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THE ROLE OF STUDENT EXCHANGES IN THE UNIVERSITY BUSINESS MODEL. A CASE OF MEXICO.

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THE ROLE OF STUDENT EXCHANGES IN THE UNIVERSITY BUSINESS MODEL. A CASE OF MEXICO.

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SUMMARY

While the literature and research of business models is voluminous, the application of this in tertiary education is not very wide. There are vast similarities between a traditional business unit and a higher education institution, therefore the application of the business model theories to them is possible. While there are many factors involved in the system of a university, in this paper I choose to focus on the internationalization of the institutions, being more explicit, on the role of exchange semesters, how this can improve the university business model and if an external institution would be of use for it. Moreover, it is well known that every nation designs their own educational system based on their priorities, but we can see that the results of some economies outperform others, leaving the developing countries furthest behind. Having mentioned this, this thesis uses the case study of Mexico, since while it is a developing country, it has some influences and similarities with developed countries, and the case applied to this specific country can be of use for others.

This paper uses the available literature and theories as a watershed of the subject. Then a qualitative and quantitative analysis is performed based on the data obtained from a national survey and a field experiment. The analysis mainly uses word clouds to perform text analysis in the open questions of the survey, while graphs and cross section analysis is performed in the rest of the data. In the case of the field experiment, different kinds of t-test were applied to the data to obtain the significance of the application of it. Finally, four propositions based on the literature, theory and analysis are offered for further application in the topic. The results indicate that Mexico is not making use of the innovation and disruption offered in the theories and literature, as the country seems to look at this factor as an expense instead of an investment as other nations do. There are many aspects in the system that can be improved and use of an external institution that aids in the topic seems reasonable.

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1. INTROUDUCTION

For this master thesis, I will focus on the topic of exchange semesters and their role in the university business model. The research will look specifically in the Mexican university business model case and I will propose how to disrupt it through innovation. This paper will also provide an overview of other countries university models and how aspects from those can be applied to the Mexican one. The inspiration of this thesis comes as knowing the outcomes of education policies and structures is of main importance for a country's economy, it is helpful as well in the budgeting process and for analysts concerned with the growth pace of the country. The objective is to provide a proposition that might be useful for countries with similar characteristics as Mexico and improve their universities business models, increase their performance and wellbeing.

To begin with, is important to have some background about the case study country demographic status. Mexico has a total population of 126.2 million people according to the 2018 census of which 30.7 million are between 15 and 29 years old, which means that one out of four habitants is young (24.6%). The average education of the young population is around 10.8 years, corresponding to secondary education. In addition, 22.5 million people are studying or already finished higher education (University or higher) (Nacional et al., 2019). Mexico spends 5.3% of its Worlds domestic product in educational institutions. On the area of higher education, the country has around 388,310 professors and 5,311 schools, which allows a yearly registration of 4,430,248 students, but only half a million graduates enter the working force each year. The system is regulated by the government, the public institutions work with a state budget, while the private institutions work with independent funding, nevertheless, it is necessary that the private institutions are affiliated and regulated by the main federal educational institution, with their initials in Spanish SEP¹ (OECD, 2018).

There is big controversy when talking about the best path an economy should follow to succeed, but in this case, it is important to talk about a knowledge focus. A knowledge-based economy is one where the production, diffusion and use of technology and information are key for the economic activity and growth (OECD, 1996). Services and high-tech solutions are becoming more important in the world economy, therefore it is

¹ Secretaria de educación pública.

important to invest in knowledge in order to increase competitiveness in the global market place, which only can be done through a higher education system (George, 2006).

In addition, multiculturalism is highly related to innovation, as explained by Korzilius et al. (2017). In their analysis it is proved that individual multiculturalism and innovative work is influenced by the individual cultural intelligence. Nevertheless, this skill is hard to achieve when a person is only surrounded by the same culture, and the way to achieve it is by a direct exposure and coexistence, being an exchange period the easiest and most common way for a young population. But every nation is different and influenced by cultural factors. That is why in this paper a cross section between some highly developed countries and Mexico can be a good reference to start this exploratory research. By doing this I aim to find guidelines and proposals to improve the Mexican educational system and therefore boost the economy. Being the main topic of research:

THE ROLE OF STUDENT EXCHANGES IN THE MEXICAN UNIVERSITY BUSINESS MODEL.

In addition, I will also look at the following sub-questions:

- 1. Can exchange studies be a factor that improves university business models?**
- 2. Will a private organization that provides personal guidance about exchange studies to university students be a factor that increases the amount of them?**

3. LITERATURE REVIEW

It is not new that education systems are constantly changing and are of main importance for the countries success and development, that is why there is a good amount of previous research that analyses the educational system of many countries. This part of the thesis reviews in a funnel way, literature of the business models as a general topic, followed by the business model applied to universities, then the overview of the international education system, then exchange studies as a whole, followed by some other factors that influence educational business models, and finally the literature about the Mexican university education system and role of exchange studies at the Mexican model.

3.1 Business models

Analyzing educational models is a hard thing to do, as it involves different variables such as culture and politics, nevertheless a good approach is to do it from the business point of view to evaluate the efficiency and efficacy. As mentioned by Helgesen & Nettet (2007), the universities can be treated as a business, as they comply with the necessary factors such as clients being the students, stakeholders being e.g. the government and outcomes such as graduates. As any enterprise, the Universities work every day to perform better, and even more in economies where the funding does not come from the private capital but from a governmental budget. Here is where the business model plays an important role, as a good business model is the base to have a successful organization or as Magretta & Butman (2018) say “*Business modeling is the managerial equivalent of the scientific method – you start with a hypothesis, which you then test in action and revise when necessary*”.

The crucial point is to describe how the organization creates value for customers and appropriates value from its performance activities. There are four main business models, which are value chain, value networks, value shop and value access, with five key operational aspects such as customers, value proposition, product/service offerings, value creation mechanisms and value appropriation mechanisms (Fjeldstad & Snow, 2018). This approach is constantly used by private institutions as an internal analysis and it is worth it to use it in this research. Furthermore Morris et al. (2005) say that “*A business model is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets*” and proposes some questions that help us to identify the basic components of a business model which are listed as follows.

- (a) How will the firm create value?
- (b) For whom will the firm create value?
- (c) What is the firm’s internal source of advantage?
- (d) How will the firm position itself in the marketplace?
- (e) How will the firm make money?
- (f) What is the entrepreneur’s time, scope, and size ambitions?

In addition, the value configuration and how the organizational forms enable to open an agile business model, highly affect the organization design. When external threats or opportunities exists, the business requires to change its mindset instead of just improving it. Adjusting the business model is a key tool, because of the importance of viewing a business as a system instead of a collection of parts. The economy is changing at a high pace, becoming increasingly more digital and networked, which pushes the business to rethink its conditions and adapt to their new environment (Fjeldstad & Snow, 2018). As mentioned before, the organizational adaptation is crucial, which is encompassed in the adaptive cycle model of Miles et al. (1978). Figure 1 below shows the model and explains that the choices that managerial individuals take into the organization are critical determinants of its structure and process. Even though these are numerous, they can be summarized into three main “problems”; the entrepreneurial problem, the administrative problem, and the engineering problem, these need to be solved simultaneous to allow effective direction and adapt to the environment.

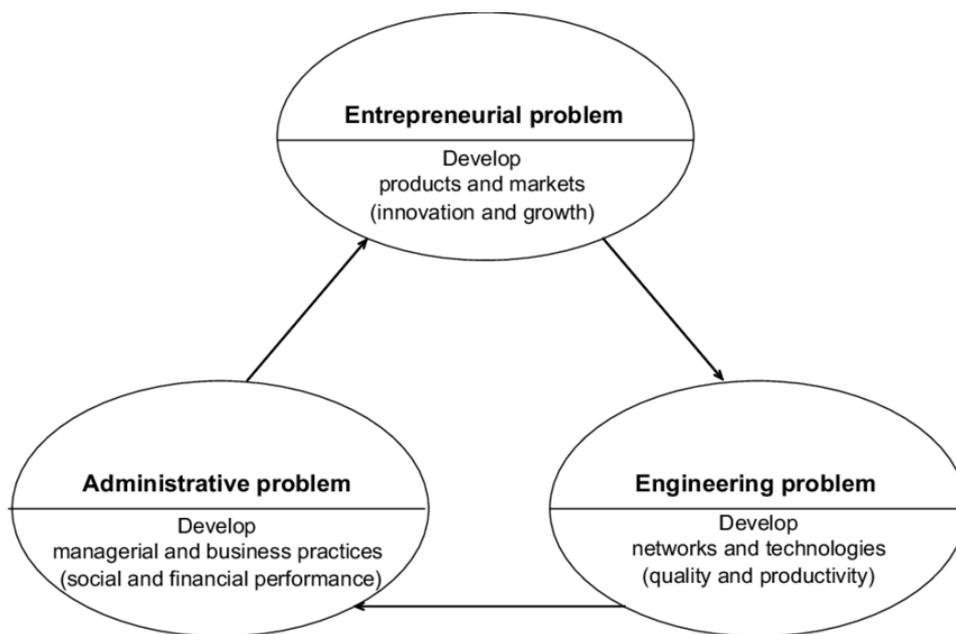


Figure 1.- Adaptive cycle (Miles et al., 1978)

3.2 Universities as business models

It is important to review the available literature concerning the business model of a university, as this is not a new idea. A Business model is “a statement of how a firm will make money and sustain its profit stream over time” (Stewart & Zhao, 2000). George (2006) mentions that science, technology, and innovation are the cornerstones of the

knowledge-based economy, and that increasing investment in these areas is needed by those countries looking to compete internationally. In addition, there is vast literature that mentions that for a university to be successful it needs to rethink its business model, for example, Helgesen & Nettet, (2007) suggest to handle them as business units and Hall & Baker (2003) compare the universities with corporate models, more specifically into the public relations area. This is a challenging proposition, as these kinds of institutions are one of the oldest organization structures in the world history.

Additionally, it is important to take in consideration that the governance of the universities is constantly changing. In the analysis made by Miller et al. (2014), we find a reference of the university business model transition in the perspective of stakeholders (Figure 2). This model and research work contributes to our analysis by establishing the influence of externalities and stakeholders in the university's process of adapting their business model.

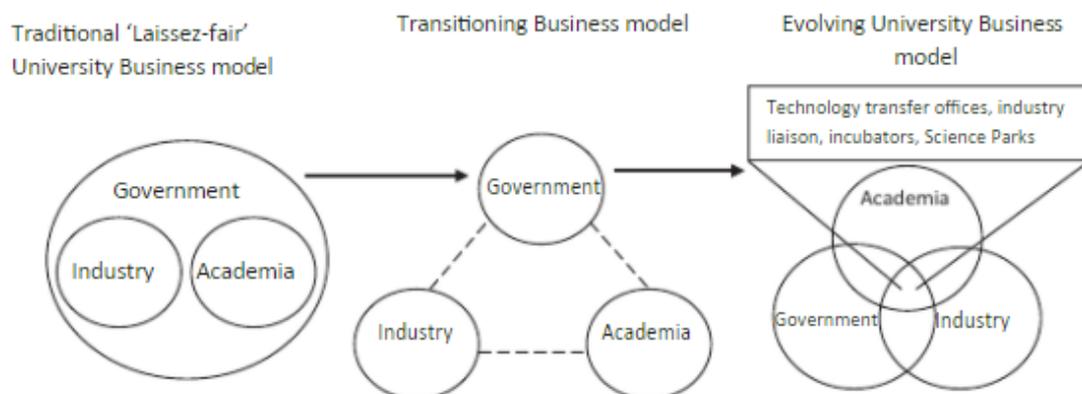


Figure 2.- Governance of the evolving university business model (Miller et al., 2014)

In addition to these models, Clayton M. Christensen provides the term of disruptive innovation, and in his book of “The Innovative University” he illustrates how the higher institutions respond to innovation and what is needed to change to adapt for the future. It also provides ways of lowering performance costs and ensure economic vitality, something crucial for any entity. The focus of the book relies on the idea that the university is a living institution that is affected by its environment and therefore needs to have a mission with flexibility to adaptation. It uses mainly the example of Harvard, as this school stands out for having a clear mission but by adapting it and becoming disruptive according to new needs. Harvard is focused on the student and docks itself to this ideal. The ADN of the traditional university should embrace the disruptive innovation

by allowing changes such as online learning, focus on the students and update the study programs according to the society needs (Christensen, C. M., & Eyring, 2011). More recently, the online model is gaining force, it was also reviewed by Pathak (2016). Online solutions have become increasingly important as the actuality of universities drastically changed because of the Covid-19 pandemic, creating an urge to disrupt the educational model in order to safeguard the students. The figure below shows the main differences between the traditional university versus the innovative online one.

Traditional University Trait	Online University Copied?
Face-to-face instruction	No
Long summer recess	No
Shared faculty for undergraduate and graduate programs	No
Comprehensive specialization, departmentalization, and faculty self-governance	No
Private fundraising	No
Competitive athletics	No
Curricular distribution requirements and concentrations (majors)	Focused offerings
Academic honors	No
Up-or-out tenure, with faculty rank and salary distinctions	No
Admissions selectivity	No
Externally funded research	No

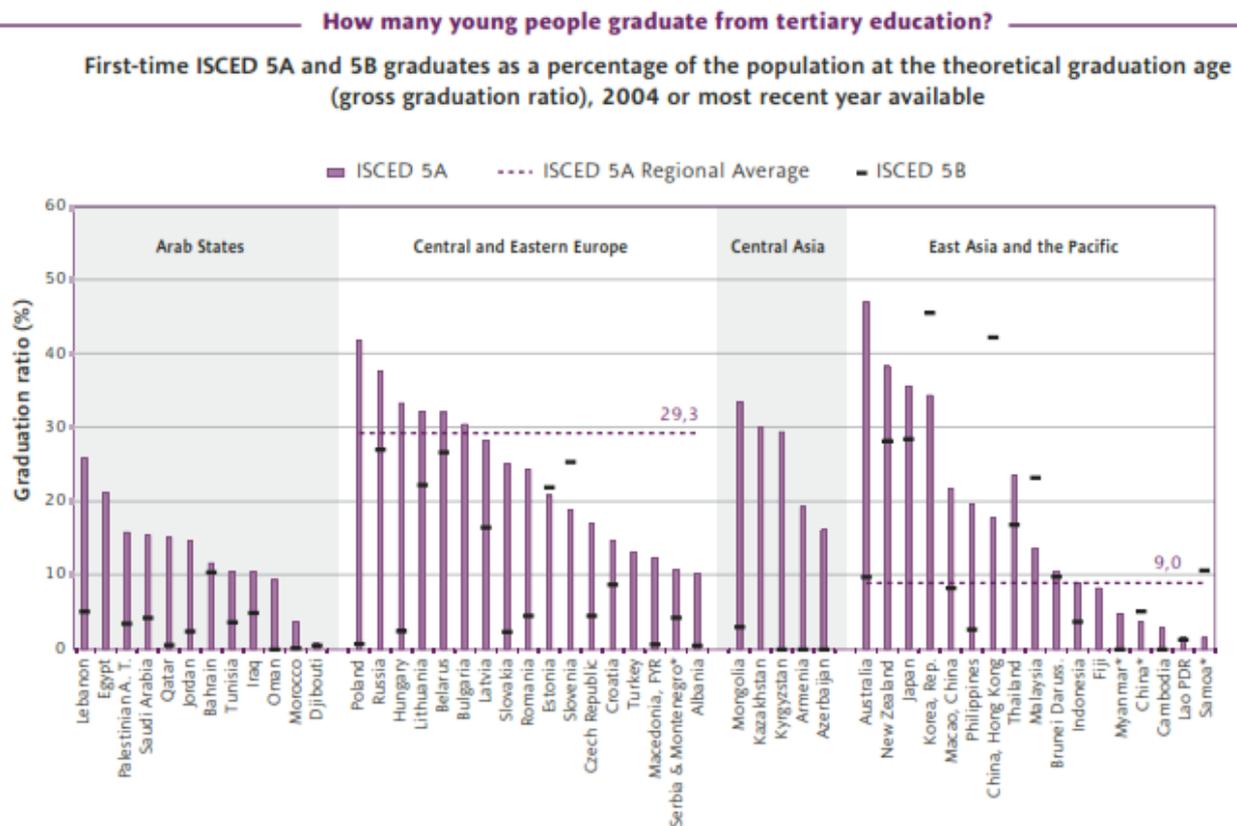
Figure 3.- Online University Divergence from the Traditional Model (Leibold & Voelpel, 2013)

Sengupta & Ray (2017) mention that entrepreneurial universities need to embrace the change and adapt themselves to their external environment to be innovative. With a different perspective, Messer & Wolter (2007) found that students involved in international exchange programs are associated with higher starting salaries and a higher probability to pursue post graduate programs, which are factors directly related when analyzing the performance of universities. In addition, since the Quality Reform in the Norwegian Higher Education in 2003, the student satisfaction is an important role for the Norwegian Universities, for Helgesen & Nasset (2007) this premise is related to student loyalty, in their analysis they found a variance of student loyalty of 80% and concluded by establishing that the factors such as the university image, study programs, service

quality, facilities and student satisfaction have influenced student loyalty, which is an indicator of the main stakeholder “the student”.

3.3 International university educational systems

Discussing educational systems it is notable that extensive literature exists for multiple countries, as this is one way to improve their economies. Marginson & Mollis (2000) focused on the global era and propose guidelines on how international comparisons must be made, as well as the impact of globalization. The global participation in higher education reached 224 million people in 2018, with 75% corresponding to developed countries and 9% to undeveloped countries (Unesco, 2020). Even though the statistics of global enrolment are updated, a deep study comparing global higher educational systems was made in 2006 and hasn't been updated since, as mentioned in the report of Unesco (2006). It is incredibly challenging to compare the systems because of the large differences that exists between them. The figure below shows the world graduation ratio and illustrates the discrepancy that exists between countries and regions.



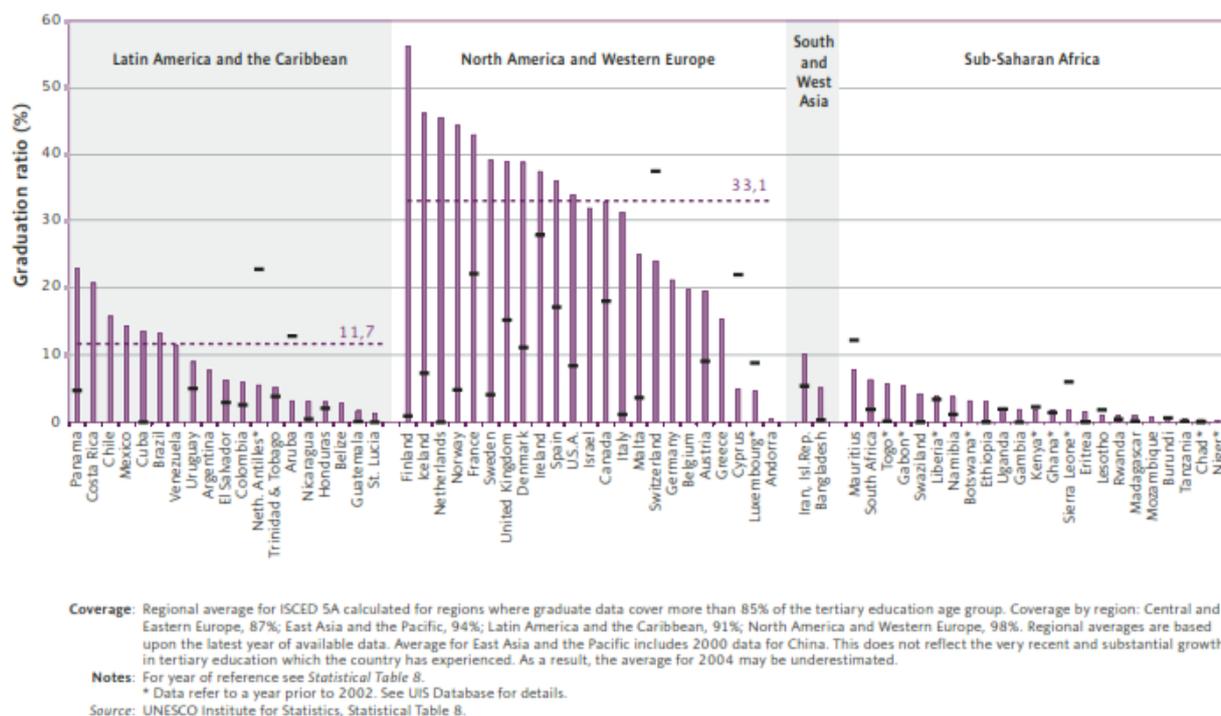


Figure 4.- World graduates (UNESCO, 2006)

The results of Figure 4 can be explained as the differences in amount of population, GDP, culture, and politics. It is notable that countries with more resources have a higher percentage of educated people, while undeveloped countries cannot seem to reach them. Even though we are lacking a more recent and deep comparative study, Universitas provides each year a ranking of national higher educational systems based on 24 measures and grouped into four modules: Resources, Environment, Connectivity and Output (Appendix A). These measures are standardized into population size and reflect the aims of higher education, which includes aspects such as education and training of the people, innovation results through research, interconnections between institutions and stakeholders and how institutions meet individual personal desires and national needs. In addition to the ranking, Universitas provides quite interesting conclusions after nine consecutive years of doing the research, which will be mentioned down since they are of great relevance for this study (Williams & Leahy, 2020).

- Research funding and performance hold a strong relationship.
- The mix of public and private funding has little importance concerning performance.
- Countries with small population can easily develop informal links with another institution, business, and government.

- There is a trade-off between the amount of government control and the level of government funding.
- Population size and international connectivity hold a negative relationship.
- Connectivity and research performance hold a positive relationship.

3.4 Exchange studies

One of the main topics of this thesis is to analyze if the exchange studies are relevant in the university business models as a factor, therefore some literature was collected to provide a good foundation for the analysis. Waibel et al. (2017) noted that each year the universities put more effort in making international agreements that facilitate their student's mobility, this phenomenon can be called transnational educational mobility. The experiences that come from it are highly linked to the quality of human capital and improved labor market chances (3% to 8% higher income), in addition to the self-skills obtained such as self-realization, new languages, social and cultural skills just to mention some.

Beyond of what is mentioned above, Jackson (2015) mentions the importance of considering the labor market as increasingly needy in terms of global-ready graduates who can fit and work in diverse environments. This study provides a comparison between students who studied abroad vs a control group that stayed in their home country. The students who participated in the exchange programs decided to do it by themselves and the researcher took advantage of this situation to develop the study. The results show that those students with international experiences have a positive impact in their intercultural development and readiness for global workplaces, nevertheless, intercultural courses can help the students who don't have the chance to participate in exchange semesters to develop their skills to better fit in the work environment.

It is important to mention that not only the student and university benefit from the student mobility, but also the nations themselves. The global statistics (Nations, 2019) shows that half of the international students travel to five English speaking countries: Australia, Canada, USA, New Zealand, and United Kingdom, while the remaining half prefer other countries but with programs in English. Bringing international students means a great revenue collection (i.e., USA collected in 2016 39 400 million USD) and helps to attract

young and diverse population that keeps institutions open. For some other countries this means the strengthening of cultural diplomacy and the development of strategies.

3.5 Other contingent factors

As seen before, internationalization and student satisfaction are factors that have been reviewed by other researchers, but are not the only ones with impact. Standish-Kuon & Rice (2002) mention the importance of the availability of entrepreneurial courses and training to all the departments and not only to business students. It is known that students with these preparations are more likely to create startups and therefore attract more funding to the university.

The interaction with external stakeholders is another crucial factor that can improve the standard of the universities and the wellbeing of the students. Guerrero et al. (2016) talk about how having strong relationships can be a great way for sourcing of knowledge, funding, and guidance. In addition, if there are enough links towards the economic market, the universities can create job committees to assist students to enter the job market with internships and junior positions. Recruiters increasingly expect newly graduates to have meaningful experience, but there is little to no flexibility nor support from the universities to facilitate for this. Meaningful experience can be gained when universities establish links with outside organizations.

Governmental politics and regulations play an important role in this topic. In most countries higher education is considered public, and therefore free and/or accessible. However, there are also private institutions which interestingly hold higher performance outcomes, such as the case of the institutions from USA, and is strongly related to good reputation. Nevertheless this is not completely black and white, as in fact we can have a mix of governance, for example, public institutions can create private and rentable goods, which is something crucial in this research (Marginson & Mollis, 2000).

3.6 The Mexican university education system

Most of the literature agrees that the Mexican university system is not well funded and lacks in many aspects. At first instance, the educational politics that have been applied in several decades don't consider the diversity and heterogeneity of the universities, creating inequality in access to resources (Pérez & Buendía, 2017). This is remarkable since higher

education consists of 13 subsystems that differ considerably in their governance structures, in their financing systems and in government influence (OCDE, 2019). A case study made by Armijo de Vega et al. (2003) on a Mexican state university explains that the educational model is lacking sustainability. Many barriers interfere with the developing of suitable student programs, partly due to the authorities lack knowledge required to facilitate this.

In the empirical analysis of Navarro-Leal & Navarrete-Cazales, (2014) we can see that Mexico has suffered numerous educational reforms during the century, being in 1984 when the university education became a standard of 4 years. Between the last presidential period (2012-2018), the government decided to implement a new reform that increased the requirements for teachers, training, and digitalization. Nevertheless, in the actual mandate this reform has been retracted and the system stayed as obsolete as before. This is reflected in the satisfaction of the students, as seen in the factor analysis made by Zamorano et al. (2013), with results of 67.57% of variance. There are many aspects that universities as businesses need to improve to perform better with their customers, the students.

In addition, the educational system is not aligned with the needs of the economy. The employers alert a lack of training and skills in the graduates, which makes them unqualified for the positions, while at the same time the graduates face labor informality and low salaries. The current higher education system is complex but lacks diversity in terms of fields of study and levels of studies. More than one third of student enrolled in fields of administration and law, whilst the economy and market sees a growing trend in technology and energy sectors (OCDE, 2019).

4. THEORETICAL POSITIONING

As mentioned in the literature, there are many business model theories that apply to our main topic but that have not been applied in a specific way to our case study. In this section, we will take these theories and merge them with the available information from Mexico to provide a supportive and theoretical framework that will be used to develop the propositions for our discussion.

4.1 Basic aspects of the university business model

It is important to identify the basic aspects of the university business model, for which the questions of Morris et al. (2005) will provide a starting ground for our further analysis. In this case the questions refer to the subject as “the firm”, nevertheless, to better fit our syntaxis, it will be modified for “the university”. In addition, this does not refer to a particular university, in fact it will address the general institution of it to achieve a better understanding.

(a) How will the university create value?

In this case the word value goes far beyond money, as the most known objective of any university is to educate students and provide skilled professionals to the society. This is however not their only attribution, as there are other value sources, such as research outcomes, the relationships between other universities and organizations, innovation drivers and accreditations. Nevertheless, money is a word that can in fact change the overall picture, even though universities do not expect billions of dollars in profit, they can in fact be economic sufficient by managing correctly their resources and transform them into added value, which results in money affluence (Adams, 2018).

(b) For whom will the university create value?

There are plenty recipients of values provided by universities, the first one is of course the student who benefits directly by increasing his knowledge and obtaining a degree. While students are being prepared, society will benefit directly by obtaining skilled professionals which will improve welfare. Furthermore, other institutions such as the government, private enterprises and investors benefit directly from the universities.

(c) What is the university’s internal source of advantage?

In this case the internal source of advantage is the knowledge that the university holds, this is present in different forms such as of professors, researchers and their outcomes, equipped facilities, certifications, startup incubators, technology, and tailored academic programs. Whilst knowledge is vital for any society, as it improves the welfare of the population, it is quite hard to manage due to its intangibility. Knowledge starts within the individuals mind (George, 2006).

(d) How will the university position itself in the marketplace?

While in fact the universities are still the leaders in source of knowledge and innovation, they are not the only ones who can provide this; research institutes, private firms, and government laboratories are increasingly active in the generation of novel basic science (Bleiklie & Powell, 2005). These kinds of institutions come up with innovations and amazing results daily. However, many of these origin from universities. Additionally, these institutions are good at making alliances with universities to ensure the best candidates.

(e) How will the university make money?

Education is a public good and tertiary education is not the exception, most of the world has a predominance in public institutions, but still private ones play an important role in the sector (See Appendix G for a map reference). A government dependent institution (public) received more than 50% of its core funding from government agencies, while a private institution receives less than 50% from these same agencies (UNESCO Institute for Statistics, 2006). This is important to mention since it makes a huge difference while revising the profit system. Both kind of institutions (private and public) hold benefactors and some amount from the government, also both charge the students certain fees, being the public one usually charging a representative semester fee that most of the students can afford and the private institutions charging monthly or yearly tuition fees that can be either affordable or extremely expensive.

In addition, the universities can make money by the commercialization of knowledge through research, technology innovation, patenting, and licensing. There are other methods that can be done as well, such as spin-off ventures, sale of academic programs, the recruitment and care of foreign students, as well as the sale of educational services, such as open education courses, distance learning, foreign language courses and production of teaching materials (Rasmussen et al., 2006) (Gacel-Ávila, 2000).

(f) What is the university's time, scope, and size ambitions?

In respect of time, the university is an already established institution with presence all over the world whose main ambition is to spread knowledge of quality through its participation in the triple helix (university-industry-government). The scope is international as this institution holds relationships with all kind of entities.

4.2 The Mexican university business model

In this part, We will define the current business model that the Mexican tertiary education is based on, this will be done by using the theories and models from Fjeldstad & Snow, Kristel Miller, Maura McAdam & Rodney McAdam, and Clayton M. Christensen, in that order. The objective is to merge the observations from these models and provide one single picture that represents the current educational situation for further comparison and discussion.

4.2.1 Value shop model

Fjeldstad & Snow (2018) say that “A business model describes how a firm creates value for customers and appropriates value from its performance of activities”. Helgesen & Nettet (2007), mention that a university can be treated as a business unit, therefore we will apply Fjeldstad & Snow value configuration model to the Mexican university system. The value configuration model mentions four types of business models, value chain, value shop, value network and value access, of which each of them has a different configuration in the way of offering and obtaining value as can be seen in the figure below.



Figure 5.- Business model configuration (Wathne, n.d.)

After meticulous review of the aspects involved in each model, we have categorized the Mexican university into the value shop model (Appendix H). This is a business that is totally based on knowledge and competencies and who offers solutions based on tailored study programs for a limited number of students each period. These students have different choices inside of the program, such as selection of electives, exchange programs

and internships, having unique professionals as a result. In addition, the key drivers are learning, reputation and the utilization of technology which play an important secondary role in continuous innovation and prototyping. The table below shows in a more descriptive way how the main aspects of this model fit the university.

Value proposition	Knowledge of quality, reputation, and degrees or certifications.
Role of customer	The students are cocreators of the knowledge and are active participants.
Value creation mechanism	Activities: problem-finding and acquisition (society demand and needs), problem solving (study programs and courses), choice (several offers), implementation, evaluation. Resources: competencies and reputation Economics: information asymmetry, learning and knowledge
Value appropriation mechanism	Pay for resource utilization, licensing, patents, research.

Table 1.- University value configuration

4.2.2 Governance of the university

The university is an old institution which has changed since its origins, we have seen it evolve in several aspects, and its governance and relationships with stakeholders are not the exception. Miller et al., (2014) established the transformation that the university has suffered until it became an evolving business model with high links with stakeholders and active participation in the economy, not only as knowledge supplier but as kick off of innovation and entrepreneurial activity.

In the last decades Mexico has tried to strengthen their links with the government and coexist with the politics that regulates the university. While in Mexico the education is public, it is not ruled by the government. The institutions are autonomous but are remotely supervised by the government and its institutions. It is well known that even though the links between these entities are strong, there are several issues that are constantly appearing, such as the need of more public funding, the institutional management or lack

of good leadership and the increase of global competence (Sánchez Limón & Castañón Rodríguez, 2019).

In addition, the universities of Mexico lack management homogeneity which results in poor leadership and sustainability. In this aspect, the poor creation of coherent educational programs affects the perception of the stakeholders involved. The criteria used to develop them do not match the labor market expectations and needs which leads to a low-quality insight. Also, most of the institutions lack a solid culture of quality assurance, diversity in study programs and innovative and interactive teaching methods. At the same time, there is no tradition for universities to link students with employers or other social agents. While some institutions provide internship programs, others lack resources to efficiently organize learning through labor. Finally in Mexico there isn't a solid culture of entrepreneurship or support mechanisms that could boost the economy and answer the social needs (OCDE, 2019).

With what has been mentioned we can then go back to Figure 2 and allocate the Mexican university business model in the middle option, as a transitioning one, since although there has been improvement in the model by detaching itself from the government and there is a collaboration within the three actors, the links that exists between them are not strong enough to create the disjunctive area where technology transfer, innovation and entrepreneurship takes place.

4.2.3 The role of innovation

Clayton M. Christensen in his book “The Innovative University” talks about how universities need to create their missions and grow up with them while they adapt and innovate according to their surroundings. Every institution must follow their unique mission while disrupting it on their way. While the case study from the book is Harvard, and can't be compared directly to the Mexican universities, we can take in consideration the main findings of it and analyze the actual model of Mexico and see how far or close it is to Harvard in regards of innovation and disruption.

As mentioned in the book, universities can be seen as two organizations, “a scholarly solutions shop and an instructional value-adding process” (Christensen, C. M., & Eyring, 2011). This also applies to most universities in Mexico, where most of the resources and

activities are around the latter. During the last decades, universities have tried to modernize by supporting research through a national research program, but this incorporation hasn't been homogeneous and equitable. In addition, most of the staff belong to unions while the rest hold temporary contracts with hourly wages, which creates an environment of inequality (Pérez & Buendía, 2017).

As mentioned before, Mexico holds private and public universities, while the private ones are driven by the income, the public ones are driven by reputation. Nevertheless, these institutions follow the traditional figure of institution, with high cost physical facilities and full-time programs. Only a few universities stand out for being original, by having specific offers and customization, while the rest keeps offering the same degrees every year without adapting or innovating (Pérez & Buendía, 2017). As mentioned by Clayton M. Christensen, the gold idea of success is to create a unique DNA that is driven by a very personal mission, but at the same time adapt itself to the surroundings and needs. The clearest example of this is the actual Covid-19 situation that we live in today. For the Mexican education system this came as a challenge since most schools (not only universities) lacked appropriate virtual systems. Before Covid, the offer of virtual classes and programs was scarce, and this is something that universities must have established long before as this is a good option to decrease costs, enroll more students and compete with emerging virtual institutions.

Finally, the book also mentions the importance of diversity, quality measure and focus orientation. In terms of diversity we can see that in the most recent years there has been an increase in the number of women pursuing a higher education, in the actuality 24% of women between 25 and 34 hold a bachelor's degree compared with a 23% of men. In case of internationality, while Mexico is the most popular country to study at from Latin America, the number of foreign students is still very low in comparison of USA and Canada, being 10%, 22% and 30% of the enrollment respectively. CONACYT is the Mexican institution that supports the graduate studies, and is currently providing scholarships to 1,500 foreign students, but this number is barely 1% of the total enrollment.

In addition, from the 1,906 schools that provide graduate studies, half of all foreign students are found in only four of these schools. Magnifying the low quality of Mexican

education (OECD, 2020). In terms of quality measure, there are several methods and sources that measure and rank the universities in Mexico, but there is still plenty of work to do. International rankings only include one Mexican institution in their top 100 universities, ranking in at number 100 (QS, 2021). The students complain about a minimum concern of the institutions in terms of feedback and care of the student, long bureaucracy, in addition of offering programs that doesn't match the labor market and with long study days that limit the possibility of having internships. The universities have focus on research and grades while they should focus on innovative teaching methods and skills transfer techniques, with the cornerstone being the student (Zamorano et al., 2013).

4.2.4 The exchange studies at Mexico

The world has gotten faster and more related with the passage of time, the internet has opened the communication barrier and has helped us to reach an infinite amount of knowledge. Everything has become more competitive, and the universities are not the exception of this, because the market keeps increasing its demands. The internationalization of higher education refers to an institutional transformation process that aims to integrate the international and intercultural dimension into the mission, culture, development plans and general policies of the institutions (Ramírez, 2017).

The internationalization in the Mexican universities is nothing new, there has been international academic cooperation since the 90's. While this term is mentioned frequently and insistently in the speeches of the university authorities, it does not, in reality, have a priority rank on the institutional agenda, nor does it come to be specified in the design of policies and systematic structures. In the best of cases, internationalization is mentioned as a goal or strategic line in institutional development plans. In fact, the activities are not planned to meet specific institutional needs, but rather respond to initiatives and personal interests internal or external to the institution. Therefore, international activity is perceived as an expense and not as an investment, causing significant weakness and precariousness in times of budget cuts (Gacel-Ávila, 2000).

In addition, Mexico is not a very popular destination for international students. In 2017 20,332 international students arrived (coming in the majority from USA, Colombia, and France in that order) compared to more than 1 million students arriving to the USA. This vast difference is due to most Mexican universities not offering programs in English and

a nationally increased crime rate. While Mexico's outbound student mobility consisted of 29,400 students, going mostly to USA, Spain, France and Canada, compared with an outbound student mobility of 342,000 students in USA (IIE, 2017).

4.3 Some international university business models

While the main objective of this thesis is to analyze the specific Mexican case study, it is also important to have a look to other countries, as this will help to create a better and more objective perspective of the business model in question. In specific it will be reviewed in general aspects the models of Chile, USA, and Norway. These countries were chosen since, Chile is the leading country in education in Latin America and is considered a country in process of development as Mexico, second, USA holds great influence in the decisions and models that Mexico uses and third, Norway is a developed country which similarities in the model but far away more advanced than Mexico.

4.3.1 Chile

Chile is a country located in South America, with a population of more than 19 million people. It has a republican, democratic, and representative political system, with a presidential government (Expansion, 2021). Chile is the 43rd economy by volume of GDP (282.3 thousand of million USD) (The World Bank, 2019). As mentioned before, Chile is the country in Latin America with the higher rankings in higher education, being ranked 31 in the global scale, while Mexico is in the position 48, in addition the Pontificia Universidad Católica de Chile (UC) is considered to be the best university in Latin America, but is ranked 121 in the QS World University Rankings of 2021 (Williams & Leahy, 2020), (QS, 2021).

It is very interesting that Chile, which has historical similarities with Mexico, has shone for its economic and educational prominence, being one of the fastest growing countries in the region. The current tertiary education model in Chile is based on neoliberalism, where the universities have become a market with many bidders and where university students act as customers. Since 1980, the open market model started in the country, this provided grounds to create private universities, allowing the public ones to start asking for tuition, and with the main focus of training skills and educating young entrepreneurs (Cancino, 2010).

Even though the Chilean education system allowed access to more students, increasing from 8 universities in 1980 with an enrollment of 13% of the population (119,000 students) to 117 higher institutions in 2010 with an enrollment of 40% (800,000 students), the tuition fees are among the most expensive in the world (3,140 USD yearly), which are at the same level as England and USA (3,000 to 5,000 USD), but the quality of the Chilean institutions is not the same as these last mentioned countries. This system has become beneficial for the government as the need of public investment has decreased significantly but this responsibility has been transferred to the households and the students in the form of long term debt through student loans (Cancino, 2010). While in Mexico there are private as well as public institutions, the public ones are tuition free (only with a representative semestral fee) and there is no public institution that provides student loans.

4.3.2 USA

United States of America is one of the most powerful countries in the world, located in North America, this country has a population of more than 328 million. Its form of government is known as presidential democracy and represents a mature continental capitalism (USA.gov, 2021). USA is the first economy by volume of GDP (21.43 billion USD) while Mexico has the 15th place with 1.26 billion USD (The World Bank, 2019). This country has a big influence on Mexico, as the relationship between them is very tight. Since the beginning Mexico has based its policies and structures from his northern neighbor but is still way behind in many aspects and education is not the exception. USA is ranked first at the international ranking of higher education and has 27 universities in the top 100 ranking (Williams & Leahy, 2020)(QS, 2021).

Their education system is famous for being expensive. While the country has public (state universities), private institutions, and colleges, most of them require the students to pay tuition fees, with ranges from 5,000 to 60,000 USD. The fees can vary a lot if one student chooses to study out of his own state, and according to the specializations. The government makes sure to have money in their fund for education where almost 50% of the students get scholarships from it (Richemont, 2019). This makes the USA the country with the highest quality education but also with the highest student debt (1.31 trillion USD in total) that varies from 30,000 to 200,000 USD per student (Student loan review, 2021). In addition, USA has the second highest public expenditure in education, but its

public expenditure on public institutions is lower than other countries as they also use funds to private institutions (OECD, 2020)

The quality system of USA is achieved via the system of voluntary accreditation by accrediting agencies that are recognized by the U.S. Secretary of Education and meet the standards for membership in the Council for Higher Education Accreditation (CHEA). Their credit system and certifications are used by numerous universities to manage their international acceptances. Moreover, USA holds a total of 5,300 colleges and universities, which make the country more demanded for international students, being in 2019 the international population more than 1 million, making up 5.5% of the total US student body and which also provided 45 billion to the USA economy (Educationdata.org, 2021).

4.3.3 Norway

Norway is a Scandinavian country with a population of more than 5 million. It has a parliamentary, democracy, and constitutional monarchy, ruled by a prime minister, a cabinet, and a 169-seat parliament (Regjeringen.no, 2017). Norway is the 31st economy by volume of GDP (403.3 thousand of million USD) (The World Bank, 2019), but it is ranked as the first country in standard of living, life expectancy and education, for the 13th consecutive year by the UN, this because of the free health and education system and by holding a life expectancy of 82 years. While Mexico, Chile and USA are in the 74th, 43rd and 17th place respectively (UNDP, 2020). In terms of higher education, Norway lands in the 11th place of the international ranking, but its major institution, University of Oslo is ranked 113 in the QS ranking (Williams & Leahy, 2020), (QS, 2021).

Norway is a knowledge nation and its system is based on the principle that everyone should get an education despite their social background, and this extends to nationals and internationals. Moreover, the government has the goal to achieve high quality education level as the country needs professionals with high level skills. The country has 9 universities, 8 university colleges and 5 scientific colleges, all runed by the government. Apart from these, Norway also has many private higher institutions receiving public funding. This system follows since 2003, the objectives of the Bologna process in the European higher education. (Study in Norway, n.d.). In addition, Norway has an enrollment rate of 37.9% of people between 19-24 years old (306, 453 students) (SSB, 2021).

Furthermore, the Norwegian system not only doesn't require tuition, but it also provides students with government loans. Granted that exams are passed; parts of the loan are transformed to scholarship. This the students to be independent from their families and gives the grounds for equal access to education. This is because Norway is among the countries with most expenditure on public education with an annual spending per student of more than 16,000 USD while in Mexico is around 3,300 USD (OECD, 2020). Finally, the country pays important attention to their quality and student satisfaction, where the voice of the students is consulted and applied, this is done individually by each school but also by NOKUT (the Norwegian Agency for Quality Assurance in Education) that assures the accreditation and quality of its educational system, both in secondary education and in higher education. In average, Norway has a student satisfactory level of 65% (Statistics Norway, 2018) while in Mexico this information is not available from any governmental sources and the one available seems incomplete.

5. METHODOLOGY

For this master thesis it will be used an exploratory methodology (commonly used in social sciences such as business and marketing) to deepen the topic and lay the groundwork for a proposition. This kind of methodology allows to learn about the topic without attributing bias to it, have creativity in the process and provide a proposal as a result, which will be open to further verification. This paper will not only be based in qualitative data, but will also be supported with quantitative data, being a field experiment performed in a Mexican university together with a national survey the source of it. As mentioned before the main objective is to determine if the exchange semester is a factor that can be disrupted of the university's models with similar characteristics to the case study of Mexico. Therefore, it is important to consider our sub questions; below we can see how these questions will be approached and analyzed further.

Sub-question 1: Can exchange studies be a factor that improves universities business models?

Based on the theoretical framework, we will centralize the investigation in the influence of international exchange semesters. The use of the national survey designed to gather general information about the student's perspective of exchange studies, available information and possible barriers will be used to determine this question. The survey is

designed in a friendly way so that we can get the best possible responses. It has 9 questions which required less than 5 minutes of involvement and includes open and closed questions. It was made with google forms as this tool allows an easy spread and provides trust. In addition, with this tool it is possible to download the data base in a spread sheet, which makes it easier to analyze. The method used to analyze the survey is cross tabulation, as it is an appropriate quantitative research method for analyzing the relationship between two or more variables, and will therefore, enable to disclose not apparent relationships in the data. However, this tool is mostly used for closed questions, so we will be using the word cloud tool as well to analyze the open questions of the data, as this method is recommended for text analysis.

Sub-question 2: Will a private organization that provides personal guidance about exchange studies to university students be a factor that increases the amount of them?

For this question, a case study in form of field experiment was conducted, where 12 students belonging to a Mexican university participated. All the participants were chosen randomly, without any prior information, and assigned to a group randomly, either active or control group. The exercise was aimed to cover 4 weeks, where at the beginning they were asked about previous knowledge and interest in doing an exchange semester. Then, they participated in a weekly informative talk that aimed to influence their thinking. Finally, the students were tested to compare how their perception changed about the exchange programs perception of difficulty and accessibility. The analysis of this will be done with the T test analysis tool, applied to the means of the results. First, a paired T-Test will be used to analyze the significance of the effect of the field experiment by comparing the results of the complete sample before and after the experiment. Secondly, a two-sample T-Test will be done to both the active and control group before and after the experiment, to find the significance variance and effect of participating or not in it.

Finally, the process of providing propositions is quite challenging in writing theory papers, as it is complex to present a clear idea in a line of argument. As explained by Cornelissen (2017), the propositional style aims to articulate contingencies as directions and implications for future research. One of the hardest things is to correctly formulate the proposition, as this might be mistake with hypothesis, the difference between them relies on the fact that a proposition is a relationship statement between formulates that

cover new theoretical ground while a hypothesis details testable relationship between variables that does not require new arguments. It is important to establish the causal agent (organizational attributes or managerial choices) while making a proposition, as the lack of it makes unclear the outcome or effect and then might get mistaken with a hypothesis. Therefore Cornelissen (2017) provides some remedies to improve the process of making propositions.

1. Broaden the scope of the propositions and develop an original line of argument, with a novel set of assumptions as theorized grounds.
2. Develop the arguments first, before formalizing them into propositions.
3. Start with a canvas when sketching and formulating arguments.

6. DATA

The data of this master thesis is both qualitative and quantitative, as the objective is to learn firsthand from the primary “user”, the university student, and analyze the data obtained from them. As previously mentioned in the methodology, this data will be used in further stages of the thesis, mainly to analyze and provide propositions for the sub questions. The first part of the data consists of a survey made to 92 university students, all asked anonymously and who belong to different universities of Mexico. The second part of the data belongs to a 1-month field experiment made to 12 specific students from a singular university.

6.1 National survey

The survey was made through google forms and consists of 9 questions that aim to receive a general overview of how the students feel they are informed about exchange semesters, their perceived barriers, and possibilities to achieve it. The obtained sample includes 92 respondents from different universities of Mexico and specializations, they were reached by social media and direct contact through teachers. Even though this sample is small compared to the amount of the active student population, it is useful to provide insight on the topic. The survey includes multiple choice and open questions and are classified as follows:

Question	Type of question	Classification
Do you study in a public or private institution?	Multiple choice (private or public)	General information
What is your study area? (Business, Engineering, Health sciences, Arts, Law, Social sciences, Architecture, Education, Agronomy, other)	Multiple choice (variables)	General information
Has your school provided you with general information about exchange semesters?	Multiple choice (yes or no)	Student perspective
With the information you currently have, do you consider it feasible to do a semester abroad?	Multiple choice (yes or no)	Student perspective
Can you explain the reason for your previous answer?	Open question	Student perspective
Which of the following do you consider to be obstacles to making an exchange? (lack of orientation and information, lack of financial support, I only speak Spanish, difficulty in getting the necessary documentation, fear of the unknown, none of the above)	Multiple choice (variables)	Student perspective
Would you be interested in personalized follow-up of an advisor for this type of process? (Exchanges, masters, PhD, courses)	Multiple choice (yes, no, maybe)	Research question
In the case of doing an exchange or master's degree abroad, do you feel that you would have better job opportunities in Mexico?	Multiple choice (yes, no, maybe)	Research question
Can you explain the reason for your previous answer?	Open question	Research question

Table 2.- Survey questions and classification

In the Appendix B you can see the answers of the survey which will be clarified and explained further in the analysis part. In addition, in the top of the survey it was disclaimed that the purpose of this form is to assess and measure the information about studies abroad. The information provided will be confidential and will only be used for academic purposes.

6.2 Field experiment

The second part of the data of this thesis consists of a field experiment performed during 4 weeks with 12 students, from which 6 (from A to F) participated actively and the other 6 (from G to L) are part of the control group. All students belong to the University of

Guanajuato, Mexico (UG) and are enrolled in the 7th semester of the Veterinary bachelor's degree. During this program, the active students were given a weekly talk during the 4 mentioned weeks. The respective talks were given in a friendly and personal way, where the students provided their "dreamed study country", and information both in a general and specific way about the exchange process was provided. The topics included university selection, collection of documentation, application process, scholarship or financial options, visa process and general tips and experiences. The students were asked a series of questions at the beginning and after the program with a numerical scale where 1 is the lowest and 5 is the highest. The surveys can be found from the Appendix C to F and will be discussed later in the analysis part.

7. ANALYSIS AND RESULTS

In this part of the thesis different kinds of analysis will be performed in our data. The analysis is divided in two parts, the first one being the survey analysis where cross tabulation will be used to disclose hidden relationships in the responses, also word clouds will facilitate a better picture to analyze the responses of the open questions. The second part consists of the analysis of the field experiment, where different types of T-Test will be used to show the statistical significance and help us to identify whether the null hypothesis applies or not.

7.1 The survey analysis

One of the two sources of qualitative data used in this research is the outcome of a national survey that was applied to 92 university students across Mexico. In this part an analysis of the results will be done based on the graphs of each question, cross tabulation and in the case of the open question, word clouds will be used.

As mentioned before, the student population in Mexico is divided in public and private institutions, which can be an important factor while making decisions. While the Mexican society is considered elitist and gives high importance to the value of money (Urías, 2014), most of the students first option is to apply to the public universities, this because of the renown and prestige that public institutions hold against most of the private ones, having some exceptions as a couple of private universities do appear in the ranking of the best universities of Mexico ("Top Universities in Mexico | 2021 Mexican University

application process. The Table 3 shows us the results and it is notorious that the majority of the students in a public environment lacks information, while in a private environment the results are more even, having a slight difference towards the positive, which lead us to consider the idea that private universities are doing a better job guiding their students in this topic.

COUNTA of Received information		Received information		
Type of university	No	Yes	Grand Total	
Private	17.20%	22.58%	39.78%	
Public	41.94%	18.28%	60.22%	
Grand Total	59.14%	40.86%	100.00%	

Table 3.- Type of university vs has received information.

The second cross tabulation was made between the type of the university versus if the respondent considers an exchange study feasible with its available resources. Table 4 shows the results, and we can see that even though in Table 3, the students that belong to a private university have received information is 22.5% against 17.20% of those who didn't, only almost 14% considers it feasible to do an exchange semester against almost 26% who think the opposite. In case of the public students, it is notorious again that most of the students don't feel ready for this step and only a small percentage, almost 12% appraise it. Moreover, it is necessary to also look at the relationship between the type of university of the responder against their thinking that an exchange is beneficial. Table 5 illustrates these results and we can note that 74% of the total considers this experience as beneficial for their future path, having very few negative responders, and a grey zone of 20% of undecided students. We can also see that in this case, there is no big difference between public and private environment, having both very close results.

COUNTA of Is an exchange feasible?		Is an exchange feasible?		
Type of University	No	Yes	Grand Total	
Private	25.81%	13.98%	39.78%	
Public	48.39%	11.83%	60.22%	
Grand Total	74.19%	25.81%	100.00%	

Table 4.- Type of university vs personal feasibility.

COUNTA of Think it will be beneficial?		Think it will be beneficial?		
Type of University	Maybe	No	Yes	Grand Total
Private	8.60%	2.15%	29.03%	39.78%
Public	11.83%	3.23%	45.16%	60.22%
Grand Total	20.43%	5.38%	74.19%	100.00%

Table 5.- Type of university vs Is an exchange beneficial?

It would be relevant to disclose which percentage of the respondents would show interest in getting specialized guidance, as this question is of high importance for the 2nd sub-question. The Table 6 shows the relationship and results between the type of university versus their interest in this type of support. We can see that the majority of the respondents would show interest in guidance, regardless of whether they are from public or private schools, having a 64.5% of positive interest, 7.5% of negative interest and a grey zone of almost 28% of people who are not sure. This last 28% can be considered as a window of opportunity for a positive response if it is possible to guide and convince students of the benefits and possibilities of an exchange study. To verify this idea, a cross tabulation was made between the interest in guidance of the students and their thinking of considering an exchange beneficial for their future professional path. These results are showed in the Table 7, where we can see that from the 28% mentioned before, 18.28% think that an exchange semester would be beneficial, meaning that they already are motivated but are lacking convincement. Decreasing our grey zone to 9.68%, as we didn't get any negative response from the ones who answer maybe before.

COUNTA of Interest in guidance? Type of University	Interest in guidance?			Grand Total
	Maybe	No	Yes	
Private	7.53%	3.23%	29.03%	39.78%
Public	20.43%	4.30%	35.48%	60.22%
Grand Total	27.96%	7.53%	64.52%	100.00%

Table 6.- Type of university vs interest in guidance.

COUNTA of Interest in guidance? Interest in guidance?	Think it will be beneficial?			Grand Total
	Maybe	No	Yes	
Maybe	9.68%		18.28%	27.96%
No	3.23%	2.15%	2.15%	7.53%
Yes	7.53%	3.23%	53.76%	64.52%
Grand Total	20.43%	5.38%	74.19%	100.00%

Table 7.- Interest in guidance vs Is an exchange beneficial

In addition, it is interesting to discover the relationship between the students who have and haven't received information versus their interest in personalized guidance. This is relevant for our second sub-question. We can see in Table 8 that almost 39% of the students who haven't received information at their institutions are interested in receiving guidance, while almost 26% of the students who did received information would also show interest in this personalized guidance. This total gives us a positive response of 64.5% in total, which is very much favorable, and again we have a grey zone of almost 28% that can be converted totally or partially to our favor.

COUNTA of Received information Received information	Interest in guidance?			Grand Total
	Maybe	No	Yes	
No	18.28%	2.15%	38.71%	59.14%
Yes	9.68%	5.38%	25.81%	40.86%
Grand Total	27.96%	7.53%	64.52%	100.00%

Table 8.- Has received information vs interest in guidance

While collecting the data it brought attention that even though the students were willing to participate, the number of individuals that answered decreased at the very last moment, limiting the sample to 92 answers. Which might not be the most accurate number to provide a concrete base, but it is helpful to create a start.

7.2 The field experiment analysis

The second source of data in this thesis belongs to the one obtained with the field experiment. The four complete surveys can be seen in the Appendixes C to F, where each one belongs to a previous and final survey from the active and control group. While the control group doesn't show significant changes, the active group shows several differences from the initial survey to the final survey, these changes can be seen clearer in Table 9, where the letters means the student, being for example A the first student at the beginning of the program and A' the same student at the end of the program. The green color in the table represent a positive change in the numbers, yellow means no change and red means a negative change. Also, the last two questions of Appendix E were not included as these were made for quality purposes and are not present in Appendix C, and if maintained, would create an inefficient comparison.

QUESTION	STUDENT											
	A	A'	B	B'	C	C'	D	D'	E	E'	F	F'
What is your knowledge level about exchange studies?	3	4	2	4	4	5	1	3	2	4	3	5
How curious are you about the topic?	3	4	4	5	5	5	3	4	2	5	2	4
What is your fluency in English?	2	2	3	3	2	2	2	2	4	4	3	3
How important do you consider a foreign language is?	4	5	5	5	4	4	3	5	5	5	4	4
How hard do you consider the application process is?*	4	3	4	2	3	1	5	2	4	2	3	3
How would you rate the information provided to you by the university?	2	1	3	2	2	1	2	2	3	1	3	3
What is your likelihood to apply for an exchange semester?	2	3	1	2	3	3	1	4	1	4	2	4
What is your knowledge level about scholarships and mentorship programs?	3	4	2	4	2	3	3	4	3	4	2	5
How hard do you think is it to get scholarships?*	4	2	4	3	3	2	5	3	5	3	4	2
How likely is it for you to pursue a master or PhD?	2	3	1	2	2	2	2	3	3	4	1	3
How beneficial do you think an exchange semester can be to your graduate life?	3	4	3	4	2	5	4	5	3	4	2	4
How likely is that you will search for private guidance about the topic?	2	3	1	3	1	2	2	4	2	3	2	4

* The value is considered green because a decreasing means a positive improvement

Table 9.- Active group comparison

As we can see, Table 9 shows a clear improvement in the knowledge of the students but is hard to notice the change of the individual in comparison with the control group, both in a singular number. Therefore, an average result obtained from everyone would be more clarifying, the average responses for each student can be found in Appendix I. The image below, Figure 8, is an illustration from Appendix I, it shows the average performance of the students, being from A to F the active group and from G to L the control group. In this graph is notorious that all the students were at a similar level at the beginning, but show an important change when the program finished, and therefore, their perceptions of their own knowledge were modified. In addition, while obtaining the percentage of improvement, the active group increase 19.6% when comparing its responses from before and after the field experiment, while the control group got an improvement of 2.2%.

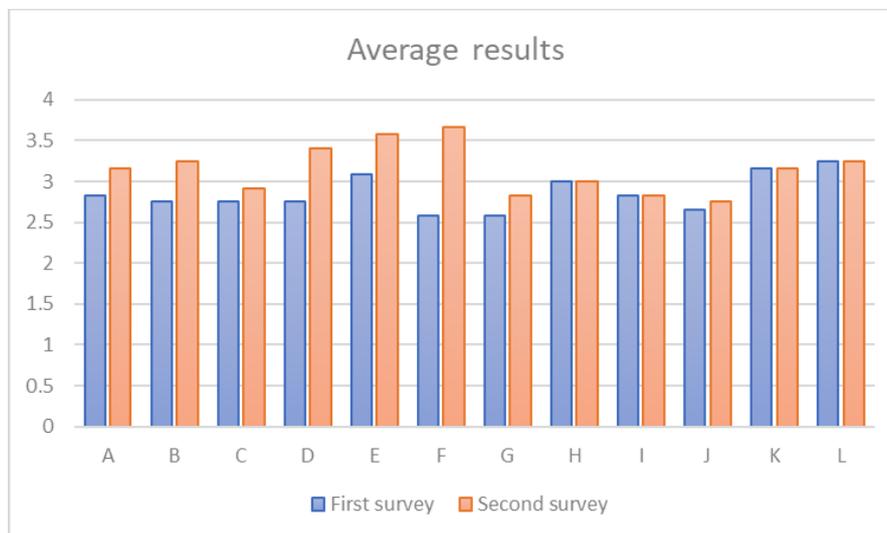


Figure 8.- Comparison graph of the field experiment

Nevertheless, it is needed to confirm if this difference is significant, and we can do this by performing T-tests. First, I used a Paired two-sample for Means T-test, applied to the complete data (active and control group), before and after the experiment. This kind of T-test is used to compare the means of the same group or item under two separate scenarios, which in this case is previous the experiment and after. Table 10 shows the results of this analysis where we can see that the P value of two tails is .01 (marked with yellow) and therefore significant as is less than .05. Our sample data support the hypothesis that the population means are different. Specifically, before the field experiment mean is smaller than after the field experiment mean.

	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2.851916667	3.149166667
Variance	0.049594992	0.088881061
Observations	12	12
Pearson Correlation	0.191297233	
Hypothesized Mean Difference	0	
df	11	
t Stat	-3.062177538	
P(T<=t) one-tail	0.005404924	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.010809847	
t Critical two-tail	2.20098516	

Table 10.- t-Test: Paired Two Sample for Means, before and after.

Finally, it is as well important to revise the significance of the data within the groups before and after the field experiment, separately. In this case it was applied a Two-Sample Assuming Equal Variances T-test, to compare both groups, first only with the data corresponding to before the field experiment, and second to the one corresponding to after it. This kind of test is used because our samples are comparing 2 different groups of students, one belonging to the active group and one to the control group, also we are using the equal variance assumption as in this case our observations have the same amount on each side and is a small group. Table 11 shows the result of the first T-test, and we can notice that there is no significant difference between the responses of each group, as we have a P value of .36 which is higher than .05. Nevertheless, the results obtained from the 2nd T-test are completely different, in this case we analyzed both groups after the field experiment. We can see in Table 12 that the P value is .02, therefore we can assume that the difference of the active group versus the control group, after concluding the experiment on the former is significant.

	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2.7905	2.913333333
Variance	0.0272695	0.072786667
Observations	6	6
Pooled Variance	0.050028083	
Hypothesized Mean Difference	0	
df	10	
t Stat	-0.951195819	
P(T<=t) one-tail	0.181964242	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.363928485	
t Critical two-tail	2.228138852	

Table 11.- t-Test: Two-Sample Assuming Equal Variances before the program

	<i>Variable 1</i>	<i>Variable 2</i>
Mean	3.328333333	2.97
Variance	0.077896667	0.0406
Observations	6	6
Pooled Variance	0.059248333	
Hypothesized Mean Difference	0	
df	10	
t Stat	2.549821436	
P(T<=t) one-tail	0.014436398	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.028872796	
t Critical two-tail	2.228138852	

Table 12.- t-Test: Two-Sample Assuming Equal Variances after the program

8. DISCUSSION

The discussion of this thesis is divided into three parts, first we will talk about the main findings and arguments of the general Mexican university business model. Then we will evaluate both first and second sub questions of this thesis respectively. Finally, we will develop a series of propositions regarding the improvement of the actual business model. These are the result of the literature, theory approach and analysis of this paper.

8.1 The Mexican university business model

After reviewing the different parts of this thesis, it can be understood that the Mexican university business model is not homogenous within the country, as every institution decides what method is better for them. This doesn't mean that independency and being autonomous is wrong, but an indicator that national guidelines are missing, which in fact can help the institutions to have more equivalent results. Different authors such as (Armijo de Vega et al., 2003) (Pérez & Buendía, 2017) (Navarro-Leal & Navarrete-Cazales, 2014) highlight the weaknesses of the actual educational system, and therefore suggest that a change must be made. While taking into consideration the words of Christensen, C. M., & Eyring (2011), it is more notorious that the Mexican universities are still stuck in a past era, being worried by improving traditional aspects instead of disrupting and adapting to the new environment and needs of the society. This is something that other nations have been working on, by involving internationalization and digitalization.

When talking about the performance of the Mexican universities versus other international ones, we can see that even though the parameters are not equal, there is in fact many similarities within some nations. I took the case of Chile, USA, and Norway to have diverse scenarios with possible commonalities. We can notice that Chile who in fact share a similar history has shown better results in their indicators, while on the other hand USA, has behaved more as an inspiration for the complete system, although Mexico does not manage to obtain the same results. However, the Norwegian model could be a better option for Mexico as it could represent a truly disruption.

In addition, the collected information was challenging to obtain, which suggest that Mexico as a country could work harder to improve transparency and accessibility. Most of the data of the country is only available in Spanish, which makes it difficult for other literates who might have interest in studying subjects related to the country. These aspects are key factors in the academy sector and would also improve the whole system by allowing other researchers to identify issues, as well as the government as it can compare itself with other similar or better economies.

8.2 Sub question 1

Considering the first sub question, **can exchange studies be a factor that improves university business models?** It is interesting how in this case, the literature and the theory

matches with the analysis performed. Authors such as (Waibel et al., 2017) and (Jackson, 2015) highlight this part of the education as significant for the professional performance of the individual, but the student is not the only one that benefits from this experience. In the part where the USA model was reviewed, it is notorious that exchange students conform an important amount of income for this economy, in addition to the well-known prestige and renown.

The analysis of this thesis supports what is mentioned in our theory and literature. While the respondents of the survey hold strong beliefs of the benefits of this kind of experience, they feel misinformed and unsupported to carry it out. As mentioned by (Gacel-Ávila, 2000), the exchange programs in Mexico are still considered an expense instead of an investment. Mexico has been withholding regarding internationalization concerns, while other countries have bet on it and succeeded. When looking at the macro data of international higher education performance versus the countries that get most international students, we can see that the names are very much the same. This information can lead to believe that this factor can be related to the success of a country's business model. In addition, the information obtained from the field experiment, indicates that the students who were informed and oriented about the topic improved their perception and wished to perform an exchange semester, against the ones who didn't receive the guide.

8.3 Sub question 2

While concerning the 2nd question of this thesis, **will a private organization that provides personal guidance about exchange studies to university students be a factor that increases the amount of them?** The theory and data analyzed suggest that this could potentially be something that the actual business model is missing. As mentioned before, this area is outdated in most universities, and is lacking support and resources to improve. The motivation of the students is as well an important factor to consider, since if there is no demand from the student population, it is unlikely that an attempt will be made to improve the area. The field experiment that was performed, indicates that with an accurate guidance, the student is most likely to increase its motivation and interest in the topic, as it is perceived more achievable.

As this approach was done in a way that aimed to gain the student trust and to share opinions and ideals in a safe space, the idea of a private or external organization not belonging to the university or government might be a key factor. The students expressed not being satisfied within the subject. Addressing this issue with the institution is difficult due to the fear of possible reprisals, something that in a correctly managed university model should not even be an issue. It will in fact be necessary to apply a deeper analysis by creating a prototype of this institution and apply it to several universities. Nevertheless, the approach that was taken in this research provides the beginning and reference to that possible further research.

8.4 Propositions

The last part of the discussion consists of four different propositions which main purpose is to aim the rethinking of the Mexican university business model and other economies that holds similarities. In this case, the structure and ideals of Cornelissen (2017) is followed, where states that a correct proposition marks cause and consequence and is based on novelty text that supports the proposition.

Proposition 1.- *If the university applies disruptive tactics, it can decrease their operative costs and improve outputs.* As mentioned before, a traditional university holds numerous expenses to maintain its activities, this make it unable to compete with newly and fresh institutions that holds versatile models. When innovative tactics are applied, the costs can decrease. This can be done specifically by increasing the number of students that enrolls and graduates in adequate timing, as having more students decreases costs but these need to graduate on time to allow a correct flow and increase prestige. At the same time this can be carried out by modularizing and modernizing the curriculum to make it according the actual needs. In addition, providing academic tutoring and specialized advisory in diverse areas avoids dropping out. Finally, by hybridizing the educational model with the use of online services, the institution can considerably decrease costs, become more competitive and auto sufficient.

Proposition 2.- *If the university establishes a unique mission and vision with enough adaptability, the quality of the institution will increase.* Though cost reduction is necessary for the typical university, it is not enough. The physical institutions will always be more expensive than their fully online counterparts. The real challenge then is to justify

the greater cost in the minds of students, parents, and investors. Hence there is as much a need to focus on quality as cost. To this, it is imperative that the institution creates their own ideals, as copying or basing upon others will just affect their status. At the same time, it needs to be matched with their selection of study offer, study plans and main business strategy. A university that is, for example, focused on postgraduates will have a clear path and market options for development while its costs are regulated and on track. While an institution who might offer bachelor's degree, masters, PhDs, and certifications might find the operation harder and more expensive to hold. Therefore, the institution must design their mission and vision based on its goals and orientate the activities to it. In other words, build the DNA of the university.

Proposition 3.- *If the institution listens to their environment and stakeholders, it will improve its status and overall service.* While the internal DNA is important, the institutions must not forget that it is a business unit with different kinds of stakeholders. The students, the society, government, and private market requires different outputs, and all of them are in constant change. The institutions should make use of the expectations and trends to improve. These actions can mean, including practical experience in the curriculum that is align with the market, improve or develop the internationalization of the students and academics through exchanges or diplomats, and finally consult and measure the student opinion while applying it to the curriculum development. By considering the external input, the institution can measure itself and enhance its actions and results.

Proposition 4.- *If the university implements accurate guidelines and hires adequate personnel, it will be easier to adapt to changes.* It's no secret that strong fundamentals are necessary to be reliant and trustworthy. When an institution holds policies and guidelines that are consistent and relevant, it is easier to keep adding new ones that match the coming needs, just like the case of internationalization. Staff who work with the development of guidelines should be required to comply with a complete CV, ensuring their competence to develop and externalize these policies. In addition, further specialized committees can be created to regulate and audit the development of specific areas, such as the international relations, research agreement, scholarships, and internships.

9. CONCLUSION

Based on the literature review, theoretical positioning, and analysis of this master thesis, I can conclude that the Mexican university system has several deficiencies and bottlenecks, and the international section is not the exception. The focus and ideals of the universities as a general aspect are not aimed towards disruption and innovation. We can see this while looking at what other countries have done and what the theories suggest for business models.

The findings recommend that academic exchanges are a relevant area in the development of the student, the institution and the country's economy and culture, and therefore should be promoted. In this case, the students seem unhappy and unsatisfied with the actual information that they received as far as internationalization is concerned, and the idea of having an external institution whose focus is to guide and motivate this area looks promising and refreshing. One can not assume that all the institutions fall into the negative part, nevertheless, the actual perception leads us to believe that the majority of the institutions, and mostly the public ones, are missing important points that can lead to success.

In the analysis it was clear that our research topic and sub questions behaved as expected, this being a situation with many areas of opportunity. The propositions suggested in the discussion part might help to orientate the next steps for the Mexican institutions, nevertheless those propositions still need to be applied and tested for further recognition. The work in this thesis aimed mostly to start the discussion on the university business model, at the Mexican case, as this is a gap that existed in the available literature. Which is crucial for the further economic development of the country and other countries with similar behavior. While the theory of business model is not new, many organizations still miss the opportunity to apply it, and this is the case of the university, as it is an institution whose traditional work relies on public fund and support, can be disrupted and be converted to more autonomous and independent unit.

- Limitations

This work is limited to the available information and past research over the topic. In addition, the field experiment was based in a singular university with specialization in veterinary, which can also provide limitations based on singular preferences and study tendencies. Moreover, the universities and governmental dependencies of the country have a reputation of manipulating data to their benefit and burying important information in the system. Finally, the ideas presented in this work might be challenged by the personal experience of each person and attitude over change.

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APPENDIX

A) Ranking of National Higher Education Systems 2020 (Williams & Leahy, 2020).

Overall U21 2020 Ranking

Rank (2020)	Rank (2019)	Country	Score (2020)	Score (2019)	Rank (2020)	Rank (2019)	Country	Score (2020)	Score (2019)
1	1	United States	100.0	100.0	26	27	China	56.8	54.7
2	2	Switzerland	90.1	88.6	27	28	Malaysia	56.1	54.5
3	5	Denmark	85.7	82.5	28	29	Slovenia	55.4	53.8
4	7	Singapore	84.5	81.3	29	26	Czech Republic	54.8	55.2
5	4	Sweden	84.3	82.9	30	30	Italy	54.5	53.4
6	3	United Kingdom	83.6	84.5	31	32	Chile	54.3	51.3
7	6	Canada	83.2	81.9	32	31	Poland	52.6	52.2
8	9	Finland	82.8	80.4	33	#35	Hungary	51.3	48.5
9	8	Australia	82.2	80.9	34	34	South Africa	49.7	48.7
10	10	Netherlands	81.6	80.2	35	#35	Russia	49.1	48.5
11	11	Norway	80.5	77.8	36	#38	Ukraine	47.8	45.1
12	12	Austria	79.3	77.2	37	37	Greece	47.4	47.0
13	13	Belgium	75.6	73.6	38	33	Slovakia	47.2	49.6
#14	14	New Zealand	72.7	71.5	39	42	Turkey	46.3	43.3
#14	15	Hong Kong SAR	72.7	70.2	40	#38	Argentina	46.0	45.1
16	16	Germany	70.5	69.6	41	40	Brazil	45.6	44.1
17	17	France	68.6	67.6	42	41	Serbia	44.2	43.4
18	18	Israel	67.4	67.3	43	43	Croatia	43.6	42.1
19	19	Ireland	66.0	64.7	44	45	Romania	43.0	41.7
20	20	Japan	61.9	61.7	45	44	Bulgaria	42.7	41.8
21	21	Taiwan-China	60.5	60.5	46	46	Thailand	42.3	41.2
22	22	Saudi Arabia	59.3	59.3	47	48	Iran	42.2	39.2
23	24	Spain	58.6	57.3	48	47	Mexico	41.7	41.1
24	23	Korea	58.0	57.4	49	49	India	39.6	38.8
25	25	Portugal	57.6	56.8	50	50	Indonesia	35.0	33.5

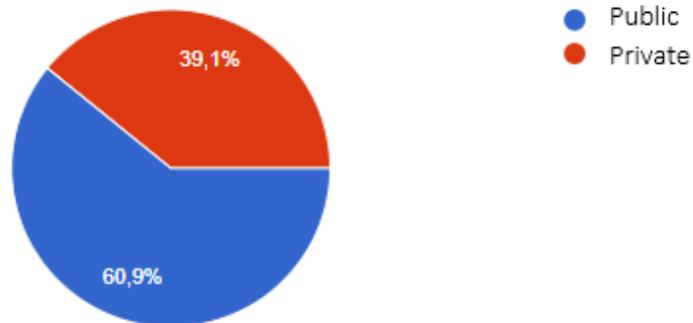
denotes equal rank

B) Survey results

B1.- Graph of question 1

Do you study at a public or private university?

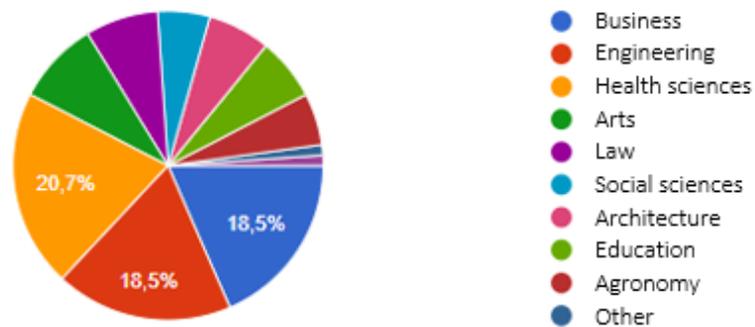
92 responses



B2.- Graph of question 2

What is your area of study?

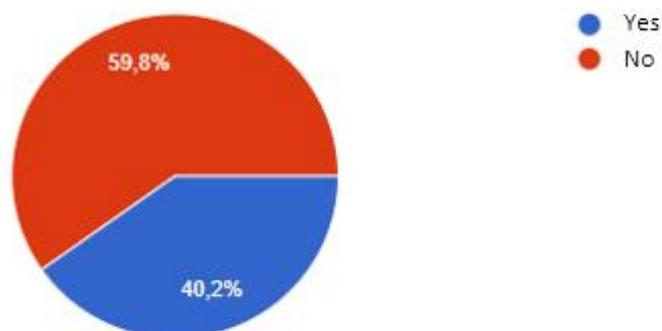
92 responses



B3.- Graph of question 3

Has your school provided you with general information about exchange semesters?

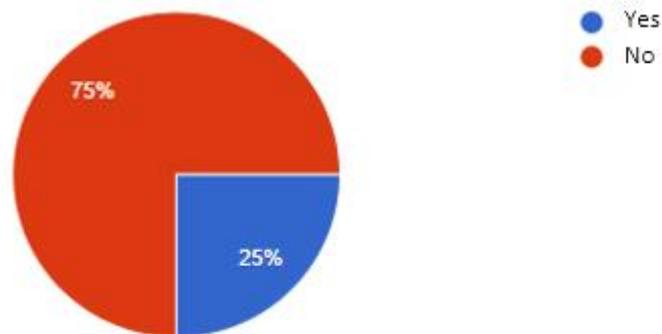
92 responses



B4.- Graph of question 4

With the information you currently have, do you consider it feasible to do a semester abroad?

92 responses



B5.- Answers to question 5

Can you explain the reason for your previous answer?

42 responses

Because I feel like I have the knowledge that I need

I'm not sure what is needed or how much an exchange costs

I am completely unaware of the subject and it was only in the introductory courses at the beginning of the degree that they mentioned this possibility but I really am not clear about the advantages or the possible places.

Because it helps your branch, and you practice the language that is essential

I do not have information about how to process an exchange

The pandemic

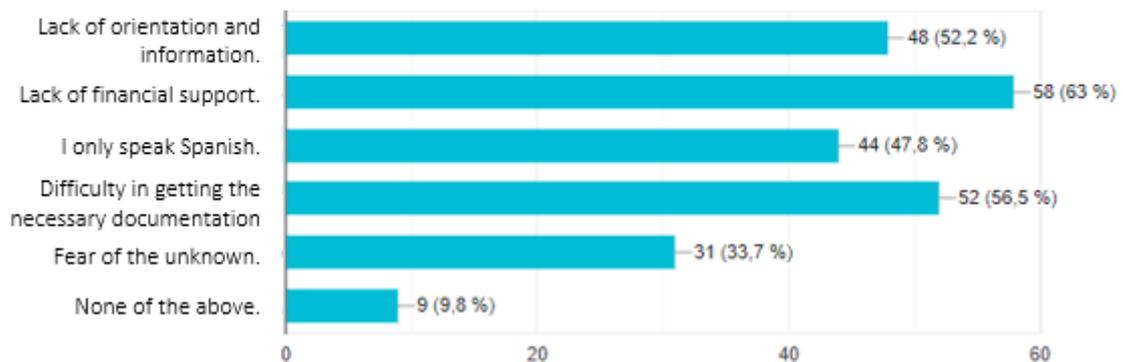
For the pandemic

Because the information they give me is not very complete and the one I find is not very related to the university I go to

B6.- Graph of question 6

Which of the following do you consider to be obstacles to making an exchange?

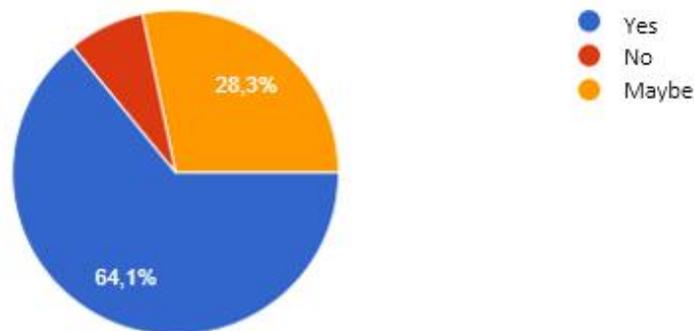
92 responses



B7.- Graph of question 7

Would you be interested in personalized follow-up of an advisor for this type of process? (Exchanges, masters, doctorates, courses)

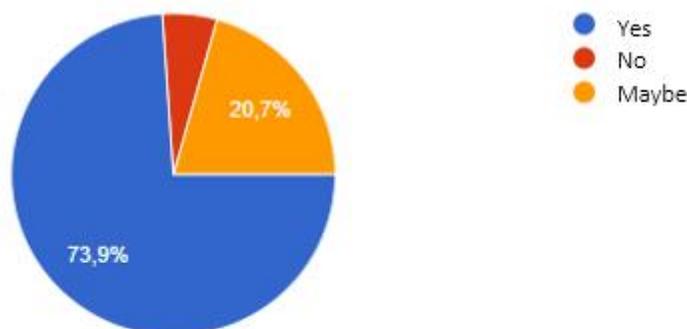
92 responses



B8.- Graph of question 8

In the case of doing an exchange or master's degree abroad, do you feel that you would have better job opportunities in Mexico?

92 responses



B9.- Answers to question 9

Can you explain the reason for your previous answer?

42 responses

Because there is a better economy and I could do better

Companies see people who can develop in other environments or with people of different cultures and languages as an advantage

I consider that there are more important tools that we must have.

You have a good performance from another country

Due to the current interest of the institutions for more qualified personnel

Curriculum, learn about new technologies, meet contacts outside of Mexico

There is more opportunity

Whether you like it or not if a person carries out a study abroad, here in Mexico they see it more meritorious

C) Initial survey questions - Active group

In a scale from 1 to 5, where 1 is the lowest and 5 is the highest.

Question Student	A	B	C	D	E	F
What is your knowledge level about exchange studies?	3	2	4	1	2	3
How curious are you about the topic?	3	4	5	3	2	2
What is your fluency in English?	2	3	2	2	4	3
How important do you consider a foreign language is?	4	5	4	3	5	4
How hard do you consider the application process is?	4	4	3	5	4	3
How would you rate the information provided to you by the university?	2	3	2	2	3	3
What is your likelihood to apply for an exchange semester?	2	1	3	1	1	2
What is your knowledge level about scholarships and mentorship programs?	3	2	2	3	3	2
How hard do you think is it to get scholarships?	4	4	3	5	5	4
How likely is it for you to pursue a master or PhD?	2	1	2	2	3	1
How beneficial do you think an exchange semester can be to your graduate life?	3	3	2	4	3	2
How likely is that you will search for private guidance about the topic?	2	1	1	2	2	2

D) Initial survey questions - Control group

In a scale from 1 to 5, where 1 is the lowest and 5 is the highest.

Question Student	G	H	I	J	K	L
What is your knowledge level about exchange studies?	2	3	2	1	5	4
How curious are you about the topic?	3	4	2	3	4	2
What is your fluency in English?	1	3	3	3	4	2
How important do you consider a foreign language is?	3	4	5	4	5	4
How hard do you consider the application process is?	4	3	4	3	2	4
How would you rate the information provided to you by the university?	2	3	2	1	2	3
What is your likelihood to apply for an exchange semester?	1	2	1	3	1	4
What is your knowledge level about scholarships and mentorship programs?	2	2	3	2	3	4
How hard do you think is it to get scholarships?	4	4	5	5	3	3
How likely is it for you to pursue a master or PhD?	2	1	1	2	2	2
How beneficial do you think an exchange semester can be to your graduate life?	4	5	4	4	5	5
How likely is that you will search for private guidance about the topic?	3	2	2	1	2	2

E) Final survey questions - Active group

In a scale from 1 to 5, where 1 is the lowest and 5 is the highest.

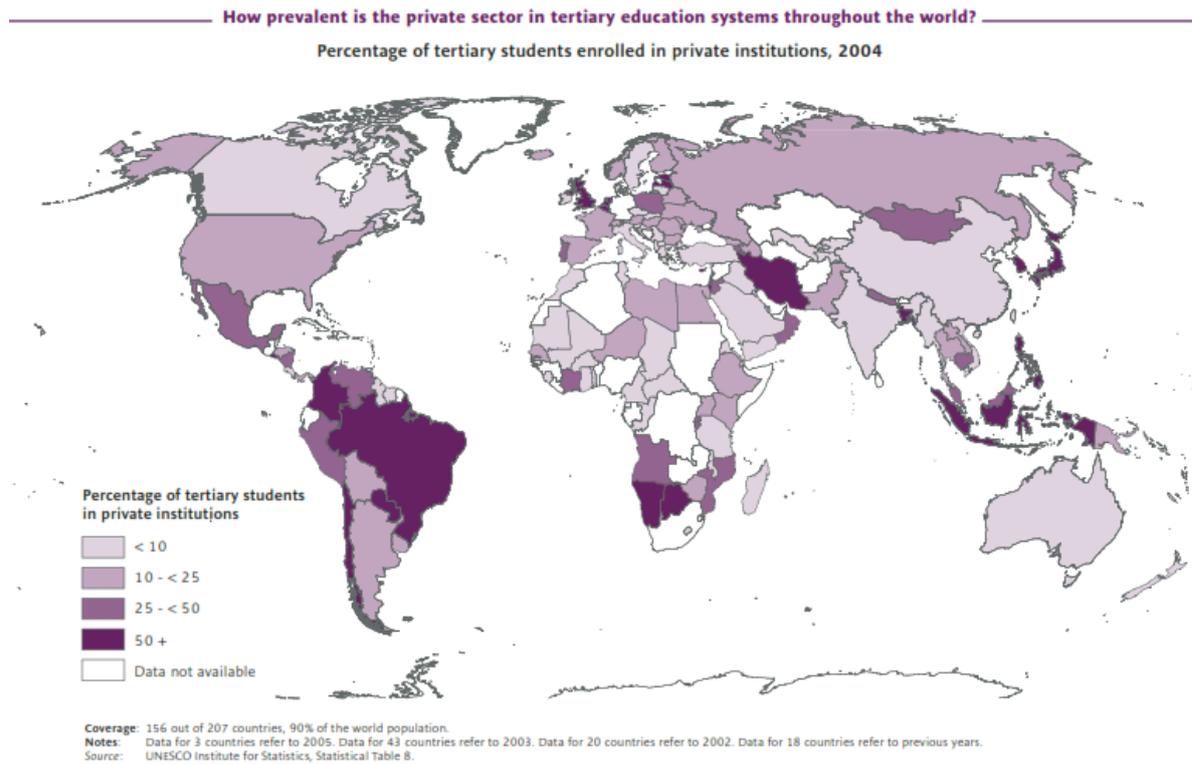
Question / Student	A	B	C	D	E	F
What is your knowledge level about exchange studies?	4	4	5	3	4	5
How curious are you about the topic?	4	5	5	4	5	4
What is your fluency in English?	2	3	2	2	4	3
How important do you consider a foreign language is?	5	5	4	5	5	4
How hard do you consider the application process is?	3	2	1	2	2	3
How would you rate the information provided to you by the university?	1	2	1	2	1	3
What is your likelihood to apply for an exchange semester?	3	2	3	4	4	4
What is your knowledge level about scholarships and mentorship programs?	4	4	3	4	4	5
How hard do you think is it to get scholarships?	2	3	2	3	3	2
How likely is it for you to pursue a master or PhD?	3	2	2	3	4	3
How beneficial do you think an exchange semester can be to your graduate life?	4	4	5	5	4	4
How likely is that you will search for private guidance about the topic?	3	3	2	4	3	4
How satisfied are you with this trial?	4	3	4	3	5	4
How important would you think is for everybody to receive the kind of information that you got?	5	4	5	4	4	5

F) Final survey questions - Control group

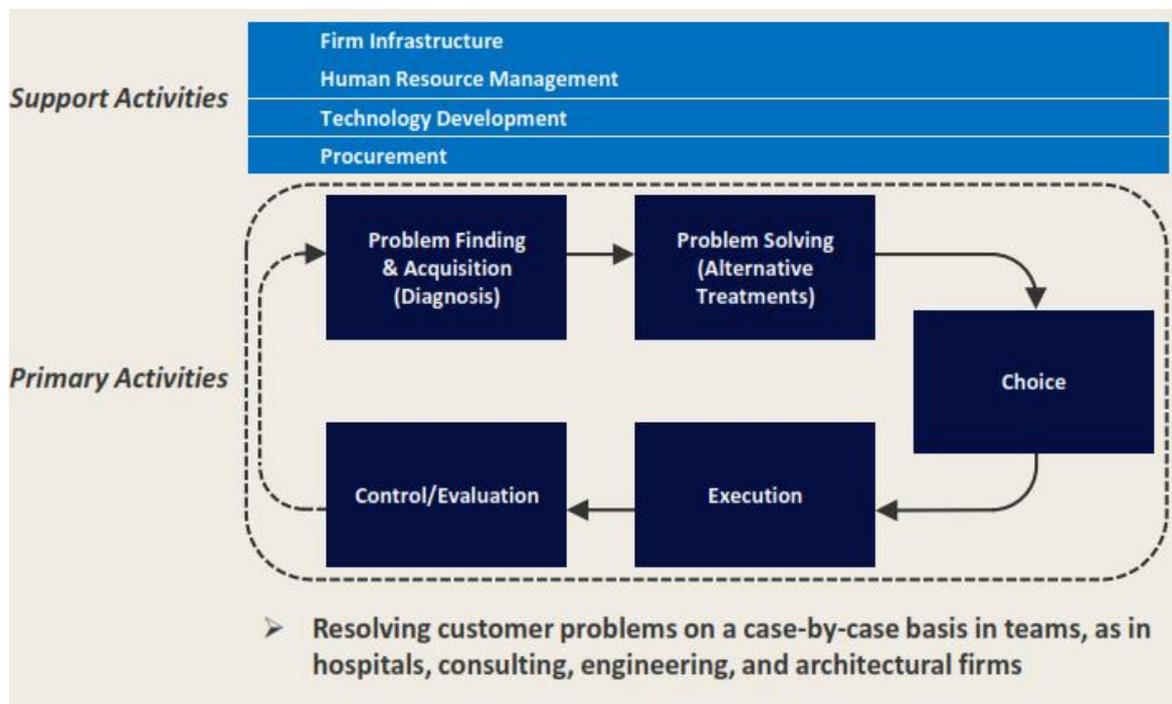
In a scale from 1 to 5, where 1 is the lowest and 5 is the highest.

Question Student	G	H	I	J	K	L
What is your knowledge level about exchange studies?	3	3	2	1	5	4
How curious are you about the topic?	3	4	3	3	4	3
What is your fluency in English?	1	3	3	3	4	2
How important do you consider a foreign language is?	4	4	5	4	5	4
How hard do you consider the application process is?	4	3	4	3	2	4
How would you rate the information provided to you by the university?	2	3	2	1	2	3
What is your likelihood to apply for an exchange semester?	2	2	1	3	1	3
What is your knowledge level about scholarships and mentorship programs?	2	2	3	3	3	4
How hard do you think is it to get scholarships?	4	4	4	5	3	3
How likely is it for you to pursue a master or PhD?	2	1	1	2	2	2
How beneficial do you think an exchange semester can be to your graduate life?	4	5	4	4	5	5
How likely is that you will search for private guidance about the topic?	3	2	2	1	2	2

G) Students enrolled in private institutions (UNESCO Institute for Statistics, 2006)



H) Value shop model (Wathne, n.d.).



I) Table with average responses of each student.

Student	First survey Av.	Second survey Av.
A	2.83	3.16
B	2.75	3.25
C	2.75	2.91
D	2.75	3.41
E	3.083	3.58
F	2.58	3.66
G	2.58	2.83
H	3	3
I	2.83	2.83
J	2.66	2.75
K	3.16	3.16
L	3.25	3.25

	Active group
	Control group