated that the majority of factors inherent to the country replicate evidence from other countries. Specifically, the literature showed that institutional factors and student background were the key areas that needed to be the focus of research on student persistence in Lebanon. Nevertheless, the studies that examined the issue of student dropout per se in the country are scarce. Many investigations explored student satisfaction rather than retention. Although these factors are likely to be interrelated, further analysis is required to fill the gap in literature.

There are peculiarities in the educational system of Lebanon both at country level and at institutional level. A research on the topic of student retention in this particular country may provide interesting information to policy makers and students both in Lebanon and in other Middle East countries. The review of literature also demonstrated that most studies focused on one educational institution and thus provided limited evidence with respect to the factors affecting student retention. An investigation of the institutions that have not been previously examined is important to expand existing studies.

CHAPTER THREE

Research Methodology

3.1 Introduction

This chapter presents the data and methods used in the empirical part of the thesis. The chapter shows how the data is collected at the Lebanese International University (LIU), how it is handled and analysed, how the outcomes are derived and interpreted, and what approaches to data analyses are relevant in the context of the research. The chapter sets research questions and aims, presents the philosophy, design, strategy of the research. It also justifies the use of specific approaches in the context of the study. The data is obtained through questionnaires, so the chapter explains sampling and selection criteria, as well as analytical techniques implemented. The hypotheses are developed with reference to the Tinto Model and are presented in the chapter as well. The chapter concludes with human ethics approval, data storage, access and disposal.

3.2 Research Questions and Aims

The research question of the study is the following:

- What can Lebanese higher education institution with large geographic distribution do to effectively and efficiently improve student retention performance?

The sub-questions of the research include the following:

- What factors that are likely impact the retention of students at LIU in terms of the Tinto's (1993) Student Integration Theory can be identified in literature?
- How the factors and student characteristics identified in the literature can be integrated into a preliminary framework to explain student retention in higher education?
- What factors affect student retention at LIU according to the empirical research based on a questionnaire?

- How does the preliminary framework perform in the context of Lebanon at LIU?
- What theoretical and practical recommendations can be provided in the subject area of student retention and for university student retention programs?

The aim of the research is to contribute to understanding about the factors that influence student retention or drop out decisions. The analysis covers a wide range of categories and characteristics that may be associated with student retention. The focus on the case of one university of Lebanon provides concentrated knowledge about a particular case. Nevertheless, the findings are likely to be applicable to other cases not only within Lebanon, but also across other countries.

3.3 Alternative Research Approaches, Selected Research Approaches and Rationale

The research design is comprised of philosophy, approach, strategy, choice of methods, time horizons, and techniques and procedures that are applied throughout the study. Philosophy is what shapes the worldview from which the research is conducted. This investigation is conducted from the position of the philosophy of positivism. One of the advantages of this epistemic approach is that it considers the observed social phenomena as something that exists outside the researcher and hence can be accessed without a bias. Another advantage of positivism is that it believes in scientific approach to investigation of social phenomenon. Moreover, this philosophy suggests that there is only one absolute truth. Hence, if something is right, then alternative views are wrong. Yet there are disadvantages of this epistemology. For example, it can hardly be applied in the fields that lack strong theoretical foundation. Another disadvantage of this position is that it may often provide misleading conclusions in qualitative studies where different views on the same truth could be valuable but positivism would not accepted multiple truths. The next stage involves the identification of research approach, and a deductive approach is inherent to the investigation. Case study is chosen as the most appropriate strategy to investigate the specific case of LIU. Mixed method research is

identified as most appropriate for this investigation, whereas a cross-sectional analysis is performed. The mixed method research implies a combination of methods and strategies as well as different types of data collected. In this particular research both quantitative and qualitative data was used. Moreover, there is mix of strategies, namely case study of the University and survey of the students. Mixed method research is consistent with the epistemologies of critical realism and even positivism. This implies that the investigation covers the answers of a number of students, while possible changes in their opinion over time are not taken into consideration. The research collects data from the whole population of School of Business (senior and sophomore students) LIU. Survey strategy is employed for this purpose using questionnaires. The justification of the selected views on research methods is provided hereunder.

3.3.1 Philosophy

The research maintains the philosophy of positivism, which implies the belief in the facts do not depend on the researcher. In particular, the researcher assumes that the determinants of student retention can be figured out accurately by any valid investigation. This means that the phenomenon of student retention is not affected by the researcher, and it cannot affect the researcher. The results are derived from scientific methods that could be equally applied in various sciences. The aim of the research is to explain and predict retention, and explanatory and predictive outcomes are the characteristics of positivism. Research can be empirically observable, and the outcomes are judged only by logic, as science is considered to be value-free (Bryman and Bell, 2012).

By contrast, the philosophy of interpretivism would imply the ability of the researcher to interpret the results in view of personal experience and attitudes. This could ensure additional insights into the outcomes, but would be associated with lower reliability of results. Specifically, interpretivism suggests the interpretation of the phenomena with reference to the

researcher's opinion and the inclusion of human interest into a study. From this viewpoint, same results could be interpreted differently by different scholars, which reduce research replicability and reliability.

The philosophy of positivism is inherent to the majority of mixed method studies, as suggested by Hesse-Biber (2010). The author argued that the 'methodological orthodoxy' existing in the practice of mixed method favours qualitative and quantitative studies. On the other hand, it is also suggested that qualitative approaches involve the analysis of individual perceptions. This research uses qualitative information as supplementary to the quantitative study that is based on the statistical analysis of questionnaire. Therefore, it is assumed that positivism is most inherent to the investigation.

3.3.2 Approach

The approach of deduction is the basis of the analysis, as the study relies on existing theory of student retention developed by Tinto (1993) to derive the hypotheses. Deductive reasoning suggests the movement form theory to hypothesis, from hypothesis to observation, and from observation to confirmation or rejection of the theory. The analysis of the theoretical model leads to the formulation of particular hypotheses that are expected to confirm or modify the theory. These hypotheses are then expressed through operational variables that are available from the questionnaire. The variables are used in a statistical analysis to test the hypotheses. Deduction implies reasoning from the general to the particular. A causal relationship between various factors and student retention is implied by the Tinto Model. Deductive reasoning allows the researcher to apply the Model to a particular case and test the Model with application to a specific environment. A deductive design study tests whether the relationship can be observed in more specific circumstances (Saunders et al., 2009).

An alternative inductive approach would be associated with the focus on observations rather than theories. In this case, the research would start with the analysis of questionnaires, and then

the results would have been used to develop a new theory. However, this approach is considered to be less applicable in the context of this research, because the existing Tinto Model can be well used in various circumstances. It is important to test the existing model before developing a new one. Furthermore, numerous empirical studies confirm the validity of the Model (Thomas and Stockton, 2003; Holmes, 2004; Morrow and Ackermann, 2012). This allows the researcher to assume that deductive reasoning based on the existing theoretical model is more relevant for the investigation.

3.3.3 Design

Mixed methods research is applied in the investigation. Mixed method research was previously applied to examine higher education phenomena by the National Audit Office (2002). In this research thesis, the implementation of the mixed methods research implies a combination of quantitative and qualitative methods. The quantitative methods are represented by statistical analysis of the survey results in SPSS. The qualitative methods are represented by the recommendations made to the Vice President during the course of an interview with him.

According to Sechrest and Sidani (1995) qualitative and quantitative methods, can be complementary to each other in a mixed method research. Using multiple methods in the research is beneficial since each method will cover the limitation of the other method. The quantitative method separates the large number of factors that are not done in the qualitative approach (Abeyasekera, 2000; Johnson & Christenson 2014; Shulman, 1986). However, this research thesis is focused primarily on quantitative data and is conducted from the view point of the epistemology of positivism.

According to Johnson and Christensen (2014), mixed research is important to understand the subjective part of the individual and the objective part of the material and casual.

Quantitative data are obtained through questionnaires distributed across students. Quantitative data analysis implies the transformation of statistics collected through the questionnaire into

meaningful data. Rational and critical thinking is used to turn statistical data into observable variables. The research involves the collection of numerical information that reflects the relationships between theory and research. Quantitative analysis is normally associated with an objectivist conception of social reality, which is inherent to the philosophy of positivism. Besides, deductive reasoning often underpins statistical research (Kothari, 2004).

Quantitative research is based on a 5-scale Likert and multiple choice questionnaire, and the use of analytical questionnaire is supported by previous studies (Gustaffson et al., 2005; Nitzan and Libai, 2011; Blery et al., 2009). Although these studies used analytical methods to explore customer retention, the method can be applied to student retention analysis as well. It is assumed that similar factors can determine the decisions of customers and students to leave or retain. The use of questionnaire as the key method for data collection is motivated by previous studies that examined retention models (Spady, 1965; Hattie and Watkins, 1988; Entwistle and Tait, 1990). Bennett (2003) investigated a group of undergraduate students on drop-out rates in the business department of a university in U.K. Similarly, Douglas *et al.* (2006) measured student satisfaction at a British University.

Longden (2006) used Student Experience Questionnaire that was by First-year full-time undergraduate in West Coast University to find information about number of hours spent in studying, commitment of part time instructors, and travel distance from the university.

Vander Schee (2010) used a questionnaire completed by 614 students to find out what are the factors that increase their satisfaction in their first semester in the university.

Primary data is analysed in the study, which ensures the ability to examine a specific environment and creates the uniqueness of the outcomes. Secondary data that could allow for investigating the topic does not exist, which justifies the selection of primary research design. The use of the data that never existed before implies that the information is collected for specific purposes and greatly suits the objectives of the study (Kumar, 2008).

The employed cross-sectional analysis can be associated with several limitations. Most notably, this approach does not allow for investigating the dynamics of the examined variables. In particular, changes in the role of specific retention determinants are not covered in the analysis. This is tightly related to the assumption that the period explored in the study is representative of the retention behaviour in LIU. Alternatively, the data collected for the analysis might not accurately represent the actual characteristics of the sampling distribution. Furthermore, the students' status is not followed as tracking the registration data for each first-year student would be substantially more challenging. This could limit the accuracy of the employed retention indicators. In addition, a cross-sectional approach might not fully reflect a causal relationship. Most importantly, observed relationships between integration and retention could represent the presence of common factors influencing students' experience and retention decision. Specifically, both commitment and academic performance might be affected by background characteristics.

Even though this research uses the survey strategy and positivist philosophy, the use of interviews in similar studies is not a new phenomenon and can be considered as a viable alternative. For example, Yorke and Thomas (2003) investigated student retention from lower socio-economic groups using interviews. Cox et al. (2005) investigated the first-year student experience focusing on business students. There are other studies that referred to interviews to collect qualitative data about student retention and behaviour (Mackie, 2001; Kim and Feldman, 2011). However, to extend previous investigations, this research uses quantitative data collected by means of structured questionnaires.

3.3.4 Strategy

The research is based on a case study and the analysis focuses on LIU. The university is the largest university in the country, taking nine campuses all over Lebanon and about 24,000 students. LIU offers education to the students of the lower socio-economic status. Many

students come from public schools, and many of them have to work in order to pay for the tuition fees of the University. The students do not master the English language. Students enrolled in the School of Business for 2016 fall were 7,200, total students; 6,000 of whom are identified as undergraduates. The number of students registered is shown in Table 3.1.

Table 3.1 Number of Students Registered in Fall 2016 Across Campuses

	Akkar	Beirut	Bekaa	Saida	Mount Lebanon	Tripoli	Tyre	Nabatieh	Rayak	Grand Total
Senior	19	351	142	98	68	79	108	68	67	1,000
Sophomore	15	603	304	237	14	267	41	78	41	1,600
TOTAL	34	954	446	335	82	346	149	146	108	2,600

The case study strategy of the investigation allows the researcher to focus on the context of the analysis and account for the phenomena observed within a particular institution. The advantage of case research is the opportunity to explore an actual situation within its realistic setting. This research strategy ensures that the researcher identifies not only what is observed, but also why it is observed. Case studies allow for examining the effects of actions over time. Case-based research creates an opportunity to develop solutions and to apply them in similar studies.

The ability to place the research in the context of the environment where it is observed is another advantage of case studies (Naumes and Naumes, 2006). These advantages of case study explain why the method is selected among its alternatives. Furthermore, case studies were applied by other scholars to investigate student behaviour (Bennett, 2003; Douglas et al., 2006). These studies were focused on the UK, while Longden (2006) examined a West Coast University in the USA. This thesis contributes to literature by analysing a different setting and country, while the selection of case study against other strategies is justified by previous literature.

3.3.5 Conducting the Case Study

The researcher has been the Department Chair for the School of Business since 2011. Since then, she has had several duties such as evaluating policies and structure of the Business Department. This job has great impact on students' transition into higher education and their retention. The researcher is involved with highest level managerial and academic decisions which require working closely with the Dean as well as the key representatives of the faculties. She deals with assessing students' results, academic decisions, and special cases that affect student's retention performance. Through this study, the researcher brings detailed knowledge and comprehension of the difficulties, concerns, choices, and sensitivities that could be faced. The comprehension of student retention helps the researcher when evaluating the data and documents collected. The researcher worked first hand with selecting faculty members, advising students, evaluating exams, and assigning courses. Nevertheless, the researcher's role might cause some biases. The researcher will try her best to guarantee objectivity, since biases could influence data analysis and interpretation (Creswell, 2003). This could be accomplished by using triangulation where feasible. Since the researcher has access to the performance of students, it permits shedding the light on human and financial resources. As a result, the study would be adaptive to interventions by the examiner. This straight forward link assists in testing hypotheses and altering reports to improve the effectiveness of the research methods selected. This could be distinctive case since most researchers do not usually have this level of access to data.

3.4 Questionnaire Design

The processing of the data involves the procedures of entering, editing, and coding the information. The data are then verified and the variables for the respective model specifications

are developed. The questionnaires included closed ended questions, and the answers produced several types of data. These types are nominal, ordinal, interval, and cardinal data. Data editing implied addressing the issue of missing values, and the development of the response categories. The data matrix produced in the SPSS software included columns to reflect variables and rows to reflect individual answers.

3.4.1 Questionnaire Sections

The questionnaire is constructed on the basis of the Tinto Model, and the questions are developed to cover every aspect of the Model. The questionnaire is provided in Appendix. The use of questionnaire and the selection of questionnaire sections were developed to extend previous studies. For instance, Hatti and Watkins (1998) explored student satisfaction, workload, social climate, and instructor-student interactions through questionnaires. Entwistle and Tait (1990) used questionnaires to investigate instructor enthusiasm, teaching, and social climate. Marsh and Bailey (1993) also applied a questionnaire to explore the same categories. Pike (1993) analysed student satisfaction in relation to perceived learning, intellectual skills, preparation, and general education. These studies demonstrated that questionnaire is an appropriate method to answer the research questions of the thesis.

The questionnaire consists of seven sections. The first section collects general information about students. The questions inquire about gender, age, campus, major, high school background and degree, employment status, parents' highest education level, source of financing for University tuition, current GPA, the first English course at LIU, the reasons for continuing education after high school, the main reason for selecting LIU, and reasons why transfer students at other universities before LIU. This section allows the researcher to collect student background information.

According to Tinto (2002) females are more persistent in completing studies compared to males. Astin (1996) argued that student age increases the probability of dropout. The

importance of school educational background was underlined by Bean (1985) and Astin (1987). The associations between employment and retention were examined by Callender and Kemp (2000) and Astin (1996). Financial aspects were studied in previous literature as well (Braunstein et al., 2006; Kerkvliet and Nowell, 2005; Herzog, 2008). The research obtains information about these categories with application to LIU and demonstrates whether previous findings are applicable to the case of a Lebanese university.

The second section is the Course, which obtains information about students' retaking any courses, academic effort, and possible reasons for not passing the course(s). National Audit Office (2002) and Bennett (2003) argue that student satisfaction with the course is associated with drop-out decisions. The section examines student success with the course, which is likely to be related to satisfaction.

The third section collects information about the students' aspirations and motivations. The questions inquire about a clear orientation in terms of majors in the School, registration advice the students received, the propensity to follow the recommended courses offered to them, satisfaction with the major, enjoying extracurricular activities, parents' encouragement to continue studies, participation in students' activities, and employment with the University. Tinto (1987), National Academic Advising Association (2006) and Kuh (2006) highlight the value of academic advising and its positive influence on student retention. Many writers have talked about the importance of Schools in preparing students for the University Bean (1985); Astin (1987); Murtaugh, Burns, and Schuster (1999).

The fourth section inquiries about instructors' knowledgeability about the subject matter, support inside and outside the class, demonstration of interest, encouragement of discipline, tendency to motivate, and instructors' availability during office hours. The qualification of lecturers, as well as the possibility of impact of the instructor on student retention decision was underlined by Vander Schee (2010) and Cosmas et al. (2013). The importance of the

relationships between students and their tutors, as well as students' perceptions of instructors' characteristics allow the researcher to examine whether retention decisions are determined by these factors.

The fifth section collects data about the university facilities, such as parking, sports, library, and food facilities. Many writers have talked about the importance of using different University facilities and retention of students Churchill and Iwai (1981); Astin (1987); Mallinckrodt and Sedlacek (1987).

The sixths section explores study skills, including abilities to take notes, study for exams, manage time, study in groups with friends, and use internet resources for studies. These factors can be related to satisfaction, according to Chan et al. (2010). Meanwhile, satisfaction and retention can demonstrate some degree of association, and this thesis examines whether study skills contribute to satisfaction and retention.

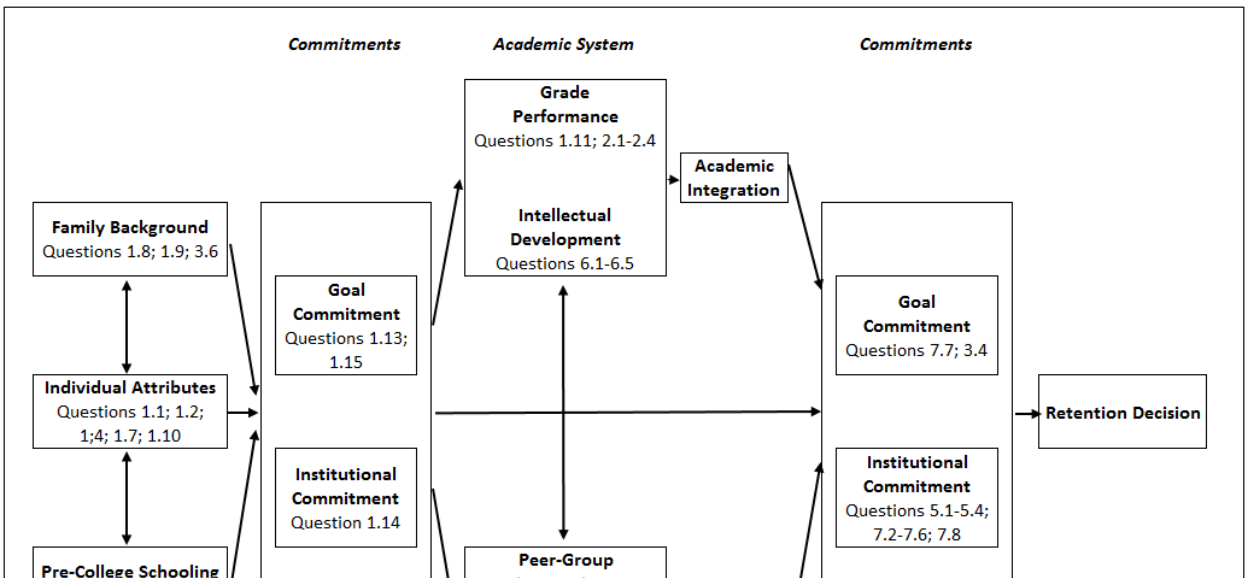
The seventhes section examines the overall satisfaction level of students. The level of satisfaction is measured with respect to staff support and help, university fees, status value of LIU, ability to compete with students from other universities, career opportunities for LIU students, the propensity to choose LIU again, intention to drop out of education as a whole, and the ability of LIU to fulfil the students' goals. The relationships between satisfaction and retention are known in literature (Bolton, 1998; Rust, 1993; Ranaweera and Prabhu, 2003), but this study attempts to extend the observations to the specific case of student satisfaction and their university dropout decisions.

3.4.2 Variables

The questions of the questionnaire cover eight constructs of the Tinto Model, namely family background, pre-college schooling, individual attributes, initial goal and institutional commitment, social integration, academic integration, later goal and institutional commitment, and retention.

The questionnaire collects information about several factors that could be used as performance indicators. For instance, following the studies of Katsikas and Dergiades (2009) and Abramo and D'Angelo (2015), the survey provides the variables of study duration obtained in Section Two of the questionnaire, and student satisfaction from Section Seven of the questionnaire. However, the most prominent performance indicator in the context of this research is student retention decision. It is represented by the intention to drop out from the University and/or from the education as a whole, which is question 7.6-7.8 in the questionnaire. Besides, the research compares the groups of sophomore versus senior students. So, the researcher has some numerical data in terms of the number of students at the first year of education and the number of students at the third year of education. This factor can be viewed as another indicator of the University performance. The use of retention rates as a performance indicator is motivated by the study of Wheelahan (2007). Retention can be represented by different indicators, including the continuation rate or the share of sophomore students who continue the study (NAO, 2007). The Tinto Model that is the basis of the questionnaire is presented in Figure 3.1.

Figure 3.1: Tinto Model and Variables



provided by other scholars in previous literature (Fike and Fike, 2008; Tym et al., 2004; Friedman and Mandel, 2011). The answers are based on a six-grade scale, from Brevet to Doctorate. The third question estimates whether the respondents' parents encourage them to continue the studies. This question is motivated by the research of El-Hassan (1998) and Thomas (2002). The answers are based on a five-point Likert scale, from Strongly Agree to Strongly Disagree. A 5-point Likert scale has been applied by previous studies, which

The first category of the Tinto Model is family background that is represented by three questions. The two of these questions inquire about the highest educational level of the respondent's mother and father respectively. The questions are supported by the evidence provided by other scholars in previous literature (Fike and Fike, 2008; Tym et al., 2004; Friedman and Mandel, 2011). The answers are based on a six-grade scale, from Brevet to Doctorate. The third question estimates whether the respondents' parents encourage them to continue the studies. This question is motivated by the research of El-Hassan (1998) and Thomas (2002). The answers are based on a five-point Likert scale, from Strongly Agree to Strongly Disagree. A 5-point Likert scale has been applied by previous studies, which motivates the selection of this system for this thesis (Devonport and Lane, 2006; Nicpon et al., 2006).

The second category explores individual attributes and is represented by five questions. These questions reflect respondents' gender, age, major, employment status, and source of financing. Gender is represented by two categories, while age ranges are distributed across four categories. The importance of gender and age was confirmed by previous studies (Bean, 1980; Saba'Ayon, 2015; Abouchedid and Nasser, 2002), which justifies the inclusion of these variables in the questionnaire. There are eight Majors for the respondents to choose from.

Employment status has three categories to differentiate between not employed, part-time and full-time employment. Source of financing has four answer options. These factors can be important for retention or dropout decisions, according to the findings of Latif (2015), Trotter and Roberts (2006), Buckley et al. (2015).

Pre-college schooling is represented by three questions. They obtain information about private versus public school background, high school degree, and the first English course at LIU. Pre-college education as a possible determinant of retention was explored by Gifford et al. (2006) and Yu et al. (2010).

Background-related goal commitment is represented by two questions. The first one explores the reasons to continue education after high school and includes five answer options. The second question explores whether the respondent ever registered at a university before LIU, and is based on 'Yes' or 'No' answers. Goal commitment factors were previously explored by Yindra and Brenner (2002), Irizarry (2002) and Johnson-Lutz et al. (2015).

Background-related institutional commitment is explored through the question about the main reason for selection of LIU out of other universities. This question implies six options to choose from. Educational institution choice was previously analysed by Kim (2014), which justifies the questions included in the survey.

Academic system category is represented by grade performance and intellectual development. Grade performance is measured though five questions. The first one explores the current GPA and suggests seven answer options. The other four questions explore whether the students have retaken any course, the number of courses they have retaken, why they could fail the courses, and how often they study for the exams.

Intellectual development is represented by five questions. They examine study abilities, such as ability to take notes, study for exams, manage time, study in groups, and use internet

resources for studies. The answers are based on a five-point Likert scale. Intellectual development factors are motivated by the work of Spady (1970).

Social system includes peer-group interactions and faculty interactions categories. The former is represented by three questions. They explore the attitude toward extracurricular activities, participation in students' activities, and work at the University. The studies of other scholars explain the choice of these questions (Sacredote, 2001; Tym et al., 2004; Yindra and Brenner, 2002). The answers are represented by a five-point Likert scale.

Faculty interactions are explored through seven questions. They include all six questions from category four about the instructor and a question from category seven about the support and help from the administrative staff. These integrational factors are justified by the studies of Schudde (2011), Lillis (2011), O'Keeffe (2013). All questions have option answers on a five-point Likert scale.

Academic and social system commitments also include goal commitment and institutional commitment, similarly to the background-related commitments. Goal commitment is based on two questions, namely the intention to drop out of education and satisfaction with the major. The answers are collected on a five-point Likert scale.

Institutional commitment is represented by ten questions. All questions from section five of the questionnaire explore the university facilities. The questions from section seven investigate overall satisfaction level, including university fees, advantage of being an LIU graduate for a C.V., ability for LIU students to compete with other university students, availability of career opportunities for LIU students, propensity to choose LIU again if the opportunity to choose was provided, and the ability of LIU to ensure goal fulfilment for the respondents. These factors have been discussed in earlier investigations (Abouchedid and Nasser, 2002; Kerkvliet and Nowell, 2005; Herzog, 2008; Dogson and Bolam, 2002; Latif, 2015). All answers are based on a five-point Likert scale.

Although most of the factors examined herein have been analysed in earlier studies, none of them delivered a universal answer to the determinants of student attrition. This can be explained by different settings that have been explored, non-integral inclusion of the factors in previous analyses, and variations in methods applied. The analysis of the specific context of LIU provides further justification or rejection of the Tinto Model and reveals what factors are most significant within the environment of a private Lebanese educational institution.

3.4.3. Hypotheses

On the basis of retention indicators, the research applies the Tinto Model to develop the hypotheses about possible determinants of students' retention decisions.

The key assumption of the Tinto Model is the impact of background characteristics and individual attributes, academic integration, and social integration on retention decision. However, it can be assumed that only the combination of numerous factors affects retention decisions, while it is hardly possible to identify common trends for all students.

Hypothesis One

Background factors are the key drivers of retention, according to the Tinto Model.

H0: Family background, individual attributes, and pre-college schooling characteristics are significantly different across sophomore and senior students at LIU.

Hypothesis Two

Student performance is another attribute that can be associated with student retention, according to Tinto (1975).

H0: Grade performance and intellectual development are significantly different between sophomore and senior students at LIU.

Hypothesis Three

Social integration can be prominent in view of the Tinto Model.

H0: Peer-group interactions and faculty interactions are significantly different between senior and sophomore students.

Hypothesis Four

The research also examines the validity of the Tinto Model in terms of the relationships between background and integration factors and commitment factors.

H0: Family background, individual attributes, and pre-college schoolings are insignificantly related to commitment for LIU students.

Hypothesis Five

The final stage of the Tinto Model assumes that academic and social integration affect commitment, leading to the retention or drop-out decisions.

H0: Goal commitment and institutional commitment are insignificantly associated with retention decision of LIU students.

The analysis of the aforementioned hypotheses allows the researcher to expand the Tinto Model by exploring the importance of goal commitment and institutional commitment. These factors are included in the Tinto Model as direct drivers of retention decisions. However, there is evidence that both socioeconomic factors and integration factors may be associated with drop-out rates (Holmes, 2004; Thomas and Stockton, 2003; Friedman and Mandel, 2011). Moreover, the Tinto Model assumes that background factors influence retention only through integration. This assumption is explored by analysing the relationships between individual characteristics and commitment using statistical approach and hypothesis testing.

3.5 Sampling, Selection Criteria and Questionnaire Administration

The analysis is based on the questionnaire distributed across the School of Business students of LIU. The questionnaire was distributed across the first and third year students. The access to the population is available because of the work status of the researcher in the University.

Since the responses of the students are collected during a relatedly short time frame and are not compared to previous surveys of the same students, cross-sectional analysis rather than time-series analysis is used. The position of the researcher allowed for distributing the questionnaire among 1,600 first-year students who are referred to as sophomore students, and 1,000 third-year students, or senior students. The participation of first-year students in the questionnaire is motivated by the studies of Noble and Flynn (2007), Bridges (2011), Gibbs et al. (2006) and Ishler and Upcraft (2005). These scholars demonstrated that drop out is most likely to be observed during the first year, and the success of retention programs was substantially higher during the first year. The analysis further compares statistical results of first-year students and third-year students who are graduating. This allows the researcher to capture the differences between the backgrounds, attitudes, perceptions, characteristics, commitments, and integration of those who may drop out of the University and those who have retained with the University. Among 1,600 first-year students, there were 1,491 respondents. Thus, it can be effectively treated as analysis of total population and not a random sample.

The questionnaire was distributed across all nine campuses in an envelope with the name of the course and instructor name on every envelope. Sophomore students were targeted in "Principles of Accounting I" course, since all first year students in all majors are required to register in this course. Senior students registered in the advanced course for each major were targeted in all nine campuses. The administration of the University requested the instructors to make sure that the questionnaire is filled by students. The envelopes were then sent back to the researcher without informing the students who the researcher is. Table 3.2 presents the advanced courses that were covered in different majors offered in the School of Business.

Table 3.2: Advanced Courses Covered in School of Business Major

Department	**Course Name**
Accounting	Accounting Information Systems and Applications
Economics	Labor Economics and Market Structures

Finance	International Banking and Finance
Hospitality	Conventions and Meetings Management
BMIS	E-Business
Marketing	Marketing Policies and Strategies
Management	Global Strategic Management

3.6 Piloting Questionnaire

A piloting questionnaire was performed to explore whether the survey can be administered and ensure accurate data (Cargan, 2007). The piloting study was based on a preliminary questionnaire that was distributed to a sample of 100 students who are currently enrolled in the School of Business. The piloting study allowed the researcher to obtain the feedback from students on the questions, questionnaire organisation, and other useful comments. The data collected through the piloting study revealed whether there was a need to change the population, the sampling process, the sample itself, research question, the wording and order of questions, and add or remove questions.

The piloting study was performed in October-November 2016 for a group of students admitted in the 2016-2017 academic year. The questionnaire was written in simple English to ensure full understanding of the questions. Likert scale was applied for some of the answers, and other were based on multiple choice answers. The questionnaire took 15 minutes on average to be completed. After the piloting study has been completed and the results examined, some revisions were made to the questions of the final questionnaire.

3.7 Reliability Analysis

Potential response error issues are tested using the Cronbach alpha statistic to ensure internal consistency of responses. Reliability analysis is performed to ensure the validity of the dataset. The analysis is based on Cronbach's Alpha statistics that estimates the internal consistency of

the data (Zeller and Carmines, 1980). The test is applied to multiple Likert scale questions in the questionnaire. Thus, the research assesses the reliability of the scale.

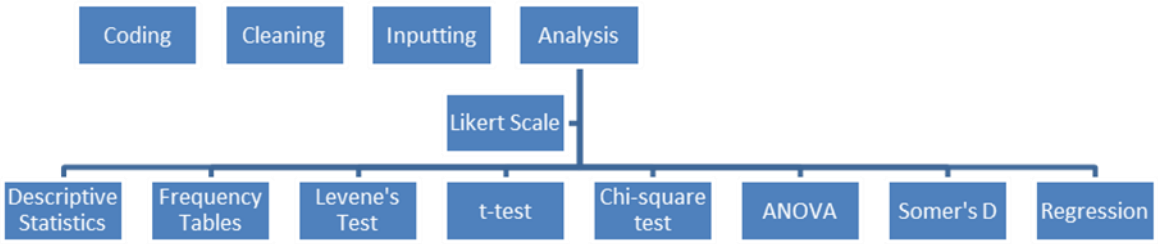
Cronbach Alpha is a method to estimate the internal consistency reliability of the variables obtained for the analysis. The coefficient calculates whether a set of variables is able to accurately measure a single unidimensional latent item. The calculation is based on the correlation between the responses in a questionnaire. Cronbach's alpha ranges from 0 to 1, and a value at or above 0.7 would be considered to be sufficient.

Since the sample was collected using a non-probability sampling technique, many parametric tests such as t-tests could be unrepresentative when attempting to generate the results to other universities. Probability sampling technique would have implied that the whole population of the University is taken into consideration. However, the research is based only on first-year and third-year students. When the results and conclusion of this study are applied only to the School of Business of LIU, the statistical methods chosen will be representative. Moreover, given the very high response rates, the estimated statistics will be very close to actual population parameters for this particular University.

3.8 Analytical Techniques Implemented

The quantitative part of the analysis is based on several statistical approaches used to handle and compare the data. These methods are summarised in the following chart.

Figure 3.2 Methods of Analysis



The statistical report includes frequency tables, descriptive statistics, ANOVA analysis, Leven's test, Somer's D correlation and regression analysis. This information is provided to present the data and give a first insight into the variables that are tested further in the analysis. The descriptive statistics is applied to summarise the data to present it in an understandable way. This is made both graphically and numerically. Numerical presentations include central tendency and variability measures, namely the mean and standard deviation statistics. This information shows the most typical values that are observed within the dataset and how they are spread out across the sample. Frequency tables are applied to categories variables such as gender to demonstrate the distribution of the respondents in the sample.

Inferential statistics includes different tests, such as Chi square, one-way analysis of variance (ANOVA), bivariate Pearson correlations, Levene's test, independent samples t-test, and linear regression analysis. Since many responses are provided in the form of categorical forms such as gender, major or employment status, the Chi square test is used to test the significance of the relationships between pairs of different categories. For example, this test can indicate whether the gender of students is significantly associated with their major or parents' influence. Then, ANOVA test is run to compare the means of the variables that are not categorical. Non-

categorical variables are quantified using the Likert scale. ANOVA test can identify whether two quantitative responses are different or similar across two categories, such as quantitative responses of male students and female students. Bivariate Pearson correlation is run to measure the degree of linear associated between pairs of quantitative variables, which can help identify movements in variables. The Levene test and independent samples t-test are used together. The Levene test is employed to assess whether the variance of two quantitative variables is equal or different. Then, depending on the result of the equality of variance, the independent samples t-test with an assumption of equal or unequal variance is run to examine the differences between two variables. It is valid to note that t-tests are applied when the means of only two groups are compared whereas ANOVA is employed when more than two groups are present. The null hypothesis of both t-tests and ANOVA is that the means of groups are equal. This hypothesis can be refuted at the 5% significance level if the p-value of the tests is less than 0.05. Lastly, a linear regression analysis is performed to evaluate the significance of impact of characteristic of students on their retention decisions.

3.9 Human Ethics Approval, Data Storage, Access and Disposal

One of the important ethical requirements of the research is that it should cause no harm to the participants. The research should never injure the respondents, regardless of their voluntary participation in the study. The key instance of this requirement is related to the revealing of information that might embarrass people or endanger their life, jobs, friendships, etc. (Babbie, 2007). The subjects of the research should not be harmed psychologically during the study. So, the researcher needs to look for the subtlest dangers and provide protection against them. The study does not deal with any medical or personal issues, sensitive topics, or vulnerable people. Therefore, no harm is caused to any of the students who participate in the survey. This allows for using the fast track form, and an ethical approval from the Faculty's Ethics Committee has been obtained.

The researcher needs to obtain informed consent from the respondents and inform them that the participation is voluntary. Voluntary participation suggests that participants have a choice to participate, and the respondents are informed about the range of matters that are related to the survey (de Vaus, 2002). The first page of the questionnaire explains the purpose of the research and the possibility that the research would benefit students in future by improving their success and satisfaction levels. Participation in the questionnaire is voluntary and will not influence the student in any way.

The research ensures confidentiality and anonymity of the respondents. Confidentiality is ensured by a minimal use of names and other identifiers, dissociation of identifiers from questionnaire responses, keeping questionnaire forms in locked files, keeping non-involved people away from questionnaire answers, and seeing to appropriately dispose of survey instruments (Fowler, 1995). The aim of the research is to identify the key risk factors that contribute to dropout rates, so the information provided by students is assigned a high level of confidentiality. The questionnaire informs the participants that confidentiality will be well-preserved, and the identity of the students will not be revealed in any way in the report. Anonymity implies that the survey does not require the respondents to provide their names or any information that identifies those (Lodico et al. 2010). The identity of the respondents is preserved from their instructors and the researcher.

The participants of the survey have access to the research results, which guarantees their confidentiality. All information collected is protected, stored electronically, and backed up to cloud computing. Hard copies are kept in a safe and locked, so that access to data is available only to the supervisor and the student researcher.

The researcher has access to the information about students' performance, so it is possible to shed light on human and financial resources. Therefore, the study would be adaptive to researcher interventions. This direct link allows for testing hypotheses and amending reports

in order to enhance the effectiveness of the research methods selected. From this viewpoint, the research is unique, as often researchers do not have this level of data access.

3.10 Limitation of the Methodology

The limitation of the methodology can be related to the absence of some students during data collection. However, this limitation is unlikely to affect the outcomes, since the students have not been warned about the questionnaire beforehand. Besides, there can be an issue with the appropriateness of some students' answers. This means that some answers should be ignored and removed when the data is entered and edited.

3.11 Summary

The aim of the research is to investigate the drivers of student retention in the context of LIU. The analysis is a mixed-method research based on the philosophy of positivism, following deductive reasoning. Primary data is used in the case study analysis. The hypotheses are developed with an assumption that the Tinto Model is applicable for Lebanese educational institutions. The primary quantitative analysis is based on questionnaire distributed across the students of LIU. The answers provide variables with reference to the Tinto Model categories. These variables are analysed by using different statistical tests. All ethical considerations are taken into account when preparing, conducting, and handling the results.

CHAPTER FOUR
FINDINGS OF THE STUDY

Previous chapter revealed the context in which the research is conducted based on previous empirical studies and methodological framework that explains the techniques of data gather and analysis. The purpose of this chapter is to conduct data assessment and analysis of the factors that determine students' retention in the university. The chapter begins with the evaluation of descriptive statistics. This is followed by assessment of frequency tables and data distribution. Levene's and t-tests are used in this analysis to compare the means and variance of the factors of students' retention. Correlation and regression analysis are conducted to examine statistical significance and direction of the effect of the variables.

4.1 Background Factors

Hypothesis one assumes that first-year (sophomore) and third-year students (senior) differ significantly in family background, individual attributes, and pre-college schooling characteristics. The hypothesis is analogous to hypotheses Two and Three which compare senior and sophomore students with regards to academic and social integration. This suggests that it could be useful to identify key similarities and discrepancies across two groups for each question category. While each hypothesis is also investigated more closely in corresponding sections, a general overview may provide additional evidence for or against individual hypotheses.

Several categories of the Tinto model are examined based on the questions that employ the Likert scale. Significant differences between these questionnaire sections for first and third year respondents might provide some support for the first three hypotheses. Relevant summary statistics are shown in Table 4.1.

Table 4.1 Questionnaire Items Based on Likert Scale: Group Statistics by Educational Year

Educational Year	Group Statistics	N	Mean	Std. Deviation	Std. Error Mean
3. The Student average	First year	1502	3.3942	.51315	.01324
	Third year	959	3.4377	.48991	.01582
4. The Instructor average	First year	1503	3.9655	.64858	.01673
	Third year	962	3.9975	.59547	.01920
5. The University Facilities average	First year	1498	3.4530	.70159	.01813
	Third year	961	3.2583	.78921	.02546
6. Study Skills average	First year	1502	3.4958	.73518	.01897
	Third year	962	3.5085	.69725	.02248
7. Overall Satisfaction Level	First year	1491	3.6164	.59310	.01536
	Third year	959	3.6158	.56792	.01834
General Average	First year	1504	3.5865	.46047	.01187
	Third year	963	3.5646	.44649	.01439

Most notably, the difference in the University Facilities perception appears to differ across two groups. The mean values for the sophomore and senior years, respectively, are 3.45 and 3.26. Therefore, third year students seem to be less satisfied with the facilities provided by the University. Moreover, the standard deviation is also noticeably higher and equals 0.79 compared to 0.70 for the first year students. This suggests that sophomore year respondents tend to agree on their assessment of the facilities, while more controversial perception is observed for senior year students.

Values for other categories appear to differ even less noticeably. In particular, no significant changes are found for the perception of the instructors' knowledgeability and support, as well as the overall satisfaction. Likewise, self-assessment questions appear to answered similarly by first and third year students, with mean values for the latter being marginally higher for the Student and Study Skills categories. In general, the results do not indicate that any significant differences exist across two respondent groups. However, such differences might be revealed if the questions are grouped based on their role in the Tinto model.

The question categories are tested more formally by performing independent samples t-tests.

The t-test explores the significance of the difference between two means. The test statistic is equal to the ratio of the difference between sample means and the standard error of the sampling distribution. The interpretation of the value of the statistic depends on the chosen level of significance. In particular, the statistic would show that the difference between means is significant at the 0.05 level if the observed value is higher than the value corresponding to the 0.05 critical value. This is reflected in the p-value which shows the lowest significance level at which the difference in means cannot be ignored.

The degrees of freedom, df, describe the distribution of the test statistic. The statistic follows the t-distribution as long as certain assumptions hold. In particular, the population distribution is assumed to be normal. In addition, values should be sampled independently. The homogeneity of variance assumption might be relaxed if the samples show substantially different standard deviations. The following tables show t-statistics for both equal and non-equal variance assumptions. The null hypothesis for the two-tailed test states that the difference in means between samples is zero, while the alternative hypothesis is that the difference is non-zero.

The results are summarised in Table 4.2.

Table 4.2 Questionnaire Items Based on Likert Scale: Independent Samples T-Test

	Levene's Test for Equality of Variances	T-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
3. The Student average	Equal variances assumed	.004	.948	-2.084	2459	.037	-.04344
	Equal variances not assumed			-2.106	2109.557	.035	-.04344
4. The Instructor average	Equal variances assumed	3.111	.078	-1.233	2463	.218	-.03200
	Equal variances not assumed			-1.256	2172.908	.209	-.03200
5. The University Facilities average	Equal variances assumed	15.428	.000	6.390	2457	.000	.19467
	Equal variances not assumed			6.229	1871.667	.000	.19467
6. Study Skills average	Equal variances assumed	1.127	.288	-.426	2462	.670	-.01267
	Equal variances not assumed			-.431	2126.514	.667	-.01267
7. Overall Satisfaction Level	Equal variances assumed	1.941	.164	.028	2448	.978	.00067
	Equal variances not assumed			.028	2106.876	.978	.00067
General Average	Equal variances assumed	.128	.721	1.167	2465	.243	.02191
	Equal variances not assumed			1.175	2096.205	.240	.02191

The responses to two groups of questions seem to have changed significantly across sophomore and senior year groups. Firstly, the perception of the University Facilities differs noticeably between two respondent groups. The corresponding t-value is significant at the 0.01 level. This agrees with the observation on the large difference between the means noted earlier. Secondly, the students appear to respond differently to the questions regarding their aspirations and motivations. To be more specific, the t-value equals -2.08 and is significant at the 0.05 level. Put differently, third year students tend to rate more highly factors such as satisfaction with the major, extracurricular and student activities, and parents' encouragement.

In addition, the difference in variances observed for the Facilities category between first and third year students can now be seen more formally. To be more specific, the Facilities section is the only section for which the Levene's test indicated inequality of the variances across two groups. The corresponding F-statistic is significant at the 0.01 level, which indicates that students have more polarised opinions on the facility assessment during their third academic year compared to the first year. The Levene's tests for other questionnaire categories did not indicate any deviation between the variances significant at the 0.05 level.

Thus, the results based on the questionnaire sections provide limited evidence for the differences across sophomore and senior year students. On the one hand, no significant discrepancy is found for instructor, study skills, and overall satisfaction question categories. In other words, the academic year might have no influence on several components of the Tinto model, including intellectual development, faculty interactions, goal and institutional commitment. On the other hand, some evidence was found for significant differences in motivation and facility perception across two respondent groups. This could affect peer-group interactions and both academic and social integration, which would in turn influence students' retention. In the context of the first three hypotheses that explore the difference across student groups, the overview does not provide strong evidence in support of any of the hypotheses. However, discrepancies in respondents' motivation and attitude towards extracurricular activities may serve as moderating factors in the relationship between initial commitment and retention. Put differently, these observations may indicate an indirect effect of individual attributes and social integration on retention, which would agree with Hypothesis One and Hypothesis Three. A more thorough analysis based on the Tinto model may provide additional insight for understanding the relationship between integration, commitment, and retention.

4.1.1 Family Background

The family background is the first set of characteristics that is explored by Hypothesis One. These characteristics constitute one of the key constructs of the Tinto model. Three questions cover this component. The differences in the responses to three associated questions are studied by performing the chi-square test. The results are shown in Table 4.3.

Table 4.3 Chi-Square Test for First-Year and Third-Year Students: Family Background

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
Mother's highest educational level	14.262	.027
Father's highest educational level	15.507	.017
Parent encouragement	11.597	.021

The test output clearly indicates that the student responses change significantly depending on the academic age. To be more precise, the chi-square statistic is significant at the 0.05 level for both questions regarding the parents' education. To determine the exact effect of the academic year, the response summary is analysed for both student groups.

Table 4.4 presents relevant response statistics.

Table 4.4 Family Background: Mother's Educational Level, by Educational Year

			Educational Year		
			First year	Third year	Total
1.8. What is your mother's highest educational level?	No answer	Count	13	0	13
		% within Educational Year	.9%	0.0%	.5%
	Brevet	Count	533	348	881
		% within Educational Year	35.4%	36.1%	35.7%
	Elementary	Count	242	132	374
		% within Educational Year	16.1%	13.7%	15.2%
	Lebanese Baccalareaute	Count	410	283	693
		% within Educational Year	27.3%	29.4%	28.1%
	Bachelor Degree	Count	231	161	392
		% within Educational Year	15.4%	16.7%	15.9%
	Master Degree	Count	49	29	78
		% within Educational Year	3.3%	3.0%	3.2%
	Doctorate	Count	26	10	36
		% within Educational Year	1.7%	1.0%	1.5%
Total		Count	1504	963	2467

	% within Educational Year	100.0%	100.0%	100.0%

The most significant change is observed for the number of respondents with mothers having elementary education as the highest education level. The figure is equal to 16.1% and 13.7% for the sophomore and senior years, respectively. The mothers of students who continue to study in the third year appear to be better educated, as the numbers for bachelor degree and Lebanese Baccalaureate seem to increase.

Similar trend can be noticed in the following Table below containing the response summary regarding the students' fathers.

Table 4.5 Family Background: Father's Educational Level, by Educational Year

			Educational Year		
			First year	Third year	Total
1.9. What is your father's highest educational level?	No answer	Count	11	3	14
		% within Educational Year	.7%	.3%	.6%
	Brevet	Count	477	316	793
		% within Educational Year	31.7%	32.8%	32.1%
	Elementary	Count	308	153	461
		% within Educational Year	20.5%	15.9%	18.7%
	Lebanese Baccalareaute	Count	329	227	556
		% within Educational Year	21.9%	23.6%	22.5%
	Bachelor Degree	Count	232	184	416
		% within Educational Year	15.4%	19.1%	16.9%
	Master Degree	Count	101	55	156
		% within Educational Year	6.7%	5.7%	6.3%
	Doctorate	Count	46	25	71
		% within Educational Year	3.1%	2.6%	2.9%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The differences across two groups seem to be analogous to the previous question. Indeed, the number of fathers with Elementary as the highest level drops from 20.5% to 15.9%, while corresponding figures for the Bachelor Degree and Lebanese Baccalaureate increase. Thus, the

significance of the chi-square statistic for these two questions can be attributed to the senior year students generally having better educated parents.

Parent encouragement is also significant at the 0.05 level. To determine how the perception of the encouragement differs across two groups, the responses for the last question of the family background construct are examined more closely. Table below presents the response summary.

Table 4.6 Family Background: Parents' Encouragement, by Educational Year

			Educational Year		
			First year	Third year	Total
3.6. My parents encourage me to continue my studies.	Strongly Disagree	Count	30	13	43
		% within Educational Year	2.0%	1.4%	1.8%
	Disagree	Count	52	26	78
		% within Educational Year	3.5%	2.7%	3.2%
	Neutral	Count	188	131	319
		% within Educational Year	12.6%	13.7%	13.0%
	Agree	Count	474	357	831
		% within Educational Year	31.7%	37.3%	33.9%
	Strongly Agree	Count	750	431	1181
		% within Educational Year	50.2%	45.0%	48.2%
Total		Count	1494	958	2452
		% within Educational Year	100.0%	100.0%	100.0%

The most noticeable change occurs for the "Agree" response, with the number increasing from 31.7% to 37.3% for sophomore and senior years, respectively. This shows that third year students might get encouraged by their parents more compared to first year students. At the same time, the number of "Strongly Agree" responses fell noticeably from 50.2% to 45.0%. Similarly, relatively fewer "Disagree" and "Strongly Disagree" assessments are observed for the senior year. Overall, the parents' encouragement to continue education appears to increase with academic year.

Hypothesis One assumes that first-year and third-year students noticeably differ in their family background. The evidence provides support for the hypothesis, and is consistent with the studies that investigated the importance of students' background (Soilemetzidis and Dale,

2013; Ashby, 2004). It may be suggested that the difference in parents' encouragement and education positively influences the willingness of students to continue their education. Family background might also affect the decision indirectly through other factors such as individual attributes and pre-college schooling.

Based on the analysis, it could be argued that a relationship exists between family background and students' retention. The responses for all three questionnaire items are found to differ across educational years. Superior parents' educational level and stronger encouragement appears to be linked with respondents who continue their education. Therefore, this provides substantial evidence in support of Hypothesis One.

4.1.2 Individual Attributes

Hypothesis one suggests that students' individual attributes such as gender, major, and employment status, may be different across senior and sophomore students. Possible discrepancies between two groups could provide further support for the hypothesis in addition to the observed differences in family background.

The component of the Tinto model covering students' individual attributes is represented by five questions. Table below provides the summary of the performed chi-square tests to determine if any differences across two respondent groups exist.

Table 4.7 Chi-Square Test for First-Year and Third-Year Students: Individual Attributes

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
Gender	11.403	.001
Age	778.199	.000
Major	46.992	.000
Employment Status	32.766	.000
Tuition fee payment	16.076	.003

Based on the results, it can be argued that all examined individual attributes are significantly different between sophomore and senior academic years. More specifically, the chi-square test statistics are significant at the 0.01 level for gender, age, major, employment status, and tuition

fee payment. This is consistent with Hypothesis One, and indicates that individual attributes could have an indirect effect on students' retention decision. The role of the major and employment status was also highlighted by Kim (2014), Dogson and Bolam (2002), and Gibbs et al. (2006).

The response summary for gender is shown in Table 4.8.

Table 4.8 Individual Attributes: Gender, by Educational Year

			Educational Year		
			First year	Third year	Total
Gender	Male	Count	834	467	1301
		% within Educational Year	55.5%	48.5%	52.7%
	Female	Count	670	496	1166
		% within Educational Year	44.5%	51.5%	47.3%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

While more male students appear to study in the first year, this is reversed for the third year. More specifically, the number of female students increases from 44.5% to 51.5%. As a result, a significant difference across groups is reported based on the chi-square test. This could indicate that gender as an individual attribute is affecting academic and social integration, which would influence the students' retention.

Respondents' age is likely to differ significantly between two examined groups. Table 4.9 illustrates this.

Table 4.9 Individual Attributes: Age, by Educational Year

			Educational Year		
			First year	Third year	Total
Age	18—19	Count	753	0	753
		% within Educational Year	50.1%	0.0%	30.5%
	20—21	Count	527	467	994
		% within Educational Year	35.0%	48.5%	40.3%
	22—23	Count	162	355	517
		% within Educational Year	10.8%	36.9%	21.0%
	24 and above	Count	62	141	203
		% within Educational Year	4.1%	14.6%	8.2%

Total	Count	1504	963	2467
	% within Educational Year	100.0%	100.0%	100.0%

As expected, more students in higher age brackets are naturally observed for the senior year. This explains the extremely high value of 778.20 for the chi-square statistic.

The choice of major can be especially relevant when assessing the relationship between integration, commitment, and retention. The majors for first and third years are presented in Table 4.10.

Table 4.10. Individual Attributes: Major, by Educational Year

			Educational Year		
			First year	Third year	Total
Major	Management Information System	Count	152	125	277
		% within Educational Year	10.1%	13.0%	11.2%
	Hospitality	Count	102	54	156
		% within Educational Year	6.8%	5.6%	6.3%
	Marketing	Count	120	112	232
		% within Educational Year	8.0%	11.6%	9.4%
	Finance	Count	325	224	549
		% within Educational Year	21.6%	23.3%	22.3%
	Accounting	Count	330	186	516
		% within Educational Year	21.9%	19.3%	20.9%
	Management	Count	353	146	499
		% within Educational Year	23.5%	15.2%	20.2%
	Economics	Count	45	36	81
		% within Educational Year	3.0%	3.7%	3.3%
	International Management	Count	77	80	157
		% within Educational Year	5.1%	8.3%	6.4%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The most noticeable change is related to the Management major, with the figure dropping from 23.5% for the sophomore year to 15.2% for the senior year. This might be partially explained by the major being associated with the highest absolute number of students during the first year, which is equal to 353. Some changes can also be identified for Marketing and International Management majors, which increase from 8.0% to 11.0%, and from 5.1% to 8.3%, respectively.

The findings regarding the choice of major provide additional support for Hypothesis One. This may represent the complex impact of background attributes on the willingness and capability to continue education. Furthermore, this is consistent with the study of Gibbs et al. (2006). It was argued that students perceived their objectives differently depending on the major choice. Alternatively, it could be attributed to both motivation and the choice of major being influenced by similar factors, which agrees with Yindra and Brenner (2002). This point of view is also supported by the findings regarding family background and the discrepancy in parents' encouragement.

The significance of the employment status changes across two groups is further illustrated in Table 4.11.

Table 4.11 Individual Attributes: Employment Status, by Educational Year

			Educational Year		
			First year	Third year	Total
Employment Status	No answer	Count	14	4	18
		% within Educational Year	.9%	.4%	.7%
	Part-time	Count	327	232	559
		% within Educational Year	21.7%	24.1%	22.7%
	Full-time	Count	226	220	446
		% within Educational Year	15.0%	22.8%	18.1%
	Not employed	Count	937	507	1444
		% within Educational Year	62.3%	52.6%	58.5%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

A clear trend can be seen based on the changes in responses. The number of unemployed students decreases from 62.3% to 52.6%. At the same time, more students take up either full-time or part-time jobs, with the corresponding figures increasing from 15.0% to 22.8%, and from 21.7% to 24.1%, respectively. The change in the employment status of the students would likely affect their grade performance and academic integration, leading to changes in retention. A related factor of the financing source for tuition fees is examined in Table 4.12.

Table 4.12 Individual Attributes: Tuition Fee Source of Financing, by Educational Year

		Educational Year		
		First year	Third year	Total
Family	Count	926	601	1527
	% within Educational Year	61.6%	62.4%	
Self-funded	Count	341	269	610
	% within Educational Year	22.7%	27.9%	
Financial aid from university	Count	353	239	592
	% within Educational Year	23.5%	24.8%	
Financial aid from other sources	Count	311	150	461
	% within Educational Year	20.7%	15.6%	
No answer	Count	7	2	9
	% within Educational Year	.5%	.2%	
Total	Count	1504	963	2467

The results mirror the changes observed in students' employment status. The greatest difference between two groups is the increasing number of self-funded tuition payments, with the corresponding figures of 22.7% and 27.9% for first and third years, respectively. This can be directly associated with the more students being employed either part-time or full-time. The significance of both employment status and tuition financing source further reinforces the claim that individual attributes differ substantially across sophomore and senior students.

The findings on the source of financing and employment status support Hypothesis One, which suggested that individual attributes would differ across first-year and third-year respondents. The results are also in agreement with scholars who explored how students' motivation could be affected by tuition fee payments and employment (Kim, 2014; Kerkvliet and Nowell, 2005). It may be likely for the respondents to change their attitude towards education based on the established financial aid and prospects on the sources of financing (Delen, 2010). This would explain the observed difference between two groups, which can be regarded as strong evidence in support of Hypothesis One.

Individual attributes seem to noticeably affect students' retention. Respondents' choices differ distinctly for all questionnaire items, which covers gender, age, major, employment status, and

payment for tuition fees. Therefore, the analysis provides additional support for Hypothesis One, as significant differences in individual attributes are observed across sophomore and senior years.

4.1.3 Pre-College Schooling

The final set of characteristics covered by Hypothesis One represents the students' pre-college schooling. Differences in high school background, degree, or first English course may indicate that retention is indirectly affected by background factors.

The pre-college schooling construct of the Tinto model is represented by three questions. The summary statistics is presented in Table 4.13.

Table 4.13 Chi-Square Test for First-Year and Third-Year Students: Pre-College Schooling

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
High School background	9.838	.007
High School Degree	18.866	.000
First English Course	93.171	.000

Based on the performed chi-square tests, responses covering all three factors are different across first-year and third-year students. To be more precise, the test statistic is significant at the 0.01 level for high school background, high school degree, and first English course. These findings provide substantial support for Hypothesis One, as all included characteristics that represent pre-college education appear to differ between two groups.

This result may show that superior academic background could facilitate the integration in the University. The advantage in knowledgeability and study skills might translate into easier academic integration, which would lead to stronger performance and higher retention. This is consistent with Soilemetzidis and Dale (2013) who suggested that stronger pre-college background could be associated with superior grade performance. Likewise, it could be more challenging to adapt and acquire necessary skills for students that are less proficient in English (Ashby, 2004). This would explain the observed statistical significance of the chi-square test.

Table 4.14 provides information to better explore how responses regarding school background change between two groups.

Table 4.14. Pre-College Schooling: High School Background, by Educational Year

			Educational Year		
			First year	Third year	Total
High School background	No answer	Count	32	12	44
		% within Educational Year	2.1%	1.2%	1.8%
	Private school	Count	807	574	1381
		% within Educational Year	53.7%	59.6%	56.0%
	Public school	Count	665	377	1042
		% within Educational Year	44.2%	39.1%	42.2%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The results suggest that students from private schools are more likely to continue education compared to respondents from public schools. The number corresponding to private schools increases from 53.7% for the first year to 59.6% for the third year. It could be argued that students from private schools are associated with better background-related goal and institutional commitment. In turn, this would affect academic integration through superior grade performance and intellectual development, increasing students' retention.

The findings on high-school background are consistent with Hypothesis One. They show that superior academic position of students from private schools may have helped in adapting and meeting academic requirements. The result further reinforces the perspective on background characteristics as factors that could facilitate students' integration in the University.

Table 4.15 illustrates how high school degree might be important for student retention.

Table 4.15. Pre-College Schooling: High School Degree, by Educational Year

			Educational Year		
			First year	Third year	Total
High School Degree	Lebanese Technical Baccalaureate	Count	256	115	371
		% within Educational Year	17.0%	11.9%	15.0%
	Lebanese Baccalaureate	Count	1025	733	1758
		% within Educational Year	68.2%	76.1%	71.3%
	Other	Count	223	115	338
		% within Educational Year	14.8%	11.9%	13.7%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The number of respondents with Lebanese Baccalaureate degrees increases from 68.2% to 76.1% for the first and third year, respectively. The difference might indicate that students with the Lebanese Technical Baccalaureate degree are more likely to drop out of education. Superior background could be positively affecting students' grade performance and academic integration, leading to a higher retention rate.

Similar trends are observable in the context of first English courses. The results are summarised in Table 4.16.

Table 4.16. Pre-College Schooling: First English Course at LIU, by Educational Year

			Educational Year		
			First year	Third year	Total
1.12. What was the first English course you took at LIU?	No answer	Count	9	14	23
		% within Educational Year	.6%	1.5%	.9%
	ENGL 051	Count	402	126	528
		% within Educational Year	26.7%	13.1%	21.4%
	ENGL101	Count	254	128	382
		% within Educational Year	16.9%	13.3%	15.5%
	ENGL151	Count	600	482	1082
		% within Educational Year	39.9%	50.1%	43.9%
	ENGL 201	Count	218	178	396
		% within Educational Year	14.5%	18.5%	16.1%
	ENGL 251	Count	21	35	56
		% within Educational Year	1.4%	3.6%	2.3%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The results seem to indicate that students more proficient in English from the start are more likely to continue their education. To be more specific, the number of respondents who took

ENGL 051 or ENGL 101 dropped substantially from 26.7% to 13.1% and from 16.9% to 13.3%, respectively. At the same time, more students associated with ENGL 151, ENGL 201, and ENGL 251 are present in the third year compared to the first year. Similar to the high school background and degree, this shows that superior background-related integration and commitment might be crucial for students to continue their education.

The discrepancy in the first English course further reinforces the validity of Hypothesis One. Indeed, the proficiency in English appears to serve as a mediating background factor, facilitating the students' academic and social integration. This point of view is consistent with Ashby (2004), as respondents who took more difficult English courses could be associated with stronger academic background. Put differently, their ability to meet academic standards and acquire useful information would be inhibited by poorer communication skills. Thus, the observed difference in the first course across sophomore and senior students supports Hypothesis One.

Similar to other background questionnaire items, the pre-college schooling questions appear to be important in determining students' retention. To be more specific, noticeable disparity is found between educational years in responses on high school background, high school degree, and first English course taken at LIU. It could be argued that superior pre-college education, including higher proficiency in English or private school background, affects students' retention. The results suggest that Hypothesis One is valid, as substantial differences in pre-college schooling are observed across first-year and third-year respondents.

The analysis of background factors reveals that family background, individual attributes, and pre-college schooling can be important in explaining students' retention. Significant evidence in support of Hypothesis One is found for each of the categories. Thus, it may be argued that the hypothesis is valid, and distinct responses across sophomore and senior students indicate of the relationship between these factors and retention. However, the impact of these

components might be indirect as suggested by the Tinto model. Put differently, background characteristics of the students may improve retention by strengthening background-related commitment, which would positively affect academic and social integration of the students.

The findings reflect common characteristics of the students of LIU. In particular, the students of the University are mostly Lebanese that come from a lower socioeconomic background. These characteristics are reflected in responses to several questionnaire items. The students are likely to live with their parents which are represented by a substantially higher proportion of respondents funding their education with the help of their family. This may suggest that the existing socioeconomic environment in Lebanon precludes students from having sufficient funds to cover their tuition. As a result, background factors could be more influential with regards to goal and institutional commitment.

Furthermore, a large number of students appear to work part-time of full-time. This is represented by a significant proportion of both first-year and third-year employed respondents. This further reinforces the perspective on a typical LIU student having financial issues and as such forced to combine education and work. These considerations suggest that the socioeconomic background of LIU students could be one of the defining factors behind commitment and retention. At the same time, the nature of the Lebanese students may limit the applicability of the results to other educational systems which are implemented in more favourable socioeconomic environments. Nevertheless, the findings are crucial in describing the respondents and the factors that might influence their retention decision.

The results show that students' motivation, perception of goals, skills, abilities, and willingness to continue education might be affected by factors that are not directly linked to the University. The validity of Hypothesis One would indicate that the Tinto model may reflect the complexity of the relationships between background factors and students' retention decision. Similar findings were reported by Soilemetzidis and Dale (2013), Ashby (2004), Kim (2014), and

Gibbs et al. (2006). The existing academic literature suggests that background characteristics such as parents' encouragement, employment, and high school background might have a substantial impact on the students' ability and motivation to continue their studies.

4.2 Student Grade Performance

Hypothesis Two explores the potential differences in academic integration between first-year and third-year students. The academic system as a component of the Tinto model includes grade performance and intellectual development. The grade performance of the students is covered by five questions on their GPA, retaken courses, and exam study.

The difference in these factors across two groups of respondents is illustrated in Table 4.17, which shows the results of the performed chi-square tests.

Table 4.17. Chi-Square Test for First-Year and Third-Year Students: Grade Performance

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
What is your current GPA?	706.173	.000
Have you ever retaken any course during your academic years?	303.969	.000
How many courses did you retake?	8.338	.080
Why do you think you have not passed the course(s)?	14.925	.005
How often do you study for your exam?	38.722	.000

Responses for four out of five questions appear to be substantially different between sophomore and senior students. The questions regarding current GPA, retaken courses, reason for failing the course, and study frequency are associated with chi-square statistics significant at the 0.01 level. However, the number of retaken courses does not seem to be relevant in the context of retention. Each factor is now examined more closely to provide a better understanding of student retention.

The findings provide strong support for Hypothesis Two. Most notably, the difference in current GPA and studying frequency may suggest that respondents with superior academic performance and study skills are more likely to continue their education. This is consistent with

Arulampalam et al. (2004), who argued that retention was largely driven by the students' ability to meet academic requirements. Higher GPA could be regarded as a reflection of stronger performance, while studying practices might represent the students' motivation and acquired time management skills. Similar argument regarding self-discipline and study skills was proposed by Heyman (2010).

Table 4.18 contains the information on the current GPA responses and differences between academic years.

Table 4.18 Grade Performance: Current GPA, by Educational Year

			Educational Year		
			First year	Third year	Total
1.11. What is your current GPA?	No answer	Count	5	0	5
		% within Educational Year	.3%	0.0%	.2%
	Zero	Count	736	0	736
		% within Educational Year	48.9%	0.0%	29.8%
	Below 1	Count	10	11	21
		% within Educational Year	.7%	1.1%	.9%
	1.0—1.4	Count	25	13	38
		% within Educational Year	1.7%	1.3%	1.5%
	1.5—1.9	Count	82	111	193
		% within Educational Year	5.5%	11.5%	7.8%
	2.0—24	Count	149	257	406
		% within Educational Year	9.9%	26.7%	16.5%
	2.5—3.0	Count	215	296	511
		% within Educational Year	14.3%	30.7%	20.7%
	Above 3	Count	282	275	557
		% within Educational Year	18.8%	28.6%	22.6%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The trend identifiable from the data shows that students with higher GPA are more likely to continue their education. More specifically, more respondents with GPA over 1.5 are found for the third year compared to the first year. The numbers increase for the ranges 1.5-1.9, 2.0-2.4,

and 2.5-3.0. Corresponding changes are from 5.5% to 11.5%, from 9.9% to 26.7%, and from 14.3% to 30.7%, respectively. Meanwhile, fewer students with low GPA are present for the senior year. Based on the results it may be argued that higher GPA positively affects academic integration, which improves students' retention.

The results provide further evidence in favour of Hypothesis Two. The discrepancy in current GPA across sophomore and senior students clearly suggests that intellectual development differs between two groups. This may be explained by the superior ability to meet academic standards facilitating students' integration in the University and contributing to their ability and motivation to continue education. Grade performance has been suggested to serve as a determinant of retention, and the findings are consistent with this perspective (Yindra and Brenner, 2002).

Table 4.19 focuses on how retaking a course might differ across sophomore and senior respondents.

Table 4.19 Grade Performance: Retaking Courses, by Educational Year

			Educational Year		
			First year	Third year	Total
2.1. Have you ever retaken any course during your academic years?	Yes	Count	248	368	616
		% within Educational Year	16.5%	38.2%	25.0%
	No	Count	955	595	1550
		% within Educational Year	63.5%	61.8%	62.8%
	Not applicable	Count	301	0	301
		% within Educational Year	20.0%	0.0%	12.2%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

The number of students who positively answered the question increased from 16.5% for the first year to 38.2% in the third year. At the same time, the relative number of negative responses has changed only marginally, decreasing from 63.5% to 61.8%. The sharp increase may be

attributed to the longer period of education covered by third-year students. As such, it might be more likely for them to retake a course solely due to the difference in time spent at the university.

The greater number of senior students having retaken a course might be illustrated clearer by examining the question on the number of courses. Response summary is presented in Table 4.20.

Table 4.20 Grade Performance: Number of Courses Retaken, by Educational Year

			Educational Year		
			First year	Third year	Total
2.2. How many courses did you retake?	1 Course	Count	80	149	229
		% within Educational Year	32.3%	40.5%	37.2%
	2 courses	Count	82	105	187
		% within Educational Year	33.1%	28.5%	30.4%
	3 courses	Count	52	56	108
		% within Educational Year	21.0%	15.2%	17.5%
	4 courses	Count	22	30	52
		% within Educational Year	8.9%	8.2%	8.4%
	5 or more	Count	12	28	40
		% within Educational Year	4.8%	7.6%	6.5%
Total		Count	248	368	616
		% within Educational Year	100.0%	100.0%	100.0%

It can be seen that the number of students how retook two, three, or four courses decreases for the third year subsample. The corresponding figures drop from 33.1% to 28.5% for two courses, from 21.0% to 15.2% for three courses, and from 8.9% to 8.2% for four courses. At the same time, the number increases from 32.3% to 40.5% for one course retaken, which suggests that students who have retaken only one course are more likely to continue education than students who retake multiple courses. However, the number of students associated with five or more courses retaken actually increases from sophomore to senior year. This can be

explained by looking at the absolute values shown in the table. While relatively more respondents have retaken at least five courses, the absolute numbers are quite low for the first year, which may be attributed to the number of courses available.

These results provide limited support for Hypothesis Two. Most importantly, senior students are less likely to have retaken two, three, and four courses when compared to sophomore students. This agrees with the stronger academic performance facilitating students' integration in the University, which would lead to higher retention (Yindra and Brenner, 2002). The findings are also consistent with the observations regarding respondents current GPA, further reinforcing the role of academic performance in the model.

Table 4.21 provides information on how students perceive the reasons for failing the course.

Table 4.21 Grade Performance: Reason for Failing the Course, by Educational Year

			Educational Year		
			First year	Third year	Total
2.3. Why do you think you have not passed the course(s)?	Instructor	Count	60	124	184
		% within Educational Year	24.2%	33.7%	29.9%
	Attendance	Count	66	63	129
		% within Educational Year	26.6%	17.1%	20.9%
	Difficult material	Count	41	59	100
		% within Educational Year	16.5%	16.0%	16.2%
	Did not study	Count	55	98	153
		% within Educational Year	22.2%	26.6%	24.8%
	Missed an exam	Count	26	24	50
		% within Educational Year	10.5%	6.5%	8.1%
Total		Count	248	368	616
		% within Educational Year	100.0%	100.0%	100.0%

Most notable changes include instructor and attendance figures. Number of students who associate their failure with the instructor has increased from 24.2% to 33.7%. At the same time, relatively fewer senior respondents seem to regard attendance as the reason for not passing the

course. This might be attributed to poor self-reflection skills of the students. Alternatively, the increase in the Instructor numbers could also be related to the sophomore respondents having fewer instructors due to the education period.

Study practices of the students are examined based on the question summary presented in Table 4.22.

Table 4.22 Grade Performance: Exam Study Frequency, by Educational Year

			Educational Year		
			First year	Third year	Total
2.4. How often do you study for your exam?	No answer	Count	83	32	115
		% within Educational Year	5.5%	3.3%	4.7%
	On a daily basis	Count	132	42	174
		% within Educational Year	8.8%	4.4%	7.1%
	One day before the exam	Count	518	355	873
		% within Educational Year	34.4%	36.9%	35.4%
	2 days to 1 week before exam	Count	590	431	1021
		% within Educational Year	39.2%	44.8%	41.4%
	1—2 weeks before exam	Count	123	88	211
		% within Educational Year	8.2%	9.1%	8.6%
	I don’t study for exams	Count	58	15	73
		% within Educational Year	3.9%	1.6%	3.0%
Total		Count	1504	963	2467
		% within Educational Year	100.0%	100.0%	100.0%

Relatively small changes are noticeable for all answers. The numbers have decreased for students who study on a daily basis and who do not study for exams. This might indicate that both of these approaches could be of limited viability for students who intend to continue their education. Meanwhile, the largest increase is seen for the number of students who study 2 days to 1 week before the exam, with the values for sophomore and senior years equal to 39.2% and 44.8%, respectively. This might show that senior students have developed a more efficient

studying plan. Overall, relative number of respondents who study for the exams appears to increase, which also reinforces the importance of grade performance for student retention.

These observations provide some support for Hypothesis Two. Superior study skills are likely to allow for easier academic integration, which would be reflected in the difference between first-year and third-year students. The findings also generally agree with the studies of Soria et al. (2013) and Haddow (2013). It was argued that higher retention rates were associated with students that study more frequently. Therefore, the results may indicate that Hypothesis Two cannot be rejected, and significant differences in academic performance may be present across senior and sophomore respondents.

In general, chi-square tests for four out of five questionnaire items provide statistically significant results. To be more precise, senior and sophomore students are found to differ in their current GPA, whether they have retaken any courses, in the perceived reason for failing the course, and in how often they study for exams. Most notably, higher GPA is observed for students who continue their education. Meanwhile, the number of courses retaken does not substantially differ between two groups. The results might be influenced by the respondents' ability to accurately identify the reason for failing the course.

The analysis shows that grade performance is an important component of the retention model. Distinct differences are revealed that indicate how grade performance may affect students' retention. Based on the Tinto model, superior performance would help adjust to the existing academic requirements, strengthening goal and institutional commitment (Arulampalam et al., 2004; Irizarry, 2002). As a result, the students would be more likely to continue their education (Heyman, 2010). The findings provide substantial support for Hypothesis Two, as clear differences in responses regarding academic performance are found across educational years.

Intellectual development is another component of the academic system category of the Tinto model. It is represented by five questions, covering the ability to take notes, study for exams,

study in groups, use internet resources, and manage time. Observed differences in these characteristics across first-year and third-year students would support Hypothesis Two.

Chis-square test is performed for each question to assess if any differences are present across sophomore and senior respondents. Table 4.23 presents the summary for the tests.

Table 4.23 Chi-Square Test for First-Year and Third-Year Students: Intellectual Development

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
I was taught how to take notes during class.	16.878	.002
I was taught how to study for exams	11.902	.018
I was taught how to manage my time.	17.127	.002
I study in groups with my friends.	2.495	.645
I was taught how to use internet resources for my studies.	4.877	.300

First-year and third-year students appear to respond differently to the first three questions. More specifically, the chi-square statistic is significant at the 0.05 level for the ability to take notes, study for exams, and manage time. Nevertheless, sophomore and senior students do not appear to have substantial differences in their group study and internet resource use practices. The findings provide some support for Hypothesis Two. Superior ability to acquire information and reflect on it, as well as the ability to manage time would allow students to overcome academic challenges more easily. The role of time management and study skills in students' retention was noted by Soria et al. (2013), Haddow (2013), and Heyman (2010). Thus, the observed difference in time management skills and note-taking could be translated into students' capability to meet academic requirements and continue their studies.

The ability to take notes in the context of student retention is examined more thoroughly in Table 4.24.

Table 4.24. Intellectual Development: Ability to Take Notes, by Educational Year

		Educational Year		
		First year	Third year	Total
6.1. I was taught how to take notes during class.	Count	70	25	95

	Strongly Disagree	% within Educational Year	4.7%	2.6%	3.9%
	Disagree	Count	124	67	191
		% within Educational Year	8.3%	7.0%	7.8%
	Neutral	Count	312	252	564
		% within Educational Year	20.8%	26.2%	22.9%
	Agree	Count	739	475	1214
		% within Educational Year	49.3%	49.4%	49.3%
	Strongly Agree	Count	255	143	398
		% within Educational Year	17.0%	14.9%	16.2%
Total		Count	1500	962	2462
		% within Educational Year	100.0%	100.0%	100.0%

Overall, more senior respondents seem to be able to take notes during class. The most notable difference is between the values representing the Neutral response, with 20.8% for the first year and 26.2% for the third year. Fewer senior students disagree with the statement. This might be interpreted as the students who were taught to take notes achieving higher performance compared to other respondents. Alternatively, the difference could be attributed to the third-year students having more experience due to the education period. The results provide further support for Hypothesis Two, which suggested that intellectual development would differ across years.

Similar results are obtained for the ability to study for exams. The responses are summarised in Table 4.25.

Table 4.25. Intellectual Development: Ability to Study for Exams, by Educational Year

			Educational Year		
			First year	Third year	Total
6.2. I was taught how to study for exams.	Strongly Disagree	Count	48	19	67
		% within Educational Year	3.2%	2.0%	2.7%
	Disagree	Count	109	60	169
		% within Educational Year	7.3%	6.2%	6.9%

	Neutral	Count	347	262	609
		% within Educational Year	23.1%	27.3%	24.8%
	Agree	Count	741	487	1228
		% within Educational Year	49.4%	50.7%	49.9%
	Strongly Agree	Count	254	133	387
		% within Educational Year	16.9%	13.8%	15.7%
Total		Count	1499	961	2460
		% within Educational Year	100.0%	100.0%	100.0%

The largest increase can be found for the neutral response from 23.1% for the sophomore year to 27.3% for the senior year. This mirrors the behaviour observed for the ability to take notes. Likewise, the number of students who have chosen one of the disagreeing responses also decreased for the third academic year. The interpretation is similar to the previous question. Higher retention might be associated with respondents who have superior intellectual development, allowing for better academic integration (Yindra and Brenner, 2002). At the same time, difference in experience due to the education period could partially explain the observed relationship.

Time management responses appear to be exhibiting identical behaviour, which can be seen in Table 4.26.

Table 4.26. Intellectual Development: Ability to Manage Time, by Educational Year

			Educational Year		
			First year	Third year	Total
6.3. I was taught how to manage my time.	Strongly Disagree	Count	66	36	102
		% within Educational Year	4.4%	3.7%	4.2%
	Disagree	Count	177	76	253
		% within Educational Year	11.9%	7.9%	10.3%
	Neutral	Count	436	284	720

		% within Educational Year	29.2%	29.5%	29.3%
	Agree	Count	602	450	1052
		% within Educational Year	40.3%	46.8%	42.9%
	Strongly Agree	Count	211	116	327
		% within Educational Year	14.1%	12.1%	13.3%
Total		Count	1492	962	2454
		% within Educational Year	100.0%	100.0%	100.0%

More senior respondents agree with the statement, as the number of students' increases from 40.3% to 46.8%. Similar to the previous two questions, fewer third-year students appear to disagree with the statement. This might indicate both superior intellectual developments of the students who continued education and additional experience they have received from the university.

The findings on the ability to study for exams and manage time are consistent with Hypothesis Two. Indeed, it appears that significant differences in these areas of intellectual development exist across first-year and third-year students. Similar academic studies have also suggested that study practices and self-discipline were important in explaining students' retention (Soria et al., 2013; Heyman, 2010). The observations indicate that the respondents who are more efficient in utilising information and time are more likely to continue their education, which is in line with Hypothesis Two.

At the same time, no substantial difference is found for the group study question. Table 4.27 shows the response breakdown by educational year.

Table 4.27. Intellectual Development: Studying in Groups, by Educational Year

			Educational Year		Total
			First year	Third year	
6.4. I study in groups with my friends.	Strongly Disagree	Count	148	100	248
		% within Educational Year	9.9%	10.4%	10.1%
	Disagree	Count	276	165	441

		% within Educational Year	18.5%	17.2%	18.0%
	Neutral	Count	433	271	704
		% within Educational Year	29.0%	28.2%	28.7%
	Agree	Count	471	328	799
		% within Educational Year	31.5%	34.1%	32.5%
	Strongly Agree	Count	166	98	264
		% within Educational Year	11.1%	10.2%	10.7%
Total		Count	1494	962	2456
		% within Educational Year	100.0%	100.0%	100.0%

Marginal changes occur for each response. Slightly more senior students appear to agree with the statement, with the corresponding number increasing from 31.5% to 34.1%. Lower relative figures are observed for the rest of the responses. The chi-square test statistic is not significant at conventional levels, indicating that group study approach does not appear to change as students gain more experience. Alternatively, students who continue their education do not rely on specific group study practices.

The chi-square test for the question on internet resource use does not provide substantial support for the existence of differences between educational levels. The results are shown in Table 4.28.

Table 4.28. Intellectual Development: Internet Resource Use, by Educational Year

			Educational Year		
			First year	Third year	Total
6.5. I was taught how to use internet resources for my studies.	Strongly Disagree	Count	85	51	136
		% within Educational Year	5.7%	5.3%	5.5%
	Disagree	Count	168	100	268
		% within Educational Year	11.2%	10.4%	10.9%
	Neutral	Count	391	290	681

		% within Educational Year	26.1%	30.1%	27.7%
	Agree	Count	640	387	1027
		% within Educational Year	42.8%	40.2%	41.8%
	Strongly Agree	Count	213	134	347
		% within Educational Year	14.2%	13.9%	14.1%
Total		Count	1497	962	2459
		% within Educational Year	100.0%	100.0%	100.0%

As can be seen, sophomore students tend to choose stronger responses, with the numbers for the neutral response increasing for the senior educational year. Similar to the group study question, the chi-square test does not reveal any relationship between retention and the ability to use internet resources. The statistic is not significant at conventional levels, suggesting that there is no substantial difference between first-year and third-year students. In other words, continuing education does not appear to be related to how students perceive their ability to use internet resources. Alternatively, the results might be affected by accuracy of the respondents' self-assessment.

In general, the comparison between educational years reveals that substantial differences exist between the students. More specifically, the ability to take notes, study for exams, and manage time is found to differ significantly between two groups. Senior respondents tend to agree more strongly with the questionnaire items, which indicates that superior studying and time management skills are beneficial if students seek to continue their education. At the same time, the analysis provided no support for the group study practices and internet resource use to affect students' retention.

Based on the results, it could be argued that intellectual development represented by the five questionnaire items is a major factor influencing retention. The ability to study efficiently may allow for better academic integration and goal commitment, which would improve students'

retention based on the Tinto model (Soria et al., 2013; Arulampalam et al., 2004). This provides substantial support for Hypothesis Two, as clear differences between sophomore and senior students can be seen with regards to intellectual development.

Overall, it is evident that the academic system, including grade performance and intellectual development, is a crucial factor in students' retention. Significant divergence in responses is found for both performance and study skills questionnaire items. Thus, it could be argued that the evidence supports the validity of Hypothesis Two. There appear to exist a substantial difference across sophomore and senior students with respect to grade performance and intellectual development. This suggests that academic integration is a key factor influencing retention. According to the Tinto model, the observed superior performance and study skills may allow for stronger goal and institutional commitment, which in turn would directly affect students' retention.

4.3 Social Integration

Hypothesis Three explores social integration and how it may differ between senior and sophomore respondents. The social system component of the Tinto model focuses on peer-group and faculty interactions. Potential differences in the responses across first-year and third-year students are explored based on chi-square tests.

Peer-group interactions are represented by three questions which cover the perception of extracurricular activities, participation in students' activities, and work at the University. Table 4.29 summarises the results of chi-square tests for these questions.

Table 4.29 Chi-Square Test for First-Year and Third-Year Students: Peer-Group Interaction

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
I enjoy extracurricular activities.	7.001	.136
I take part in students' activities	23.710	.000
I work at the University.	8.035	.090

As can be seen, distinct disparity between responses are observed only for one question. More specifically, participation in students' activities seems to be different across senior and sophomore respondents, with the corresponding test statistic significant at the 0.01 level. At the same time, attitude towards additional activities and working at the University do not appear to be significant at the 0.01 or 0.05 level. It can be useful to investigate the students' responses more closely, with each question explored based on the changes across educational levels.

This result provides some evidence in support of Hypothesis Three. Superior social integration represented by the participation in students' activities may help students overcome academic and social challenges. As a result, a difference across first-year and third-year respondents would be observed. The difference in the attitude towards students' activities is also in line with Eckles and Stradley (2012). They emphasised the role of retention decisions of the student's closest social group. Stronger social links might serve as a motivational factor for students that consider continuing their education.

The responses regarding the enjoyment of extracurricular activities are illustrated in Table 4.30.

Table 4.30 Peer-Group Interactions: Attitude Towards Extracurricular Activities, by Educational Year

			Educational Year		
			First year	Third year	Total
3.5. I enjoy extracurricular activities.	Strongly Disagree	Count	87	38	125
		% within Educational Year	5.9%	4.0%	5.1%
	Disagree	Count	157	103	260
		% within Educational Year	10.6%	10.8%	10.7%
	Neutral	Count	605	371	976

		% within Educational Year	40.8%	38.8%	40.0%
	Agree	Count	454	327	781
		% within Educational Year	30.6%	34.2%	32.0%
	Strongly Agree	Count	181	118	299
		% within Educational Year	12.2%	12.3%	12.2%
Total		Count	1484	957	2441
		% within Educational Year	100.0%	100.0%	100.0%

The differences between two groups appear to be marginal. The largest change corresponds to the responses of students who agree with the statement, with the relative number of respondents increasing from 30.6% to 34.2%. In addition, the number of students strongly agreeing with the statement also increases slightly, while other responses are chosen less frequently by third-year students. This shows that the enjoyment of extracurricular activities might improve the social integration of students, positively affecting their retention. However, the disparity between responses is not found to be statistically significant. Therefore, the perception of extracurricular activities does not appear to be substantially distinct between sophomore and senior respondents.

Participating in students' activities may also affect social integration and commitment. This is supported by the significance of the corresponding chi-square test statistic. Table 4.31 presents the relevant information on the responses.

Table 4.31 Peer-Group Interactions: Participation in Students' Activities, by Educational Year

			Educational Year		
			First year	Third year	Total
3.7. I take part in students' activities.	Strongly Disagree	Count	118	78	196
		% within Educational Year	7.9%	8.1%	8.0%
	Disagree	Count	371	175	546
		% within Educational Year	24.8%	18.3%	22.3%

	Neutral	Count	572	355	927
		% within Educational Year	38.3%	37.1%	37.8%
	Agree	Count	327	278	605
		% within Educational Year	21.9%	29.0%	24.7%
	Strongly Agree	Count	107	72	179
		% within Educational Year	7.2%	7.5%	7.3%
Total		Count	1495	958	2453
		% within Educational Year	100.0%	100.0%	100.0%

Overall, senior students appear to be participating in students' activities more compared to sophomore respondents. Most notably, the number of students agreeing with the statement increases from 21.9% to 29.0%. The strong agreement choice also becomes more frequent, while the figures for neutral and disagreement responses decrease. This suggests that respondents who participate in students' activities are more likely to continue their education. The result can be extremely important in the context of improved social integration, as this would lead to greater goal and institutional commitment, directly influencing students' retention (Yindra and Brenner, 2002; Cameron et al. 2011).

The findings support Hypothesis Three, as participation in students' activities seems to be different across two groups. Students who choose to continue their studies might have been influenced by the established social links and their perceived role in specific social groups. This perspective was also suggested by O'Keeffe (2013), who argued that participation in social activities could strengthen the sense of belonging within the community and the University. Therefore, the observed discrepancy across years is consistent with the view on social integration as a factor in students' retention decisions.

The changes regarding working at the University are illustrated in Table 4.32.

Table 4.32 Peer-Group Interactions: Working at the University, by Educational Year

	Educational Year	Total

			First year	Third year	
3.8. I work at the University.	Strongly Disagree	Count	544	365	909
		% within Educational Year	36.4%	38.1%	37.1%
	Disagree	Count	586	403	989
		% within Educational Year	39.2%	42.1%	40.3%
	Neutral	Count	223	120	343
		% within Educational Year	14.9%	12.5%	14.0%
	Agree	Count	91	50	141
		% within Educational Year	6.1%	5.2%	5.8%
	Strongly Agree	Count	50	20	70
		% within Educational Year	3.3%	2.1%	2.9%
Total		Count	1494	958	2452
		% within Educational Year	100.0%	100.0%	100.0%

The general tendency seems for relatively fewer senior students to work at the University. In particular, neutral, agreement, and strong agreement responses become less frequent for third-year students. At the same time, the chi-square test does not reveal any substantial differences in responses between two groups. Therefore, it can be argued that working at the University has no noticeable effect on students' retention.

The analysis provides mixed evidence for Hypothesis Three, which focuses on the peer-group interactions differing significantly between sophomore and senior year students. On the one hand, the observed differences for perception of extracurricular activities and working at the University are not statistically significant. This might be attributed to more appealing employment options available to respondents. On the other hand, certain disparity in the participation in students' activities seems to be present across two groups. This supports the idea that greater student involvement would improve social integration and commitment, increasing students' retention (O'Keeffe, 2013).

The summary for the chi-square tests for potential disparity in faculty interactions across educational years is presented in Table 4.33.

Table 4.33 Chi-Square Test for First-Year and Third-Year Students: Faculty Interactions

	Chi-Square test statistic	**Asymp. Sig. (2-sided)**
Instructors are knowledgeable about the subject matter.	4.802[a]	.308
Instructors are supportive inside and outside the class.	16.320[a]	.003
Instructors show interest while teaching.	13.637[a]	.009
Instructors encourage discipline in the classroom.	17.977[a]	.001
Instructors motivate students to succeed.	5.840[a]	.211
Instructors are available during their office hours.	18.948[a]	.001
The administrative staff showed support and help.	11.447[a]	.022

Five out of seven questionnaire items provide results significant at the 0.05 level. The responses regarding instructors' support, interest, discipline encouragement, and availability differ between sophomore and senior year students at the 0.01 significance level. In addition, the perception of the administrative staff support is significant at the 0.05 level. Nevertheless, two items result in no substantial changes revealed. This includes the knowledgeability of instructors and motivating students. Each questionnaire item is explored more closely to determine how faculty interactions may improve students' social integration.

Table 4.34 presents the results for the question on instructors' knowledgeability.

Table 4.34 Faculty Interactions: Instructors' Knowledgeability, by Educational Year

	Educational Year		
	First year	Third year	Total
Count	18	6	24

4.1. Instructors are knowledgeable about the subject matter.	Strongly Disagree	% within Educational Year	1.2%	.6%	1.0%
	Disagree	Count	20	17	37
		% within Educational Year	1.3%	1.8%	1.5%
	Neutral	Count	184	123	307
		% within Educational Year	12.3%	12.8%	12.5%
	Agree	Count	796	534	1330
		% within Educational Year	53.2%	55.5%	54.1%
	Strongly Agree	Count	479	282	761
		% within Educational Year	32.0%	29.3%	30.9%
Total		Count	1497	962	2459
		% within Educational Year	100.0%	100.0%	100.0%

While certain changes between educational years may be identified, overall they appear to be marginal. The tendency seems to be for the stronger responses to become less frequent for senior students. At the same time, other choices are associated with relatively higher numbers. In particular, the largest increase is observed for students who agree with the statement, with the corresponding number changing from 53.2% to 55.5%. However, the difference does not appear to be substantial, which is supported by the results of the chi-square test. Therefore, the perception of the instructors' knowledgeability does not appear to be related to students' retention.

The responses for the question regarding the instructors being supportive are illustrated in Table 4.35.

Table 4.35 Faculty Interactions: Instructors' Support, by Educational Year

	Educational Year		
	First year	Third year	Total

4.2. Instructors are supportive inside and outside the class.	Strongly Disagree	Count	29	4	33
		% within Educational Year	1.9%	.4%	1.3%
	Disagree	Count	66	28	94
		% within Educational Year	4.4%	2.9%	3.8%
	Neutral	Count	277	195	472
		% within Educational Year	18.5%	20.3%	19.2%
	Agree	Count	772	481	1253
		% within Educational Year	51.4%	50.0%	50.9%
	Strongly Agree	Count	357	254	611
		% within Educational Year	23.8%	26.4%	24.8%
Total		Count	1501	962	2463
		% within Educational Year	100.0%	100.0%	100.0%

Most notably, the number of students who strongly agree that instructors are supportive increases from 23.8% for the first-year respondents to 26.4% for the third-year respondents. Moreover, fewer senior students choose to disagree or strongly disagree with the statement. The results might indicate that students who continue their education tend to perceive the instructors as more supportive. This may reflect higher social integration of the students which would improve their goal and institutional commitment. The differences are significant based on the performed chi-square test, which supports the importance of faculty interactions for students' retention. These findings provide some evidence for the validity of Hypothesis Three. Table 4.36 focuses on how respondents perceive instructors' interest in the subject.

Table 4.36 Faculty Interactions: Instructors' Interest, by Educational Year

		Educational Year	Total

			First year	Third year	
4.3. Instructors show interest while teaching.	Strongly Disagree	Count	26	6	32
		% within Educational Year	1.7%	.6%	1.3%
	Disagree	Count	46	25	71
		% within Educational Year	3.1%	2.6%	2.9%
	Neutral	Count	291	168	459
		% within Educational Year	19.4%	17.5%	18.6%
	Agree	Count	733	531	1264
		% within Educational Year	48.8%	55.2%	51.3%
	Strongly Agree	Count	405	232	637
		% within Educational Year	27.0%	24.1%	25.9%
Total		Count	1501	962	2463
		% within Educational Year	100.0%	100.0%	100.0%

The greatest change between two groups is represented by the students who choose to agree that the instructors show interest while teaching. In fact, this is the only positive change observed for the senior students, with the corresponding figure increasing from 48.8% to 55.2%. All other options become less frequent for third-year respondents. This largely suggests that students who choose to continue their education tend to perceive instructors as showing interest while teaching. Alternatively, sophomore students might be less able to accurately assess the qualities of the instructors due to the difference in experience. In general, the result is consistent with there being substantial disparity between faculty interactions across first-year and third-year students.

The results provide support for Hypothesis Three, which assumes that the level of social integration would differ across years. The role of teachers and how they are demonstrating their support and interest has been noted in the existing academic literature (Roberts and Styron, 2010; Kim, 2014; Adamopoulos, 2013). The findings suggest that students' motivation may be

affected by how successful the University instructors are in creating a supportive environment (O'Keeffe, 2013).

The encouragement of discipline by instructors and associated responses are summarised in Table 4.37.

Table 4.37 Faculty Interactions: Instructors' Discipline Encouragement, by Educational Year

			Educational Year		
			First year	Third year	Total
4.4. Instructors encourage discipline in the classroom.	Strongly Disagree	Count	28	7	35
		% within Educational Year	1.9%	.7%	1.4%
	Disagree	Count	68	34	102
		% within Educational Year	4.6%	3.5%	4.2%
	Neutral	Count	323	269	592
		% within Educational Year	21.7%	28.0%	24.2%
	Agree	Count	755	457	1212
		% within Educational Year	50.7%	47.6%	49.4%
	Strongly Agree	Count	316	194	510
		% within Educational Year	21.2%	20.2%	20.8%
Total		Count	1490	961	2451
		% within Educational Year	100.0%	100.0%	100.0%

The most notable change corresponds to the number of students who choose a neutral response. The figure increases noticeably from 21.7% for the sophomore year to 28.0% for the senior year. Other responses become less frequent for third-year students. This might be explained by the senior students experiencing more varied behaviour of the instructors due to longer education period. Alternatively, more discipline-related actions could be employed by instructors during the first year, which would be less relevant for senior students who chose to continue their education.

The next question focuses on the instructors motivating students to succeed as perceived by the respondents. The relevant information is presented in Table 4.38.

Table 4.38 Faculty Interactions: Instructors Motivating Students, by Educational Year

			Educational Year		
			First year	Third year	Total
4.5. Instructors motivate students to succeed.	Strongly Disagree	Count	34	11	45
		% within Educational Year	2.3%	1.1%	1.8%
	Disagree	Count	47	34	81
		% within Educational Year	3.1%	3.5%	3.3%
	Neutral	Count	230	165	395
		% within Educational Year	15.3%	17.2%	16.0%
	Agree	Count	764	475	1239
		% within Educational Year	50.9%	49.4%	50.3%
	Strongly Agree	Count	426	276	702
		% within Educational Year	28.4%	28.7%	28.5%
Total		Count	1501	961	2462
		% within Educational Year	100.0%	100.0%	100.0%

As can be seen, only marginal changes seem to occur when comparing sophomore and senior students. No clear tendency can be identified, as the relative number of students who disagree, strongly agree, or choose a neutral option increases for third-year respondents. This is consistent with the chi-square statistic found to be insignificant at conventional levels. In other words, students' retention does not appear to be related to how motivating the instructors are seen. The result is similar to the lack of distinct differences observed for perceived instructors' knowledgeability, and does not provide substantial evidence in support of Hypothesis Three. The availability of instructors may be important for both goal and institutional commitment of the students. The responses are explored by educational year in Table 4.39.

Table 4.39 Faculty Interactions: Instructors' Availability, by Educational Year

		Educational Year		
		First year	Third year	Total
4.6. Instructors are available during their office hours.	Count	38	8	46

	Strongly Disagree	% within Educational Year	2.5%	.8%	1.9%
	Disagree	Count	49	17	66
		% within Educational Year	3.3%	1.8%	2.7%
	Neutral	Count	292	165	457
		% within Educational Year	19.5%	17.2%	18.6%
	Agree	Count	705	502	1207
		% within Educational Year	47.1%	52.2%	49.1%
	Strongly Agree	Count	412	269	681
		% within Educational Year	27.5%	28.0%	27.7%
Total		Count	1496	961	2457
		% within Educational Year	100.0%	100.0%	100.0%

A clear trend can be observed for the responses. While neutral and negative responses become less frequent for senior students, the number of respondents who agree or strongly agree with the statement noticeably increases. In particular, the figures corresponding to the agreement with the statement change from 47.1% to 52.2%. The results clearly show that the perception of the instructors' availability is distinct across sophomore and senior students. This might be attributed to the superior social integration allowing for easier access to the instructors, which would influence the retention (Bristol, 2011; Kim, 2014).

The last question representing faculty interactions focuses on the help and support provided by the administrative staff. Table 4.40 summarises the students' responses.

Table 4.40 Faculty Interactions: Administrative Staff's Support, by Educational Year

	Educational Year		
	First year	Third year	Total

7.1. The administrative staff showed support and help.	Strongly Disagree	Count	62	25	87
		% within Educational Year	4.2%	2.6%	3.6%
	Disagree	Count	77	55	132
		% within Educational Year	5.2%	5.7%	5.4%
	Neutral	Count	378	269	647
		% within Educational Year	25.4%	28.1%	26.4%
	Agree	Count	721	484	1205
		% within Educational Year	48.5%	50.5%	49.2%
	Strongly Agree	Count	250	126	376
		% within Educational Year	16.8%	13.1%	15.4%
Total		Count	1488	959	2447
		% within Educational Year	100.0%	100.0%	100.0%

The stronger response options become less frequent in case of the senior respondents. At the same time, more students choose a neutral option or agree with the statement. In particular, the figure for the latter option increases from 48.5% to 50.5%. While changes across groups seem to be substantial, they are slightly less noticeable compared to other factors. This is reflected in the chi-square test statistic being significant only at the 0.05 level. However, it still supports the importance of institutional support in improving students' retention. Additional help from administrative staff could alleviate some of the academic and social challenges that students face, strengthening their goal and institutional commitment (Swecker et al., 2013).

The findings regarding the access to and perceived support of instructors and administrative stuff support Hypothesis Three. Indeed, it appears that first-year and third-year students differ in their assessment of the availability of the teachers and administration. Similar results were reported by Swecker et al. (2013), who argued that the number of meetings with teachers affected students' retention. Respondents might have become more motivated to continue education after positive experiences with their mentors.

The analysis provides substantial support for Hypothesis Three with regards to the faculty interactions. The lack of disparity in responses between two groups is observed for only two questions out of seven, namely the perception of instructors' knowledgeability and tendency to motivate. At the same time, five questions reveal noticeable differences between sophomore and senior students. This includes instructors' availability support inside and outside the class, demonstration of interest, discipline encouragement, and support from administrative staff. Thus, the results suggest that the examined groups provide distinct responses to the questions representing faculty interactions.

The questionnaire items representing the social system in the Tinto model focused on peer-group and faculty interactions. The evidence provided in support of the Hypothesis Three is mixed with regards to the peer-group interactions. Only the participation in students' activities differs significantly across first-year and third-year respondents. However, this still may indicate that social involvement improves students' integration and commitment (Collings et al., 2014). More substantial evidence is found for the faculty interactions, with the responses for the majority of questionnaire items being different across sophomore and senior students. Thus, it could be argued that the analysis supports the hypothesis of distinct responses to the social system questions across two groups.

4.4 Commitment and Background Factors

Hypothesis Four suggests that no significant relationship exists between background factors and commitment. Background-related commitment is represented by several questions. The key questionnaire item regarding goal commitment focuses on the reasons to continuing education after high school. In addition, registering at a university before LIU is explored as another indicator for goal commitment. These factors are investigated in the context of family background, individual attributes, and pre-college schooling. The Tinto model suggests that background factors do not affect students' retention directly, but rather influence their

commitment. This is studied more formally by performing appropriate chi-square and ANOVA tests.

4.4.1 Family Background

Family background is represented by three questions, namely mother's and father's highest educational level, and parents' encouragement to continue education. The summary of ANOVA tests for each reason of continuing studies is presented in Table 4.41.

Table 4.41 Family Background and Commitment: Reason for Continuing Education, ANOVA Tests

The reason you continued your education after high school	Mother's highest educational level		Father's highest educational level		My parents encourage me to continue my studies	
	F-test statistic	Sig.	F-test statistic	Sig.	F-test statistic	Sig.
13.1. Improve economic status	1.348	.241	1.355	.238	1.383	.237
13.2. Fulfil job requirement	.760	.579	1.254	.281	2.028	.088
13.3. Parents' wish	1.606	.155	.725	.605	2.816	.024
13.4. Self-satisfaction	1.064	.378	.340	.889	3.796	.004
13.5. Better social life	1.097	.360	1.826	.104	1.132	.340

Generally, the results do not provide substantial evidence against Hypothesis Four. Most notably, the choice of the reason does not appear to differ substantially when students are grouped by their parents' highest educational level. This indicates that the parents' education does not affect the respondents' reason for continuing their studies. At the same time, responses regarding two options seem to be distinct when parents' encouragement is used as the grouping variable. To be more precise, self-satisfaction and parents' wish options appear to differ depending on the perception of the parents' encouragement. The corresponding F-test statistics are significant at the 0.01 and 0.05 levels, respectively. This can be attributed to the parents' encouragement being less focused on employment or economic status (Soilemetzidis and Dale, 2013).

Goal commitment is also represented by prior registering at a university, with the relevant information shown in Table 4.42.

Table 4.42 Family Background and Commitment: Registering at a University Before LIU

Have you ever registered at a university before LIU?		
Group	Chi-Square Test Statistic	Asymp. Sig. (2-sided)
Mother's highest educational level	11.168	.048
Father's highest educational level	16.800	.005
My parents encourage me to continue my studies	2.140	.710

Interestingly, both parent's educational level seems to be related to the student's registering before LIU. More specifically, the chi-square statistic for mother's and father's highest educational level is significant at the 0.05 and 0.01 levels, respectively. At the same time, no difference in responses is observed based on the parents' encouragement. The results might suggest that students tend to continue their studies if their parents have superior education.

Overall, the analysis provides ambiguous evidence for the relationship between commitment and family background. On the one hand, no link is found between parents' educational level and students' perceived reason for continuing their studies. In addition, parents' encouragement does not appear to affect prior registering at a university. On the other hand, some support is found regarding the relationship between specific reasons for continuing education and parents' encouragement. In general, the results provide limited support for Hypothesis Four which explores the relationship between commitment and background factors.

4.4.2 Individual Attributes

Several individual attributes are investigated in the context of commitment. Firstly, ANOVA tests are performed for the responses to the question regarding the reason for continuing studies. The relevant groups include age, major, and employment status. Table 4.43 presents the results of the tests.

Table 4.43 Individual Attributes and Commitment: Reason for Continuing Education, ANOVA Tests

	Age		Major		Employment Status	
The reason you continued your education after high school	F-test statistic	Sig.	F-test statistic	Sig.	F-test statistic	Sig.
13.1. Improve economic status	.455	.714	1.722	.099	4.909	.007
13.2. Fulfil job requirement	.792	.498	2.350	.022	1.036	.355
13.3. Parents' wish	1.801	.145	2.235	.029	1.057	.348
13.4. Self-satisfaction	4.052	.007	2.724	.008	1.083	.339
13.5. Better social life	.204	.894	.886	.516	.364	.695

In general, the responses do not substantially differ across the examined age groups, which does not provide substantial evidence against Hypothesis Four. Most notably, the evaluation of self-satisfaction as a reason for continuing studies seems to change depending on the students' age. The corresponding F-test statistic is significant at the 0.01 level. Further analysis of the responses reveals that the mean value for the self-satisfaction response decreases steadily with age. In other words, the reason appears to be less important for younger students, while older respondents tend to value it significantly higher.

Distinct changes can be seen more evidently for the major groups. To be more precise, the major appears to affect the assessment of several reasons, including the job requirement fulfilment, parents' wish, and self-satisfaction. The test statistics are significant at the 0.05, and 0.01 levels, respectively. The strongest effect is observed for self-satisfaction, and on further inspection it is found that Economics is associated with the lowest value, why the mean for the Accounting is significantly higher compared to other majors. This shows that students who have chosen Accounting are probably more focused on improving their economic status or fulfilling job requirements (Kim, 2014).

Limited evidence is provided by the tests regarding the employment status. Disparity in responses regarding economic status is significant at the 0.01 level. The difference in evaluating economic status as the reason of continuing studies could be expected. Indeed, the students who are not currently employed would assign a higher value to improving economic

status, which would reflect that they are less focused on employment (Herzog, 2008). Other reasons do not appear to be significantly influencing the perception of the listed reasons, which suggests that only some individual attributes affect commitment.

Table 4.44 summarises the results of the chi-square tests for the question on prior registering at a university.

Table 4.44 Individual Attributes and Commitment: Registering at a University Before LIU, Chi-Square Test

Have you ever registered at a university before LIU?		
Group	Chi-Square Test Statistic	Asymp. Sig. (2-sided)
Gender	30.199	.000
Age	134.596	.000
Major	20.990	.004
Employment Status	50.673	.000

The responses seem to be different across all groups, with the corresponding test statistics being significant at the 0.01 level. A larger percentage of female students have not registered at a university before LIU. The result shows that gender could be important in determining student's goal commitment. Naturally, the responses across age groups differ, as older students are more likely to have registered before.

The students' major also appears to be related to registering prior to LIU. In particular, the lowest number of students who have registered before correspond to the Economics major. This might be partially explained by the link between majors and reasons for continuing education revealed earlier. More specifically, students with major in Economics appear to be more concerned with their self-satisfaction, which could explain the difference in commitment. Finally, the responses are also distinct across employment status groups. The result could have been expected, as students with full-time or part-time jobs could be more likely to drop out of education due to time constraints or additional pressure (Kerkvliet and Nowell, 2005).

The results obtained for individual attributes provide substantial evidence for their relationship with commitment. Limited support is provided for age and employment status regarding reasons for continuing studies. At the same time, the analysis reveals that the major affects the perception of the majority of these reasons. Moreover, the responses regarding registering prior to LIU clearly indicate that students' gender, age, major, and employment status may influence their commitment. In other words, substantial evidence is found that contradicts Hypothesis Four. This is also consistent with studies that highlighted the role of individual attributes in determining students' motivation (Irizarry, 2002; Morrow and Ackermann, 2012).

4.4.3 Pre-college schooling

The pre-college schooling component of the Tinto model is represented by three questions. This covers high school background and degree, as well as the first English course taken in LIU.

The T-test is performed for the responses on the reason for continuing education to assess if significant differences exist depending on the high school background.

Table 4.45 High School Background and Commitment: Reason for Continuing Education, T-Test

	High School background	
The reason you continued your education after high school	T-test	Sig. (2-tailed)
13.1. Improve economic status	.976	.329
13.2. Fulfil job requirement	-.274	.784
13.3. Parents' wish	-.881	.379
13.4. Self-satisfaction	-.268	.788
13.5. Better social life	-1.175	.240

From the results it becomes evident that students from private and public schools do not value listed reasons differently, which is consistent with Hypothesis Four. The test statistics are not significant at the conventional levels. Therefore, it could be argued that high school background does not affect students' commitment based on the responses.

The importance of the high school degree and initial English proficiency is explored in Table 4.46.

Table 4.46 High School Degree, First English Course at LIU, and Commitment: Reason for Continuing Education, ANOVA Tests

The reason you continued your education after high school				
	High School Degree		What was the first English course you took at LIU?	
	F-test statistic	Sig.	F-test statistic	Sig.
13.1. Improve economic status	1.331	.264	.181	.970
13.2. Fulfil job requirement	2.342	.096	1.841	.102
13.3. Parents' wish	11.382	.000	6.516	.000
13.4. Self-satisfaction	1.371	.254	3.175	.007
13.5. Better social life	.251	.778	1.831	.104

The results obtained from the tests are mixed. Generally, students with different high school degrees do not appear to provide substantially distinct responses. However, the test statistic corresponding to the parents' wish as the reason for continuing studies is significant at the 0.01 level. In other words, respondents appear to value this reason differently depending on their degree. Further investigation of the responses suggests that students with the Lebanese Baccalaureate degree assign higher values to this reason, which might reflect the consistency of the parents' vision of preferred education level.

Regarding the first English course taken at LIU, two reasons are associated with substantial disparities in evaluation. The test statistics for both parents' wish and self-satisfaction are significant at the 0.01 level. This provides limited support against Hypothesis Four and for the idea that superior academic background such as initial proficiency in English could be related

to goal commitment (Arulampalam et al., 2004). At the same time, no such relationship is observed for reasons covering economic status, job requirements, and social life.

Prior registering at a university in the context of pre-college schooling is illustrated in Table 4.47.

Table 4.47 Pre-College Schooling and Commitment: Registering at a University Before LIU, Chi-Square Test

Have you ever registered at a university before LIU?		
Group	Chi-Square Test Statistic	Asymp. Sig. (2-sided)
High School background	7.417[a]	.006
High School Degree	22.401[a]	.000
What was the first English course you took at LIU?	103.673[a]	.000

Similar to the results obtained for individual attributes, all effects are found to be noticeable. The corresponding test statistics are significant at the 0.01 level. High school background may be affecting the students' commitment, as respondents from private schools could be less likely to register before LIU (Johnson-Lutz et al, 2015). Similarly, fewer students with the Lebanese Baccalaureate degree are expected to have registered prior to LIU. Likewise, higher initial proficiency in English would likely be associated with no prior registering.

In the context of Hypothesis Four, these findings are ambiguous. The analysis reveals limited evidence in support of the relationship between pre-college schooling and commitment. No substantial effect of the high school background is found on how students perceive the reasons for continuing education. Mixed evidence is obtained for the high school degree and the first English course taken at LIU. At the same time, responses regarding prior registering at a university appear to be affected by all three factors. Thus, it could be argued that no strong evidence is found to support Hypothesis Four.

4.5 Goal Commitment, Institutional Commitment and Integration

Hypothesis Five suggests that integration does not significantly influence commitment. Integration factors and how they affect students' commitment are explored in the context of both academic and social integration with regards to goal and institutional commitment.

4.5.1 Academic system

The academic system consists of grade performance and intellectual development components. Goal commitment is represented by the students' satisfaction with their major as well as their plans on continuing education. The perception of the university and what opportunities and facilities it offers is used to reflect institutional commitment.

Grade performance could be the key factor influencing the students' goal and institutional commitment. It could be useful to investigate the correlation between respondents' current GPA and responses on institutional commitment questions, namely the perception of how LIU relates to the students' job opportunities and competitiveness. Table 4.48 contains relevant information on parametric and non-parametric correlation.

Table 4.48 Academic System and Goal Commitment: Correlation with Current GPA

		1.11. What is your current GPA?	7.3. Being an LIU graduate is good on my C.V.	7.4. LIU students can compete with other university students.
1.11. What is your current GPA?	Pearson Correlation	1	-.029	-.009
	Sig. (2-tailed)		.148	.658
	Spearman's rho correlation	1.000	-.024	-.008
	Sig. (2-tailed)		.242	.688

Based on the values, the correlation between the variables is negligible. Indeed, the correlation coefficients are not significant at the conventional levels. In other words, students do not appear to associate their grade performance with opportunities granted by the university. This can be interpreted as the absence of a link between academic integration and institutional commitment, which is in line with Hypothesis Five.

Differences in responses regarding goal commitment are investigated for several grade performance groups. The results are summarised in Table 4.49.

Table 4.49 Academic System and Goal Commitment: ANOVA tests

Academic Integration—Goal Commitment		
Group	F-test statistic	Sig.
2.1. Have you ever retaken any course during your academic years?	4.788	.001
2.3. Why do you think you have not passed the course(s)?	2.359	.052
2.4. How often do you study for your exam?	5.342	.000

The obtained values indicate that grade performance may be related to goal commitment. The students' plans to continue their studies differ substantially depending on whether or not they have retaken any course. The corresponding test statistic is significant at the 0.01 level. In addition, the frequency of studying for the exams also appears to affect goal commitment at the same significance level. This shows that respondents who do not plan to drop out of education might be studying more frequently, which reflects the direct link between grade performance, goal commitment, and retention (Irizarry, 2002). The findings contradict Hypothesis Five.

The relationship between grade performance and goal commitment is also assessed based on the association between the number of courses retaken and responses to the goal commitment questionnaire items. The relevant statistics are shown in Table 4.50.

Table 4.50 Academic System and Goal Commitment: Number of Courses Retaken, Somers' d

2.2. How many courses did you retake?			
	Somers' d	Approx. T[b]	Approx. Sig.
3.4. I am satisfied with my major	-.019	-.547	.585
7.7. I am not thinking of dropping out of education as a whole	-.025	-.728	.467

The Somers' delta values are not significant at the conventional levels, suggesting that no noticeable ordinal association is present between the responses. Somers' d was used instead of

Pearson because the latter works with ratio data and Somers' d is more optimal for ordinal and interval data. This supports Hypothesis Five which assumes no substantial relationship between integration and commitment components of the Tinto model.

Next, institutional commitment is explored. Table 4.51 contains Somers' delta for the association between students' current GPA and related responses.

Table 4.51 Academic System and Institutional Commitment: Current GPA, Somers' d

1.11. What is your current GPA?			
	Somers' d	Approx. T[b]	Approx. Sig.
5.1. The University provides access to Parking facilities.	-.022	-1.407	.159
5.2. The University provides access to Sports facilities. Dependent	-.051	-3.271	.001
5.3. The University provides access to Library facilities. Dependent	-.017	-1.141	.254
5.4. The University provides access to Food facilities. Dependent	-.034	-2.220	.026
7.2. University fees are considered affordable. Dependent	.020	1.270	.204
7.3. Being an LIU graduate is good on my C.V. Dependent	-.018	-1.174	.240
7.4. LIU students can compete with other university students. Dependent	-.006	-.406	.685
7.5. Career opportunities for LIU students are available. Dependent	-.016	-1.023	.306
7.6. If I could choose my University again, I will still choose to register at LIU. Dependent	-.026	-1.619	.105
7.8. My choice of attending LIU has fulfilled my goals. Dependent	-.001	-.073	.942

Two values appear to be statistically significant at the 0.05 level. Firstly, some evidence is found for the ordinal association between the perception of the University's food facilities and current GPA. The value of the Somers' delta does not indicate of a strong association between the variables as it is close to zero. The negative value suggests that more discordant pairs are present in responses. Secondly, the link between the GPA and assessment of the sports facilities appears to be significant. The Somers' delta value is similar to the statistic obtained for food facilities, indicating that weak association is present with fewer concordant pairs between the responses. This provides limited evidence against Hypothesis Five.

The results of the ANOVA tests shown in Table 4.52 provide further information about the link between grade performance and institutional commitment.

Table 4.52 Academic System and Institutional Commitment: ANOVA tests

Academic Integration—Institutional Commitment		
Group	F-test statistic	Sig.
2.3. Why do you think you have not passed the course(s)?	4.396	.002
2.4. How often do you study for your exam?	12.157	.000

The institutional commitment appears to be different at the 0.01 level based on the responses to the listed questions. This mirrors the results for grade performance and goal commitment, as students are more likely to show superior performance if they value the opportunities that are provided by the University (Roberts and Styron, 2010). Put differently, greater academic integration allows for stronger goal and institutional commitment. This represents a key relationship assumed in the Tinto model of students' retention. Overall, some evidence is found which contradicts Hypothesis Five of no link existing between these components.

Intellectual development is now explored in the context of goal and institutional commitment. As now all the relevant questions employ the Likert scale, regressions could be used to assess the relationship between the variables.

Table 4.53 illustrates the link between intellectual development and goal commitment.

Table 4.53 Academic System and Goal Commitment: Regression Summary

Dependent Variable: Academic Integration—Goal Commitment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.543	.080		44.053	0.000
	IntellectualDevelopment	.122	.023	.109	5.439	.000

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	19.504	1	19.504	29.581	.000[b]
	Residual	1623.893	2463	.659		
	Total	1643.397	2464			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.109[a]	.012	.011	.81198

While the model appears to be significant at the 0.01 level, the adjusted R-squared is relatively low and equals 0.01. This shows that very little variance of goal commitment is explained by including intellectual development into the model. The corresponding coefficient is found to be significant at the 0.01 level. The positive value indicates that superior study skills improve students' goal commitment, which is consistent with the Tinto model and contradicts Hypothesis Five.

Similar regression is performed for institutional commitment. Table 4.54 presents the results.

Table 4.54 Academic System and Institutional Commitment: Regression Summary

Dependent Variable: Academic Integration—Institutional Commitment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.187	.051		43.201	.000
	IntellectualDevelopment	.370	.014	.465	26.089	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	179.889	1	179.889	680.658	.000[b]
	Residual	651.468	2465	.264		
	Total	831.358	2466			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.465[a]	.216	.216	.51409

The adjusted R-squared is noticeably higher and equals 0.22. The relevant coefficient is also significant at the 0.01 level. It is positive, suggesting that greater intellectual performance strengthens institutional commitment of the students.

Generally, it could be argued that the analysis results agree with the Tinto model. Substantial evidence is found for positive influence of both grade performance and intellectual

development on goal and institutional commitment. This contradicts Hypothesis Five which assumes no relationship between the model components.

4.5.2 Social system

Similar to the academic system analysis, peer-group and faculty interactions are now explored to study the social system.

Table 4.55 contains the regression summary for peer-group interactions and goal commitment.

Table 4.55 Social System and Goal Commitment: Peer-Group Interactions, Regression Summary

Dependent Variable: Social Integration—Goal Commitment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.129	.064		64.170	0.000
	Peer-Group Interactions	-.057	.022	-.051	-2.538	.011

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.286	1	4.286	6.441	.011[b]
	Residual	1639.111	2463	.665		
	Total	1643.397	2464			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.051[a]	.003	.002	.81578

The regression is only significant at the 0.05 level, with an exceptionally low adjusted R-square of 0.002. The effect of peer-group interactions is negative, which shows that goal commitment becomes weaker as social integration increases. This is consistent with Hypothesis Five, although the results also suggest that the regression model provides poor explanation for the data.

The link between peer-group interactions and institutional commitment is shown in Table 4.56.

Table 4.56 Social System and Institutional Commitment: Peer-Group Interactions, Regression Summary

Dependent Variable: Social Integration—Institutional Commitment

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	2.809	.043		64.622	0.000
	Peer-Group Interactions	.243	.015	.307	15.989	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.117	1	78.117	255.639	.000[b]
	Residual	753.241	2465	.306		
	Total	831.358	2466			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.307[a]	.094	.094	.55279

The model also explains little variation with the adjusted R-square equal to 0.09. The influence of peer-group interactions is positive and significant at the 0.01 level. In other words, superior social integration improves students' involvement and institutional commitment, which contradicts Hypothesis Five.

Faculty interactions in the context of goal commitment are illustrated in Table 4.57.

Table 4.57 Social System and Goal Commitment: Faculty Interactions, Regression Summary

Dependent Variable: Social Integration—Goal Commitment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.238	.104		21.459	.000
	Faculty Interactions	.440	.026	.321	16.800	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	168.957	1	168.957	282.237	.000[b]

	Residual	1474.440	2463	.599		
	Total	1643.397	2464			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321[a]	.103	.102	.77372

The results are similar to previous regressions, with low adjusted R-square of 0.10 and positive effect significant at the 0.01 level. Thus, better perception of instructors improves students' goal commitment, which supports the retention model (Eckles and Stradley, 2012).

Finally, the impact on institutional commitment is shown in Table 4.580.

Table 4.58 Social System and Institutional Commitment: Faculty Interactions, Regression Summary

Dependent Variable: Social Integration—Institutional Commitment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.479	.067		22.149	.000
	Faculty Interactions	.509	.017	.521	30.307	.000

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	225.687	1	225.687	918.514	.000[b]
	Residual	605.671	2465	.246		
	Total	831.358	2466			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.521[a]	.271	.271	.49569

The model explains a moderate amount of variance, with the adjusted R-square of 0.27. Positive coefficient for faculty interactions is significant at the 0.01 level. The result agrees with Tinto model and contradicts Hypothesis Five, as instructors' knowledgeability and support would strengthen the respondents' institutional commitment (Swecker et al., 2013).

The results for the social system clearly indicate that a relationship is present between both peer-group and faculty interactions and students' commitment. In general, the analysis supports the Tinto model, which is not consistent with Hypothesis Five. This also reinforces the results

obtained for the academic system. Therefore, substantial evidence is found against Hypothesis Five, and in support for the validity of the Tinto model.

4.6 Conclusion

This chapter aimed to provide an analysis of the data on student retention in the university using the context of Lebanon testing the validity of the Tinto model. This purpose has been attained using the methods of correlation and regression analysis, analysis of frequency distributions and estimation of the Leven and t-tests. The results confirmed the validity of the Tinto model based on the responses of the Lebanese students. The next chapter will compare these results to the literature review and previous evidence. This discussion will serve as the foundation for forming final conclusions on the matter.

CHAPTER FIVE
Discussion, Conclusions, and Recommendations

5.1 Introduction

The analysis of the questionnaire responses provides evidence supporting the relationship between integration factors and students' retention decisions. Moreover, it is found that background factors might also influence the decision indirectly, as superior goal and institutional commitment could contribute to the willingness to continue education. Overall, the results reveal that the Tinto model is relevant in the particular case of LIU. It can be useful to discuss the results more thoroughly in the context of similar empirical studies; theoretical framework employed and research limitations. In addition, future studies could extend the approach used in the present thesis, which would further advance the understanding of students' retention.

The findings can also be used to formulate a set of recommendations regarding management practices directed at improving retention rates. Indeed, the analysis suggests that institutional commitment and its relationship with peer-group and faculty interactions in particular, can be important in reducing students' attrition. As such, existing practices could be improved on by focusing on the areas indicated by the analysis. This would allow for achieving superior retention by targeting the key factors directly, including extracurricular activities, interaction with administration, and instructors' support.

5.2 Summary of Key Findings

The hypotheses investigated in the analysis cover several components of the Tinto model. Background factors have been commonly explored in the context of students' retention, with the present study including family background, individual attributes, and pre-college schooling. These characteristics are compared across sophomore first-year and senior third-year students at LIU to identify key differences between the years. In addition, the relationship between background factors and commitment is studied. Similar analysis is performed for social and academic systems. Finally, the overall effect of goal and institutional commitment on retention is explored.

5.2.1 Background Factors

Firstly, the findings suggest that background factors differ significantly across sophomore and senior students. More specifically, the educational level of parents and their encouragement is observed to be substantially different between sophomore first and senior third-year students. This indicates that superior emotional support might lead to stronger commitment, resulting in smaller probability of dropping out. Individual attributes are also found to differ across the years. In particular, employment status and tuition fee payments could be influencing the students' decision to continue their education. It could be important to understand the role of these factors more accurately, as this would be useful for identifying the limit of the effects of improved management practices.

Disparity in pre-college schooling factors is similarly found across sophomore and senior years. The results show that stronger intellectual development acquired before college could be associated with higher retention. Notably, the level of proficiency in English differs significantly between first-year and third-year students. This might indicate that superior initial education could contribute to the quicker and more effective academic integration. As a result, the students would be less likely to drop out, which suggests the indirect effect of pre-college schooling on retention.

Next, the analysis results suggest that background factors might have an impact on the students' goal and institutional commitment. Regarding the influence of the family background, only limited evidence is found. Parents' encouragement could have a key role in establishing the students' motivations. At the same time, parents' education does not appear to be an important factor, as no significant relationship between education level and commitment is found.

Stronger evidence is provided by the analysis of students' individual attributes. The choice of the major is revealed to influence how the reasons for continuing education are perceived. Student-specific attributes, such as gender, age, and employment status, are also observed to

affect commitment. Examining the responses on pre-college schooling contribute little support for the relationship between background factors and commitment. In particular, the perceived reasons for continuing the studies do not appear to be affected by the students' high school background. The results partially reinforce the observations made from the comparison of background factors across sophomore and senior students.

5.2.2 Academic System

A relationship between academic system and retention is observed. To be more precise, it is found that both intellectual development and grade performance noticeably differ between sophomore and senior students. In particular, third-year students report higher GPA scores, which could reflect their stronger academic integration. The result could be expected, as it might be more challenging for underperforming students to meet academic standards.

Exam study practices are also observed to be an important factor, along with the time management and ability to take notes. Put differently, a student might be more likely to continue the education if a set of effective study practices is established. At the same time, studying in groups could be less relevant in the context of academic integration. Overall, however, the results provide substantial evidence for distinct differences in intellectual development across students.

In the context of commitment, both academic and social integration appear to play an important role. Naturally, better grade performance is found to be associated with stronger goal commitment. In particular, the students could be studying more frequently if they are more willing to graduate. At the same time, intellectual development appears to have less explanatory power for goal commitment. Nevertheless, significant positive relationship is also observed for intellectual development and institutional commitment. Overall, the results provide substantial evidence for commitment to be associated with academic integration.

5.2.3 Social System

The results also show that social integration might be associated with retention decisions. More specifically, senior students are more likely to participate in students' activities than sophomore students. This could indicate that improving peer-group interaction might reduce attrition. Nevertheless, no substantial differences are observed in the enjoyment of extracurricular activities and working at the University. Thus, limited support is found for the peer-group interactions to differ across two groups.

Stronger evidence in support of the social system role is observed in case of faculty interactions. The majority of the factors explored in the questionnaire appear to be substantially different across first-year and third-year students. To be more specific, this covers the availability of the instructors, their demonstration of interest, encouragement of discipline, and administrative support. Improving faculty interactions could contribute to the social integration of the students, indirectly affecting their retention. This provides support for the importance of the social system in the context of students' decision to continue their education.

The social system is also explored to identify how peer-group and faculty interactions affect commitment. The observed relationship between goal commitment and peer-group interactions is negative, indicating that greater social integration weakens students' motivation. However, this could be attributed to the model specification, as very little variance of commitment is explained by it. Relatively stronger evidence is obtained in case of faculty interactions, with the perception of instructors positively influencing students' goal commitment. Institutional commitment is more noticeably associated with both peer-group and faculty interactions.

5.3 Discussion of Results

The design of the analysis focuses on five hypotheses to investigate the key factors influencing the retention decision and the applicability of the Tinto model. The first three hypotheses are investigated to identify if any significant differences between sophomore first-year and senior

third-year students at LIU are present regarding background factors, academic, and social systems. These hypotheses are as follows:

H1: Family background, individual attributes, and pre-college schooling characteristics are significantly different across sophomore and senior students at LIU.

H2: Peer-group interactions and faculty interactions are significantly different between senior and sophomore students.

H3: Grade performance and intellectual development are significantly different between sophomore and senior students at LIU.

Hypothesis Four explores the relationship between background factors, such as family background, individual attributes, and pre-college schooling, and students' commitment. This hypothesis is stated as follows:

H4: Family background, individual attributes, and pre-college schoolings are insignificantly related to commitment for LIU students.

The link between academic and social integration factors and commitment is represented by Hypothesis Five, which is as follows.

H5: Goal commitment and institutional commitment are insignificantly associated with retention decision of LIU students.

The hypotheses are discussed in the context of the findings obtained from analysis as well as the relevant academic studies. The comparison allows for establishing how the results fit into the existing body of higher education literature. In addition, this can be useful in arriving at appropriate improvements to the management practices. Overall, the findings are consistent with both existing empirical findings and theoretical framework of the Tinto model. In particular, the evidence is provided against the hypothesis which assumed no relationship between commitment and integration factors.

5.3.1 Differences Between Sophomore First Year and Senior Third Year Students: Background Factors

Hypothesis one states that there is a significant differences exist between sophomore first-year and senior third-year students regarding their background. Substantial support for the statement was obtained based on the analysis of responses related to the family background, individual attributes, and pre-college schooling. Generally, the observed discrepancy across two groups is in agreement with similar empirical literature. It could be argued that background factors influence retention indirectly by facilitating or hindering academic integration.

Background factors and student-level characteristics have been commonly noted to play an important role in retention decisions (Crede and Borrego, 2014; Soilemetzidis and Dale, 2013; Morrow and Ackermann, 2012; Ashby, 2004; Irizarry, 2002). Overall, the results strongly indicate that first-year and third-year students are significantly different in terms of family education and encouragement, choice of major and perceived goals, and high school background and proficiency in English. This agrees with the vast body of literature arguing that there exists a link between students' background characteristics and their decision to continue education.

The analysis revealed that employment status and payment of tuition fees could affect the students' motivation. Similar results were reported by Kim (2014), Kerkvliet and Nowell (2005), Herzog (2008), and Dogson and Bolam (2002). In general, it is natural for the employment status and future prospects to influence the students' perception and decisions. The effect could be exacerbated by external socioeconomic factors. Financial aid has been often argued to be a strong driver of students' retention decision (Delen, 2010; Herzog, 2008). However, it should be noted that the observed importance of employment and financial status might be more relevant when investigating attrition factors rather than drivers of retention (O'Keeffe, 2013; Kennamer, 2010). This could be especially relevant for improving the

existing management practices, as measures solely focused on students' retention regardless of the socioeconomic status might be less effective.

The results regarding pre-college schooling are largely in line with Soilemetzidis and Dale (2013) and Ashby (2004). Their findings suggest that superior entry grade performance reflects the fewer academic challenges that the students would likely to face during their education. As a result, they could be more willing to continue their education, positively affecting retention rates. This would explain the observed difference in the first English courses taken by the students, as well as their high school background. The advantageous academic position during the first year might have facilitated academic integration, which would be reflected in statistically significant differences across sophomore and senior year students.

The importance of the choice of major is consistent with Gibbs et al. (2006). Based on the analysis, the students appear to perceive their goals differently depending on their major. This could be attributed to both the choice of major and motivation being affected by the same underlying drivers (Yindra and Brenner, 2002). In particular, socioeconomic factors could lead students to prioritise financial motives, which would be reflected in both goal perception and choice of major. This also agrees with the studies that focus on environmental factors and related financial difficulties (Kim, 2014; Kerkvliet and Nowell, 2005; Herzog, 2008).

Substantial evidence is obtained in support of the Hypothesis One. The significance of background factors is consistent with the academic literature exploring student-level characteristics in the context of retention (Crede and Borrego, 2014; Morrow and Ackermann, 2012; Yu et al., 2010). Specific results on individual factors, such as employment status, choice of major, and pre-college schooling, are also in line with similar studies (Kim, 2014; Soilemetzidis and Dale, 2013; Herzog, 2008; Gibbs et al., 2006).

5.3.2 Differences Between Sophomore and Senior Years: Academic System

According to the Hypothesis Two, there is a significant disparity in grade performance and intellectual development across first-year and third-year students. The findings provide support for this claim. Several factors related to the grade performance, namely current GPA, reasons for failing courses, and exam study frequency, are found to be different between two groups. Likewise, superior intellectual development is associated with senior students. These results are in line with the academic literature focusing on academic success as a factor of retention.

Senior students are observed to have higher current GPA scores compared to sophomore students. This agrees with the point of view that meeting academic standards is a major driver of students' retention (Arulampalam et al., 2004). The stronger academic performance is likely to allow for easier structural integration. At the same time, motivation of struggling students could be influenced by their grade performance, resulting in lower probability of retention (Yindra and Brenner, 2002). This would explain the difference in several factors measuring academic success across senior and sophomore students.

Analysis of the responses corresponding to intellectual development factors similarly reinforces the relationship between academic system and retention. It is found that senior students might have stronger abilities to efficiently manage time, take notes, and study for exams. This is consistent with Heyman (2010), as studying skills and self-discipline was argued to be one of the key factors behind retention. The result shows that intellectual development could be an important area for improvement regarding management practices.

The observed efficient study practices of senior students also agree with the research focused on library use. More specifically, Soria et al. (2013) reported the significance of library usage in the context of students' retention. It was also suggested that the overall academic success was affected by how frequently the students relied on library sources. This reinforces the

observed results regarding the differences in current GPA. Similar point of view was argued by Haddow (2013), with the library use found to be associated with higher retention rates.

The analysis provides substantial evidence in support of the Hypothesis Two. The academic system, represented by grade performance and intellectual development factors, appears to have a significant impact on students' retention decision. Similar observations regarding grade performance have been reported (Arulampalam et al., 2004; Yindra and Brenner, 2002). The effects of intellectual development on the decision to continue education agrees with related studies (Soria et al., 2013; Haddow, 2013; Heyman, 2010). Thus, the findings are in line with the existing literature, and provide further evidence in support of the Tinto model.

5.3.3 Differences Between Sophomore First Year and Senior Third Year Students: Social System

Hypothesis Three focuses on peer-group and faculty interactions and states that significant differences are present across sophomore and senior students. Limited evidence is obtained that is consistent with this claim with respect to peer-group interactions. Only participation in students' activities appears to differ between two groups. At the same time, both enjoyment of extracurricular activities and working at the University do not seem to be important in explaining retention. The evidence is stronger in case of faculty interactions. The findings provide support for Hypothesis Three and are consistent with the existing empirical literature.

The importance of peer-group effects has been noted in prior literature (Collings et al., 2014; Johnes and McNabb, 2004; Sacredote, 2001). The participation in students' activities being different between first-year and third-year groups is consistent with Eckles and Stradley (2012). It was argued that the retention decision of the student's friends was the key factor determining if the student continues education. Students' activities could contribute to the strength of the relationship between the decisions of a particular student and that of his friends. As a result,

the students that are not participating in such activities could be less affected by the peers' decision to continue their studies.

Alternatively, participation in students' activities might strengthen the sense of belonging within the University (O'Keeffe, 2013). This could improve the student's overall commitment, positively affecting retention rates. The observed difference also agrees with Yindra and Brenner (2002), as the activities during the university life were argued to be important factors influencing the students' retention decision. The effect of the perception of extracurricular activities could be hindered by the lack of an environment that supports autonomy (Cameron et al. 2011; Copeland and Levesque-Bristol, 2011). This result could be especially useful for improving the efficiency of the existing management practices.

Stronger evidence in support of the Hypothesis Three is provided by the analysis of responses regarding faculty interactions. The importance of instructors' availability, their support and demonstration of interest, discipline encouragement, and administrative support is consistent with the vast body of literature exploring faculty relationships (Collings et al., 2014; Roberts and Styron, 2010; Lillis, 2011; Swecker et al., 2013; Kim, 2014; Adidam et al., 2004; Copeland and Levesque-Bristol, 2011; Adamopoulos, 2013). It is commonly argued that institutional support and integration are one of the most influential factors that affect students' motivation and commitment.

Most notably, the key role of proper mentoring, academic advising, and influence of teachers is emphasised by Collings et al. (2014), Swecker et al. (2013), Copeland and Levesque-Bristol (2011), and Adamopoulos (2013). In particular, the teachers could be the major determinants of a supportive environment (Collings et al., 2014; O'Keeffe, 2013). Superior academic support of instructors and positive perception of the learning experience by the students would contribute to the willingness to continue education (Kim, 2014; Roberts and Styron, 2010).

This might explain the obtained disparity in instructors' availability and demonstration of interest across sophomore and senior students.

The results are also in line with Swecker et al. (2013), who argued that the number of meetings with an instructor is likely to affect students' retention. The difference in the perceived demonstration of interest between first-year and third-year students is consistent with Lillis (2011). Indeed, it was reported that faculty members with lower emotional intelligence were associated with higher attrition rates. Therefore, the results can be attributed to the students' expectations and motivation being influenced by instructors and their behaviour (Copeland and Levesque-Bristol, 2011; Cameron et al., 2011).

The Hypothesis Three is supported by substantial evidence regarding faculty interactions. Weaker support is provided by the analysis of peer-group relationships. Nevertheless, the results are consistent with the large amount of literature investigating social integration and students' retention (llings et al., 2014; Kim, 2014; O'Keeffe, 2013; Swecker et al., 2013; Eckles and Stradley, 2012; Cameron et al. 2011). The results further indicate that the Tinto model is applicable in case of LIU.

5.3.4 Commitment and Background Factors

The link between background factors and commitment is explored in the Hypothesis Four, which assumes that the relationship is not significant. Some evidence is obtained that does not agree with the hypothesis. This might show that background factors affect retention indirectly, with the key influence being the initial academic and social integration. Overall, the results are in line with the studies that noted the importance of student background (Crede and Borrego, 2014; Soilemetzidis and Dale, 2013; Morrow and Ackermann, 2012).

The lack of substantial effect from parents' educational level and reason for continuing education does not contradict Hypothesis Four. At the same time, parents' encouragement is found to be significantly associated with specific reasons for not withdrawing from studies.

This is consistent with Irizarry (2002), who argued for self-efficacy and motivation being crucial for not withdrawing from education. While different external and institutional factors could also influence students' motivation, this result shows that family background could be one of the underlying drivers of commitment.

It could also be argued that student-level characteristics are related to commitment. Students' age, gender, choice of major, and employment status are found to be different regarding whether the student has registering prior to LIU. This could reflect the role of motivation and how it is affected by background factors (Irizarry, 2002; Johnson-Lutz et al., 2015). On the one hand, the students' high school background does not appear to affect their perceived reason to continue their studies. On the other hand, some association between registering prior to LIU and pre-college schooling is observed. This agrees with Soilemetzidis and Dale (2013), as better entry grade performance could be found for stronger motivated students.

The evidence obtained from the analysis does not agree with the assumptions of Hypothesis Four. Family background, individual attributes, and pre-college schooling seem to affect students' commitment. The results are also consistent with similar studies that investigated the role of background factors (Johnson-Lutz et al., 2015; Crede and Borrego, 2014; Soilemetzidis and Dale, 2013; Irizarry, 2002). The rejection of the hypothesis provides support for the relevance of the Tinto model.

5.3.5 Commitment and Integration Factors

Hypothesis Five assumes that no significant relationship between commitment and students' retention decision exists. This is explored through the link between academic and social integration. While mixed evidence is obtained based on the analyses of students' responses, it is sufficient to reject the hypothesis. In general, the findings are consistent with the literature on the role of both social and academic systems.

Weak evidence against Hypothesis Five is found based on exploring academic integration. Most notably, the frequency of studying for exams appears to be associated with stronger goal commitment. This agrees with Arulampalam et al. (2004), Irizarry (2002), Heyman (2010), and Johnson-Lutz et al. (2015). It was argued that students' retention was related to their level of academic success and self-efficacy. In particular, Heyman (2010) suggested that student self-discipline might be a major factor. The respondents who study more often would likely exhibit stronger self-discipline, which would explain the observed association with goal commitment. Some evidence is found for the relationship between the perception of the University facilities and grade performance. This is consistent with Roberts and Styron (2010), Campbell (2013), Thomas (2002), and Lau (2003), as the perception of provided services was argued to be one of the key drivers of students' motivation. The result provides a link between grade performance as the part of academic integration and institutional commitment.

Similar results are observed for intellectual development. Positive relationship for both goal and institutional commitment indicate that stronger goal commitment is associated with superior study skills. This is consistent with the literature emphasising the role of ability to study effectively and meet academic standards (Arulampalam et al., 2004; Heyman, 2010). Overall, the findings provide substantial support against Hypothesis Five in case of academic integration and commitment.

The evidence for the importance of social integration is also sufficient to reject the hypothesis. The only ambiguous result is obtained for the relationship between peer-group interactions and goal commitment. Stronger peer engagement leading to lower retention rates is consistent with Roberts and Styron (2010), who reported the negative effect between involvement and retention. The positive effect on institutional commitment might reflect the strengthened sense of belonging within LIU and influence of the student's friends (Eckles and Stradley, 2012; O'Keeffe, 2013).

Faculty interactions are found to positively affect both goal and institutional commitment. Similar results were reported by Collings et al. (2014), Swecker et al. (2013), Adamopoulos (2013), and Lillis (2011). In particular, instructors' knowledgeability and academic support appear to improve students' institutional commitment. This is consistent with the point of view that the better perception of services and interactions provided by the university could strengthen students' motivation to graduate from the institution (Roberts and Styron, 2010).

Overall, sufficient evidence is obtained for the Hypothesis Five to be rejected. The findings also agree with similar studies (Swecker et al., 2013; O'Keeffe, 2013; Campbell, 2013; Eckles and Stradley, 2012; Roberts and Styron, 2010; Heyman, 2010). The results also suggest that the Tinto model of students' retention is applicable for LIU. The only significant observation inconsistent with the model could be affected by model misspecification, as the level of peer-group interactions explains an extremely low amount of the variance in goal commitment.

5.4 Conclusions

This research is conducted in the context of Lebanon and particularly using the case of the LIU as one of the top higher education institutions in the country. The findings revealed heterogeneity in the background factors such as parent's education. The latter was found to be superior among the senior third year students compared to the sophomore first year students. This emphasises the role of family education in retention decisions. This finding of parent's education is consistent with expectations and previous literature that found similar patterns (Crede and Borrego, 2014; Soilemetzidis and Dale, 2013; Morrow and Ackermann, 2012; Ashby, 2004; Irizarry, 2002). The present thesis explored the drivers of students' retention based on the questionnaire data obtained at LIU. Five hypotheses were investigated to establish if specific components of the Tinto model are applicable. The findings are consistent with the theoretical framework. Moreover, the results agree with the existing body of academic literature that investigates the factors influencing the retention decision.

The differences across sophomore first-year and senior third-year students were significant based on the analysis of the first three hypotheses. In particular, the disparity in background factors, namely family background, personal attributes, and pre-college education, was observed between two groups. The results indicated that individual characteristics such as employment status, major, and initial proficiency in English could be important determinants of the students continuing their education.

The differences in social and academic integration revealed the role of grade performance, intellectual development, and social interactions in students' retention. Most notably, superior study skills and time management were found to be associated with senior students. In addition, the perception of instructors' knowledgeability, availability, and provided support were observed to differ across first-year and third-year students.

The potential impact of background factors on goal and institutional commitment was also studied. Specific characteristics, such as parents' encouragement and employment status, were found to be important in explaining students' motivation. The key link between social and academic systems and students' retention was explored in the last hypothesis. It was concluded that the Tinto model is relevant in the case of LIU, as significant relationships were found between background factors, integration, and commitment.

5.5 Limitations

Certain limitations exist to the research conducted in the present thesis. The major drawback is related to the study focusing on one private university to investigate students' retention. This could lead to the results being not generalizable to other educational institutions (Tinto, 1993). In particular, the effects related to faculty interactions and institutional commitment might differ substantially across universities. At the same time, the conclusions regarding background factors and academic integration could be relevant for other institutions, as they are largely

based on student-specific characteristics. Furthermore, several measures were used to explore integration and commitment, which might contribute to the general relevance of the findings.

Another limitation of the research stems from the questionnaire being restricted to first-year and third-year students. As such, students' retention during subsequent years is not explored. This could have skewed the observed results, and the information on other students might have provided additional insight on the decision-making process of withdrawing from or continuing education.

At the same time, the importance of sophomore student retention was noted by Noble and Flynn (2007), Bridges (2011), Nelson et al. (2009), and Fike and Fike (2008).

The research thesis also suffers from the problem of survivorship bias as only currently enrolled students participated in the survey. A much fuller investigation would be possible if drop out students could answer the questions and contribute to the research findings. It is valid to note that the researcher attempted to contact the students who dropped out. However, unfortunately, they could not be reached and they did not respond to the calls and emails. This limited the sample to those who were actually retained in the university, thus creating the survivorship bias in the present study.

Finally, an intrinsic limitation of a questionnaire-based research lies in potential response errors (Blair et al., 2014). Most importantly, knowledge errors could affect the reliability of the analysis, as respondents might not have accurately identified their motives or instructors' knowledgeability. The disparity between perceived and true characteristics could lead to unreliable findings. However, this effect is partially mitigated by employing several measures for each category of factors.

5.6 Contribution to Knowledge

The present study contributes to the body of higher education literature investigating retention drivers. The comparison of findings with the existing empirical evidence revealed that the

factors explored in the thesis play an important role in explaining students' decisions. Both background and integration factors were found to be indirectly influencing students' motivation and willingness to graduate. This can be of great importance for uncovering the underlying drivers of retention and improving theoretical frameworks.

The contribution to the empirical evidence regarding background factors (p:101) reinforces the importance of these characteristics despite their indirect effect (Crede and Borrego, 2014; Morrow and Ackermann, 2012). The results show that family encouragement and employment status might be important for determining students' motivation. This could become especially relevant in studies that assess the role of ethnic or racial background, social support, and financial aid (Baker and Robnett, 2012; Kennamer, 2010; Kim, 2014). Similarly, ignoring pre-college education would mean to neglect the differences in academic integration during the first year (Soilemetzidis and Dale, 2013; Herzog, 2008). The findings obtained in the present thesis indicate that omitting background factors could lead to less accurate representation of the students' motivation and decision-making process.

The key empirical contribution of the present study is reflected in the assessed relationships between integration factors and commitment. In particular, it supports the exceptional role of social interactions in the context of students' retention (p:158). The importance of peer-group and faculty interactions should not be neglected in future empirical studies, as students' institutional commitment could vary greatly depending on their perception of experiences and services (Collings et al., 2014; Roberts and Styron, 2010). This can be useful for justifying the employment of psychological frameworks to explain students' retention (Swecker et al., 2013; Eckles and Stradley, 2012).

The findings also strengthen the natural view of academic success in the context of attrition (Heyman, 2010; Arulampalam et al., 2004). The present thesis shows that superior grade performance and intellectual development are associated with higher retention (p: 153). This

contributes empirical evidence for the frameworks exploring the indirect role of academic integration. Higher GPA and superior study skills would likely allow for meeting academic standards more easily, which would improve students' commitment. However, lower academic standards could pose a problem when comparing empirical evidence across different universities (Johnston and Simpson, 2006).

The major contribution to the theoretical literature is represented by the results fully supporting the Tinto model of retention. In particular, the strong effects associated with faculty interactions provide evidence for the social experiences strengthening attachments and institutional commitment (Tinto, 2005). Overall, all model elements covered in the present thesis were found to be useful in explaining students' retention, including entry characteristics, academic, and social integration (Braxton et al., 1997). While few economic factors were accounted for in the questionnaire, the limited findings support the importance of financial status and economic integration (Tyson, 2012; Crosling et al., 2009; MacCallum, 2008; Thomas and Stockton, 2003).

Furthermore, the study contributes to the existing literature by providing findings that extend the Tinto's model. Most importantly, the results strongly suggest that student background affects the retention decision directly. It was found that students' academic performance is heavily influenced by their proficiency in English. The GPA was observed to be influenced by the level of English. In other words, academic integration might be largely determined by the students' ability to comprehend English. This would affect retention as students would be less capable of meeting the University's requirements. In addition, they may feel discouraged to continue their studies if the discrepancy in English proficiency hinders their interaction with the faculty staff.

Indeed, the first English course taken at LIU seems to be a strong indicator of the students' ability to continue education. This is consistent with the Lebanese higher education system using foreign languages in teaching. In particular, LIU employs English as the primary teaching language. Consequently, Lebanese students would find themselves at a significant disadvantage if their proficiency in English did not allow for adequate comprehension of the courses. This constitutes a major contribution to the existing studies beyond the Tinto's model. It is valid to note that to the researcher's best knowledge this thesis is the first study that would employ the Tinto model in the context of a Lebanon based university. This brings important contribution to the available knowledge in the field. This study has also made a contribution to the knowledge by discussing the solutions to the problem of student retention in the University with the top management.

5.7 Contribution to Management Practices

The findings of this research have been used to provide recommendations to the top management of the University on how to improve the student retention rates. This chapter provides recommendations that were made to the top management during the interview of the researcher with the Vice President. This study has also emphasised the importance of this problem and that the school can actually make a change if the management is willing to take actions. One of the recommendations for the top managers is that the University should establish or expand facilities that would prompt socialisation of students and their tighter engagement with instructors and school staff. For example, off-class gatherings can be recommended to engage students in discussions of organisational issues and helping the new students to get involved in the University life faster. Moreover, communication between sophomore and senior students should be stimulated by the top management as these ties will also help students share their experience with their peers. This could potentially have a favourable effect on retention decisions.

The top management of the University are also recommended to introduce special purpose classes for potential students who want to enrol. These classes will aim to familiarise new applicants with the University life and this will help to make the transition phase from high school to University smoother. This will also increase popularity of the University in Lebanon and tackle the problem of pre-university education.

Lastly, the top management are recommended to improve the system of tests in the University and intellectual development of students in diverse fields. The experiments with tests can be done to find out what type of tests and exams are most effective and whether students work better in teams or individually. The top management should be promoting more engaging team work in the University which would be an alternative to individual tests and help students build social ties as well as their knowledge and skills.

The University can be recommended to introduce an early warning system to prevent the rise in the drop-out rates and even increase retention rates. This system would detect the students who lag behind in education and they will be provided proper academic help to get them back on track instead of being discouraged. This system can implement the practice of giving flags to the struggling students so that advisors can see who needs help and when. It is also recommended that the administration should be giving personal calls to the students who completed at least 60 credits and stopped their education. These calls would be made to find out what happened and what problems were encountered by the students. The latter may be convinced by the dean to continue education.

Another important recommendation for the University to achieve greater retention rates is to allow adult students with families or work to have a more flexible schedule. This would help them combine the studies with work or family issues. In the same way, the University can be recommended to allow students who had a large break in studies to take some courses for free to refresh their memories and concepts learned.

The University can also be recommended to improve its approach to admissions. For example, the University brochures should be revised to make them easier for understanding where students should go to seek help. In addition to this, special study centres can be recommended to be opened. These study centres should provide help to the currently enrolled students and address their needs.

There are also students who transfer from technical schools and cannot easily adjust to the new school. This may affect their drop out decisions. Thus, it is recommended that instructors should be appointed to help these students find a place in the University life. Instructors can work with such transfer students in special sections of the University.

The findings may be used to improve management practices by targeting relevant retention drivers. Both academic and social integration can be facilitated by incorporating appropriate measures into existing practices. It has been noted that educational institutions often implement measures focusing on improving retention as an afterthought (Tinto, 2006). In other words, the underlying structural mechanisms might not be properly addressed if no holistic approach is followed when changing management practices. Systematic implementation would ensure that activities and services target deeper issues as proposed by the Tinto model, and that the institution adheres to explicit standards of provided assistance (Douglas et al., 2006).

These considerations lead to the key proposal of assigning Dean of Students. Although they are largely involved with non-academic problems, their position could allow for strengthening the relationship between academic and non-academic areas of the institution. The responsibilities of the Dean could include monitoring struggling students, managing assistance programmes and orientation courses, student housing, providing support for transfer students, married students, and students with disabilities, as well as managing career guidance seminars, academic advising, and student work study programmes. The Dean of Students would report directly to the Vice President and provost. An Assistant Dean of students would represent the

Dean in every campus, with additional Administrative Assistants being assigned to the Department.

If the university manages to achieve higher retention rates, additional finances from retained students can be used to fund the department and contribute to employee payrolls. The University will also be able to increase its revenue. This factor of increased revenue due to the contribution from retained students is especially relevant in light of the fact that the University is currently seeking Quality Assurance Accreditation. These funds from retained students can be used to finance the Department for Students and cover its costs.

The achievement of higher retention rates in the University will also help to provide more financial aid to capable students who cannot pay for their tuition in full. Thus, the University will be able to attract the brightest minds in spite of the financial barriers to education. The University will be able to do a work-study programme using the financing from retained students. The selection of students would be based on merit and competition. This work-study programme will also help some of the students alleviate their financial burden associated with education.

The results of the analysis indicated significant differences between sophomore and senior students in their individual characteristics, such as initial English proficiency or choice of major. This observation, coupled with the findings regarding social integration, suggests that additional programmes targeted at first-year students should be introduced and managed by the Dean. More specifically, English enhancement courses and orientation programmes might aid in students' integration and support their social and academic needs (Zepke and Leach, 2005). Transfer students could be allowed to register basic courses free of charge, as lack of understanding of the fundamentals could impede their ability to keep up with more advanced courses.

Orientation and learning communities have been noted to be a powerful practice aimed at first-year students, as it is crucial for them to improve self-efficacy and acquire coping skills during this period (Bean and Eaton, 2001). This would allow for developing academic strategies that could be used in their future studies. Furthermore, peer interactions might provide additional coping strategies for the struggling students to consider, partially covering their social needs at the same time (Braxton and McClendon, 2001). In other words, tutorial classes and orientation programmes would facilitate both social and academic integration, which is consistent with the findings obtained in the present thesis.

The importance of faculty interactions revealed by the analysis suggests that socialising activities could also be improved on. University-wide events, such as the Welcome Day, would offer a great opportunity for students to develop social and emotional connections. This might facilitate students' integration during the first year, and the Dean would be responsible for organising such events to promote peer-group and faculty interactions. The importance of recreational and socialising services in institutional practices has been noted by Zepke and Leach (2005). The observed link between social integration and commitment could be reflected in retention improvement in the future.

A large area which could be monitored by the Dean is related to mentoring and academic assistance. Based on the findings, students' time management and study skills appear to be strongly associated with the motivation to continue education. As such, the Dean could oversee the activities and performance of the counselling team in order to improve students' ability to cope with psychological and academic challenges. In addition, break-returning students could be provided with advisor meetings to determine appropriate courses to attend. This is also consistent with the finding regarding the perceived availability of instructors affecting institutional commitment.

The importance of academic counselling has been noted to constitute one of the basic tools available to improve students' academic success, integration, and retention (Crosling et al, 2009). It was also proposed that academic advisors should encourage students to participate in social communities (Braxton and McClendon, 2001). This can be crucial for strengthening the link between academic and social integration and commitment. Aggressive mentoring might be especially effective in case of avoidant underperforming students (Bean and Eaton, 2001). Therefore, the Dean organising and monitoring academic counselling may be extremely beneficial for the overall retention of students.

The findings also presented some evidence for the employment status influencing students' motivation. This suggests that organising Career Centres could become another important responsibility of the Dean. The service could provide career guidance for unemployed students, recommendations on writing CV, and advice on interview preparation. This could reduce students' attrition and enhance institutional commitment (Braxton and McClendon, 2001; Douglas et al., 2008).

Additional responsibilities of the Dean might cover disability services and providing support for students affected by medical conditions. The integration process is arguably the most challenging for this category of students, and as such supportive institutional practices can be especially effective (Zepke and Leach, 2005). Other groups of students could be provided support to facilitate integration and improve institutional commitment. In particular, married students might be allowed to register based on their time schedule convenience. Student housing is another important area that would be overseen by the Dean, with the proper residence assignment being able to promote social interaction (Braxton and McClendon, 2001).

5.8 Recommendations for Future Research

Several improvements to future research could be suggested. Most notably, the scope could be extended to cover several educational institutions. This would improve the generalisability of the findings, which may be crucial in identifying key drivers of students' retention. Furthermore, this would allow for formulating a set of management practices more readily applicable to other universities. The research could account for the differences between countries and how students' decisions are affected by region-level characteristics, race and social support, and socioeconomic environment (Baker and Robnett, 2012; Kim, 2014; Herzog, 2008).

The observed importance of employment status could be studied more thoroughly in the context of economic integration (Tyson, 2012). Financial aid, scholarships, and university support services have been suggested to influence academic and social integration (Crosling et al., 2009). Including financial factors could allow for explaining students' commitment and attrition more fully (Braunstein et al., 2006; MacCallum, 2008). Moreover, the analysis might provide additional information to be used in improving existing management practices.

The focus on the Tinto model of students' retention could also be extended to cover other categories in addition to academic and social integration (Thomas, 2002). This might include support, democratic, and economic factors. While it could be argued that indirect effects are already accounted for in the Tinto model, introducing them explicitly could provide better understanding of the underlying drivers of retention.

In addition, retention rates could be influenced by academic standards (Johnston and Simpson, 2006). It could be useful to assess if institutional status affects retention, which would be especially important for future research extended to several universities. Making the distinction between attrition and retention factors might also provide insight regarding students' decision-making process (O'Keeffe, 2013).

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Appendix: Assessment Questionnaire

Dear Student,

You are kindly invited to participate in a research on students' retention throughout your university years at the **School of Business** by completing the following questionnaire. The research project is conducted as a part of a Doctorate in Business Administration thesis. This research aims to improve student retention by assessing student's satisfaction levels.

Your participation is entirely voluntary. Refusal to participate will **NOT** result in any penalty or loss of benefits to which you are otherwise entitled. You are free to skip any question you do not want to answer. Your responses will be completely confidential and anonymous for they will only be used for analysis purposes. You will also have the right to review the results of the research if you wish to do so.

Purpose of the Study:

Your responses to the following series of questions will enable the researcher to identify the areas of strength as well as the areas that require the School's attention.

Instructions:

Completion and submission of the survey imply that you have read the information above and consented to take part in the research. For each question, please tick in the box that best represents your evaluation. The questionnaire will take 10 to 15 minutes to be completed.

Your participation is very greatly appreciated.

1. General Information:

1.1. Gender: ☐ Male ☐ Female

1.2. Age: ☐ 18-19 ☐ 20-21 ☐ 22-23 ☐ 24 and above

1.3. Campus:

☐ Akkar ☐ Beirut ☐ Bekaa ☐ Saida ☐ Mount Lebanon

☐ Tripoli ☐ Tyre ☐ Nabatieh ☐ Rayak

1.4. Major:

☐ Management Information System ☐ Hospitality ☐ Marketing ☐ Finance

☐ Accounting ☐ Management ☐ Economics ☐ International Management

1.5. High School background: ☐ Private school ☐ Public school

1.6. High School Degree:

☐ Lebanese Technical Baccalareaute ☐ Lebanese Baccalareaute ☐ Other

1.7. Employment Status: ☐ Part-time ☐ Full-time ☐ Not employed

1.8. What is your mother's highest educational level?

☐ Brevet ☐ Elementary ☐ Lebanese Baccalareaute ☐ Bachelor Degree

☐ Master Degree ☐ Doctorate

1.9. What is your father's highest educational level?

☐ Brevet ☐ Elementary ☐ Lebanese Baccalareaute ☐ Bachelor Degree

☐ Master Degree ☐ Doctorate

1.10. How are you paying for your University tution fees?

(Choose more than one if applicable)

☐ Family ☐ Self-funded ☐ Financial aid from university

☐ Financial aid from other sources

1.11. What is your current GPA?

☐ Zero ☐ Below 1 ☐ 1.0-1.4 ☐ 1.5-1.9 ☐ 2.0-2.4 ☐ 2.5-3.0 ☐ Above 3

1.12. What was the first English course you took at LIU?

☐ ENGL 051 ☐ ENGL101 ☐ ENGL151 ☐ ENGL 201 ☐ ENGL 251

1.13. From 1 to 5, rank the reason you continued your education after high school:

(Where 1 is most important to you and 5 is least important to you)

____ Improve economic status

____ Fulfil job requirement

____ Parents' wish

____ Self-satisfaction

____ Better social life

1.14. What is the MAIN reason you selected LIU out of all other universities?

☐ Academic Reputation ☐ Suitable Location ☐ Majors offered in LIU

☐ Reasonable tuition fees ☐ Parents' choice ☐ LIU Graduates get good Jobs

1.15. Have you ever registered at a university before LIU? ☐ Yes ☐ No

If yes, please answer question 1.16. If no, please proceed to part 2.

1.16. What was the main reason you left the other university?

☐ Unreasonable tuition fees ☐ Did not like my friends ☐ Low grades

☐ To attend the same university with family/friends ☐ Other, specify_____

2. The Course:

2.1. Have you ever retaken any course during your academic years?

☐ Yes ☐ No ☐ Not applicable

If yes, please answer questions 2.2 and 2.3. If no, please proceed to question 2.4.

2.2. How many courses did you retake?

☐ 1 Course ☐ 2 Courses ☐ 3 Courses ☐ 4 Courses ☐ 5 or more

2.3. Why do you think you have not passed the course(s)?

☐ Instructor ☐ Attendance ☐ Difficult material ☐ Did not study

☐ Missed an exam ☐ Other, specify: _____

2.4. How often do you study for your exam?

☐ On a daily basis ☐ One day before the exam ☐ 2 days to 1 week before exam

☐ 1-2 weeks before exam ☐ I don't study for exams

3. The Student:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.1. I had a clear orientation about the different majors in the School.	☐	☐	☐	☐	☐
3.2. I receive appropriate registration advice at the beginning of every semester.	☐	☐	☐	☐	☐
3.3. I follow the recommended courses offered to me.	☐	☐	☐	☐	☐
3.4. I am satisfied with my major.	☐	☐	☐	☐	☐
3.5. I enjoy extracurricular activities.	☐	☐	☐	☐	☐
3.6. My parents encourage me to continue my studies.	☐	☐	☐	☐	☐
3.7. I take part in students' activities.	☐	☐	☐	☐	☐
3.8. I work at the University.	☐	☐	☐	☐	☐

4. The Instructor:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4.1. Instructors are knowledgeable about the subject matter.	☐	☐	☐	☐	☐
4.2. Instructors are supportive inside and outside the class.	☐	☐	☐	☐	☐
4.3. Instructors show interest while teaching.	☐	☐	☐	☐	☐
4.4. Instructors encourage discipline in the classroom.	☐	☐	☐	☐	☐
4.5. Instructors motivate students to succeed.	☐	☐	☐	☐	☐

4.6. Instructors are available during their office hours.	☐	☐	☐	☐	☐

5. The University Facilities:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.1. The University provides access to Parking facilities.	☐	☐	☐	☐	☐
5.2. The University provides access to Sports facilities.	☐	☐	☐	☐	☐
5.3. The University provides access to Library facilities.	☐	☐	☐	☐	☐
5.4. The University provides access to Food facilities.	☐	☐	☐	☐	☐

6. Study Skills:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.1. I was taught how to take notes during class.	☐	☐	☐	☐	☐
6.2. I was taught how to study for exams.	☐	☐	☐	☐	☐
6.3. I was taught how to manage my time.	☐	☐	☐	☐	☐
6.4. I study in groups with my friends.	☐	☐	☐	☐	☐
6.5. I was taught how to use internet resources for my studies.	☐	☐	☐	☐	☐

7. Overall Satisfaction Level:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7.1. The administrative staff showed support and help.	☐	☐	☐	☐	☐
7.2. University fees are considered affordable.	☐	☐	☐	☐	☐
7.3. Being an LIU graduate is good on my C.V.	☐	☐	☐	☐	☐
7.4. LIU students can compete with other university students.	☐	☐	☐	☐	☐
7.5. Career opportunities for LIU students are available.	☐	☐	☐	☐	☐
7.6. If I could choose my University again, I will still choose to register at LIU.	☐	☐	☐	☐	☐
7.7. I am not thinking of dropping out of education as a whole.	☐	☐	☐	☐	☐
7.8. My choice of attending LIU has fulfilled my goals.	☐	☐	☐	☐	☐

Thank you for your cooperation.