

The Relationship between Alumni Engagement Factors and
Donations: The case of Notre Dame University-Louaize

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by
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ABSTRACT

The Purpose of this study is to identify the relationship between the factors of alumni engagement and how the level of engagement will affect alumni donations in Notre Dame University Louaize. Thus enabling Lebanese universities, especially Notre Dame University-Louaize to better understand the alumni community, and hence cater to their needs through creating strategies that take the factors into consideration. The research design adopted a quantitative deductive approach and the results obtained, were through the data collected using statistical techniques. The sample was selected using a random probability that represents the entire population, our sample consisted of 355 respondents that were gathered through a survey. The results indicated that all the factors that we were testing had a positive impact on alumni engagement and alumni donations, hence all of our four hypothesis H1, H2, H3, and H4 were supported and our results aligned with the results of the literature review. The study was conducted during a severe economic crisis and during the outbreak of COVID-19, and might have slightly affected the responses of the respondents. The study was only conducted on the alumni community of a single university, and if the study was replicated by other higher education institution in Lebanon the results can be compared. The results will serve as a guide for the office of development and alumni affairs and NDU's decision makers in formulating a strategy that tackles the most important factors of alumni engagement to help increase the level of alumni engagement the alumni have in regards to their alma mater and hence increasing the donations. In the Lebanese market few studies were conducted on the topic, highlighting the alumni factors of engagement and the relation to alumni donations. It will show how the alumni community differ in the factors that make them loyal and engaged to their alma mater.

Keywords – alumni, alumnus, alumna, alumni engagement, alumni donations, student satisfaction, communication methods, proximity to campus.

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Introduction

Through the last two decades, the focus of the higher education institutions was on students, specifically on the level of education they provide them. Universities used to take care of students from the moment they submit the undergraduate application until they throw the cap during the graduation ceremony. In the last few years, universities started to realize that Alumni were historically neglected, and in the global economic downturn, it has become a priority for many universities to make substantial moves toward their alumni, and to formulate clear trends by which they make the alumni more engaged towards their alma mater. Literature review discusses many factors that affect the level of engagement of the alumni from which, students who have a positive experience with the university during the time of their studies give constructive feedback to the people in their network, the results of the survey done by Newman and Petrosko (2011) describes alumni who were proud of their degrees recommended the university to others, and are more ready to be engaged with their alma mater and have a higher probability to donate and be supportive to the next generation of alumni. Moreover, Lippincott (2011) declares that alumni can be a resource for marketing the institution to potential students. That is the more the university leaves a positive impact on its students they might return it in the future by possibly playing the role of ambassadors.

Alumni engagement is important and should be enhanced by connecting with alumni without necessarily asking them to support the university financially because it can negatively impact the level of engagement. The article of Masterson (2010) concluded with the finding from the “Mood of Alumni” survey and showed that alumni viewed that their alma mater does not connect enough with them on a level other than the purpose of soliciting donations. That is why asking for financial support without having a solid ground would probably backfire on the process. The author Erin Strout (2006) in her article argued that studies supported the idea of the alumni that are more engaged are more generous and ready to give back. She gave the

example of the alumni association of a Colombian university which offered new programs of volunteering and mentorship which made alumni more engaging, that is why we need to find that solid ground that would create and increase the level of engagement for our alumni for us to be able in a later stage to donate and support their alma mater.

To that, we should not forget that not all alumni think alike or are motivated by the same set of drives or are enthusiastic by the same matters, therefore the effect that one drive has on two people might be different or at least the effect level differs. It is like saying that the level of engagement will differ from one person to another for the same matters. There are a lot of things that differentiate the level engagement of the alumni. For instance, understanding the life stage in which the alumni or his demands effects a lot on the way he thinks about his alma mater, the life stage is reflected mainly by the age and the status the individual is in. If he is searching for a job, looking to advance in his career, looking for activities for his children, getting in touch with lost friends or any other action that might stimulate his sense of belongingness and the level of engagement to his alma mater. That is why we should see what interests our alumni the most, taking into consideration that not all demands could be met from the beginning, and that is why segmenting our alumni would be the best approach in order to target each segment and increase the engagement level the alumni hold toward their alma mater.

There are many current students who are not aware that the university has an alumni office or an alumni community that could be of great benefit for them in the future and those students could be stimulated to be engaged and involved with their alma mater once they are close to graduation or when they are fresh-graduates. Alumni are the future and not the past of the institution of which they belong to and this is why we need them to instill the sense of belonging to their alma mater. At NDU, we don't have a general direction about the preferences of our alumni and alumni to be. This topic is pertinent because the results of this research aims

on helping the Office of Development and Alumni Affairs to formulate a strategic plan on how the university can reach out to all of its Alumni. In addition, the plan should create or increase the Alumni self-belonging to their Alma mater and support the future generation who will choose NDU as their second home. Strout (2006) in his article talked about the importance of knowing what our alumni want, and that universities that do not, are the ones who reach for their alumni only when in need of monetary contribution. NDU needs to put the effort, time and resources into understanding the drives of its alumni to propose a new set of services and programs that interest them, meet their needs, and expectations. In the previous years from 2005 till 2012 NDU alumni office called back then had a set of services and programs that were put on hold due to several internal reasons, we could benefit a lot and build on them and modify them, and create new programs that meets the demands of our alumni.

The purpose of the study not only will help us understand what are the factors that would attract alumni and alumni-to-be towards their alma mater, but will also identify the drivers of engagement and how the level of engagement will affect donations. It will help us see how alumni are engaged differently and will help us cater their needs to make them more engaged and loyal. The objective is to make them more supportive to the next generation of alumni through offering monetary assist to the university through helping in financial aids scholarships, and financing other projects that would help the students that are less privileged and will help other fellow alumni in their projects as well.

In the next chapters the researcher will elaborate more upon the topic and will discuss the importance of his research. In the second, chapter that is titled the literature review the researcher will start by talking about the higher education in general and then talk about the higher education in Lebanon and how the education shifted and is needed to be on continuous development, and the importance of alumni engagement for the institution. Will work around a set of drivers that boosts engagement and stimulate the alumni to give back to his alma

mater. In the third chapter that is the core of the thesis, the researcher will focus on the methodology that he will be using, he will talk about the research approach, strategy and design. The researcher will explain the direct and indirect variables that he will be selecting and how the he will apply the variables into a positive outcome. Also, the data collection methods and sample will be discussed. The fourth chapter will be dedicated to the results obtained from the questionnaire and they will be interpreted in order to be able to accept or reject the stated hypothesis. In the last chapter the researcher will conclude his study and will talk about the ideas and findings, and the researcher will summarize the whole thesis.

CHAPTER 1

LITERATURE REVIEW

1.1 Introduction

In this chapter we will talk about the higher education institutions in general, how the stakeholders are a vital part of the continuity and advancement of the universities. We will talk about the main stakeholders and their importance, we will introduce the concept of alumni and what role they play in the advancement of the universities as they are considered in this century the main pillars of the university. As well we will talk about the engagement in general and what are the factors of alumni engagement that brings alumni closer to their alma mater and increase their self of belongingness and satisfaction. Later, we will discuss the concept of donations and the relation between alumni engagement and alumni donations.

To begin with, we will start by defining what is a higher education, and we will talk about higher education institutions in general where they come from, and the difference between the different schooling systems in our present world, we will talk briefly about the Lebanese universities and the schooling systems they follow. Then we will go further and talk about the challenges that the universities are facing these days around the world. We will then talk about the way those universities are being financed and on what source they rely for their continuity. Then we will go deeper and introduce the concept of alumni and donations. We will go back and look in the history of alumni in higher education and how it all started. Then we will discuss the importance of alumni in the future of those institutions. We will go further and explore the factors of alumni engagement which affects the alumni relation and satisfaction with their alma mater. We will see how the relationship between alumni engagement and alumni donations is built and how it is affected and what affects it in a negative and positive way. Then we will talk about Notre Dame University history, how it is financed, and we will discuss the role and evolution of alumni. In the end, we will state our

research questions and formulate the hypothesis that we will be going to follow in this research.

1.2 Higher Education

Even though the main topic of the thesis is not higher education rather than the alumni of those institution, nevertheless we need to talk about what is higher education and briefly the journey of the higher education to show how alumni are incorporated in those institutions and why alumni are essential to the continuity and improvement of the university. Higher education by definition according to the Merriam-Webster is any education that goes beyond the secondary level especially that provided by a college or university.

1.2.1 Overview of Higher Education

Higher education is a well-known concept found in all corners of the world, it goes back to the first centuries of the existence of mankind and is found in all corners of the world. Till our days the origin of the university is still a controversial subject. It went through a lot of changes throughout history, the transformation varies from one country to another depending on the culture.

For the Europeans they consider the universities in Paris and the Bologna University one of the first universities in the world. While other scholars claim that other higher institutions in different parts of the world hold that title. But it is obvious that today's universities and the models they follow were born through the mutual interactions that went down earlier through history. Today, Europe is home for one of the best universities in the world Oxford, Cambridge, University of Paris and many more.

Because America is couple of hundreds year old, the universities there are not as old as those of Europe but have been through a lot of development and some are on the top 10 best universities worldwide like Harvard, MIT, and many more.

Both the American and European universities follow a different university structure. For instance, in United States no matter what major you choose and to which faculty you belong students have a “core curriculum”. The core curriculum is made up of common courses that all students in the same faculty should take, and this leaves them the opportunity to change majors without losing courses they already took. On the other hand, the European universities are different, students don’t have a pool of course of which they could choose freely a number of courses from instead they take pre-determined courses by the university.

The American and European schools are different in many ways, other than the above mentioned one according to Joanna Huges, Bastian Lehmann, and an article published by ESCP Business school they also differ in classes and coursework. For example, in the US a course size may vary from small to massive in size. And beginner classes are usually all about lectures whereas the more advanced classes are with more student opportunities to build interaction and be able to learn more from experience. Whereas, in European universities the number of students to professor is very high which leave smaller room for face to face interaction inside and outside of classes. Having this high number of students increase the course load on the students and give them a larger amount of material to read. As previously stated, the American and the European schools follows different learning styles, also the western universities follow their own methods. We only mentioned those two schools is because nowadays a lot of universities around the world follows them in a way or another and they did put a standard that others follow, and the colonization period plays a big role in that.

In Lebanon, according to Nauffal (2005) a lot of realities shape the higher education systems. Most of our higher education institutions fall under the private sectors, only the Lebanese university fall under the public sector and the number of private universities are at constant increase. The academic systems that they are followed by the Lebanese universities

are mainly either American or French each having their own clients based on several factors. For example; Lebanese University and Université Saint-Joseph follows the French system, while American University of Beirut, Lebanese American University and Notre Dame University follows the American systems.

Universities differ in a lot of way, but as many things they also have similarities. One important similarity is that they share the same set of stakeholders. Taking care of the stakeholders play an important role in the success of a university according to Juha Kettunen in his article “The stakeholder map in higher education”. He defined stakeholders as “organizations, networks, and private people that are able to influence the objectives of a given organization” (Juha kettunen, 2014). According to Musial (2010) Stakeholders are classified as internal or external, Juha kettunen (2014) identified external stakeholders of universities as customers and partners while the internal stakeholders are students and personnel. A lot of research through the years have been done on the stakeholders of the university, some divided them into categories and groups like the below table that Burrows (1999) came up with.

Stakeholder categories	Stakeholder groups
Governing Entities	State & Federal Government; sponsoring religious organizations; governing board; SHEEO
Administration	President, senior administrators
Employees	Faculty, administrative staff, support staff
Clienteles	Students, parents/spouses, tuition reimbursement providers, service partners, employers, field placement sites...
Suppliers	High School, alumni, other colleges & universities, food purveyors, insurance companies, utilities, contracted services...
Competitors	Direct: two- and four- year colleges and universities; Potential: distance providers, new ventures; Substitutes: employers-sponsored training programs
Donors	Individuals (includes trustees, friends, parents, alumni , employees, industry, foundations...)
Communities	Neighbors, school systems, social services, chamber of commerce, special interest groups...
Government regulators	SHEEOs; state & federal financial aid, FIPSE; federal research support; IRS: Social Security; Dept. of Educations; Patent Office;

Non-governmental regulators	Foundations; institutional and programmatic accrediting bodies, church sponsors
Financial intermediaries	Banks, fund managers, analyst
Joint venture partners	Consortia, corporate co-sponsors of research and educational services

Table 1: Stakeholder categories and constructive groups

Whereas, table 2 summarizes several researches that did identify university stakeholders that was done for the 2019 ICERI Conference in Spain, published by IATED academy.

Research studies	University stakeholders
Tam, 2001	Students, employees, teaching and other staff, government and their financing agencies, accreditation providers, auditors and evaluators.
Baldwin, 2002	Current and potential students, management and academic staff, employers, government, families, accreditation agencies, foundations, professional companies, the local community, society in general.
Kotler and Fox, 2002	Alumni , prospective students, current students, parents of students, local community, general public, mass media, legislature and government agencies, foundations, accreditation organizations, staff and administration, regents, faculty, trustees, competitors, suppliers, business community, grant organizations and donors.
Watty, 2003	Government, quality agencies, individual academics, students, employers, the country and society in general.
Pereira and Silva, 2003	Students, alumni , families, faculty, employers, managers, employees, suppliers, government, society, competitors, community group, council.
Slantcheva, 2007	State authorities (accreditation agencies, government, legislators), professional and business groupings (trade unions and provincial councils, religious institutions), students, parents, rival institutions, donors and foundations, international organizations and associations, the cultural framework (potential students, secondary school career guidance providers, students, parents, the media, neighbors, community).
Jongbloed, et al. 2008	Students, employees, the research community, management, former students , companies, social movements, consumer organizations, governments and professional associations.
Matlay, 2009	Students, teaching and research staff, administrators, management, parents, business persons as well as various representatives of companies, trade, professional entities, government and community.
Miroiu and Andreescu, 2010	Students, employers, government, agencies, ministry.
Marić, 2013	Student, parents, employees, faculty, administrative staff, state and federal government, communities, financial intermediaries, non-governmental regulators (foundations, institutional accrediting bodies, professional associations),

	government regulators, Ministry of education, alumni , competitors.
Mainardes, et al., 2013	Students, teaching staff, employers, partner companies, national government, ministries, accreditation bodies, local public authorities, nonteaching staff, other universities, local community, secondary level schools, student families, research and development actors (incubators, technological parks, patent agencies, research centres), senior university management, professional orders, private financiers, business-commercial associations, ex-students , scientific communities, international students, EU.
Slaba, 2015	Accreditation commission, alumni , communities, competitors, current students, donors and grant organizations, employers, faculties and employees, government authorities, high schools, local government, management, marketing and public relations departments, media, ministry of education, parents, prospective students.

Table 2: Studies defining universities stakeholders

We could not but notice that the stakeholders stated by different authors are to a certain extent very similar with little variations. A lot of which mentioned students, alumni, ex-students, former students as being one of the stakeholders in a university. These stakeholders and some parts could be generalized to all universities around the world because all have students and all have alumni.

1.2.2 Challenges facing Higher Education

In the fast changing world that we are living in and with the help globalization and the internet, the game of high education is in constant development and change. Nowadays, you could enroll in a university online and get the same level of education for a fraction of the price. It is good news for students, but we can't say the same for the university.

Universities are enduring higher costs today more than ever, due to the high level of competition world wide and the fact that you could enroll online in any university around the world. That is putting a lot of pressure on the university, because they are in need to always updated curriculums and courses, offer new programs, remove old obsolete programs, fund

professors to do new researches and publications that would improve the standard of the university.

All that is being done to improve the level of education given to student's costs the university a lot of money, money that they don't have. In Lebanon, the universities are facing the same general challenges to be able to cope with changes and be able to keep the universities education relevant and up-to-date.

1.2.3 Financing Higher Education

In this section, we will talk about how higher education finances its operations, and the streams of income of universities. The decline in enrollments, high operating costs of universities, and the decline of state government university funding has played a role in changing the financing of universities (Thelin, 2011). According to Barr & McClellan (2011) there are many streams of revenue that vary between public and private universities, but the main revenue streams are tuition and fees, grants and external gifts, endowments, and government funds.

To start with, tuitions and fees are considered to be the largest income source of universities that is directly related to the enrollment of students (Barr & McClellan, 2011). Most universities world wide rely on the tuitions in order to pay the expenses that they endure. But clearly they are not enough nowadays to cover up all the expenses (Thelin, 2011). That is why the university is looking to cover the remaining expenses from another source of revenue. Endowments main aim is to provide scholarships to students from the return on investment or surplus budget, individual or corporate gifts (Kretovics, M. A., & Eckert, E., 2019). Whereas, governmental funds consist of grants and financial aids that are given from the government. Those funds vary from private to public school, but are mostly given to the public universities, and funding have been decreased consistently since 1987 (Fischer & Stripling, 2014). Grants and external gifts depends mainly on alumni, partners,

and foundations. The alumni gifts provide a significant opportunity as they are the main source of revenue other than the tuition and fees. Those streams of income depend highly if the university is public or private.

Public universities were usually funded by the government which enabled them to have lower tuition fees, but the funding is decreasing year after year. That increased the pressure on advancement offices to raise funds from external parties (Barr & McClellan, 2011). Usually, advancement offices target alumni to solicit gifts and donations (Kretovics, M. A., & Eckert, E., 2019).

Whereas, private universities usually are less supported by the government, that is why they depend more on more private funding as they have the freedom to outreach and create programs that increase funding (Barr & McClellan, 2011). And because they depend on tuitions and endowments the private universities need to increase external gifts, this puts high importance on the monetary engagement of alumni. This is linked to the research because it provides opportunity to better understand the factors of alumni engagement and its relation to alumni donations, to help develop some strategies that could help universities.

Lebanese universities same as other universities according to Nauffal (2005), the government funds the Lebanese University which is the only public university, whereas the private universities are funded by primary the tuition fees paid by students and by donations. And with the rise of the economic situation more students are in need of loans, scholarships, financial aids and work study programs which increase the load on the universities to make up to those grants in other means.

Due to the tough economic situation and competition between universities to provide a high level of education at an affordable prices and with the decrease governmental funds, universities need to think in a differently about the main concern of the institution. Good

funding strategies directed towards priorities can benefit students and as well alumni. The next section of this chapter we will discuss alumni relations and donations.

1.3 Alumni and Donations

Each year thousands of students graduate from universities around the world, they automatically are considered by the university an “Alumna” or “Alumnus” depending on the gender. The term “Alumna” is used to a female former pupil or student of a particular school, college, or university. Whereas, “Alumnus” is referred to a male graduate. Alumni is the plural form of alumnus which means the graduates or former students of a university. In the United States there are around 43 million alumni (United States Census Bureau, 2012). As already mentioned in the previous part, alumni are a part of the stakeholders of the university. They are regarded as among the primary stakeholders of higher education institutions (Barnard & Rensleigh 2008). Alumni are an additional asset to the university as they may assist in giving some support monetary or non-monetary that is what makes them an important group (Iskhakova et al. 2017). Donations is considered a part of the monetary support that alumni give. As defined by the Cambridge dictionary, donations are “money or goods that are given to help a person or organization, or the act of giving them.” Encouraging alumni to support and engage with their alma mater is a tricky process because the alumni should have a sense of loyalty with the right sets of contributing factors that will eventually lead to motivating alumni to donate their money and time.

In the below section, we will talk in general about the history alumni, the importance of alumni in higher education, factors that play an important role in alumni engagement and how it affects donations.

1.3.1 History of Alumni in Higher Education

It all started in Yale university in 1792, when Timothy Mather Cooley gathered information about his classmates, each chosen “Class Secretary” would collect all

information (Mitchell, 2013; Shaw, Embree, Upham, & Johnson, 1917). This was recorded as the first known alumni system. The first alumni association was created in Williams College, year 1821 as a request from a number of graduates (Mitchell, 2013; Shaw et al., 1917). The first alumni fundraiser was done at Brown University in 1823 by Reverend William Rogers with a goal of raising 1,000\$ at that time, and Yale created the first class reunion in 1824. In 1897 University of Michigan was the first college to hire a full-time alumni secretary (Mitchell, 2013). Nowadays, due to the importance of alumni to the university “Alumni Relations” in most reputable universities are part of internal offices, departments dedicated to hold the universities mission and promote alumni involvement, conduct research, build bonds with alumni, partner with career services, student affairs, admission and athletics to keeping alumni engaged (Martinez, 2014).

1.3.2 Importance of Alumni in Higher Education

Throughout the last decade the role of alumni in universities has somehow changed, but what encourages alumni to support their alma mater is still the same. Alumni play an important role in supporting their alma mater, they could be the number one supporters. Alumni can be of great benefit for current students by sharing their experience and skills. They also could spread positive feedback to their networks if they were pleased with the experience they had at university, through the word-of-mouth. Alumni serve as a number one source for fundraising. Alumni are involved in decisions that have an influence on university and act as advisors to program. They have the capacity to engage in a lifelong relationship with the university.

John Lippencott talked in his article that alumni are universities greatest assets as they are increasing in numbers on a yearly basis. They are the largest if not the single source of philanthropic support for many universities. Alumni’s status outspread the monetary contributions that they offer (Lippencott, 2011). Alumni are willing to recommend the

university to prospective new students due to the fact that they are proud of the degree they hold from this institution (Petrosko, 2011). Through the research we could see that alumni marketing tools such as newsletters, reunions, receptions, dinners, solicitations do really affect the level of alumni engagement, and alumni who are engaged knew more about the university (Sun et al., 2007). We could see the importance of alumni to universities, and the more engaged the better. Yet, it is clear that there is a shortage of research regarding the alumni engagement. That is why in the next section we will the factors that play an important role in alumni engagement.

1.3.3 Factors that affect Alumni Engagement and Donations

In this section we will talk about engagement and we will state the factors of alumni engagement that are related in the end to alumni donations, and how each factor affects the connection between alumni and the university. Alumni engagement turned out to be important to universities and having strong alumni engagement is beneficial for universities through development in rankings, increase student experience, and increase enrollment through positive feedback (Moore, 2008). Erin Strout suggests in his article, “studies have shown that engaged alumni are more generous alumni” (Erin Strout, 2006).

Engagement is when someone participate in activities in the university after graduation (Horseman, 2011). Some of the activities are following universities social media, volunteering, attending events, giving seminars, being part of the Alumni Association.

Universities could engage with alumni through different ways, the direction of engagement will differ from one university to another based on the universities internal priorities and the direction of the office responsible or the alumni association. As well as taking into consideration the culture of the university and the country as well, because the interests to engage differ from a place to another. Below we will talk about the different factors and how they affect alumni engagement in generals.

1.3.3.1 Relation between Alumni Engagement and Demographic factors

To start with we will talk about the demographic factors which were discussed in many dissertations and researches that are many, but include not only gender, age, place of living or distance from campus, and year of graduation. These factors may influence the level of engagement by the alumnus whether monetary or non-monitory.

According to the studies of Holmes (2009) and Edmunson (2011) resulted that living close or of distance from campus had a significant relationship with alumni engagement and the closer they lived the more they are engaged. Another Study done by Bekker (2010) showed that people who live in urban areas tend to be more engaged as they might be exposed to more causes. To add to it a study done by Newman and Petrosoko (2011) they found out that the place of residency of alumni has a big role in the level of engagement of the alumni. Newbold et al. (2010) found that alumni who lived in proximity of the university are more likely to remain involved.

Gender as well as age plays an important role in engagement yet it is somehow contradictory. According to a study done by the Bureau of Labor Statistics (2013), it resulted that women are more engaged than men, and the rate varied between the different age groups, as the age increased the so did the level of engagement. For example, the lowest rate was for the age group of 20-24 with 18.5% while the highest was for the aged 35-44 with 30.6%. On the other hand, an old research that was done by O'Malley (1992) showed that men in general are 16% more engaged. Whereas, some studies have found out that gender does not plays an important role in engagement like Lawley (2008), who discussed the factors that affect the alumni loyalty.

Year of graduation and its relation with engagement is still not a very researched topic. The research done by Lindahl and Winship (1992) shows that the graduation year is a

significant indicator of engagement and the more time passed that engagement increased yearly.

Those demographic factors presented above showed us that a lot can affect the level of engagement in a positive or a negative way all depending on the alumni himself in regards to his position.

1.3.3.2 Relation between Alumni Engagement and Student experience

Student experience is yet another important factor that influence the alumni engagement. It is very important to understand the ways alumni were involved as students to be able to understand how they engage as alumni. According to Pumerantz (2005), the student overall experience plays a key factor in alumni to giving back to their alma mater. Numerous studies have found out that student experience have a significance impact on alumni behaviors like Monks (2003) and Clotfelter (2003b). Some of the studies, divided and categorized the student experience into academic and social experience. Academic was addressed as everything related to the education part, and the social experience was everything extra-curriculum like activities, social life, clubs, relationship with professors. According to Monks (2003), a positive relation was found between student experience and alumni engagement. According to Clotfelter (2003), the greater the satisfaction an alumni had with his undergraduate experience, the more likely he would be engaged with his alma mater. Feudo (2010) said that alumni who participated in any kind of student activity were likely to be more engaging as alumni. Other studies as well showed that students who were involved in student organizations, and life campus activities in their undergraduate studies were more likely to engage as alumni (Steeper, 2009). Gaier (2005) found out that alumni engagement was 78% more likely for the students who were involved in the student life as sororities and fraternities. He as well emphasized on the importance of the academic programs and that the quality of academic work also predicts the level of engagement and shapes the satisfaction of

the alumni. Academic experience includes courses, programs, the quality of instruction and the whole student teacher interaction that is related to the course. Other factors that are related to engagement and satisfaction according to Graham and Gisi (2000) are ease of registration, advising, counseling and other student academic services. We can say that the overall student experience whether academic or social has an impact on the level of engagement of the alumni. The student experience is a delicate process which includes many factors that may affect the outcome, which is in our case the level of future engagement, but is not necessary a determinant to alumni donations.

1.3.3.3 Relation between Alumni Engagement and Communication

Levine (2009) talks about how Institutions rely on various forms of media to communicate information to their alumni. Having effective communication channels with alumni has always been a good predictor of alumni engagement. According to Chi, Jones and Graham (2012) an alumni system should be developed in a way that increase the interaction of alumni with the university as a whole entity and as well as the students of that university. Alumni offices use different communication techniques to communicate with alumni like e-newsletter, alumni magazines, mass emails, dedicate websites, creating social media platforms and many more communication channels. A study done by Skari and Ullman (2012), which was done to uncover the components of alumni loyalty resulted in parts related to communications like alumni magazines and newsletters. Of course the methods of communications should always be updated and changed based on the rise of new channels and tools. In the early days few communication tools existed according to Feudo (2010) like hand written letters and flyer. Unlike today with all the communication channels and tools alumni professionals are constantly developing and updating the alumni communication strategy, to be able to reach and let the alumni remember the experiences they had gained on campus. However, each year thousands of alumni graduate and year after year the alumni

community is increasing and according to Feudo (2010) young alumni do not communicate in the same way as do older generations communicate. Feudo (2010) added about how social media decreased the use of alumni only communities, that is what made the alumni professionals move from private sites to the public social media platforms. According to Catlet (2010), he talked how young alumni preferred that they got their messages through digital forms. Another study done by Levine (2008) confirmed that university communication has a positive effect on alumni engagement. Farrow and Yuan (2011) performed a study to determine the relationship between social media and its effect on alumni engagement which turned out to have a direct correlation.

Even though the rise of social media is creating tough times for alumni professionals to keep alumni engaged using traditional methods, it is good because it is giving them the chance to create new effective communication channels that are of interest to alumni. Through the researches we are able to see that there is no one correct way to communicate with alumni, but communication is essential. There are many factors that play an important role in shaping the strategy that is needed to be followed in order to engage more alumni through different communication channels. And of course, the communication tools differ from one university to another depending on many factors. The university has a role to keep all alumni informed by different means of communication.

1.3.3.4 Relation between Alumni Donations and Engagement

Alumni Engagement is always related to the factors that we previously discussed whether they were demographic, student experience, or communication related, and engaging alumni is related to donations. According to the study done by Pumerantez (2005) he concluded that engaging alumni, and making them look back to the time spent at university increases the financial support and donations they give to the alma mater. Many studies revealed that the more the alumni had a satisfactory student experience the more likely he is

to engage and donate. As well as staying in touch with alumni through the communications channels that keep alumni engaged also increase the donations according to Weerts and Ronca (2008). According to Wunnava and Lauze (2002), universities who has clubs and fraternities that help students engage more during their student life showed higher percentages of donations. Clotfelter (2003) in his study concluded that alumni of private universities tend to donate more than the alumni of public universities. Another study done by Wastyn (2009), found out that alumni who are non-donors had the same positive undergraduate experience as donors from the studies done by Clotfelter (2003). That is why Wastyn (2009), concluded that the alumni who donate and those who do not look alike but differs in the decisions they make when it comes to donations. Later on a study was done by McDearmon (2013), he aimed to understand how alumni perception affect alumni engagement and donations he concluded that we need to look at the personal relation of the alumni with his alma mater, which is similar to the findings of Stephenson and Yerger (2014).

A Lot of studies tried to understand the relationship between alumni engagement and donations, and some results were different than others because the fact that each tried it on a different community. There is no conclusive answer that clearly shows us a general relation between engagement and donations, at the end it comes to the alumni himself and the community he is in.

1.4 Profile of Notre Dame University (NDU)

In this part we will be talking in details about the history of Notre Dame University (NDU), how it finances its operations, and the role of alumni in through the evolution of the university.

1.4.1 History of Notre Dame University (NDU)

Notre Dame University (NDU) was established in 1978 as a new project by Reverend Fr. Bechara el Rahi in collaboration with Beirut University College, now goes under the name Lebanese American University. The legal birth of NDU was declared by the Lebanese president back then Sheikh Amine el Gemayel on August 14, 1987. That gave NDU the right to operate on its own as an independent university. NDU grew from one campus to three campuses, main campus in Zouk mosbeh that was established first in 1978 and then in 1998 NDU moved to a new campus. The second campus was established year 2000 in the North in Barsa el Koura. The third campus was established in 2001 in the Shouf area in Deir el Kamar. The three campuses are fully functional and they all operate under the umbrella of the main campus.

Due to the fact that NDU is a catholic institute under the Maronite order its mission was always to provide quality education that fosters excellence in scholarship, lifelong learning, enlightened citizenship, human solidarity, moral integrity, and belief in God.

1.4.2 Financing of Notre Dame University (NDU)

As mentioned on the website of NDU, Notre Dame University is a private Lebanese non-profit catholic institution of higher education. Which means NDU does not seek profits, even if that is the case NDU needs to secure its costs. The main source of income for NDU is the tuition fees of students. The second source is donations, NDU receives some donations from several streams whether be from corporation or individuals all those donations go to the department of financial aid in order to help students that are in need of financial assistance. As NDU president mentioned in the 2019 general assembly for the NDU community, in the year 2018 alone the financial aid gave scholarships and grants in the sum of 10 million USD. In the recent years the enrollment has been steadily decreasing due to the tough economic situation that Lebanon is going through, less enrollment which means less expenses covered.

And to add to that, Covid-19 emerged which increased the burdens on families to pay tuition fees and led to more families to seek financial aid, this all increased the burden on the universities. Because even though the number of students is decreasing but the operational expenses remain the same. That is why NDU need to focus on increasing the level of donations to be able to help more students and full fil their mission. But having an economic down turn plays a role on donations as well, because all the people are affected and the level of donations per person should automatically decrease, which means that we need a bigger number of people to donate for us to be able to maintain the same number of donations. And after saying that we need to take a look on the matter from a new perspective.

1.4.3 Evolution of Alumni Role at Notre Dame University (NDU)

Alumni had a shy appearance through the years, even though the first graduating class, the class of 1991 did form an Alumni Association which was independent. They were a bunch of graduates from the same class that wanted to keep in touch after graduation. Their role at first was basically to organize events, graduation dinner, and other forms of reunions. During the years between year 1995 and 2005 the association was dormant and did not had any role. Until year 2006, when the NDU president back them saw the importance of Alumni, he created the “Alumni Relations” office that did a lot of engaging activities which simulated the interaction between alumni and their alma mater. They had a lot of yearly fixed events like reunions gatherings. In addition, the alumni office traveled to many gulf regions to encounter alumni, which later on led to the creation of active groups in different countries. During that time the office was gathering and updating information for alumni who have already graduated and did event for the alumni to be. In year 2017, the Alumni Association was revived with a new board that was elected. And with the help of the Alumni office they organized the first annual gala dinner fundraiser in UAE which was followed by other fundraiser events with the proceeds going to the financial aid office to help students who are

in need. In 2018, the Alumni Affairs office became part of the office of development and alumni affairs. Which added a new role which was to help bring more donations to the university, from alumni and other external parties. The role of the Alumni Office and Alumni Associate grew and the responsibilities toward their community grew as well, and in such times it is more important than ever.

1.5 Research Question and Hypotheses

The factors of alumni engagement and its relation with donations in universities is a very controversial topic that is researched by many professionals and researchers all around the world. In Lebanese universities, especially in Notre Dame University-Louaize we still do not know how some factors affects alumni engagement and how does engagement reflects on alumni donations. That is why in this study we seek to answer the following question: “What are the drivers that would increase the engagement of the alumni, and its relationship with alumni donation?” in the case of Notre Dame University-Louaize. We will try and answer it through addressing four hypotheses questions that we will derive from the above question in relation to the literature review.

As shown in the literature review, one of the factors of alumni engagement is demographic factors and is related to age, gender, place of living or distance from campus and year of graduation. The research above showed that the closer someone lives from university the more he is to be engaged, were as the other factors as age, gender and years of graduation there are many conflicting results. Since in the Lebanese higher education sector few studies talked about this subject, we will gather enough information from Notre Dame University-Louaize alumni community, to try and prove our first hypotheses:

H1: The geographic location of the alumni affects the level of alumni engagement.

The second factor of alumni engagement that we discussed in the literature review was related to the student experience that the alumni encountered in his university days. And that

experience was divided into academic and social, through the previous studies done they all came with similar results which is that the overall student experience is positively related to alumni engagement. Since in the Lebanese higher education sector few studies talked about this subject, we will gather enough information from Notre Dame University-Louaize alumni community, to try and prove our second hypotheses:

H2: Student experience have a positive influence on the level of alumni engagement.

The third factor of alumni engagement that we discussed in the literature review is the communication tools used to engage with alumni. The research in the literature review shows different methods of communications used to engage with alumni. We also saw that the communication channels are in constant development. As well it turned out that young alumni need different communication channels. That is, we need to have the right channels of communication in order for us to be able to have an effective engagement with our alumni. Since in the Lebanese higher education sector few studies talked about this subject, we will gather enough information from Notre Dame University-Louaize alumni community, to try and prove our third hypotheses:

H3: Communication methods effects the level of alumni engagement

Through the above literature review we saw some studies showed a positive relation between engagement and donations, whereas other studies showed that even if alumni are engaged it does not necessary mean they are going to donate. Since in the Lebanese higher education sector few studies talked about this subject, we will gather enough information from Notre Dame University-Louaize alumni community, to try and prove our fourth hypotheses:

H4: The level of Alumni Engagement influences the level of alumni donations.

You can see below the conceptual model that the researcher will be following while examining the relationship between the dependent and independent variables that were previously conveyed in the above four hypotheses.

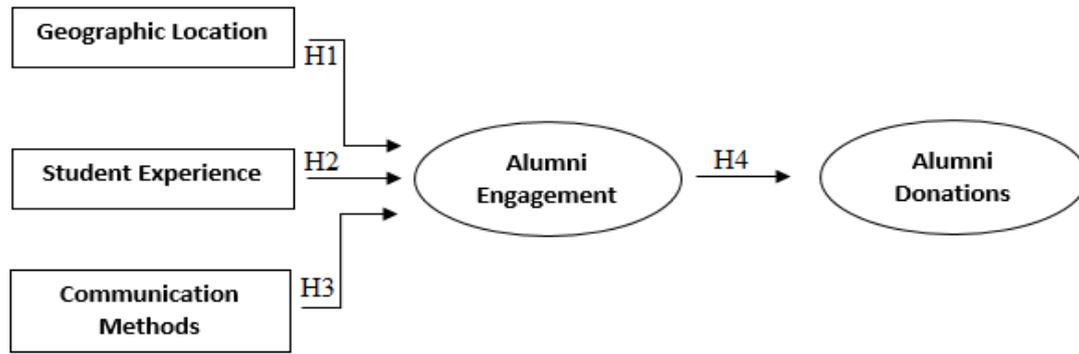


Figure 1: Conceptual Model

1.6 Conclusion

In this chapter we tried to explain the importance of alumni for the universities, and they being an important asset for the continuity and development of the future of the institution. Through the research we concluded that alumni are the universities greatest supporters, and have an important role to play after graduation. We tried to explore the various factors that influence alumni engagement and donations. Considerate research exist that shows the connection between alumni engagement and donations, and factors such as student experience, communication channels and demographic factors had shown to affect the level of engagement and donations. The researches that we explored in the literature review were conducted in several countries, however in Lebanon this topic is still somehow new and no published studies were made.

As we have seen in the above literature review, based on all the researches, theses, and information that we learned about the topic we can say that studying alumni engagement and donations is a study that its results can't be generalized to all alumni around the world, the factors that affect the level of engagement are the same, but how they affect varies due to the fact that all the studies performed are done on a closed community.

The research question that we tried to ask in this chapter will permit us to test our four hypotheses in the coming chapters. Through this research we aim to unveil the factors of

alumni engagement and the relation with donation in the case of Notre Dame University, by having solid proof from the data that we are going to collect from its alumni community.

In the next chapter, we will choose our research methods, philosophy, approach and strategy.

But as we can see from this chapter we have a high possibility of having our hypotheses being valid.

CHAPTER 2

PROCEDURES AND METHODOLOGY

2.1 Introduction

As we have demonstrated in the previous chapter in the literature review, alumni have an essential and important role in the future of the university. A lot of universities around the world are trying to figure out the best ways to engage with their alumni. Through the researches previously done they were able to examine the factors of alumni engagement and its relation to donations. Since few studies were made on the Lebanese market we still have a lot to learn about the factors of alumni engagement in Lebanese universities and especially Notre Dame University-Louaize.

This chapter is dedicated to discuss the methodology and procedures that we used while we conducted our research, which are divided into elements of research design, variables, sample, data collection choice, and statistical techniques that we used that provided us with precise results to deepen our understanding regarding the subject. Those results would be used as evidence to support or reject our hypothesis and answer our research question previously formulated in the literature review.

2.2 Research Design

In this section, we will discuss in details the elements of research design to better understand the methodology that we are going to follow. It will include the philosophical assumption, research approach, and the research method that we adopted in details and would serve as a skeleton for the methodology.

2.2.1 Philosophical Assumption

It is evident that the level of alumni engagement is affected by a set of factors based on the research done in the literature review. In this part we will be studying three of those factors

that we see are more relevant to our target audience, we will try to study how each factor plays a role in affecting the level of engagement and donations. Since they come from different age groups, cultures, academic background, and life stage we believe that there is no one single way in which we can get them all to be more engaged and loyal through one single simple answer. Furthermore, there is no one right answer since there is a combination of factors, that is why we took a positive approach of thinking which served us in acquiring the results we seek. A positive approach is when the researcher is objective and separates himself from the study. In such kind of approach, the role of the researcher would only be limited to collecting the data and interpreting the results in an objective way. The researcher that follows the positivist approach aim to have numbers that he could base his analysis on from a statistical point of view.

2.2.2 Research Approach

Choosing the research approach is a very important decision that each researcher will be taking which affects the outcome of the research study. There are two types of approaches that can be embraced in a research which are deductive, and inductive. Those approaches help the researcher acquire more knowledge and understanding regarding the subject that is being testing. Inductive and deductive approaches are the very opposite of each other, inductive is called “bottom-up” which means that everything starts from observations to generalizations, in other terms observations create patterns which turns into hypothesis and then into theories. While deductive reasoning starts from previously studied theories, then the hypothesis is formulated, and observations are made in order to accept or reject those hypotheses (Woiceshyn, J., & Daellenbach, U.,2018).

Because we tested the hypothesis previously deduced, which helped us finding out how some factors can affect the alumni engagement and donations and the relationship between them in Notre Dame University-Louaize. Through the use of survey, the results of the

questionnaires, and the analysis of the data we will be able to test the previously stated hypotheses that will help us accept or reject them. After that said, we will be using the deductive reasoning. Those results will enable the Office of Development and Alumni Affairs at Notre Dame University to generate an idea on how factors affect alumni engagement and donations.

2.2.3 Research Method

To be able to reach a result in which one can accept or reject the hypothesis, the researcher needs to choose between the qualitative or quantitative method. And his selection is based on what is needed. The difference between the two methods is that quantitative research is able to reach an end result using numbers which can be analyzed; whereas, qualitative method is used when the results needed should not be quantifiable nor measurable. After that said, and taken into consideration the need of numbers to be able to perform the analysis we decided to follow the quantitative method which is more suitable in our case.

2.3 Selection of Variables

In our study the variables were divided into five sections which are: geographic location, student experience, communication methods, alumni engagement, and alumni donations that we found most suitable for the current situation that Lebanon is passing through and taken into consideration what represents the culture and characteristics of our NDU's alumni. And they fall under two categories; dependent and independent variables. Independent variables are variables that are not affected by any other variables that we are trying to measure. Whereas the dependent variables are affected by the independent variables subject to their relationship, they are the variables that we are testing or measuring. In this section we will view the definition and purpose of the statements and questions used in our questionnaire.

2.3.1 Independent variables

In this research, geographic location, student experience, and communication methods were identified as independent variables, which are shown in the below in separate tables for each variable.

Proximity to campus affects attending events.	The variables in this table are intended to shown if the geographical location of the alumni in respect to his university has an effect on the level of engagement of the alumni and to identify if there is a relationship between the geographic location and alumni engagement.
Distance from campus affects my level of involvement.	
My level of involvement would decrease If I lived outside Lebanon.	
The closer I lived to campus the more engaged I would be.	
How close you live to the university?	
Place of Residence.	

Table 3: Independent variable « Geographic location »

My student experience met my expectations.	The variables in this table are intended to displays the relationship between the experience a student gained while being part of the university in different ways, and how this relationship is reflected on his level of engagement once he is an alumni.
I participated in events outside classroom.	
I was an active member in a student club.	
NDU offered a quality of education.	
Staff members are friendly and helpful.	
I finished my degree in the predicted time frame.	

Table 4: Independent variable «Student experience»

NDU should share more Alumni stories, news, and achievements.	The variables in this table are intendent to examine how alumni are perceiving the communication methods that are used by the university, and what type of relationship exist between those methods and
NDU uses social media platforms to connect with alumni.	
All university news and information are available on NDU's website.	
I find the e-mails received from NDU relevant.	

NDU does a great job in keeping alumni informed.	how does this relationship affects the level of engagement of alumni.
I feel eager to read emails once I receive them from NDU.	
Where do you get news and information about NDU.	

Table 5: Independent variable «Communication methods»

2.3.2 Dependent Variables

The dependent variables are reflected by alumni engagement, and alumni donations. They are the variables that we need to study how the independent factors are affecting them. They are divided below by variable in separate tables.

I want to remain part of NDU.	The variables in this table are intended to examine the relationship between each Independent variable and how they reflect on the level of alumni engagement.
I still feel like a part of the institution.	
I feel that NDU still cares about me.	
I often participate in Alumni Events.	
Continuous communications with NDU is important to me.	
I am still in touch with professors.	
I am an active member in the alumni community.	

Table 6: Dependent variable «Alumni Engagement»

I already contributed financially to my alma-mater.	The Variables in this table are intended to examine the relationship between the level of alumni engagement and the alumni donations.
Donating for a cause increase number of donors.	
Donating online eases the donations process.	
My current level of satisfaction with NDU states if I donate or not.	
I am planning to give back to NDU in the future.	
The more involved I am with NDU, the more likely I am to donate in the future.	
Donating to students' financial aid is important	
Donating to the development of the university is important	
I will donate if NDU asks for my support.	
Recognition of donation matters.	
Transparency in reporting donations is a must.	

Table 7: Dependent variable «Alumni Donations»

Through the above list of dependent and independent variables, the researcher will be able to address the research question and the formulated hypotheses presented earlier.

2.4 Sample Description and Selection

In this thesis we are targeting the alumni of NDU, meaning all people who graduated from spring 1989 until the end of spring 2021. There are different techniques that we could use to target our sample the most important thing in the sample is to be representative of the entire population. There are two types of sampling design the probability and non-probability sampling. Probability is when the sample is randomly selected giving each individual in the population the same chance, while non-probability is when not every individual has the chance of being selected.

After that said, our sample was chosen randomly from the alumni of Notre Dame University-Louaize, giving each alumnus and alumna the same probability in answering our survey. This method which is used in studies which are following a quantitative approach is going to help us obtain our data in a random way. After that being said our precise method was the simple random sampling that covered our alumni population, taken into consideration that the alumni community was around 22,000 alumni till spring 2021. Our sample was chosen randomly, and we needed a sample which consists of 250-300 participants that will represent our population. The population was studied using a cross section method, which by definition means looking at the populations data at a certain point in time according to Cherry (2019). This method enabled us to compare the different results of the factors and relationship of alumni engagement and donations.

The questionnaire was sent to all alumni who graduated from spring 1989 until spring 2021 and who the university has registered their email addresses which was 20,441 emails addresses of which 1,400 emails bounced back. We got 357 Alumni responses of which 355 only agreed to be part of the survey. The questionnaire was sent by email and was accessible for a short period of time only in the summer of 2021. During this year a lot has changed either because of the collapse of the Lebanese currency causing a change in the lifestyle of

the Lebanese people, or because of the pandemic Covid-19 who was and still affecting and changing the way we live daily. These incidents we need to take into consideration because they might have an effect on the outcome of the questionnaire.

2.5 Data Collection

In this study we used a survey that is not only a common research strategy for collection of data, usually it is used while following a deductive approach which we are following as described in the section of research approach. To start with, two types of data exist primary and secondary, primary data refers that the data are collected by the primary user whereas, secondary data is when you use pre-collected data. That said, we will be following the primary data method in our thesis. To collect primary data, we have different methods that vary from interviews, observations, questionnaires, physical measurements, and unobtrusive. Surveys grounded questionnaires are usually used to gather information related to the field that is being studied. The survey will help us generate an accurate view of the drivers that have the highest impact on alumni engagement and the relationship to donations. That said we will be following the questionnaire survey method, by creating a questionnaire we will be able to get insights that will enable us to verify the research hypotheses.

2.5.1 The Questionnaire

The survey is online based, and like any method, it has its advantages and disadvantages. The online surveys disadvantages are the scarcity of internet access for certain populations, also we might need to encourage our alumni to fill it in as some might postpone filling it due to the busy schedule, and part of the population might not be very familiar with the concept of an online survey. On the other hand, the advantages are that online surveys are less time consuming, more cost-effective, have less human intervention which means less human error in data entry. The questionnaire was developed in English and is made up of two main parts as illustrated in Appendix A with a total of 39 questions and statements that

are structured. The First part of the questionnaire contains seven multiple choice questions, and the second part contains thirty-two statements with a Likert scale rating from 1 to 5; 1 being strongly disagree and 5 being strongly agree. The questionnaire was shared by the help of the Office of Alumni Affairs to all our alumni through the valid email addresses that they have in their database. The questionnaire was created through the blue system through the office of OIRA at NDU and the link was sent via email to all alumni, and it will take around 10-15 minutes to be filled by the alumni.

Also, the questionnaire included an introduction that introduced the researcher, the study and its purpose. As well a disclaimer that states that the survey is voluntary, anonymous, not mandatory, and all data is confidential and would only be viewed by the researcher and supervisor. The link of the survey was available for only one week; it was accessible from 23-6-2021 to 29-6-2021 after which it was removed and the data reviewed.

2.6 Data Analysis Tools

Surveys as Guthrie (2010) mentioned, would help in describing certain patterns of the larger groups, by the help of software like Microsoft excel and SPSS. In our research we used SPSS system version 2.0 that enabled us to comprehend statistical numbers of the data collected.

In this thesis to be able to see how the selected factors of alumni are related to the level of engagement and donations we used different statistical techniques that helped us relate the proposed thesis and acquire accurate and precise numbers. After that said we used the following: descriptive statistics, reliability analysis, factor analysis, correlation analysis, and regression analysis.

-Descriptive statistics: are summaries related to the data that is derived from the sample of population being studied that we asked in the first part of the questionnaire. There are different

types of descriptive statistics like median, mean, range and many more that might be useful (Kenton, Descriptive statistics, 2019).

-Cronbach's alpha: using it, we will be able to measure the reliability of the variables; it is used to check if the questions asked using the Likert scale are reliable or not. If the value obtained falls less than 0.7 it is not accepted because it indicated a weak consistency, the maximum number is 1 and everything between 0.7 and 1 is usable the higher the number the higher the consistency.

-Factor analysis: To be specific a Confirmatory Factor Analysis (CFA) was used to check the validity of the items used in the survey. It is a tool that is used to accept or reject the measurement theory. It is a concept in which the variables are reduced into a smaller number which holds the biggest number of covariance. In this study the model was based on previous research done on the factors of alumni engagement and its relation to donations, thus we used the factor analysis to be able to prove our hypotheses. First we used the Kaizer-Meyer-Olkin (KMO) test which is used to measure the suitability of the sample. KMO varies from 0 to 1, and it should be 0.5 and above for us to be able to proceed with the factor analysis. The higher the number of the KMO means that the data at hand is more appropriate for the factor analysis. Then we checked the correlation between the variables using the Bartlett's test of sphericity. If the significance is < 0.05 it means that there is a relationship among the variable, while if the value is > 0.05 it means that there is no relationship between the variables. Correlation analysis helped us in testing the hypothesis, as it aims to establish the strength and relationship between the data in our hand. Pearson correlation coefficient, which measures the linear correlation between the data. It reflects the type relationship between the data, values range between ± 1 . If the value tends toward +1 it means that a strong positive relationship exists, while if the value tends towards -1 it means that a strong negative relationship exists. While if the result is zero it means that no relationship exists. Through the factor analysis we were able to group similar

factors together, and factors that have an individual KMO result that is greater or equal to 0.5 in the anti-image correlation matrix will be accepted while every variable who has an individual KMO < 0.5 will be omitted. Omitting variables is a tricky process, because we need to monitor the changes and to be able to monitor it is preferred to omit one factor at a time and re-run the factor analysis until we reach an outcome that has no cross-loadings. After that we extracted the factors by the help of the principle component analysis, which is a measurement of variables. After looking at the anti-image correlation, we moved on to the extraction and it was used through the Principle Component Analysis which is a measurement of variables. We started with the un-rotated factor analysis, and as you can see from the name the factor analysis can be used in an un-rotated and rotated way. And we ran the program until the results produced are without any cross-loadings. Cross-loading is when a variable appears in more than 1 factor, which means that the variable has a relation with more than one factor. Rotations could be orthogonal or oblique. Orthogonal is when the rotation is at a fixed 90-degree angle rotation and consists of quartimax, verimax, and equamax. While oblique is when rotations are not at a fixed 90-degree angle and consists of direct oblimin and promax method. In this research we used the orthogonal approach, and we were able to extract the factors by first looking at the communalities of the variables which range from 0 to 1, the smaller the number indicates that the variable is not a good fit to the factor analysis performed, while the higher the number the better fit it is. The higher the number the more variance is explained and vice versa. Second we looked at the total variance explained, eigenvalue, and the scree plot. In the total variance explained factors are listed from the strongest to the weakest, meaning that the factor with the highest percentage resembles a bigger number of variance explained. Eigenvalue is a measure that should be equal or greater to one to be considered as a factor, and it shows us how much of the variance of the variable is explained by the factor and is shown as a percentage. A scree plot showed us the obtained factors and their eigenvalues. We moved forward and looked into

the component matrix which included the factors and showed us where we have variables that contains cross-loadings. Based on our sample, the loading value should be 0.3 to ensure that the independent variables are represented in the correct factors based on Hair et al. (2009) in table 44 in the list of figures.

-Regression analysis: was used to approximation the relationships between independent and dependent variables, to see how the variables are affected or impact by changes. There are three types of regression; simple linear, multiple linear and nonlinear regression. We used the multiple linear regression translated in the below formula:

$$Y = A + BX1 + CX2 + DX3 + E$$

- Y being the dependent variable
- X1, X2, X3 being the independent variable
- A being the intercept
- B, C, D being the slopes
- E being the residual error.

2.7 Conclusion

In this chapter we discussed the research procedure that we followed, and the methodology that we adopted. We adopted a positivist approach that will reveal the impact and relationship between the three chosen independent variables proximity to university, student experience and communication tools with the dependent variables alumni engagement and donations. We followed a deductive reasoning approach also known as “top-down” approach while following qualitative approach for the data. We tested the hypotheses deduced from the data that we collected in our online questionnaire that we used. Through this survey, we were searching for the relationship between the variables. Our sample was randomly selected, given the same probability for each alumni. We relied on SPSS to perform our statistics using the primary data that we collected through the survey that was anonymous to ensure the privacy and ease of participants. The statistical techniques that we used are descriptive statistics, reliability analysis, confirmatory factor analysis, and regression analysis.

In the following chapter we will discuss the survey, through displaying the data that was collected by quantifying them by the help of the different statistical techniques that will enable us to have precise results. With those results we will be able to accept or reject the four hypotheses previously stated in the chapter, that will enable us to generate a deeper understanding of how the selected factors affects the level of alumni engagement and donations, hoping to add knowledge to the office of Development and Alumni Affairs.

CHAPTER 3:

Results and Analysis

3.1 Introduction

In this chapter we will be discussing the results of the survey based questionnaire that was sent to the Alumni community of NDU who graduated from 1989 till 2021. We used the “SPSS” Statistical software to analyze the primary data that resulted from the questionnaire by using the statistical techniques that we discussed in the previous chapter in order to be able to prove the stated hypothesis. We will start by looking on some descriptive statistics of our audience, then we will move to the factor analysis and regression and later on we will discuss and analyze the findings.

3.2 Characteristics of the Sample

After filtering the obtained data and after removing any incomplete questionnaires we were left with a diversified sample of 355 respondents. That is why we will explore the characteristics of the respondents that represents the alumni community at NDU such as, gender, age group, year of graduation, how close they live to the university, place of residence, where they get information about NDU, and if they ever got any kind of financial aid from NDU.

To start with the respondents consisted of 192 males (54.1%) and 163 females (45.9%) as conveyed in the below figure which is considered a decent gender distribution, that would be a good representation of the two gender.

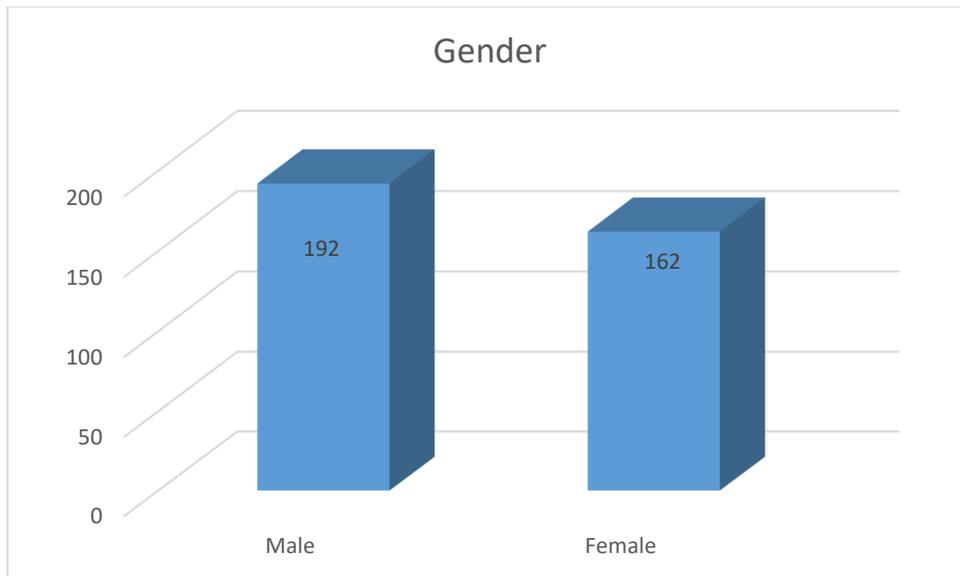


Figure 2: Distribution of Gender

As shown in the below figure, when asked if they received any kind of financial support from the university 48.7 % of our respondent answered with a yes, and 51.3 % of our respondents answered with a No. This is expected because as mentioned in the literature review NDU emphasis on assisting its students who are facing financial difficulties, which means that our respondents are equally represented.

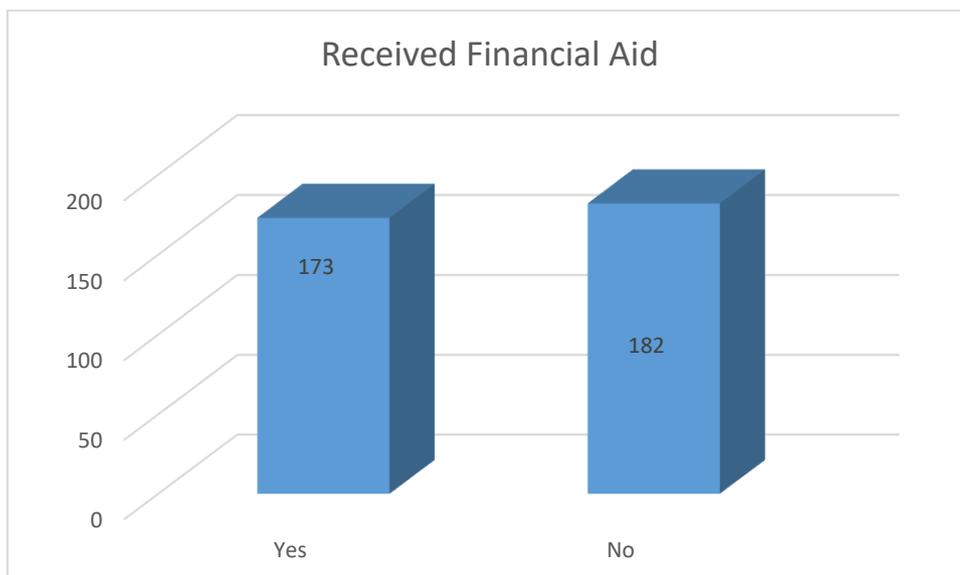


Figure 3: Received any Kind of Financial Aid

If we look at the age of our respondents in table 23 in appendix B which contains the age group of the respondents, we could see that 20.6 % fall between the age of 18-25, 28.2 % fall between the age of 26-30, 29.3% falls between 31-40, and 21.9% are above 41 years old. Around 48.8% or 173 of the respondents are between the ages of 18 and 30 and 51.2 % or 128 respondents are between the ages of 31 and above, which makes our sample somehow proportionate between the ages below and above 30. And this is a good indicator which gives us a well-balanced sample that represents all our alumni.

Moving to the year of graduation if we take a look at table 24 in appendix B, which includes graduation year of the respondents, we could see that our respondents are distributed as follows; 53.2 % graduated between the year 2013 – 2021, 25.4 % graduated between the year 2005 – 2012, 16.1 % graduated between 1997-2004, and 5.4 % graduated before 1996. With a well-represented age group, it is evident that we have a well-balanced graduation brackets and that should be a sign of a good sample.

If we look at the proximity to campus in table 25 in appendix B, which talks about proximity to campus of the respondents, we see that 12.7 % of our respondents live 0-5 km away from campus, 20.3 % of our respondents live 6-11 km and 12-17 km away from campus, 13.8 % lives 18-23 km away from campus, 9.3 % lives 24-29 km away, and 23.7 % lives more than 30 km away from campus. Usually while going university hunting, the location and proximity plays a big factor in choosing which school to attend, but also 23.7% live more than 30 km away, meaning that an important part of our sample either is outside the country or lives distant from the university,

If we go further and look into the table 26 in appendix B, which contains the place of residents in the appendix we could see that our respondents are geographically located inside Lebanon as follows; 16 live in Beirut, 240 live in Mount Lebanon, 3 live in Bekaa, 14 live in the North, 1 live in the South, and we could not notice that 81 of our respondents are located

outside Lebanon. It is evident that the bigger number is in Mount Lebanon due to the fact that the main campus is located in Keserwen area, while it is important to focus on the 81 alumni who reside outside Lebanon which we will discuss below.

From those living outside Lebanon, the top 5 countries as shown in table 27 in appendix B are: 28 in UAE, 12 in USA, 6 in each Qatar and Canada, 5 in France. In addition to Armenia, Australia, Bahrain, Belgium, Benin, Cyprus, Germany, KSA, Kuwait, Oman, South Africa, and Switzerland. We could see that our respondents are dispersed and would be representative of either the alumni in Lebanon and those who are abroad.

When asked when do you get information and news about NDU from, which was a multi answer question, we offered them the below answers: A. Emails or e-newsletters from NDU, B. Traditional Media (magazines, TV, print or online newspapers, etc.), C. Friends, relatives, students, or alumni (in any way other than social media), D. NDU's Website, E. Social media such as blogs, Facebook, Twitter, Instagram, LinkedIn YouTube, etc. The results came as represented in the below graph.

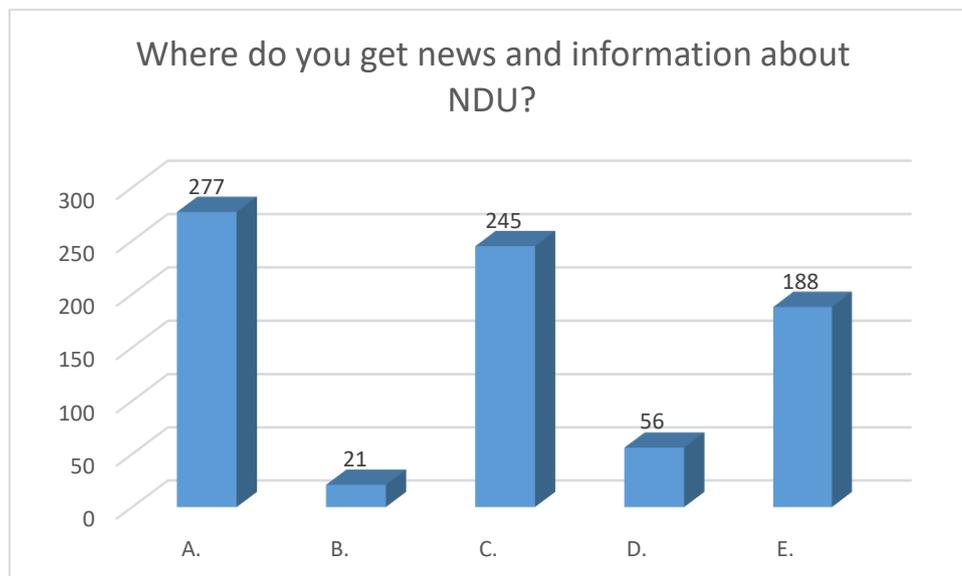


Figure 4: Where do you get news from

As you can see in the graph the highest number of alumni rely on the emails or newsletters of NDU with 277 responses, then second came the word of mouth from friends, relatives,

students, or alumni (in any way other than social media) with 245 responses. Third, is social media platforms with 188 responses. Forth comes NDU's website with 56 responses. And finally comes traditional media with 21 responses.

3.3 Inferential statistics

3.3.1 Reliability Test

After looking into the descriptive statistics, it is now time to examine the reliability of the variables by conducting the Cronbach Alpha coefficient. Cronbach alpha measures the internal consistency of the variables tested, every value should be between 0.7 and 1 to be accepted any value less than 0.7 is not accepted. In our Study, Cronbach alpha is $0.880 > 0.7$ as shown in the table below which means that the scales are reliable.

Reliability Statistics	
Cronbach's Alpha	N of Items
.880	34

Table 8: Reliability of the measurement module

3.3.2 Inferential statistics - Part 1

The first step after testing the reliability, is to test the validity of our model using the KMO which stands for Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity as shown in the below figure.

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.767
Approx. Chi-Square	1587.969
Bartlett's Test of Sphericity	Df
	120
	Sig.
	.000

Table 9: KMO and Bartlett's Test part 1

As we can see in the above table KMO is 0.767 which is above 0.7 which tests the validity and means that there is enough correlation between the variables, and that the data at hand is

good for performing factor analysis. Bartlett's Test of Sphericity, there is a significance of 0.000 that is below 0.05 so it is significant at a 95% confidence interval. Then we move forward and look at the Anti Image Correlation in diagonal view, to be able to understand the correlations between the variables as shown in table 28 Anti Image Metrics in appendix C. As shown in the table the values were SE1=0.802, SE2=0.625, SE3=0.559, SE4=0.784, SE5=0.881, SE6=0.721, CM1=0.781, CM2=0.829, CM3=0.790, CM4=0.831, CM5=0.789, CM6=0.819, GL1=0.735, GL2=0.695, GL3=0.0.746, GL4=0.831 as you could see all the values were above 0.5 which means that they are accepted, and no variable was omitted. Then we move on to the Principle component analysis table below, to check the communalities of our variables:

Communalities		
	Initial	Extraction
SE1	1.000	.590
SE2	1.000	.772
SE3	1.000	.760
SE4	1.000	.528
SE5	1.000	.457
SE6	1.000	.458
CM1	1.000	.317
CM2	1.000	.402
CM3	1.000	.508
CM4	1.000	.601
CM5	1.000	.697
CM6	1.000	.437
GL1	1.000	.721
GL2	1.000	.776
GL3	1.000	.409
GL4	1.000	.633

Extraction Method: Principal Component Analysis.

Table 10: Communalities part 1

SE1 communality= 0.590, which is an average communality. SE2 communality=0.772 which is a strong communality. SE3 communality=0.760 which is a strong communality. SE4

communality=0.528 which is an average communality. SE5 communality=0.457 which is an average communality. SE6 communality=0.458 which is an average communality. CM1 communality=0.317 which is a weak communality. CM2 communality=0.402 which is a weak communality. CM3 communality=0.508 which is an average communality. CM4 communality= 0.601 which is a strong communality. CM5 communality= 0.697 which is a strong communality. CM6 communality=0.437 which is an average communality. GL1 communality= 0.721 which is a strong communality. GL2 communality=0.776 which is a strong communality. GL3 communality=0.409 which is an average communality. GL4 communality= 0.633 which is a strong communality. The table 29 in appendix C of the total variance explained shows us how the variance is divided among the four components that has an eigenvalue above 1 and has a cumulative % of 56.6580. The first component has an eigenvalue of 3.797 which is above 1 and explains 23.733 % of the variations, while the second component has an eigenvalue of 2.299 which is above 1 and explains 14.366 % of the variations, moving on to the third component which has an eigenvalue of 1.629 which is above one and explains 10.575 % of the variance, while the fourth and last component has an eigenvalue of 1.277 which is above 1 and explains 7.893% of the variance. As you can see in the below plot value, the eigenvalue of the first four components are above 1.

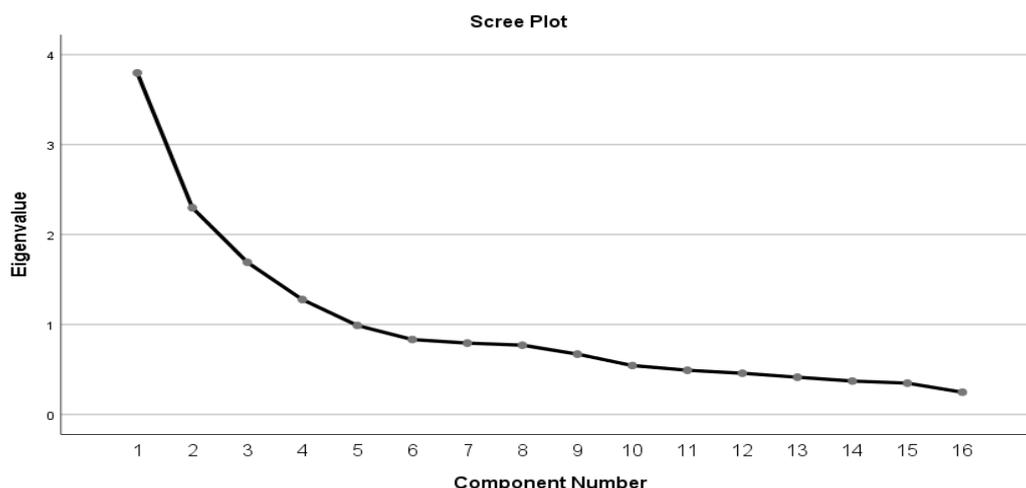


Figure 5: Scree plot part 1

Next, we started by trying the un-rotated component matrix, a lot of cross loading were present as you can see from the below table.

Component Matrix^a

	Component			
	1	2	3	4
SE1	.608			.360
SE2	.383		.688	-.382
SE3			.707	-.436
SE4	.552	-.322		.312
SE5	.618			
SE6				.566
CM1	.362		.304	
CM2	.495		-.342	
CM3	.363	-.346	-.449	
CM4	.688			
CM5	.668		-.397	
CM6	.623			
GL1	.485	.695		
GL2	.401	.784		
GL3		.550		
GL4	.451	.649		

Table 11: Un-rotated component matrix part 1

It is evident that all of the following factors had cross-loadings in different variables: SE1 is present in factor 1 & 4, SE2 in factor 1,3 &4 SE3 in factor 3 & 4, SE4 in factor 1, 2 &4, CM1, CM2 & CM5 in factor 1 & 3, CM3 in factors 1,2 &3, GL1, GL2, and GL4 in factors 1 & 2. That is why we did a transformation, the transformation was orthogonal because it has a fix 90 degrees, we started first by trying the QUARTIMAX and after testing it we still had a cross loading in SE5 as show in table below:

Rotated Component Matrix^a

	Component			
	1	2	3	4
SE1			.713	
SE2				.854
SE3				.868
SE4			.659	
SE5	.403		.520	
SE6			.658	
CM1			.531	
CM2	.616			
CM3	.682			
CM4	.734			
CM5	.824			
CM6	.536			
GL1		.827		
GL2		.878		
GL3		.612		
GL4		.779		

Table 12: Rotated Component-Quartimax part 1

That is when we decided to do another rotation that is called the VERIMAX after testing it we still had a cross loading in SE5 as seen in table 30 in appendix C, therefore we decided to remove the SE5 because it was still causing cross-loadings and tried again the VERIMAX we got a result without any cross loadings as shown in table below.

Rotated Component Matrix^a

	Component			
	1	2	3	4
SE1			.711	
SE2				.864
SE3				.873
SE4			.656	
SE6			.676	
CM1			.551	
CM2	.620			
CM3	.686			
CM4	.733			
CM5	.826			
CM6	.535			
GL1		.828		
GL2		.877		
GL3		.615		
GL4		.780		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Table 13 Rotated Component VERIMAX- V.1 part 1

We got the above factors after the software converged the rotation after only 5 iterations which is a small number of iterations. Based on the above the components scores will be used in a regression model. You could see in table 13 the variables under each external component. Thus we propose the following:

- Factor 1 namely Communication Methods
- Factor 2 namely Geographic Location
- Factor 3 namely Student Expectation
- Factor 4 namely Student Participation

-Factor 1 Communication Methods:

The first factor as the factor analysis gave us, consisted of CM2-CM3-CM4-CM5-CM6. They are all questions that are related to communication methods and are conveyed below.

8. NDU uses social media platforms to connect with alumni.	CM2
9. All university news and information are available on NDU's Website	CM3
10. I find the e-mails received from NDU relevant.	CM4
11. NDU does a great job in keeping alumni informed.	CM5
12. I feel eager to read emails once I receive them from NDU.	CM6

-Factor 2 Geographic Location:

The second factor as the factor analysis gave us, consisted of GL1-GL2-GL3-GL4. They are all questions that were related geographic location of the alumni and are conveyed below.

20. Proximity to campus affects attending events.	GL1
21. Distance from campus affects my level of involvement.	GL2
22. My level of involvement would decrease If I lived outside Lebanon.	GL3
23. The closer I lived to campus the more engaged I would be.	GL4

-Factor 3 Student Expectations:

The first factor as the factor analysis gave us, consisted of SE1-SE4-SE6-CM1. They are all questions that were related to student expectations and are conveyed below.

1. My student experience met my expectations.	SE1
4. NDU offered a quality education.	SE4
6. I finished my degree in the predicted time frame.	SE6
7. NDU should share more Alumni stories, news, and achievements.	CM1

It is important to note that factor 3 consists of SE1, SE4, SE6, and CM1. These variables are grouped together because they represent the expectations of alumni about the education, student experience, and news shared with the alumni community. They were not initially intended to be under 1 one factor as they were backed up by existing literature.

-Factor 4 Student Participation:

The fourth factor as the factor analysis gave us, consisted of SE2-SE3. They are all questions that were related to student participations in university events and are conveyed below.

2. I participated in events outside classroom.	SE2
3. I was an active member in a student club.	SE3

After extracting the obtained factors, we will look into the relationship between them and the first dependent variable alumni engagement.

First, we will start by testing the Cronbach's alpha for the dependent variable Alumni Engagement (AE) which turned out $0.809 > 0.7$ as shown in table 31 in appendix C, therefore we did the average score for the seven questions which we used in the regression.

Before we move forward we tested the normality of the sample for the regression factors 1,2,3,4 that we previously extracted.

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
REGR factor score 1 for analysis 1	355	-3.13477	2.55411	.0000000	1.0000000	-.019	.129	.074	.258
REGR factor score 2 for analysis 1	355	-2.61984	2.25284	.0000000	1.0000000	-.144	.129	-.403	.258
REGR factor score 3 for analysis 1	355	-4.23888	2.35534	.0000000	1.0000000	-1.012	.129	1.809	.258
REGR factor score 4 for analysis 1	355	-2.52752	2.19789	.0000000	1.0000000	-.205	.129	-.530	.258
Valid N (listwise)	355								

Table 14: Descriptive Statistics part 1

As shown in the table 14 the skewness is between -1.5 and 1.5 and the kurtosis is between -3 and 3, therefore the sample is normal, random, and the variables are numeric so we can conduct a parametric test. The first parametric test that we did was a correlation, the Pearson correlation. If we look at the correlation table 32 in appendix C between the Alumni Engagement average and the four factors, the significant correlation between the factors and

AE are all significant correlated at a 99% level. After performing the regression, we got in total of four modules using stepwise method as show in the below table:

Model Summary^e					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.435 ^a	.189	.187	.60745	
2	.572 ^b	.327	.323	.55418	
3	.659 ^c	.434	.429	.50917	
4	.698 ^d	.487	.481	.48518	1.867

a. Predictors: (Constant), REGR factor score 1 for analysis 1

b. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1

c. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1

d. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1, REGR factor score 2 for analysis 1

e. Dependent Variable: AVGAE

Table 15: Model Summary part 1

In the fourth module as shown in table 15 we got an R squared of 0.487, which means 48.7% of the variation in the dependent variable are caused by the four factors. The adjusted R squared is 0.481 it is not more than 10% distant from R square which means adding more variables to this module wouldn't improve it much. Durbin Watson is equal to 1.867 which is acceptable and should be around 2, it signifies that there is no auto-correlation. The ANOVA is 0.00 which means there is significant variation in the y between the four factors as shown in table 33 in Appendix C. If we take a look in the coefficient table 34 in appendix C we can see that the constant is 3.191 and the beta for factor 1 is 0.293, for factor 2 is 0.250, for factor 3 is 0.220, and the beta for factor 4 is 0.156. The multi-collinearity table 35 in appendix C shows that we do not have any collinearity issues because the values are normal and equal to 1, because the software is the one who divided the factors. Then we take a look on the below chart:

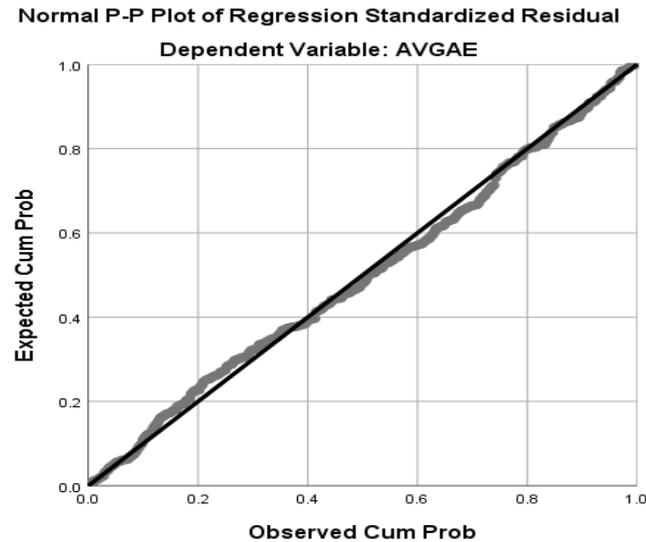


Figure 6 Normal P-P Plot part 1

Which shows us that the errors are normally distributed because it is evident that the dots are moving around the curve of the normal distribution. Also, the scatter plot shows us that we have no hetero-Skerasticity problems.

3.3.3 Inferential statistics - Part 2

Now we move on to the second part of the test to test the effect of Alumni Engagement (AE) on Alumni Donations (AD). We started by testing the KMO as shown in table 3.3.3.1, which indicates KMO of $0.769 > 0.7$ which means it is valid.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.769
Approx. Chi-Square		927.106
Bartlett's Test of Sphericity	Df	21
	Sig.	.000

Table 16: KMO and Bartlett's Test part 2

If we look at the Bartlett's test of Sphericity, there is a significance of 0.000 that is below 0.05 so it is significant at a 95% confidence interval. Moving forward and looking at the Anti Image Correlation in diagonal view, to be able to understand the correlations between the variables in table 36 in appendix D. As shown in the table $AE1=0.726$, $AE2=0.777$, $AE3=0.823$, $AE4=0.747$, $AE5=0.806$, $AE7=0.835$, $AE8=0.710$ all the Alumni engagement

variables are above 0.5 which means that they are accepted, and no variable was omitted.

Look at the Principle component analysis table shown below, to check the communalities of our variables:

Communalities		
	Initial	Extraction
AE1	1.000	.764
AE2	1.000	.727
AE3	1.000	.520
AE4	1.000	.727
AE5	1.000	.686
AE6	1.000	.281
AE7	1.000	.818

Extraction Method: Principal Component Analysis.

Table 17: Communalities part 2

We see that AE1 communality=0.764 which is a strong communality, AE2 communality=0.727 which is a strong communality, AE3 communality=0.520 which is an average communality, AE4 communality=0.727 which is a strong communality, AE5 communality=0.686 which is an average communality, AE6 communality= 0.281 which is a weak communality, AE7 communality=0.818 which is a strong communality. The table 37 in appendix D of the total variance explained shows us how the variance is divided among two components that has an eigenvalue above 1 and has a cumulative % of 64.624. The first component has an eigenvalue of 3.4111 which is above 1 and explains 48.727 % of the variations, while the second component has an eigenvalue of 1.113 which is above 1 and explains 15.897% of the variations. As you can see in the below plot value, the eigenvalue of the first four components are above 1.

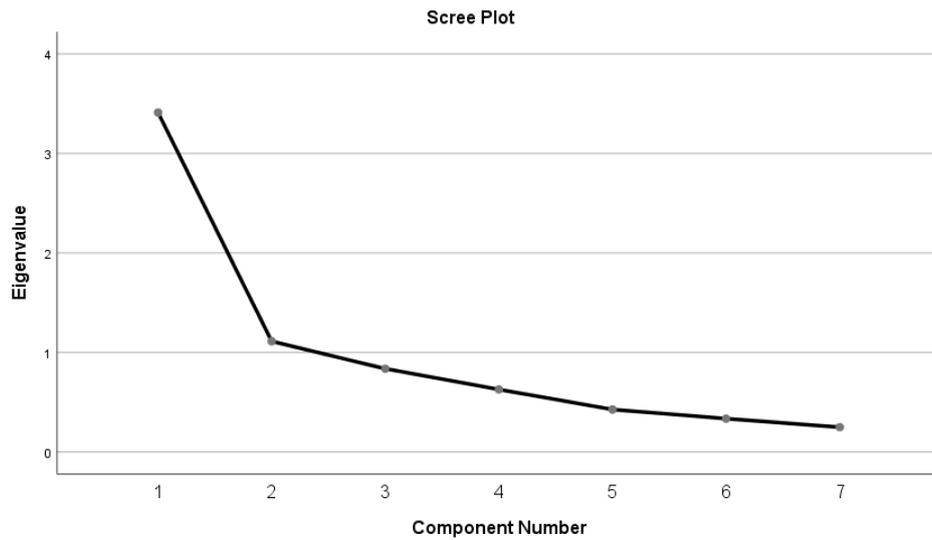


Figure 7 Scree Plot part 2

Next, we started by trying the un-rotated component matrix, a lot of cross-loading appeared in four places as shown in the below table:

Component Matrix^a

	Component	
	1	2
AE1	.744	-.458
AE2	.796	-.306
AE3	.711	
AE4	.682	.512
AE5	.789	
AE6	.474	
AE7	.637	.642

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Table 18: Un-rotated Component part 2

As you can see from the above table AE1, AE2, AE4, AE7 all have cross-loadings in the 2 factors. That is why we did a transformation, the transformation was orthogonal because it

has a fix 90 degrees, we started first by trying the QUARTIMAX and after testing it we still had a cross loading in AE4, as shown below:

Rotated Component Matrix^a

	Component	
	1	2
AE1	.874	
AE2	.837	
AE3	.666	
AE4	.304	.796
AE5	.803	
AE6		.454
AE7		.883

Extraction Method: Principal Component Analysis.

Rotation Method: Quartimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

Table 19: Rotated Component-Quartimax part 2

That is when we decided to do another rotation that is called the VERIMAX after testing it we still had a cross loading in AE3 as shown in table 38 in appendix D, therefore we decided to remove the AE3 because he was still causing cross-loadings and tried again the VERIMAX we got a result without any cross-loadings as shown in the below table.

Rotated Component Matrix^a

	Component	
	1	2
AE1	.905	
AE2	.803	
AE4		.828
AE5	.791	
AE6		.477
AE7		.900

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

Table 20: Rotated Component-Verimax V.1 part 2

We got the above factors after the software converged the rotation after only 3 iterations which is a small number of iterations. Based on the above the components scores will be used in a regression model. You could see in the table 20 the variables under each external component. Thus we propose the following:

- Factor 1 Namely Alumni Involvement
- Factor 2 Namely Alumni Commitment

-Factor 1: Alumni Involvement

The first factor as the factor analysis gave us, consisted of AE1, AE2, and AE5. They are all questions that are related to alumni involvement and are conveyed below.

13. I want to remain part of NDU.	AE1
14. I still feel like a part of the institution.	AE2
17. Continuous communications with NDU is important to me.	AE5

-Factor 2: Alumni Commitment

The second factor as the factor analysis gave us, consisted of AE4, AE6, and AE7. They are all questions that are related to alumni commitment and are conveyed below.

16. I often participate in Alumni Events.	AE4
18. I am still in touch with professors.	AE6
19. I am an active member in the alumni community.	AE7

After extracting the obtained factors, we will look into the effect the two factors extracted has on the dependent variable alumni donations.

First, we will start by testing the Cronbach's alpha for the dependent variable Alumni Donations (AD) which turned out $0.761 > 0.7$ as shown in table 40 in appendix D, therefore we did the average score for the seven questions which we used in the regression.

Before we move forward we tested the normality of the sample for the regression factors 1,2 that we previously extracted. If we take a look at table below:

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
REGR factor score 1 for analysis 2	355	-3.67956	1.94283	.0000000	1.0000000	-.866	.129	1.175	.258
REGR factor score 2 for analysis 2	355	-2.19536	3.72947	.0000000	1.0000000	.345	.129	.150	.258
Valid N (listwise)	355								

Table 21: Descriptive Statistics part 2

We notice that the skewness is between -1.5 and 1.5 and the kurtosis is between -3 and 3, therefore the sample is normal, random, and the variables are numeric so we can conduct a parametric test. The first parametric test that we did was a correlation, the Pearson correlation. If we look at the correlation table 40 in appendix D between the Alumni Engagement average and the two factors, the significant correlation between the factors and Alumni Donation are all significant correlated at a 99% level. After performing the regression, we got in total of two modules using stepwise method. In the second module as shown in the table below:

Model Summary ^c					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.482 ^a	.232	.230	.43475	
2	.563 ^b	.318	.314	.41051	1.885

a. Predictors: (Constant), REGR factor score 1 for analysis 2

b. Predictors: (Constant), REGR factor score 1 for analysis 2, REGR factor score 2 for analysis 2

c. Dependent Variable: AVGAD

Table 22: Model Summary part 2

We got an R squared of 0.318, which means 31.8% of the variation in the dependent variable are caused by the two factors, which is normal to be that low because as said it is only for two

factors which is immense. The adjusted R squared is 0.314 it is not more than 10% distant from R square which means adding more variables to this module wouldn't improve it much. Durbin Watson is equal to 1.885 which is acceptable and should be around 2, it signifies that there is no auto-correlation. As shown in table 41 in the appendix D, the ANOVA is 0.00 which means there is significant variation in the y between the two factors. We move to the coefficient table 42 in appendix D we can see that the constant is 3.603 and the beta for factor 1 is 0.239, and the beta for factor 2 is 0.145. For the multi-collinearity as shown in table 43 in appendix D, it is normal that it is equal to 1, because the software is the one who divided the factors and we won't have any collinearity issues. Then we take a look on the below chart:

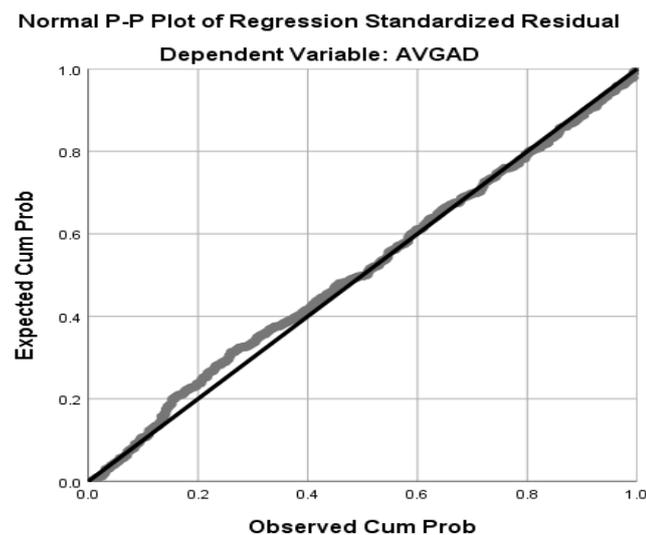


Figure 8: Normal P-P Plot part 2

Which shows us that the errors are normally distributed because it is evident that the dots are moving around the curve of the normal distribution. Also, the scatter plot shows us that we have no hetero-Skerasticity problems. At the end, we can see from the tables of correlation between factors and the residual of the errors, we can see that there is no correlation which means that the factors are not correlated with the error of the same factors.

3.4 Testing Hypothesis

In the beginning of the thesis, we formulated the conceptual module that consisted of four hypotheses; the first three hypotheses to test the three chosen factors and the relationship to alumni engagement. And the fourth hypotheses to test how alumni engagement affects alumni donations. Now we will test the extracted factors, on two stages the first stage will include factors of alumni engagement and the relationship to alumni engagement while the second will test the extracted factors of alumni engagement and how it affects alumni donation. For the two stages we performed a classical linear regression modeling between the extracted factors and the weighted average of the dependents variables. We will now discuss the results according to the extracted factors.

- **Part 1:**

The first model, which contains the four extracted factor which we named before and the alumni engagement, had an R square equal to 0.487 and adjusted R square equal to 0.481. The Durbin-Watson scored 1.867 which means that there is no autocorrelation. ANOVA test had a significance which is less than 0.05 which indicates that the module is a good fit. The extracted factors that had a significant value less than 0.05 are: Factor 1 (Communication Methods) with a standardized coefficient beta of 43.5%, Factor 2 (geographic location) with a standardized coefficient beta of 23.1%, Factor 3 (Student Expectation) with a standardized coefficient beta of 37.1%, and Factor 4 (Student Participation) with a standardized coefficient beta of 32.6%.

$$Y(AE) = B_0 + B_1F_1 + B_2F_2 + B_3F_3 + B_4F_4 + et$$

$$Y(AE)=3.919 + 0.435F_1 + 0.231F_2 + 0.371F_3 + 0.326F_4 + (82.392)$$

As conveyed from the above formula, we could see that all four factors Communication methods, geographic location, student expectation, and student participation has as a positive relationship with the dependent variable alumni engagement. The communication method has

the highest effect on alumni engagement, then followed by student expectations, then student participation, and finally the geographic location.

- **Part 2:**

The second model, which contains the two extracted factor which we named before and the Alumni Donations, had an R square equal to 0.318 and adjusted R square equal to 0.314. The Durbin-Watson scored 1.885 which means that there is no autocorrelation. ANOVA test had a significance which is less than 0.05 which indicates that the model is a good fit. The extracted factors that had a significant value less than 0.05 are: Factor 1 (Alumni Involvement) with a standardized coefficient beta of 48.2%, Factor 2 (Alumni Commitment) with a standardized coefficient beta of 29.2%.

$$Y(AE) = B_0 + B_1F_1 + B_2F_2 + e_t$$

$$Y(AE) = 3.603 + 0.482F_1 + 0.292F_2 + (59.318)$$

As conveyed from the above formula, it is clear that Alumni Involvement accounts for a considerable variance in alumni donations. We could see that both factors Alumni Involvement and Alumni Commitment positively affects the dependent variable alumni donations.

3.5 Discussion of Results

In this section we will be discussing and interpreting the results, the analysis will be based on the four hypothesis statistical results that we described in the previous sections.

3.5.1 Relationship between Communication method and Alumni Engagement

From the above statistics and results it turned out that there is a positive relationship between the communication methods and Alumni engagement, which means that the communication methods effect the level of alumni engagement. That is why we accept the third hypotheses that we tested which is:

H3: Communication methods effects the level of alumni engagement

The results of our statistics approves what was previously discussed in the literature review, which is that communications methods have a direct impact on the alumni engagement. In the literature review, as discussed and tested by Levine (2008), and Farrow and Yuan (2011) in which both studies results showed that communication methods have a direct positive relationship with alumni engagement. From my perspective, I believe that communication methods have a direct impact on alumni engagement when communicating through the right tools, as shown in the demographic data collected the preferred communication method is emails or newsletters from NDU followed by word of mouth from colleagues, family and friends. But we need to take into the consideration the rapid changes that the society is undergoing through the rise of COVID-19 in which a lot has changed and from which the communication channels as people now rely more on digital communication channels for different reasons. It is through communication channels that you keep your audience aware of all the activities, news, make them nostalgic and keep in touch with them through using their interests as baits. Which means using the right tools would affect the level of engagement.

3.5.2 Relationship between Geographic Location and Alumni Engagement

From the above statistics and results it turned out that there is a positive relationship between the geographic location and Alumni engagement, which means that proximity to campus of the alumni effects the level of his engagement in the alumni community. That is why we accept the first hypotheses that we tested which is:

H1: The geographic location of the alumni affects the level of alumni engagement.

The results of our statistics approves what was previously discussed in the literature review, which is that geographic location or proximity to campus have a direct positive impact on the alumni engagement. As the studies of Holmes (2009), Edmunson (2011), and Newbold et al. (2010) showed that the alumni who live closer to the university tends to be more engaged, and are more likely to remain involved. From my perspective, I believe that that the closer the

alumni live to his university the more he is to remain involved and it is to several reasons, the main thing is that most events and seminar that are targeted to the alumni communities are done on campus in order to strengthen and create the bond between an alumni and the alma mater. And as it is evident from the demographic data of our tested sample, 76.3 % of respondents lives between 0-30km from university. Taken into consideration that on average a 30 km route needs around 30-40 min in Lebanon. That is why the more the alumni are closer the more the level of engagement would be.

3.5.3 Relationship between Student Experience and Alumni Engagement

From the above statistics and results it turned out that there is a positive relationship between the Student experience and Alumni engagement, which means that the university experience that the student passed through has a direct impact on his level of engagement. That is why we accept the second hypotheses that we tested which is:

H2: Student experience have a positive influence on the level of alumni engagement.

The results of our statistics approves what was previously discussed in the literature review, which is that both student expectations and student participation has a positive influence on the level of alumni engagement. In the literature review, the student experience was divided into academic and social student experience. The academic experience was related to the quality of education, and the overall student experience which is the expectation of the overall educational journey, while the social experience is related to the extra curriculum activities like attending events, and being part of student clubs. The studies that were shown in the literature review resulted in a positive relation between student experience and alumni engagement, and some of the studies emphasized on it being the highest predictor of alumni engagement. From my personal perspective, I believe that the student experience is a very important factor that would affect the level of alumni engagement, and it is shown that through the people who are attending our alumni events, from which most of them were

involved in student's extra-curriculum activities, part of clubs, and even the people who are in the alumni association comity all were involved in the student clubs. And we need to take the alumni as customers, from a logical perspective the satisfied customer would always be intrigued to know more about the organization, and he would be more involved whereas, the unsatisfied customer would be careless. That is why making sure the students have a pleasant experience in university plays a major role in his future relationship with his alam-mater.

3.5.4 Relationship between Alumni engagement and Alumni donations

From the above statistics and results it turned out that there is a positive relationship between the Alumni engagement that is divided into alumni involvement, alumni commitment and alumni donations, which means that the level of alumni engagement affects the alumni donations. That is why we accept the fourth hypotheses that we tested which is:

H4: The level of Alumni Engagement influences the level of alumni donations.

The results of our statistics approves what was previously discussed in the literature review, that there is a relationship between engagement and donations, but the effect is not that high because our module consisted of only 2 factors which were alumni involvement and commitment and both had a positive influence on donations. In the literature review, some studies showed that there is a positive relation between them like Pumerantez (2005), Wunnava and Lauze (2002), and Weerts and Ronca (2008) those studies showed that alumni that are more engaged tend to donate more than those who are not engaged. From my personal perspective, I believe that alumni engagement is a good predictor for alumni donations, but it is not the only predictor, as some predictors might be if the alumni received financial support from the university while studying, his social status, income level, and many more. From what I have seen, a lot of alumni are engaged with their alma mater and attend every event are willing and love to give back to their alma-mater. Even though NDU is still a young university we have some well-established alumni that are dispersed around the

region that have already marked their career path and would be willing if approached in the right way to give back to their alma-mater. We could see from the sample, that 50% of the respondents are 30 and above which means that they are in mid-career or at the peak of their careers.

3.6 Conclusion

In this chapter we followed an outline which helped us gather the data of the alumni of Notre Dame University-Louaize that enabled us to test the stated hypothesis and analyze the obtained results, because our research followed a positivist approach and a deductive reasoning was followed, we used factor analysis, descriptive statistics, and regression analysis on the data to test the hypotheses.

We found that there is a positive relationship in all of the four hypotheses and a positive impact as well, which we failed to reject, and that enabled us to answer the main research question of our thesis study. We compared our findings with the literature review and researchers concluded the below:

- Communication Methods to the alumni community has a positive impact on the overall alumni engagement, which align with the findings in the literature review.
- Geographic location of the alumni has a positive impact on the overall alumni engagement, which align with the findings in the literature review.
- Student experience that the alumni went through has a positive impact on the overall alumni engagement, which align with the findings in the literature review.
- Alumni engagement has a direct moderate positive impact on the overall alumni donations, which align with the findings in the literature review.

The outcome of the study, has reached the objective that we were seeking, which is to find out the relationship between factors of alumni engagement and how alumni engagement

affects alumni donations. These results allowed us to answer the question and proved our hypotheses.

The findings of this research added value and clearly showed the relation between the factors that affect alumni engagement and the relationship of engagement with donations. Those results can contribute in the decision making to adopt new and update old strategies that deal with alumni in order to maximize the level of engagement with the alma-mater.

Conclusion and Recommendations

Introduction

In this study we explored the relationship of selected factors that affect alumni engagement, and how alumni engagement affects donations for the alumni of Notre Dame University Louaize. This research was conducted using a deductive reasoning approach to test the hypotheses. This study aims to assist the University and especially the office of development and alumni affairs in increasing the knowledge and understanding of the alumni community, and in formulating strategies that would help increase the alumni engagement and that lead to increase alumni donations as a secondary target.

Our methodological approach consisted of a quantitative questionnaire that assessed the independent and dependent variables over a sample of around 350 alumni from different descriptive background. After analyzing the findings and testing the hypothesis in the previous chapter, we will summarize the results as well as discuss the validity issues, potential area for future research, and limitations in this final chapter.

Main Findings

This thesis tested how the geographic location, student experience communication methods affect the level of alumni engagement and how the alumni engagement affect the alumni donations. After conducting the statistical tests, the hypothesis that were related to our research question were either rejected or accepted. In our thesis the four hypotheses were tested using the regression technique, and upon the results we accepted all four hypotheses.

Concerning the research question: “What are the drivers that would increase the engagement of the alumni, and its relationship with alumni donation?” Geographic Location, Student Experience, communication methods, were all found to have a positive relationship and effect on alumni engagement, and hence confirming and validating H1: The geographic location of the alumni affects the level of alumni engagement, H2: Student experience have a

positive influence on the level of alumni engagement, and H3: Communication methods effects the level of alumni engagement. In addition, we found out that alumni engagement moderately affect alumni donations in a positive way, hence confirming and validating H4: The level of Alumni Engagement influences the level of alumni donations.

Validity Issues

In this section we will talk about internal, external, statistical, and conclusion validity. Since we used quantitative methods and aim to establish causality, it is very important to prove that the independent variables are accountable for the changes in the dependent variables and internal validity. R square was 0.487, which shows us that there is a relation between the independent variables “geographic location, student experience, communication methods with alumni engagement.” To add to that, the adjusted R square was not varying more than 10% from the R square, this indicates that additional variables are not needed to further explain the module, and that the independent variable explains the variations in the dependent variables.

As for the external validity, the aim of the research was to be able to help the university and especially the office of development and alumni affairs in creating a strategy which increase the alumni engagement, and in an indirect way alumni donations through providing recommendations and giving them insights on the alumni community that is represented by the respondents.

Our sample was random, normally distributed and had acceptable ranges of skeweness and kurtosis. Moreover, our Cronbach alpha was above 0.7 which ensured reliability of scales. Our Durbin-Watson number was acceptable between the recommended range which indicated that there were no heteroscedasticity issues in both modules. After discussing the statistical validity through the above that shows all conditions of the parametric tests were met.

In the end, the results align with the literature review that suggests that factors have a positive relation between the communication methods, student experience, geographic location and alumni engagement as well as between alumni engagement and alumni donations.

Limitations of the research

While the research was being conducted, several limitations arise, especially since the research was performed between 2020 and 2021 in Lebanon where we encountered an economic problem, unstable political situation, and a global pandemic. However, this was not a complication to finish the research, but it may have affected the collected data as participant's answers may have been changed by the tough economic situation that we are passing through especially that the second part of the research is directed towards monetary donations. Also, the rise of Covid-19 which forced the human social existence to change, this might somehow affect the methods that affect the level of alumni engagement. As well the not up-to date and complete data, that contains around 1,400 wrong emails, many profiles with no email address, or profiles with old email addresses that are not used by the alumni anymore prevented some alumni from receiving our questionnaire.

Theoretical and Practical implications

From a theoretical perspective, our research enhances the evidence that indicates that the geographic location, student experience, communication method affects "alumni engagement" of the alumni community of Notre Dame University-Louaize. The results are relevant and consistent to the literature review on factors of alumni engagement. That is why, the findings are an additional to the topic and offer a new research horizon on the topic. And gives the opportunity in the future to add more factors that affect the alumni engagement. These results are meant to add to the experience of the alumni relations professionals in relation to their understanding of the NDU alumni community, and since no alumni community is like

another, this study can be used as a broad skeleton, and the findings can't be generalized on all alumni community worldwide.

In regards to the practical implications, through this research it was evident that communication methods, student experience, geographic location are factors of success in engagement strategies that is why the university should focus on the engagement strategies for the alumni.

To be able to engage with our alumni our priority should be the alumni data, that enables them to be in touch with all their alumni's, and not only any data. The data should be updated regularly which is a daily task of the office, but more efforts should be done in order to have a full data by updating manually and automatically by alumni. To do so, several strategies should be put in place, some which are already being worked on and others that are needed to be implemented. One thing that could be done, is have a comprehensive data base for all the university by which when an alumnus needs to request anything from the university he is obliged first to update his data, as well as create a social media campaign that would shed the light on the methods that the office already works on to facilitate and inform alumni of the process. Also, having a team that updates data, and treating each member as an account executive for a specific region or graduation class. Having a full data base would enhance our engagement reach.

Communication Is a key hence having a good strategy that would enable the university to reach most of the alumni and be able to engage with them and increase their self of belongingness and hence increase the level of engagement, especially in our times due to covid-19 and the restrictions on physical socializing and the increase in online networking platforms. The best way, is to present on all social media platforms and use as many tools as possible, as most of our alumni are from the young generation, and all have online presence on all major platforms. An alumni FB page, Instagram page, twitter, and all trending platforms should be

created to enable the university to create content and share news of interest with the community, and inform them, and that should be diversified content which includes people from different graduation years. As well as sharing several new-letters depending on the areas of interest of the alumnus for example one related to career opportunities, one for alumni news and events, or might be regarding the benefits alumni have, regarding the programs offered by NDU that can benefit them. The most important thing, is to segment the strategy in order for it to be targeted to a specific audience and not to all the alumni community as not all alumni are attracted by the same things, that is to say that if a program, event and sessions were created they should be directed towards a specific pre-set audience. Also, we could communicate with each alumnus through the tool that he/she finds more convenient for them no matter what it is.

Also, the university should consider including the office of development and alumni affairs in the student journey as his journey is not over once he graduates. As student experience plays a major role in his engagement level, as the student never forgets the way a staff member, professor, or any member of the community no matter the position he plays how he treated him and thus will reflect in a positive and negative way in the future. This can be solved by providing customer relations trainings and have a general direction to all the communities or especially those who are in direct contact with students, because student satisfaction has an impact on the level of alumni engagement in the future. Might as well create committees in which students and alumni are part of that enables their voices to be heard, hear their problems and suggest solutions. Let the alumni committee be part and present in all student events to increase the visibility of our alumni, shed the light on how much the university values the alumni and share the awareness of the alumni community early on to students. Also, maintain the extra curriculum activities and cater for all the students to enable them to have a pleasant experience and memories. As well as having a standard quality of education, and increasing the awareness of educative offices that helps the students in the facilitating their journey like

the office of career and placement, student advising, and other beneficially offices to maintain a high caliber to the external community. Collaborating with key offices could increase the satisfaction of students hence in the future the alumni; after saying that, a collaboration between the office of development & alumni affairs and the department of career and placement is a must and as per the best practices in other universities they are grouped under one office. Because all alumni once they graduate they look for a job, and what if the first job was facilitate by their alma mater, that would give the university bonus points regarding engagements.

As for the geographic location to increase engagement, we need to have a geographic dispersion of our events, and activities in order to be able to reach more alumni. Also, we need to have our events interesting to our target audience and that is through knowing their preferences and interests because no one event is suitable for all alumni due to the difference in taste, character, and due to the preferences that change depending on the life-cycle the alumni is in, we need to segment the alumni community and cater for each segment separately to reach our desired outcome and by doing so we would make it more interesting for our alumni to attend the events. Chapters should be created in the countries were a huge number of alumni reside in, which enables them to work as an independent entity to a certain context to be able to engage and be active with alumni in their community because like it or no, the university can't cater to all alumni that are spread around the world. And as per our sample, we have a big population of alumni who reside outside the country especially in the gulf region, and that is why in the time being and due to the economic situation our country is passing by the best way is to increase the focus on external events and gathering and strengthen the alumni community in the gulf.

Moving to the alumni engagement and donations part, from the statistics we could see that alumni engagement plays a positive role in alumni donations and this is explained by having a lot of external factor that affect the donations, and we only studied the engagement

relation to donations. Studies have shown, that a lot of factors other than engagement affect the donations, some of are the status an alumni hold in the community, the position he holds, if he is financially capable or not.

I believe that all factors discussed are inter related, and every action that will be done will be affected by all three especially communication methods. That is why the most important thing from my personal perspective and readings is to personalize all the inter-actions with the alumni and students, for us to enable us to create a memorable and pleasant experience for them, and of course having a comprehensive data system which stores everything between us and the students/alumni would enable us to track things down, and fix any problem that we they encounter on the spot. We might be go further and create a new office that has to do with all the students complaints and problem to be fixed on the spot. While soliciting them, each approach should be unique in order to be able to make them feel noteworthy, because the way you speak to them makes a difference if they donate a small amount or contribute in a bigger sum. A team should be put in place, and they should handle it like account executive each one responsible to a specific area or certain graduation dates, and coordinate with the person who is in charge of the data. Also, it is evident that the strategy to increase alumni engagement should be related to the strategy of alumni donations or it should be the second part of it. Both are important for the image and attraction as they play both an important role, as they say it is a two-way benefit one completes the other. For example, if someone donated and you wanted to honor him the event in which you honor him in differs if we have a higher number of engaged alumni, or give him a much bigger support through online inter-action on social media. I believe the students club concept could be implemented to the alumni community as well, that would be beneficial for engagement and donations, as each club has a cause and when related to a cause people tends to be more generous and donate.

Recommendations

This study creates a path for upcoming researches that want to discover more of the factors that affect the alumni engagement, and how the alumni engagement plays a role in the alumni donations. Future studies can focus on more factors to enlarge the study and have a wider array and be able to dig deeper in the concept of alumni engagement and the factors behind it. Having more knowledge on understanding the factors of alumni engagement, would increase the awareness the university has to the alumni community and make them understand the audience from another perspective. Thus, this enables the university to cater to all the alumni and increase their level of engagement and increase the level of belongingness to the alumni community thus later giving back to their alma-mater.

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APPENDICES

Appendix A: Survey Questionnaire

Introduction

Dear Alumni,

The following questionnaire is developed by Jean-Pierre Moufawad for academic purpose, and is part of his research as a graduate student at Notre Dame University-Louaize. The objective of this questionnaire is to identify The Relationship between Alumni Engagement Factors and Donations: The case of Notre Dame University-Louaize. Honesty and transparency are kindly requested when filling in the questionnaire. Please be assured that your responses will be strictly confidential and can be provided upon request (jmoufawad@ndu.edu.lb).

By Clicking on the Next button, you agree to the below terms: Being informed that any particular treatment or procedure may involve risks which are currently unforeseeable; I, [insert name], state hereby that my participation in the research study is voluntary. Any refusal to participate will involve no penalty or loss of benefits to which I am entitled. I may as well discontinue participation at any time without penalty or loss of benefits to which I am entitled.

Thank you for devoting your time and taking part of this study.

Part I - General Questions

1-Gender:

- A. Male
- B. Female

2-Age:

- A. 18 - 25 years
- B. 26 - 30 years
- C. 31 – 40 years
- D. 41 – 50 years
- E. 51 – 60 years
- F. Above 60 years

3-Graduation Date:

- A. 1989-1996
- B. 1997-2004
- C. 2005-2012
- D. 2013-2021

4-How close you live to the university?

- A. 0km-5km
- B. 6km-11km
- C. 12km-17km

- D. 18km-23km
- E. 24km-29km
- F. more than 30 km

5-Place of Residence:

- A. Beirut
- B. Mount Lebanon
- C. Bekaa
- D. North
- E. South
- F. Outside Lebanon, Specify Country of Residence

6-Where do you get news and information about NDU?

- A. Emails or e-newsletters from NDU
- B. Traditional Media (magazines, TV, print or online newspapers, etc.)
- C. Friends, relatives, students, or alumni (in any way other than social media)
- D. NDU's Website
- E. Social media such as blogs, Facebook, Twitter, Instagram, LinkedIn YouTube, etc.

7-Have you received during your education at NDU any kind of financial aid?

- A. Yes
- B. No

Part II- Specific Questions

Express your level of agreement or disagreement on the following statements by rating them with Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My student experience met my expectations.					
2. I participated in events outside classroom.					
3. I was an active member in a student club.					
4. NDU offered a quality education.					
5. Staff members are friendly and helpful.					
6. I finished my degree in the predicted time frame.					
7. NDU should share more Alumni stories, news, and achievements.					
8. NDU uses social media platforms to connect with alumni.					
9. All university news and information are available on NDU's Website					
10. I find the e-mails received from NDU relevant.					
11. NDU does a great job in keeping alumni informed.					
12. I feel eager to read emails once I receive them from NDU					

13. I want to remain part of NDU.					
14. I still feel like a part of the institution.					
15. I feel that NDU still cares about me.					
16. I often participate in Alumni Events.					
17. Continuous communications with NDU is important to me.					
18. I am still in touch with professors.					
19. I am an active member in the alumni community.					
20. Proximity to campus affects attending events.					
21. Distance from campus affects my level of involvement.					
22. My level of involvement would decrease If I lived outside Lebanon.					
23. The closer I lived to campus the more engaged I would be.					
24. I already contributed financially to my alma-mater.					
25. Donating for a cause increase number of donors.					
26. Donating to students' financial aid is important.					
27. Donating to the development of the university is important.					
28. Donating online eases the donations process.					
29. Recognition of donation matters.					
30. Transparency in reporting donations is a must.					
31. I will donate if NDU asks for my support.					
32. My current level of satisfaction with NDU states if I donate or not.					
33. I am planning to give back to NDU in the future.					
34. The more involved I am with NDU, the more likely I am to donate in the future.					

Appendix B: Sample Characteristics

		AGE			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A. 18 - 25 years	73	20.6	20.6	20.6
	B. 26 - 30 years	100	28.2	28.2	48.7
	C. 31 – 40 years	104	29.3	29.3	78.0
	D. 41 – 50 years	63	17.7	17.7	95.8
	E. 51 – 60 years	14	3.9	3.9	99.7
	F. Above 60 years	1	.3	.3	100.0
	Total	355	100.0	100.0	

Table 23: Age

		GD			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A. 1989-1996	19	5.4	5.4	5.4
	B. 1997-2004	57	16.1	16.1	21.4
	C. 2005-2012	90	25.4	25.4	46.8
	D. 2013-2021	189	53.2	53.2	100.0
	Total	355	100.0	100.0	

Table 24: Graduation Date

		HOWCLOSETOUNI			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A. 0km-5km	45	12.7	12.7	12.7
	B. 6km-11km	72	20.3	20.3	33.0
	C. 12km-17km	72	20.3	20.3	53.2
	D. 18km-23km	49	13.8	13.8	67.0
	E. 24km-29km	33	9.3	9.3	76.3
	F. more than 30 km	84	23.7	23.7	100.0
	Total	355	100.0	100.0	

Table 25: Proximity to campus

		PLACEOFRES			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A. Beirut	16	4.5	4.5	4.5
	B. Mount Lebanon	240	67.6	67.6	72.1

C. Bekaa	3	.8	.8	73.0
D. North	14	3.9	3.9	76.9
E. South	1	.3	.3	77.2
F. Outside Lebanon, Specify Country of Residence	81	22.8	22.8	100.0
Total	355	100.0	100.0	

Table 26: Place of Residence

		PORCOM			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Armenia	1	.3	.3	.3
	Australia	3	.8	.8	1.1
	Bahrain	1	.3	.3	1.4
	Belgium	2	.6	.6	2.0
	Benin	2	.6	.6	2.5
	Canada	6	1.7	1.7	4.2
	Cyprus	1	.3	.3	4.5
	D/A	274	77.2	77.2	81.7
	France	5	1.4	1.4	83.1
	Germany	3	.8	.8	83.9
	KSA	3	.8	.8	84.8
	Kuwait	3	.8	.8	85.6
	Oman	2	.6	.6	86.2
	Qatar	6	1.7	1.7	87.9
	South Africa	1	.3	.3	88.2
	Switzerland	1	.3	.3	88.5
	UAE	28	7.9	7.9	96.3
	UK	1	.3	.3	96.6
	USA	12	3.4	3.4	100.0
	Total	355	100.0	100.0	

Table 27: Country of residence

Appendix C: Factor Analysis & Regression 1

Anti-image Matrices

		SE1	SE2	SE3	SE4	SE5	SE6	CM1	CM2	CM3	CM4	CM5	CM6	GL1	GL2	GL3	GL4
Anti-image Covariance	SE1	.606	-.043	-.022	-.243	-.091	-.137	-.034	.014	.034	-.031	-.044	-.016	-.041	.031	-.042	-.012
	SE2	-.043	.573	-.351	-.034	-.039	.026	-.034	.061	.059	-.043	-.030	-.034	.004	.001	-.007	-.015
	SE3	-.022	-.351	.614	.010	.021	.009	-.028	-.041	-.022	.014	.046	-.018	-.023	.003	.009	.028
	SE4	-.243	-.034	.010	.629	-.110	.014	-.062	-.030	.006	.033	-.061	-.083	.045	.022	-.051	.001
	SE5	-.091	-.039	.021	-.110	.699	-.102	-.067	-.063	-.086	-.038	-.042	.026	-.036	-.012	.047	-.051
	SE6	-.137	.026	.009	.014	-.102	.869	-.098	-.041	.029	-.036	.049	-.028	.025	.002	-.038	.060
	CM1	-.034	-.034	-.028	-.062	-.067	-.098	.837	-.066	-.014	-.012	.096	-.132	.022	-.033	-.020	.015
	CM2	.014	.061	-.041	-.030	-.063	-.041	-.066	.750	-.072	-.037	-.155	.008	.004	.003	.076	-.082
	CM3	.034	.059	-.022	.006	-.086	.029	-.014	-.072	.741	-.076	-.166	-.013	.020	.049	-.034	.030
	CM4	-.031	-.043	.014	.033	-.038	-.036	-.012	-.037	-.076	.550	-.176	-.187	-.011	-.007	-.013	-.017
	CM5	-.044	-.030	.046	-.061	-.042	.049	.096	-.155	-.166	-.176	.504	-.056	-.047	.027	-.018	-.012
	CM6	-.016	-.034	-.018	-.083	.026	-.028	-.132	.008	-.013	-.187	-.056	.635	-.039	-.032	.134	-.015
	GL1	-.041	.004	-.023	.045	-.036	.025	.022	.004	.020	-.011	-.047	-.039	.424	-.240	-.037	-.059
	GL2	.031	.001	.003	.022	-.012	.002	-.033	.003	.049	-.007	.027	-.032	-.240	.389	-.081	-.144
	GL3	-.042	-.007	.009	-.051	.047	-.038	-.020	.076	-.034	-.013	-.018	.134	-.037	-.081	.766	-.150
	GL4	-.012	-.015	.028	.001	-.051	.060	.015	-.082	.030	-.017	-.012	-.015	-.059	-.144	-.150	.587
Anti-image Correlation	SE1	.802 ^a	-.073	-.036	-.394	-.141	-.188	-.048	.021	.051	-.054	-.080	-.026	-.081	.063	-.062	-.020
	SE2	-.073	.625 ^a	-.592	-.057	-.062	.037	-.049	.093	.091	-.076	-.055	-.056	.008	.003	-.010	-.026
	SE3	-.036	-.592	.559 ^a	.016	.033	.013	-.039	-.061	-.033	.025	.083	-.029	-.045	.006	.013	.047
	SE4	-.394	-.057	.016	.784 ^a	-.166	.020	-.086	-.044	.009	.056	-.109	-.131	.087	.044	-.074	.002
	SE5	-.141	-.062	.033	-.166	.881 ^a	-.131	-.088	-.087	-.119	-.061	-.071	.039	-.067	-.023	.065	-.080
	SE6	-.188	.037	.013	.020	-.131	.721 ^a	-.115	-.051	.036	-.052	.074	-.038	.042	.003	-.047	.084
	CM1	-.048	-.049	-.039	-.086	-.088	-.115	.781 ^a	-.084	-.018	-.017	.148	-.181	.037	-.059	-.025	.021
	CM2	.021	.093	-.061	-.044	-.087	-.051	-.084	.829 ^a	-.097	-.058	-.252	.012	.007	.005	.100	-.124
	CM3	.051	.091	-.033	.009	-.119	.036	-.018	-.097	.790 ^a	-.118	-.272	-.019	.035	.091	-.046	.046
	CM4	-.054	-.076	.025	.056	-.061	-.052	-.017	-.058	-.118	.831 ^a	-.335	-.316	-.024	-.014	-.020	-.030
	CM5	-.080	-.055	.083	-.109	-.071	.074	.148	-.252	-.272	-.335	.789 ^a	-.099	-.102	.061	-.029	-.021
	CM6	-.026	-.056	-.029	-.131	.039	-.038	-.181	.012	-.019	-.316	-.099	.819 ^a	-.075	-.064	.192	-.025
	GL1	-.081	.008	-.045	.087	-.067	.042	.037	.007	.035	-.024	-.102	-.075	.735 ^a	-.593	-.065	-.117
	GL2	.063	.003	.006	.044	-.023	.003	-.059	.005	.091	-.014	.061	-.064	-.593	.695 ^a	-.149	-.301
	GL3	-.062	-.010	.013	-.074	.065	-.047	-.025	.100	-.046	-.020	-.029	.192	-.065	-.149	.746 ^a	-.224
	GL4	-.020	-.026	.047	.002	-.080	.084	.021	-.124	.046	-.030	-.021	-.025	-.117	-.301	-.224	.831 ^a

a. Measures of Sampling Adequacy(MSA)

Table 28 : Anti-Image Metrics part 1

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.797	23.733	23.733	3.797	23.733	23.733
2	2.299	14.366	38.100	2.299	14.366	38.100
3	1.692	10.575	48.674	1.692	10.575	48.674
4	1.277	7.983	56.658	1.277	7.983	56.658
5	.989	6.183	62.841			
6	.833	5.208	68.049			
7	.794	4.960	73.009			
8	.771	4.817	77.826			
9	.672	4.198	82.024			
10	.544	3.400	85.424			
11	.492	3.074	88.498			
12	.458	2.864	91.362			
13	.415	2.591	93.952			
14	.372	2.324	96.276			
15	.348	2.177	98.453			
16	.248	1.547	100.000			

Extraction Method: Principal Component Analysis.

Table 29: Total Variance Explained part 1

Rotated Component Matrix^a

	Component			
	1	2	3	4
SE1			.713	
SE2				.860
SE3				.869
SE4			.661	
SE5	.393		.526	
SE6			.661	
CM1			.527	
CM2	.615			
CM3	.686			
CM4	.728			
CM5	.821			
CM6	.527			

GL1		.828		
GL2		.877		
GL3		.612		
GL4		.780		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Table 30: Rotated Component-Verimax part 1

Reliability Statistics

Cronbach's Alpha	N of Items
.809	7

Table 31: Cronbach Alpha part 1

Correlations

		REGR factor score 1 for analysis 1	REGR factor score 2 for analysis 1	REGR factor score 3 for analysis 1	REGR factor score 4 for analysis 1	AVGAE
REGR factor score 1 for analysis 1	Pearson Correlation	1	.000	.000	.000	.435**
	Sig. (2-tailed)		1.000	1.000	1.000	.000
	N	355	355	355	355	355
REGR factor score 2 for analysis 1	Pearson Correlation	.000	1	.000	.000	.231**
	Sig. (2-tailed)	1.000		1.000	1.000	.000
	N	355	355	355	355	355
REGR factor score 3 for analysis 1	Pearson Correlation	.000	.000	1	.000	.371**
	Sig. (2-tailed)	1.000	1.000		1.000	.000
	N	355	355	355	355	355
REGR factor score 4 for analysis 1	Pearson Correlation	.000	.000	.000	1	.326**
	Sig. (2-tailed)	1.000	1.000	1.000		.000
	N	355	355	355	355	355
AVGAE	Pearson Correlation	.435**	.231**	.371**	.326**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	355	355	355	355	355

** . Correlation is significant at the 0.01 level (2-tailed).

Table 32: Correlations part 1

		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.428	1	30.428	82.463	.000 ^b
	Residual	130.254	353	.369		
	Total	160.682	354			
2	Regression	52.579	2	26.289	85.602	.000 ^c
	Residual	108.103	352	.307		
	Total	160.682	354			
3	Regression	69.686	3	23.229	89.599	.000 ^d
	Residual	90.997	351	.259		
	Total	160.682	354			
4	Regression	78.291	4	19.573	83.145	.000 ^e
	Residual	82.392	350	.235		
	Total	160.682	354			

a. Dependent Variable: AVGAE

b. Predictors: (Constant), REGR factor score 1 for analysis 1

c. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1

d. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1

e. Predictors: (Constant), REGR factor score 1 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1, REGR factor score 2 for analysis 1

Table 33: ANOVA part 1

		Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	3.191	.032		98.981	.000		
	REGR factor score 1 for analysis 1	.293	.032	.435	9.081	.000	1.000	1.000
2	(Constant)	3.191	.029		108.496	.000		
	REGR factor score 1 for analysis 1	.293	.029	.435	9.954	.000	1.000	1.000
	REGR factor score 3 for analysis 1	.250	.029	.371	8.493	.000	1.000	1.000
3	(Constant)	3.191	.027		118.087	.000		
	REGR factor score 1 for analysis 1	.293	.027	.435	10.834	.000	1.000	1.000
	REGR factor score 3 for analysis 1	.250	.027	.371	9.243	.000	1.000	1.000

	REGR factor score 4 for analysis 1	.220	.027	.326	8.123	.000	1.000	1.000
	(Constant)	3.191	.026		123.923	.000		
	REGR factor score 1 for analysis 1	.293	.026	.435	11.369	.000	1.000	1.000
4	REGR factor score 3 for analysis 1	.250	.026	.371	9.700	.000	1.000	1.000
	REGR factor score 4 for analysis 1	.220	.026	.326	8.525	.000	1.000	1.000
	REGR factor score 2 for analysis 1	.156	.026	.231	6.046	.000	1.000	1.000

a. Dependent Variable: AVGAE

Table 34: Coefficient part 1

Collinearity Diagnostics ^a								
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions			
					REGR factor score 1 for analysis 1	REGR factor score 3 for analysis 1	REGR factor score 4 for analysis 1	REGR factor score 2 for analysis 1
1	1	1.000	1.000	1.00	.00			
	2	1.000	1.000	.00	1.00			
2	1	1.000	1.000	.00	1.00	.00		
	2	1.000	1.000	1.00	.00	.00		
	3	1.000	1.000	.00	.00	1.00		
3	1	1.000	1.000	.00	.04	.96	.00	
	2	1.000	1.000	1.00	.00	.00	.00	
	3	1.000	1.000	.00	.00	.00	1.00	
	4	1.000	1.000	.00	.96	.04	.00	
4	1	1.000	1.000	.00	.03	.01	.00	.96
	2	1.000	1.000	.00	.04	.96	.00	.00
	3	1.000	1.000	1.00	.00	.00	.00	.00
	4	1.000	1.000	.00	.00	.00	1.00	.00
	5	1.000	1.000	.00	.93	.03	.00	.04

a. Dependent Variable: AVGAE

Table 35: Collinearity Table part 1

Appendix D: Factor Analysis & Regression 2

		Anti-image Matrices						
		AE1	AE2	AE3	AE4	AE5	AE6	AE7
Anti-image Covariance	AE1	.432	-.199	.041	-.016	-.220	.025	.033
	AE2	-.199	.440	-.196	-.026	-.005	-.118	-.008
	AE3	.041	-.196	.603	-.019	-.119	.022	-.075
	AE4	-.016	-.026	-.019	.529	-.080	.016	-.299
	AE5	-.220	-.005	-.119	-.080	.469	-.048	-.019
	AE6	.025	-.118	.022	.016	-.048	.837	-.129
	AE7	.033	-.008	-.075	-.299	-.019	-.129	.540
Anti-image Correlation	AE1	.726 ^a	-.457	.081	-.034	-.489	.041	.069
	AE2	-.457	.777 ^a	-.381	-.055	-.011	-.195	-.016
	AE3	.081	-.381	.823 ^a	-.034	-.223	.031	-.132
	AE4	-.034	-.055	-.034	.747 ^a	-.160	.025	-.560
	AE5	-.489	-.011	-.223	-.160	.806 ^a	-.077	-.038
	AE6	.041	-.195	.031	.025	-.077	.835 ^a	-.191
	AE7	.069	-.016	-.132	-.560	-.038	-.191	.710 ^a

a. Measures of Sampling Adequacy(MSA)

Table 36: Anti-Image Metrics part 2

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.411	48.727	48.727	3.411	48.727	48.727
2	1.113	15.897	64.624	1.113	15.897	64.624
3	.837	11.950	76.574			
4	.628	8.977	85.551			
5	.427	6.101	91.652			
6	.335	4.786	96.438			
7	.249	3.562	100.000			

Extraction Method: Principal Component Analysis.

Table 37: Total Variance Explained part 2

Rotated Component Matrix^a

	Component	
	1	2
AE1	.870	
AE2	.819	
AE3	.640	.333
AE4		.820
AE5	.782	
AE6		.476
AE7		.896

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser

Normalization.^a

a. Rotation converged in 3 iterations.

Table 38: Rotated Component-Varimax part 2

Reliability Statistics

Cronbach's Alpha	N of Items
.761	11

Table 39: Cronbach Alpha part 2

Correlations

		REGR factor score 1 for analysis 2	REGR factor score 2 for analysis 2	AVGAD
REGR factor score 1 for analysis 2	Pearson Correlation	1	.000	.482**
	Sig. (2-tailed)		1.000	.000
	N	355	355	355
REGR factor score 2 for analysis 2	Pearson Correlation	.000	1	.292**
	Sig. (2-tailed)	1.000		.000
	N	355	355	355
AVGAD	Pearson Correlation	.482**	.292**	1
	Sig. (2-tailed)	.000	.000	
	N	355	355	355

** . Correlation is significant at the 0.01 level (2-tailed).

Table 40: Correlations part 2

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.197	1	20.197	106.861	.000 ^b
	Residual	66.719	353	.189		
	Total	86.917	354			
2	Regression	27.599	2	13.799	81.886	.000 ^c
	Residual	59.318	352	.169		
	Total	86.917	354			

a. Dependent Variable: AVGAD

b. Predictors: (Constant), REGR factor score 1 for analysis 2

c. Predictors: (Constant), REGR factor score 1 for analysis 2, REGR factor score 2 for analysis 2

Table 41: ANOVA part 2

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	3.603	.023		156.130	.000		
	REGR factor score 1 for analysis 2	.239	.023	.482	10.337	.000	1.000	1.000
2	(Constant)	3.603	.022		165.350	.000		
	REGR factor score 1 for analysis 2	.239	.022	.482	10.948	.000	1.000	1.000
	REGR factor score 2 for analysis 2	.145	.022	.292	6.627	.000	1.000	1.000

a. Dependent Variable: AVGAD

Table 42: Coefficient part 2

Collinearity Diagnostics ^a						
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	REGR factor score 1 for analysis 2	REGR factor score 2 for analysis 2
1	1	1.000	1.000	.50	.50	
	2	1.000	1.000	.50	.50	
2	1	1.000	1.000	.50	.50	.00
	2	1.000	1.000	.00	.00	1.00
	3	1.000	1.000	.50	.50	.00

a. Dependent Variable: AVGAD

Table 43: Collinearity part 2

LIST of FIGURES

Loading factor	Min sample size
.75	50
.70	60
.65	70
.60	85
.55	100
.50	120
.45	150
.40	200
.35	250
.30	350

*Table 44:*Factor Loadings Based on Sample Size (Hair et al.: 2009)