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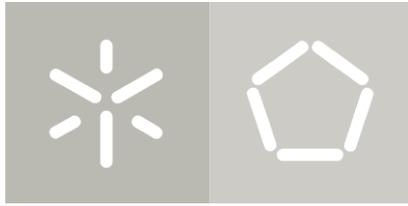
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Development of a continuous improvement tool for Outgoing Erasmus

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Universidade do Minho  
Escola de Engenharia

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## Development of a continuous improvement tool for Outgoing Erasmus

Dissertação de Mestrado Integrado em Engenharia e Gestão  
Industrial

Trabalho efetuado sob a orientação da  
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Outubro de 2022

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Finally, I want to express my gratitude to my parents for their unwavering support and belief in me and specially to my mother, who would, right now, be opening a bottle of champagne because her son has finished college. Thank you, mom.

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# DEVELOPMENT OF A CONTINUOUS IMPROVEMENT TOOL FOR OUTGOING ERASMUS

## ABSTRACT

Erasmus mobility gives students the opportunity to develop new skills and experiences while exploring other cultures and customs. Each year, many students from the University of Minho (UM) are interested in participating in this program, however, there are also many who are unable to do so for a variety of reasons. This can be due to multiple factors, including social and economic concerns, lack of knowledge about living costs, among others. It is essential to provide students with adequate information to help in their decision, and feedback from previous year participants is one of the most important factors.

For this purpose, three questionnaires were developed and applied to UM engineering students who applied to the Erasmus program for the academic year 2021/2022, to determine what led them to participate in this mobility program and their evolution throughout the Erasmus experience and to offer future Erasmus students access to essential information about the chosen destination city experienced by students from previous years. The first questionnaire allowed to collect information about the reasons, motivations and expectations that led them to participate in the Erasmus program. The second questionnaire allowed to find out about the routine, student support services and the student's level of satisfaction with the university and the host city. The third questionnaire collected information on the lifestyle of the destination city in order to help the students choose their destination city, according to their needs and better prepare for departure. In this sense, an effort was also made to contribute to the creation of a proof-of-concept database structure with a front-end to access the data obtained in the third questionnaire.

This dissertation presents a continuous improvement tool to be incorporated in the Department of Production and Systems Erasmus at University of Minho, with the aim of completing the study and creation of the three questionnaires, two of which are focused on data collection for future academic research to help and adapt continuously to the students' needs, the third for the students themselves and a proof-of-concept database and web interface.

## KEYWORDS

Erasmus, Culture, Integration, Continuous Improvement, Questionnaire.

# DESENVOLVIMENTO DE UMA FERRAMENTA DE MELHORIA CONTÍNUA PARA ESTUDANTES ERASMUS (OUT)

## RESUMO

A mobilidade Erasmus dá aos estudantes a oportunidade de desenvolverem novas competências e experiências enquanto exploram outras culturas e costumes. Anualmente, muitos estudantes da Universidade do Minho (UM) demonstram interesse em participar neste programa. No entanto, há também muitos que não o podem fazer por uma variedade de razões, incluindo preocupações sociais e económicas, falta de informação e apoio, entre outros. Sendo essencial fornecer aos estudantes informação adequada para ajudar na sua decisão de estudar em mobilidade, o feedback dos participantes do ano anterior configura-se um dos fatores mais importantes nessa ajuda.

Assim, foram desenvolvidos e aplicados três questionários junto de estudantes de engenharia da Universidade do Minho, candidatos ao programa Erasmus no ano académico 2021/2022, para determinar o que os levou a participar no Erasmus e qual foi a sua evolução ao longo da experiência, e recolher informação essencial sobre a cidade de destino escolhida vivida pelos estudantes dos anos anteriores a disponibilizar aos futuros estudantes em mobilidade Erasmus. O primeiro questionário permitiu recolher informações sobre as razões, motivações e expectativas que os levaram a participar no programa Erasmus. O segundo questionário permitiu conhecer a rotina, os serviços de apoio ao estudante e o nível de satisfação. O terceiro questionário recolheu informações sobre o estilo de vida da cidade de destino com o objetivo de auxiliar os estudantes a escolher o destino, de acordo com as suas necessidades e a prepararem-se melhor para a partida. Nesse sentido, procurou-se também contribuir para a criação de uma estrutura de base de dados em prova de conceito com um front-end para aceder aos dados obtidos no terceiro questionário.

Esta dissertação apresenta uma ferramenta de melhoria contínua para o Departamento de Produção e Sistemas Erasmus da Universidade do Minho, que visa completar o estudo e criação de três questionários, dois centrados na recolha de dados para futura investigação académica para ajudar e adaptar-se continuamente às necessidades dos estudantes e o terceiro para os próprios estudantes e uma prova de conceito de uma base de dados e web.

## PALAVRAS-CHAVE

Erasmus, Cultura, Integração, Melhoria contínua, Questionário.

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## LIST OF ABBREVIATIONS AND ACRONYMS

CI – Continuous Improvement

DPS - Department of Production and Systems

EEUM - School of Engineering of the University of Minho

ESN – Erasmus student network

JIT - Just in Time

HEI - Higher Education Institutions

ICC - Intercultural communicative competence

POC – Proof of concept

OECD - Organization for Economic Co-operation and Development

QCC - Quality Control Circles

QC - Quality Circles

Q1 – Questionnaire 1

Q2 – Questionnaire 2

Q3 – Questionnaire 3

SDT - Self-Determination Theory

SRI - International Relations Services

TQM - Total Quality Maintenance

TPM - Total Productive Maintenance

TQC - Total Quality Control

UM - University of Minho

# 1 INTRODUCTION

## 1.1 DEVELOPING A CONTINUOUS IMPROVEMENT TOOL FOR ERASMUS STUDENTS

The University of Minho (UM) recognizes internationalization as a key element to promote the quality of its teaching projects. International mobility is one of the most successful mechanisms in preparing students to work and live in a globalized world, as well as in acquiring or consolidating transversal skills. UM's International Relations Services (SRI) constitute the coordination, monitoring, and operational support structure for the development of initiatives for the internationalization of education, namely within the scope of academic cooperation and mobility.

The Erasmus Program is the largest existing collaborative network between European higher education institutions to prepare students in international and intercultural contexts (Volet & Ang, 2012). These experiences aim at reducing unemployment and improving the skills needed in the labour market, especially for young people (Cheung et al., 2021) and result in higher levels of satisfaction and academic results (Cruickshank et al., 2012). The UM bets on internationalization as a key factor to increase the quality of education and its students. In each teaching area, there is a coordination structure for these international services.

In the DPS, the Erasmus Coordination oversees the bachelor, master, and doctoral programs, involving a total of almost 800 students. It has 40 partner universities across the world and in the last three years has sent around 300 students abroad (Outgoing) and has welcomed around 150 students (Incoming). With this, the feeling of need and the opportunity to be able to group all these unique experiences lead to this investigation. It is crucial to understand the pull and push factors that motivate the flow of university students between different countries (Columbu et al., 2021), because moving to a different country is an important economic, political, and religious decision (Chirkov et al., 2007).

Humans have always been mobile: they have travelled to all corners of the globe, either as workers, students, tourists, or pilgrims, and technology has made it possible for them to do so quickly, safely, and affordably, making the world their global community. As today's knowledge-based society's economies become increasingly interconnected, companies are looking for highly skilled people who can meet today's demands (such as adapting to the unknowns of an unforeseen global economy), governments are launching a few initiatives to increase the number of students who study abroad to gain cultural knowledge, learn new languages, and business methods. In Europe, the European Commission joined forces to reform its own education system – the Bologna process, which began in 1999 and aimed to establish the European Area of Higher Education while promoting "mobility by removing barriers to the

effective exercise of free movement," was launched in 1999. Increased intra- European Union mobility improves competitiveness by recruiting more foreign students and assisting in the achievement of the objective of transforming Europe into a leading experience and understanding society (Cardoso et al., 2008).

A shared language is also important: in 2012, 55 percent of international students in Portugal came from countries having a common official language, with 18.1 percent coming from Brazil (Organization for Economic Co-operation and Development [OECD], 2014). This type of data is useful when attempting to figure out why a student chooses one institution over another to develop a marketing strategy (Soutar & Turner, 2002). In 2012, the world's twenty largest economies (G20) drew 75% of all international students, with the European Union member nations accounting for 48% of the total, making it a popular study abroad destination (OECD, 2014). The United Kingdom (12.56 percent) has the most international students in Europe, followed by Germany (6.35 percent) and France (5.99 percent). Spain, Italy, Austria, the Netherlands, and Belgium each have a minor percentage (respectively 2.16 percent, 1.72 percent, 1.69 percent, 1.38 percent, and 1.23 percent) (OECD, 2014). This global increase in international students provides several benefits to host economies, making it a very important segment of the travel market, contributing significantly to the host country's economy because they often stay much longer than a typical holiday tourist (Llewellyn-Smith & McCabe, 2008). As a result of governments' intervention in higher education, which has gone from a state of control to a state of supervision while applying marketization policies, it is understandable that national and local entities try to attract as many students as possible – Higher Education Institutions (HEI) in particular have been increasingly applying marketing concepts and theories over the last decades as a result of governments' intervention in higher education, which has gone from a state of control to a state of supervision while applying marketization policies (Hemsley-Brown & Oplatka, 2006). This approach aims to "increase the quality and diversity of services available to students by boosting students' engagement and liberalizing markets" (Jongbloed, 2003, p. 345).

The Erasmus Program emerged to support the education and training amongst European HEIs. Unfortunately, with the appearance of the COVID 19 pandemic and the consequent mandatory confinement, the realization of Erasmus activities was forbidden between almost two years. This had a great negative impact, and many students did not have the opportunity to have this experience in their last years of the course. Asoodar et al. (2017) proved that students who participate in this program acquire transversal skills, in terms of the ability to communicate in a foreign language, strengthen interpersonal relationships since they meet people with different nationalities and ethnicities, and experience a life far

from their country and parents, which makes them grow at a personal and professional level. Also, Asoodar et al. (2017) studied the students' perspectives during and after Erasmus and observed that students recognized that they become more independent and gained other perspectives regarding their life at home. From a different point of view, Lesjak et al. (2015a) evaluated what motivated students to study abroad and verified that they are driven to grow personally and professionally but the selection of the city of destination depends on other factors such as touristic factors. Faced with this situation, the Erasmus coordination of the DPS at the UM decided to develop a tool for CI to help analyze students' evolution and clarify their doubts about the Erasmus program.

## 1.2 OBJECTIVES

Since 2016, before the students decide to undertake an Erasmus application, their frequently asked questions (FAQ) have been collected and analysed by the DPS of the UM, but there was not a real structure put in place to facilitate the data collection and room to explore this essential information source was as available. Based on this, ideas of a platform developed to provide outputs to mitigate difficulties and constraints in the decision-making process to conduct an Erasmus experience for students started to become evident, resulting in this investigation. Furthermore, the elaboration of questionnaires that were based in previous literature with specific topics of research were required and would need to be alignment with the desired information by the future researchers. Finally, to really help students by providing them information that is, for young students, important in their decision-making process, going from the best restaurant in the destination city to average monthly costs and even personal tips left by the previous students. Consequently, three questionnaires were elaborated and sent to engineering students who applied to the Erasmus program for the academic year 2021–2022, from the UM.

After previous study and discussion, the questionnaires were developed with certain subjects of analysis in focus. In a general scope, the first questionnaire aims to ascertain what motivated the students to take part in this mobility program. The second, how they improved throughout their Erasmus experience, and finally the third questionnaire was created to provide the upcoming prospective Erasmus students with access to information about the destination city, which is distinctive from most information possible to gather without directly contacting a former Erasmus student or a local.

The questionnaires were developed also considering the time frames in which they would have to be delivered to the students. Prior to departure, the students are given the opportunity to complete the first questionnaire, since the scope of this questionnaire is to enable researchers to learn more about the motives and causes behind their decision to study abroad on an Erasmus program as well as their

expectations. The second Questionnaire is submitted halfway during the student's experience, since as enough time had passed for them to grow and adapt to the new life they have. With this, the questionnaire inquiries about the availability of services, specific elements of the services, main challenges of students with the experience abroad, and students' satisfaction to get a better understanding of the offer of host university support services for foreign students. The third Questionnaire is to be given after the student return to their homes and have enough time to process the return to the "reality." It allows to collect information about the destination city, transport, accommodation, festive atmosphere and living costs with more conciseness.

Finally, to complete this CI tool, the creation of a database structure and proof of concept via which students may, through a web interface, analyze potential Erasmus locations, thanks to the information given by previous student on the third questionnaire.

In terms of expected objectives, this investigation aimed to complete the study and creation of the three questionnaires, with two being focused for data collection for future academic research to help and continuously adapt to the students' needs and the third being for the students themselves. Also, the development of the structure and a proof of concept of a database and a web interface experience on which the students would be able to research about possible Erasmus destinations.

Quantfury: Trading rendu honnête

### 1.3 STRUCTURE

In this dissertation, the CI tool will be presented as well as the theoretical research behind it. In chapter 2 will follow a literature review followed by, in chapter 3, an overview of the whole CI process and an explanation of how the workflow would be. In chapter 4, each questionnaire will be presented individually. Chapter 5 is a review of the whole dissertation and investigation followed by, in chapter 6, the conclusions and recommendations for future work.

## 2 LITERATURE REVIEW

### 2.1 ERASMUS STUDENT'S MOTIVATIONS

#### 2.1.1 Personal Motives

Self-determination theory (SDT) is a strategy for studying human motivation and personality that combines standard empirical methods with an organismic metatheory that emphasizes the relevance of individuals' inherent inner resources for personality development and behavioural self-control (Ryan & Deci, 1985). As a result, its domain is the study of people's natural growth inclinations and psychological requirements, which serve as the foundation for self-motivation and personality integration, as well as the settings that support those beneficial processes. Some needs are such as—the needs for competence (Harter, 1978) relatedness, and autonomy (Decarmins & Carpenter, 1968)—that appear to be essential for facilitating optimal functioning of the natural propensities for growth and integration, as well as constructive social development and personal well-being, inductively, using the empirical process.

Environmental variables that inhibit or undermine self-motivation, social functioning, and personal well-being have been the focus of most of the research directed by SDT. Even though numerous negative consequences have been investigated, the study reveals that these drawbacks may be most succinctly stated as opposing the three fundamental psychological demands. As a result, SDT studies both the unique character of positive developmental inclinations and the social contexts that are hostile to these tendencies. Much of the SDT study employed empirical methods in the Baconian tradition, in which social contextual factors were explicitly changed to evaluate their impact on both internal processes and behavioural manifestations. Using experimental paradigms, is possible to pinpoint the situations that encourage natural activity and constructiveness, as well as those that promote a lack of self-motivation and social integration. Experimental procedures were employed in this way without embracing the traditional mechanistic or efficient causal meta-theories connected with such approaches. "Migration occurs between demand-pull factors that attract migrants to industrial countries, supply-push factors that drive them out of their home countries, and a network of friends and relatives already living in industrial societies who serve as anchor communities for newcomers," according to Chirkov et al. (2007). Refugees, for example, are portrayed as migrants who are 'pushed' by perceived threats to their lives, liberties, or faith, whereas voluntary migrants are portrayed as 'pulled' by perceived hopes for a better future and promising economic opportunities, according to the sociological interpretation of this model. In addition to the 'push' and 'pull' factors, the network of friends and family in the host country has been highlighted as a significant socio-psychological element in migration motivation. Various experts, including

economists, sociologists, and psychologists, have acknowledged this and other socio-psychological elements of migration. Psychologists study people's motivations and intents to relocate to another nation on a personal level, and they investigate this issue from theoretical and methodological angles (Winchi & Carment, 1988).

Research showed that those who want to emigrate had higher levels of accomplishment and power motivation and lower levels of affiliation motivation than those who want to stay in their native country, utilizing psychological measures and survey techniques. Similar research in economic psychology (Winter-Ebmer, 1994) has shown that immigrants with a high level of 'desire for success' outperform persons without this drive or people who emigrated for political reasons in terms of economic performance. In addition to these dispositional factors, people's values have also played a significant role in their decision to go abroad. For example, Boneva et al. (1998) and Boneva and Frieze (2001) identified values like a job or family orientation, as well as dispositional reasons, to be important predictors of the choice to migrate overseas. In comparison to those who stay, emigrants score higher on the job orientation and lower on family orientation.

The SDT of human motivation and how it applies to the migration incentive SDT, a personality, human motivation, and optimum functioning theory, guides the current essay's psychological approach. SDT is an organismic theory of human motivation that is based on the humanistic and existential traditions of human functioning theory (Sheldon et al., 2004a). According to SDT, two aspects of motivation that need to be explored are the degree of self-determination of people's behaviours and the substance of the goals they seek (Ryan & Deci, 2000; Sheldon et al., 2004a). According to SDT, every conduct can vary in its degree of perceived self-determination, i.e., people can engage in an activity because they put their selves behind it and feel ownership of their behaviours, or they might feel compelled to participate in the activity (Deci & Ryan, 1985). SDT-guided research has shown that a more self-determined motivation for one's conduct has several benefits, both in terms of performance quality and in terms of the performer's WB (Sheldon et al., 2004a). The degree to which a person's behaviours is viewed as autonomous and volitional versus constrained and forced is considered while assessing self-determination in SDT. Intrinsic motivation and internalized extrinsic motivation are two forms of autonomous motivation that can be identified. People who are intrinsically driven participate in activities for the sake of the activity and the pleasure and delight it produces. Intrinsically driven students, for example, are those that relocate to a foreign institution because they find it difficult and intriguing. Intrinsic motivation is the prototype of autonomous motivation because people engage in an activity only for its own reason, because it satisfies their interests, rather than because they anticipate something in return. People can be autonomously

motivated if the behaviours they are engaging in is in line with their beliefs and is personally meaningful to them. In this scenario, the behaviours are said to be governed by a set of rules. Individuals engage in identified regulation to achieve results that are external to the activity itself (i.e., accomplishing their self-selected objectives via the activity), but they have internalized these initially external outcomes and made them personally important goals, making them autonomous. When students opt to study in a foreign nation because it is related to their personally vital professional and life goals, there is a specific law in force.

According to SDT, these four types of behavioural regulation, namely intrinsic, identified, introjected, and external, can be positioned along a self-determination continuum, with external regulation representing a complete lack of self-determined motivation and intrinsic motivation representing the most complete type of self-determined motivation. Although these degrees of self-determination in migration motivation have never been experimentally explored, the potential for using this theoretical framework to expand the research of diverse groups of migrants becomes obvious. Some evidence of this dimension may be found in efforts to distinguish 'voluntary' from 'forced' migration (Boneva et al., 1998) and 'proactive' from 'reactive' migration (Boneva et al., 1998) researched the substance of the motivations of Indochinese refugees in the United States and categorised their reasons along a dimension called "Degree of Perceived Danger and Lack of Control in Decision to Leave." In comparison to motives with less fear and more control, he discovered that those with the highest levels of perceived fear and lack of control had the highest positive correlations with psychological distress and the lowest negative correlations with a willingness to be acculturated into American society. Although the author did not separate the fear factor from the loss of control factor in deciding to leave, the feeling that the latter element had a substantial influence in predicting the bad results of the refugees' adaption and is worthy of further investigation as a distinct factor. It is worth noting that multiple conceptual levels can be used to address the content of people's motivation. The content component of people's motivation is studied by SDT researchers at the level of life ambitions or core life-guiding concepts (Kasser & Ryan, 1996; Sheldon et al., 2004a). This notion of life goals is quite like the concept of value, which is described as "desirable, trans situational goals of different significance that serve as guiding principles in people's lives" (Tartakovsky & Schwartz, 2001). Goals for a single activity may mirror these life objectives to some extent, but they are generally more situation-specific and dependent on many contextual aspects as well as the features of the activity and the people participating. As a result, there is a belief that the goals of international students are more situational objectives formed by their status in their native country, connections with families, future professional ambitions, and other factors. As a result, it was decided to investigate the substance

of foreign students' ambitions and the relationships between them.

### 2.1.2 Study mobility motivation

Hans Vossensteyn et al. (2010) and Stone and Petrick (2013) believe that personal and professional skills development, job prospects, leisure, relaxation, and other advantages drive students to study abroad. As a result, study exchange programs benefit both students and instructors in terms of personal and professional development. Personal growth, in this sense, refers to all aspects of enhancing self-confidence, self-reliance, and broadening one's horizons through meeting and experiencing new people and situations from various cultures. In essence, study mobility's professional development focuses on activities that facilitate the acquisition of information and competences to enhance students' career and academic development.

According to Souto-Otero et al. (2013), students from various backgrounds prioritize motivations differently depending on their economic status, culture, educational prospects, and the length of exchange programs available. González et al. (2011) studying the motivations and reasons for obtaining an international degree abroad typically reveal that students who graduate from foreign institutions have more job chances, albeit there are some regional disparities. According to Cantwell et al. (2009), while both European and American students are motivated by better job opportunities, European students hoped that this experience would increase their chances of finding work outside of their home country, whereas American students hoped for better job opportunities within their home country. Male Americans who have lived overseas, on the other hand, are more interested in foreign professions (Gerner & Perry, 2000). According to evidence from Turkey, students from Western European nations are more concerned with their personal development, whilst students from Eastern European countries are more concerned with financial and educational considerations. Furthermore, Malaysians are driven to study in Australia by job objectives in huge international organizations, whilst non-Malaysians seek personal benefits (Pyvis & Chapman, 2007). Benefits derived from experiences and behaviours are effective tools for determining the causes or motivations behind a given activity (March & Woodside, 2005). The evidence relevant to the motivations of students participating in short-term international mobility shows that personal gains take precedence. Personal growth is the only consistently high-rated advantage of spending one or two semesters in a North American university, according to van Hoof and Verbeeten (2005). While benefits related to students' professional development, such as career possibilities and graduation from their home institutions, are very or extremely important to almost half of the respondents, their relative value differs throughout the sample. Over 97 percent of foreign students believe study exchange experiences are "very

or very significant" to their personal growth. The fact that exchange students are driven by motivations related to leisure or vacation time is supported by some empirical findings (González et al., 2011). This motivation is comprehensible, as students follow (Rojek, 1989) advice to utilize their rights (to engage in EM) to seek leisure as a pleasure of escape from monotonous and regimented labour at their institutions, while also wanting to learn new information at other universities situated overseas. According to Teichler (2004), two-thirds of ERASMUS students are motivated by leisure–vacation-related wants, and half of foreign exchange students in the UK see student mobility as an adventure (Teichler, 2004). Students' motivations to study abroad, according to Stronkhorst (2005), are "predominantly focused toward having fun and adventure and far less to on academic advancement or improving competencies". These findings support the investigation of the variables that encourage students' mobility exchange, as well as the vacation-specific pull factors of the chosen location. Jurburg et al. (2017) confirmed different motivational backgrounds for students' engagement and experience with undergraduate studies, and those motives may be affected by situational factors such as university setting, academic year, and study program, despite not discussing motivational factors but rather types of motivation. Individuals' interests in learning, as well as career-related ambitions, are guiding individuals in their education, according to Kember et al. (2008). They also claim that these two types of incentives sometimes referred to as extrinsic and intrinsic, are not mutually exclusive, but rather exist in varying degrees in everyone. Because there is some conflicting empirical evidence regarding the impact of contextual (e.g., economic situation, educational opportunities, and quality) and personal factors (e.g., gender, degree level, and major) factors on students' motivation to travel internationally, it is important to investigate these aspects of international student mobility further (Daly, 2011).

### 2.1.3 Destination choice motivation

Moscardo et al. (1996) claim that activities are major motivators for destination choice, citing consistent connections between travel motives and activities, as well as activities and destination features. Students can use their international educational experiences to self-assess their grasp of business theory and practical practise. However, Llewellyn-Smith and McCabe (2008) highlighted the lack of data on students' travel motivations that could be used to understand and predict their travel choices, identifying major push motivation factors like knowledge, sports, and exploration, as well as a unique factor dubbed "lifestyle," which encapsulates undergoing a simple lifestyle and rediscovering self; the latter findings were attributed mainly to the 18–26-year-old age group. Regarding this, Mazzarol and Soutar (2002) noticed that, using the push–pull strategy, students' entertainment destination travel decisions may be

pushed by intangible factors (e.g., escape, relaxation, and exploration) and pulled by measurable factors (e.g., environmental attractions, sports and recreation, entertainment and events, and nightlife and partying venues) (Mazzarol & Soutar, 2002). Budget tourists (15–25 years old) and students, on the other hand, are mostly seeking for adventurous rural locations that are not unduly expensive to live in and have yet to be discovered by the mainstream tourist industry. Furthermore, factors influencing Asian students' destination selection motives include safe and secure environments, level of living (high or poor), and geographic proximity (Mazzarol & Soutar, 2002). Because of the educational nature of the "journey", it is reasonable to assume that students' Erasmus destination selections will be solely based on academic pull factors. Kim et al. (2008) developed a model that, when tested, revealed that students' push motivations (getting away; excursion and enthusiasm; revelation and learning; connecting with family and friends; engaging in nature and rejuvenation) are strong predictors of pull motivations, but not of one's cognitive and motivational involvement. Pull incentives (lodging and transportation; convenience and value; leisure and entertainment; cultural possibilities; natural scenery; sun and beaches; and family-friendly) have been found to be effective predictors of cognitive participation rather than emotive involvement. According to van Hoof and Verbeeten (2005), pleasure excursions encourage female students more than male students. The latter report significant differences in the key travel motivations (exploring cultures; excitement; importance of learning) of American male (favoured sports and adrenaline interactions) and female (preferred walking, trekking, and cultural events) student travellers, all of whom were seeking new experiences. Furthermore, mastery of a foreign language is cited by American students as a factor affecting their desire to study abroad (Stronkhorst, 2005). Younger travellers (under 26) place a higher value on social interaction and thrill, whereas older travellers want more personalised, less intense encounters. Males are more likely to be fuzzy, recreational, and energetic travellers than females, who like to retreat and relax, although there are no significant age differences (Stronkhorst, 2005). According to Cantwell et al. (2009), destination climate, culture, and other qualities are major determinants in foreign students' destination selection. In the case of Erasmus students, they see information knowledge, personal background and financial circumstances, the comparability of the host country's higher education system, and ERASMUS administrative and financing conditions as barriers to participation (Hans Vossensteyn et al., 2010; Souto-Otero et al., 2013). These impediments have an impact on students' motivations for choosing a study place, even if they do not directly influence their study destination choice selections. In contrast, Hans Vossensteyn et al. (2010) claims that the host country's proximity to the country of origin, as well as its cultural and social ties with it, influence Erasmus students' study location choices; furthermore, González et al. (2011) claim that Mediterranean countries

receive more ERASMUS students due to their tourism focus and pleasant climate, and that countries with developed tourism are more appealing as Erasmus exchange destinations (Lesjak et al., 2015a).

#### 2.1.4 Host institution effect

Another step of a student's decision to study abroad is the host institution effect, which is made up of many 'pull' elements that make one HEI more appealing than the others (Mazzarol & Soutar, 2002). Higher education was valued as a product until the 1980s, with students as the product and employers as the customers (Heiberg et al., 2019). Later research in the field defined higher education as a pure service because educational services cannot be separated from the person delivering it and the customer (student) who participates in the process (inseparability), they cannot be kept (perishable), they cannot be perceived, felt, or tested in advance (intangible), and each service provided is unique (heterogeneity) (Nicholls et al., 1995; Mazzarol, 1998; Shank et al., 1996), and thus service marketing models have been successfully applied. The phenomena of internationalisation and globalisation has prompted HEIs to advertise themselves to establish a strong favourable image in the eyes of prospective students, hence assisting in the recruitment of more students (OECD, 2014; Gutman & Miaoulis, 2003). Forming positive opinions, impressions, and ideas in prospective students is one way to create an influential institution image – that image will come from an evaluation of the service, which will have indirect elements as starting points (as it is a service), such as the HEI reputation, staff expertise, and campus environment (Maringe & Carter, 2007; Mazzarol & Soutar, 2002). HEI core values, such as public interest and political democracy, have been replaced in recent years by policies closely related to the private sector (productivity, profit, and so on) (Cardoso et al., 2011), prompting several HEI to investigate the phenomenon of branding in order to be more appealing to students and academic staff (Chapleo, C., 2004; Hemsley-Brown & Oplatka, 2006; Wæraas & Solbakk, 2009). Marketization policies attempt to provide students greater freedom of choice and liberalise markets to increase the quality and diversity of services available (Jongbloed, 2003). Universities have begun to pay more attention to international rankings, such as Times Higher Education, Leiden Ranking, and the Academic Ranking of World Universities, in order to capitalise on the prestige, it can provide and use it to promote themselves (González et al., 2011). HEIs utilise rankings to influence restructuring of higher education because societies that are attractive to investment in research and innovation and highly trained mobile personnel will be more successful worldwide (Cubillo et al., 2006; González et al., 2011; Yang, 2007).

### 2.1.5 Expectations

In a study, through the distribution of a questionnaire to 70 English language learners studying abroad in the United States, Amuzie and Winke (2009) investigated the impact of study abroad on students' views. The students were asked to consider their pre-departure views as well as their post-departure opinions. The goal was to see which views would alter because of studying abroad. According to Amuzie and Winke (2009), students who participated in a study abroad program came to believe more strongly in the importance of learner autonomy and that they should look for opportunities to use their second language; students reported that success in second language learning was more dependent on their own efforts. According to Amuzie and Winke (2009), the students' views changed, resulting in more learner freedom.

Cheung et al. (2021) backed up these findings by stating that study abroad students are prepared to assume some personal responsibility for meeting language learning objectives. Hechanova-Alampay et al. (2002) conducted longitudinal research on 294 foreign and domestic student sojourners at a US state university to examine their adjustment and strain over the first six months of their stay. The foreign sojourners' adjustment was poorer than the domestic sojourners' upon admission and three months into the semester, according to the findings. However, when the learners gained a better grasp of their environment and realised what was expected of them, they began to feel more secure in themselves (Hechanova-Alampay et al., 2002). Meanwhile, le Ha (2009) reported on qualitative research with international students at a Thai institution. The Chinese students in this study revealed that they felt compelled to learn more about their own culture and country during their stay because they were identified as Chinese and felt responsible for properly representing their country; they felt proud when they could talk about their country to people from all over the world, giving them a sense of accomplishment and success as intercultural communicators. The students also indicated that their brief study abroad experience provided them with a new perspective on how they were perceived throughout the world and how things were backhome. In contrast to how previous studies investigated student needs through intercultural analysis, the study on which this article is based intended to analyse learners' requirements by allowing students to express their own wants (Asoodar et al., 2017).

### 2.1.6 Reasons not to go

The advantages of engaging in study abroad programs or foreign elective placements for students are widely acknowledged, and attempts have been made to increase the number of students who do so (Casey & Murphy, 2008). However, this systematic review found that little research has been done to look at the issues that students consider when deciding whether to participate in study abroad programs. The findings of the many research showed a lot of overlap, according to the study. There were no notable discrepancies between pupils from different professional groupings. As a result, it may be claimed that the characteristics that encourage or discourage healthcare students from participating in

study abroad programs tend to be fundamentally comparable across settings. The desire to go worldwide and experience various cultures were listed as important reasons why many students would wish to study abroad, according to a British Council survey (Thalluri et al., 2014) based on the views of 7300 UK and US general students. The research also cited cost and fears about foreign cultures as major obstacles for students in the United States and the United Kingdom, respectively. Students who participate in study abroad programs are responsible for paying for their own travel and lodging. Many students are put off by the costs of study abroad programs; however, when the costs are paid, they are more interested. As a result, guaranteeing that bursaries are available to cover expenditures partially or totally would certainly inspire several students to engage in study abroad programs. Student's decisions to engage in study abroad programs and their choice of place are influenced by their language skills. Even if financing is available, this may preclude certain students from engaging in study abroad programs. Although many students wish to learn about different cultures, it appears that they prefer nations that are like their own, particularly in terms of the languages spoken. Students from English-speaking nations chose to do their abroad placement in a country where English is spoken, but other groups of students selected locations with easier-to-learn languages (Hemsley-Brown & Oplatka, 2006; Owen et al., 2013). As a result, study abroad program sites should be selected with students' native languages in mind, especially when finances are available to support such programs. When finances are made accessible, this means that students' selections to study abroad will not be hampered by language barriers. Students will have more time to prepare, including learning a foreign language and finding creative methods to generate money if bursaries are not available if enough information about current study abroad programs is made available early. According to the study, faculty members' roles in encouraging students to participate in study abroad programs are conflicting. In the study of (Owen et al., 2013), respondents rated faculty and family influence as the least important in terms of decision making, although Hemsley-Brown and Oplatka (2006) imply that faculty and family impact is considerable. According to Milne and Cowie (2013), significant staff participation in study abroad programs has resulted in an increase in the number of nursing students engaging in European exchange programs at their institution. This shows that teacher involvement in international initiatives may motivate students to do the same. Separated from family and friends, as well as worries about family duties while overseas, were significant reasons for healthcare students to decline study abroad opportunities. Students may be more interested in studying abroad for a few weeks, which will allow them to immerse themselves in a different culture, leave their home country for a short time, and save money (Kent-Wilkinson et al., 2015). As a result, ensuring that study abroad programs are shorter in duration might be a viable solution to this issue. Surprisingly, no study included academic achievement or the capacity to meet specified clinical learning goals as a factor that affected decision-making (Brown et al., 2016).

## 2.2 ERASMUS EXPERIENCE

### 2.2.1 Services and biggest difficulties for international students

The provision of student services has become a crucial concern in the internationalisation process of higher education as the number of mobile students has increased in recent years. Providing support services and integration activities for employees, teachers, and students will strengthen the campus's internationalisation and, as a result, its desirability among other institutions. The number of international students enrolled in higher education institutions is increasing, signalling a global expansion of tertiary education systems (Organisation for Economic Co-operation and Development [OECD], 2013). In fact, since 1990, we've grown from 1.3 million to over 5 million people (Organisation for Economic Co-operation and Development [OECD], 2015).

According to the Erasmus Impact Study (Commission - Education, 2014), the growing number of entering (and leaving) students through the Erasmus program has resulted in a greater awareness of the need for support services and the simplification of administrative procedures. As a result of the increased mobility of students, institutions are beginning to concentrate their efforts on delivering excellent service to both domestic and foreign students. Kelo et al. (2010) acknowledge that the terms "student assistance" and "student services" are often used interchangeably and refer to a wide range of services available to students. Education providers can thus include anything from necessities like lodging and dining halls to information and welcoming activities, as well as academic and language assistance. International students on university campuses can be considered as a big asset in terms of offering variety, pluralism, and cross-cultural learning and interaction possibilities.

Despite the growing recognition that student services are important, little study has been done on what foreign students want and anticipate in terms of support services (Kelo et al., 2010). International students go through a variety of stages during their time at their host university. There can be, generally, identified three primary stages in this process that impact the international student experience if studied the International Student Lifecycle (Buckley et al., 2015) and compare it to literature such as (Kelo et al., 2010) report. The first relates to services required before to arrival at the host university, the second to services supplied after the international student arrives at the school, and the third to services offered throughout the foreign student's time abroad. Re-integration is a stage that may be introduced to the international student lifecycle. As stated in the UK International Higher Education Unit report (Archer et al., 2010), international students may have varied demands depending on the stage of their study abroad term, and therefore services may be different at each step.

This chapter focuses on the services given to foreign students once they arrive at the university.

Accommodation help, buddy program, welcome presentation, orientation week, student associations, local language course, and cultural adaptation course were the seven areas picked as host university support services. Finding a place to live in the host country is one of the biggest challenges that foreign students face while they study abroad. Helping foreign students find housing is an important service that they enjoy both before and after their arrival. In many situations, buddy programs are designed to offer host students with real and meaningful intercultural communication experience that will aid them in grasping topics and theories addressed in class and developing a knowledge of their own intercultural communication competency (Campbell, 2012). They also serve as a means for overseas students to adjust to their new surroundings. Many universities have independently developed and implemented buddy programs in their foreign relations offices. Students that participate in buddy programs often believe that they want to learn more about both the local and foreign cultures involved, as well as the culture and values of their local buddies (mentors) (mentees). As a result, buddy programs may be viewed as a platform for forming relationships between local and foreign students, assisting them in forming their first friendships in their new surroundings. Kelo et al. (2010) highlighted the Orientation Week and Welcome Presentation as one of the most essential support services for foreign students to better assimilate into a new setting. Information, orientation, and integration activities with local students, the institution, and/or the surrounding community are typically included in these two programs. As a result, they are a huge help to international students on their first days on campus. A student association's presence and contact can also aid in the adaptation and integration process. International students' satisfaction with student associations has been studied by Erasmus student network (ESN) surveys, and it has been found that more than half of the respondents completely agree or strongly agree that ESN activities helped them integrate with local students, indicating that having a student association like ESN at the university is beneficial to international students.

Finally, we look at how a local language course and an intercultural course are provided. Students can increase their capacity to communicate with the local people and so have a better understanding of the host culture by studying the local language. Intercultural classes, which assist students grasp cultural differences, the intercultural environment, and features of cross-cultural communication, are frequently supplemented with language courses. International students' experiences in the host culture can be influenced by both types of courses (Kelo et al. 2010).

### 2.2.2 Support, satisfaction, and un-Discrimination

International students offer a range of cultural perspectives to the colleges where they are hosted, and

they encounter several problems as they adjust. Academic, emotional, and social obstacles are three key areas of difficulty that overseas students have, according to (Misra et al., 2003). The academic issues will be the subject of this chapter. According to P. Anand et al. (2009), pupil's capacity to adjust is not just dependent on the individual, but also on the situation in which they find themselves. Institutions (mainly universities) play a critical role in foreign students' adjustment by assisting and supporting them not only during their mobility time, but also before and after it.

With the growing number of foreign students attending colleges across Europe, it is critical that their mobility period be as educationally helpful as feasible. Furthermore, institutions are investigating how a multicultural academic environment might aid their university's internationalization strategy. It is widely acknowledged that a diversified cultural environment helps the institution, university students, and overseas students alike. According to Volet and Ang (2012), students have recognized the benefits of studying in such an atmosphere. Volet and Ang (2012) further support the idea that interventions targeted at raising local students' desire to collaborate on group projects with international students are necessary for improving students' intercultural competency. Furthermore, these initiatives give foreign students with greater opportunity to achieve their objective of maximizing their intercultural experiences at university. Foreign student interview participants said that conducting projects in culturally mixed groups increases interaction between local and international students, indicating that students consider group assignment work as a vehicle for intercultural engagement (Volet & Ang, 2012). Furthermore, several participants proposed a strategy to ensure that group tasks were completed in culturally diverse groups (Volet & Ang, 2012).

Scholars have identified campus climate as an essential social environmental component that influences students' university experiences. The existing attitudes, behaviours, norms, and practises that staff and students have at an institution, as defined by Rankin and Reason (2008), are frequently tied to certain social groupings. Many studies considered campus climate to be a multifaceted topic (Hurtado et al., 2008). Institutional historical heritage, structural variety, psychological climate, and behavioural dimensions were identified by Hurtado et al. as four components of campus climate. Hutchinson et al. (2008) validated that a multidimensional model of campus environment comprises of psychological and behavioural components that apply to undergraduate and graduate students of all races and genders, based on Hurtado et al.'s study. Researchers have examined campus climate using other cultural identification domains, such as gender, race/ethnicity, and religion, in addition to its multidimensionality (Bessant et al., 1994; Vaccaro et al., 2010). For example, Rankin and Reason (2008) created a campus climate evaluation tool that was later used to examine the campus environment as reported by students

from various racial groups (Rankin & Reason, 2005). Yost and Gilmore (2011) also performed an LGBTQ school climate survey to see how the environment affected LGBTQ students' academic achievement. The bias LGBTQ students felt from others, as well as the site and class atmosphere they encountered, were used to measure the LGBTQ campus climate in their study. Other researchers assessed aspects including education satisfaction, discrimination perception, and racial conflict to understand more about the campus atmosphere for deaf students (Parasnis et al., 2005). Despite the numerous campus climate studies, actual data on campus environment for international students is lacking. International students' communicative language competence, according to Ha (2009), contributed to their happiness with the school atmosphere. However, little study has been done on how external influences impact international students' campus comfort levels. There was no documented metric for assessing campus international friendliness.

University administrators have sought to examine the campus atmosphere for overseas students outside of research researchers. Purdue University's Division of Student Affairs, for example, conducted multiple surveys to learn more about international students' first year of college experiences (Finch et al., 2013). They discovered that overseas students were less satisfied with and committed to the university than American students. International students found it more difficult to access campus services and extracurricular activities. International students, particularly women, were also concerned about their physical safety. Based on these results, the research recommends that foreign students be given more attention and that international programs and organisations provide better services. As a result, there appears to be a large and pressing need for a method to assess the external factors that impact foreign students' experiences, which may help colleges create a more welcoming campus atmosphere for international students. A literature review of measures were conducted that assessed campus climate related to various cultural dimensions (e.g., race, sex, social class, religion, sexual orientation, disability), challenges those international students face during their studies, and items from the needs assessment of International Student and Scholar Services (ISSS) offices to determine the dimensions of campus climate related to international students. Discrimination, a characteristic that is both positively and adversely associated to students' views and experiences of the campus environment (Vaccaro et al., 2010), was shown to be the most closely related to campus climates. Discrimination at the institutional level is defined as a pattern of bad behaviour that hinders disfavoured groups from enjoying the same benefits as others (Hanassab, 2006). In university settings, unfriendly campus conditions have an influence on overseas students' adjustment and mental health (Hanassab, 2006). According to research, international students face prejudice in their contacts with teachers, staff, and students (Almarza et al., 2015; Byram

et al., 1997; Byram, 1997b; Fantini, 2017; Wang et al., 2014).

### 2.2.3 Attitudes

Considering attitudes toward persons who are viewed as different in terms of the cultural meanings, beliefs, and behaviours they display in their interactions with interlocutors from their own social group or others are addressed here. Such views are commonly described as bias or stereotype (Allport, 1979), and they are typically, but not always, unfavourable, resulting in failed interactions. Positive attitudes are necessary but not sufficient for successful intercultural engagement, as even positive bias can obstruct mutual understanding. They must have curious and open mindsets, as well as a willingness to suspend disbelief and pass judgment on others' interpretations, beliefs, and behaviours. There must also be a readiness to suspend belief in one's own meanings and behaviours and examine them through the eyes of others with whom one is interacting. This is the capacity to 'decentre,' which is a later stage of psychological development and claims is essential to comprehending different cultures (Byram, 1997). It can lead to a 're-socialisation', which Berger and Luckmann (1991) refer to as 'alternation', in which people demolish their previous structure of subjective reality and rebuild it according to new standards. It entails a challenge to primary socialization norms, and learners who are learning a foreign language may go through a process I've dubbed 'tertiary socialisation' (Neuner et al., 2003). The attitudes element has an interdependent interaction with the others. Interpreting and sharing them without relativizing one's own experience and valuing others are likely to be value laden. While completely value-free interpretation and relating are rare, developing awareness of one's own values allows for conscious control of biased interpretation. The link between attitudes and knowledge is not as straightforward as many people believe, i.e., that more information leads to more favourable views (Nicholls et al., 1995). Nonetheless, comparing one's own meanings, beliefs, and behaviours to those of others is certainly simpler than attempting to decenter and separate oneself from what socialization processes have indicated is natural and permanent. Third, if the individual engaged has open and curious attitudes, the skills of discovery and engagement are easier to use and involve less psychological stress. Finally, in an educational framework that aims to develop critical cultural awareness, relativizing one's own meanings, beliefs, and behaviours, as well as valuing others', does not happen without a reflective and analytical challenge towards the ways in which they have been founded as well as the complicated of social forces inside which they have been experienced.

#### 2.2.4 Knowledge

Individuals' knowledge of social groups and their cultures in their own country, as well as similar knowledge of the interlocutor's country, can be divided into two categories: knowledge of individual and societal interaction processes on the one hand, and knowledge of individual and societal interaction processes on the other. The first group includes information that maybe developed but is always there in some form, whereas the second category, which includes understanding of ideas and processes in contact, is crucial to effective interaction but is not gained automatically. The inevitability of some information being present in the first category is related to the processes of socialisation. The individual acquires knowledge of the social groups to which they gain membership and of other social groups with which they have contact through primary socialisation, which occurs primarily in the family, and secondary socialisation, which occurs primarily in formal education. Some of this knowledge is conscious, while some is unconscious and taken for granted. Individuals acquire varied degrees of national identification through socialisation in formal education in nations with formal education systems, and the knowledge obtained is typically dominated by the concept of a 'national' culture and identity. Other identities, such as regional, ethnic, socioeconomic class, and so on, are acquired via formal and informal socialisation. They have a conscious awareness of two types of characteristics when it comes to the shared beliefs, meanings, and behaviours of these different groups: those that are emblematic for the group, such as items of clothing or greeting modes, and those that it uses to differentiate itself from other groups and mark its boundaries (Byram, 2012). Other characteristics are usually taken for granted and only brought to consciousness when there is a need for contrast with other groups, whereas the latter often include stories from its history, institutions, and religious values, and are highly conscious, whereas other characteristics are usually taken for granted and only brought to consciousness when there is a need for contrast with other groups. Because they are unconscious and unanalysed, they might have more influence when interacting with other groups. Knowledge about other nations and the identities brought to an engagement by a foreign interlocutor is usually 'relational,' that is, knowledge obtained via socialisation in one's own social groups and typically presented in opposition to one's own national group and identity. For example, one learns about another country's history through stories from one's own nation-past, state's which is a different interpretation than the one taught within the foreign country (Byram & Grundy, 2003). The tales conveyed are frequently biased and stereotypical, especially in informal socialisation processes such as inside the family or in the media. As a result, the closer the individual's nation is to that of their interlocutor, and the more interactions there are and have been, the more knowledge about each other will be present in the encounter. Of course, in today's world,

closeness is not only an issue of geographical distance, which is readily solved by modern communications networks, but also a matter of media and political domination. Knowledge of the United States is likely global, albeit it varies depending on one's nation of origin and the power ties between one's country and the United States, whereas knowledge of a country like Denmark varies greatly from one region of the world to the next. The second type of knowledge in an interaction is knowledge about the processes of interaction at the individual and social level, which is connected to the relational nature of other nations' knowledge and the beliefs, meanings, and behaviours ascribed to an interlocutor. If an individual is aware of how their social identities were formed, how they serve as a prism through which fellow participants of their group are regarded, and how they view their interlocutors from different groups, they will be able to engage successfully (Misra et al., 2003). Although vital, declarative knowledge is insufficient and must be supplemented by procedural knowledge on how to act in certain situations. In this way, it is tied to interpreting and relating skills, such as using prior knowledge to comprehend a certain document or behaviour, and then linking it to similar but distinct documents or behaviours in their own social group. On one hand, it is generally recognised that tea drinking has varied cultural meanings; on the other hand, a policy paper on "education centralization" may be "conservative" in one setting and "progressive" in another. The importance of a behaviour or a document cannot be assumed. Similarly, exploration and interaction skills are ways of expanding and improving one's understanding of the other, as well as knowing how to respond to certain aspects of engagement with a given person (Neuner et al., 2003).

### 2.2.5 Trust among supply chain partners

Trust among supply chain partners can be defined as the perceived credibility and benevolence of the business partner. National culture impacts values and lifestyle, therefore it is expected to influence trust in supply chain relationships. He and Sun (2020) concluded that relationships and trust are more important in high-context societies therefore managers from low-context countries should keep this principle foremost in their thoughts when attempting to develop and maintain their global supply chain relationships.

Gupta and Gupta (2019) concluded that buyers from collectivistic cultures considered the trust of a supplier to be more important in building long-term relationships, meanwhile, buyers from individualist countries valued more performance. In 2020, He and Sun (2020) studied the effect of trust and commitment in supply chain relationships by introducing a new dimension – continuity. The results from

the study suggest that employee continuity has a significant impact on supply chain partners' trust and commitment.

### 2.2.6 Culture paradigm

Research For decades, culture has been taught in language classes solely as a backdrop to the study of the language's grammatical and lexical systems. Furthermore, the cultural component's education concentrated almost entirely on the transfer of facts, which was given precedence above the cultural values they represented. Students were given little or no opportunity to learn about different perspectives and methods of thinking that might challenge their own. Learning about a culture and absorbing Intercultural communicative competence (ICC) should be considered as linked but distinct behaviours with different outcomes, just as there is a distinction between learning about a language and learning to use a language. In fact, an ICC approach to language learning aims for learners to become aware of cultural identity, which is not restricted to their national identity, and of how they are perceived, rather than to assimilate or acculturate to the target culture by resembling native speakers and their culture as closely as possible.

This awareness comes before and is a prerequisite for further information, a shift in mindset, and the acquisition of new abilities. The learner can become an 'intercultural speaker' (Byram, 1997b) by learning about the identities and cultures of the people they are engaging with and utilizing this information to reflect on their own culture (Byram, 2012). Learning a new language takes on a new meaning when one considers what is clear about one's own culture while also acknowledging that preconceived notions about the target culture can be questioned. The student comes to recognize various cultural voices and, as a result, reads familiar signs with fresh eyes. Many foreign language students begin their sojourns abroad lacking methods to navigate encounters with speakers who do not structure and maintain relationships according to classroom discourse standards,' Allen notes from a language and study abroad viewpoint. As a result, the learning process becomes a conscious effort to uncover linguistically mediated meanings and practices of their own culture and identities, resulting in the emergence of a new interpersonal and intercultural reality that is distinct from both the native and target cultures and must be negotiated and constructed. In other words, this process enables for multiple degrees of intercultural competence to be strengthened, and it 'may offer opportunities for going into a third place' by engaging with "one's particular reasons, history, and personal capacities.". In a nutshell, intercultural awareness begins with an awareness of oneself and one's own culture, or a "cognitive" viewpoint (Kim et al., 2008), which "implies an awareness of the role of the self in contact and the potential to learn from interaction". Intercultural awareness, according to Neuner et al. (2003b), is a prerequisite for intercultural

competence. 'Intercultural competence is described as "the capacity to successfully engage with others despite cultural differences," and it can only be "acquired and judged in action." We'll utilize Byram's definition of ICC from now on, integrating 'the idea of "communicative competence" in another language – with a focus on the capacity to use a language not just correctly but also in socially relevant ways - with "intercultural competence"'.

According to Holliday (1999), a fundamental distinction between what he refers to as "paradigms of big and small cultures" must be made. The big culture paradigm regards culture as arising from small social groups and avoids stereotypes, whereas the small culture paradigm considers culture as emerging from small social groups and avoids stereotypes. In fact, "wherever we go, we either participate in or begin to establish tiny civilizations" (Holliday, 1999). According to him, a map or a "grammar of culture" is formed by the way "various aspects of culture interact to each other within an open dialogue between the individual and societal institutions".

### 2.3 KAIZEN AND CONTINUOUS IMPROVEMENT

Kaizen is a Japanese phrase that was coined and popularised by Masaaki Imai as a company management and everyday life idea. Suárez-Barraza et al. (2011) describe Kaizen in the management context as "continuous improvement encompassing everyone, managers and workers alike." According to Schooler et al. (1993), Kaizen is a school of thinking that focuses on continuous improvement and signifies "change for the better". When firms in the West do not enjoy the promised benefits from Japanese management principles, Kaizen has been touted as the missing link in the management sector (Berger, 1997). Iwao (2017) defines Kaizen as a loosely defined concept that consists of tiny, incremental, uncorrelated process improvements made frequently by workers, based on a literature assessment. Nonetheless, while discussing studies on the topic(s), he equates Continuous Improvement with Kaizen. According to Brunet and New (2003), the Kaizen concept's universality and simplicity are both its strength and weakness, making analytical deconstruction and empirical investigation exceedingly difficult. Furthermore, because Kaizen has stayed free of vested interests and proponents, researchers and practitioners have been able to cherry-pick the finest components of other systems and approaches, resulting in a broad range of interpretations. With this background in mind, Brunet and New (2003) describe Kaizen as a set of pervasive and ongoing actions undertaken by contributors outside of their clear contractual tasks to identify and accomplish results that he feels would help the business achieve its objectives. They also propose two axes to dissect the concept: the degree to which Kaizen processes are systematized and structured, and the degree to which top management specify or influence the

subjects of Kaizen activities. They report that Kaizen activities arose at three levels inside the organization: management, group, and individual levels, based on empirical findings. They also argue that Kaizen has been tailored to the needs of many companies and is therefore far from being standardized. Simultaneously, Kaizen looks to be an important component of a larger operation and planning system. One of the most important outcomes of Kaizen is that it aids in the development of a mindset in which necessary change and new tools are more readily embraced by co-workers. Suárez-Barraza et al. (2011) define Kaizen as a collection of managerial concepts for managing improvement and learning. Kaizen can be thought of as a management philosophy based on principles, methodologies, and techniques, with the following cornerstones: teamwork, elimination of Muda and Gemba management, education and training, top management commitment, proposing and implementing improvements, and a focus on processes and standards (Suárez-Barraza et al., 2011). According to Berger (1997), the features of Kaizen include a focus on work standards and minor gains because of continual mobility. Kaizen is inextricably linked to the foundation; adhering to standards such as Continuous Improvement (CI) will result in a greater overall contribution to the business. According to Schooler et al. (1993), organizations that have adopted the cornerstones of Kaizen have achieved the following five goals: empowerment to define and improve processes; detailed process definition across departments, functions, and teams; subliminal detailed process orientation to all levels within the organization; the generation of many improvement ideas; and increased compliance with the best method at all levels. Kaizen is frequently regarded as, and has come to signify, continuous improvement. Also, Kaizen is frequently characterized as improvement or change for the better, but that a deeper examination of the meaning of the word is required to properly comprehend Kaizen's underlying assumptions. The ideogram for kai clearly indicates "to change, to replace the old with new". The ideogram of zen, on the other hand, is more challenging since good is not specific enough. As a result, authentic Kaizen has a built-in compass that directs people and organizations toward achieving better in the long run. Kurpjuweit et al. (2019) emphasizes that kai is about oneself, and that the good in zen comes from sacrifice to the gods, which is good for everyone. As a result, when regarded as a whole, Kaizen means self-sacrifice for the greater good of everyone (Kurpjuweit et al., 2019). Furthermore, he adds that kai is associated with large-scale transformations because it is frequently used to describe revolutions.

### 2.3.1 Continuous improvement Strategy

The Kaizen technique has its roots in the Japanese car industry's supply chain management, namely the "Toyota Car Production System." Taiichi Ono, a former senior vice president of Toyota Motors, devised and executed the system in the early 1950s. Kaizen began by focusing on the notion of zero-waste

manufacturing, or removing waste from the manufacturing process. These wastes are deemed non-value-added operations that the customer or beneficiary views as adding no value to a higher-value product or service, and waste-free manufacturing has grown more common in European enterprises over time (Berger, 1997). In terms of generating high quality goods with least work, Kaizen's technique has piqued the interest of academic scholars and practitioners. Many nations have adopted it as a common and effective approach, and it has achieved a practical footing all over the world (Carnerud et al., 2018). Kaizen is a Japanese term that comprises of two words: Kai, which means change, and Zen, which means better. "Continuous improvement" is the best translation for it (Butler et al., 2018). In both Japan and the United States, researchers have underlined the benefits of continual development, and the Japanese have assured its long-term viability. The cumulative returns are raised because of this analysis. Aside from that, the US approach concentrates on implementing basic practical reforms, which are often short-term in nature. It denotes that when a process is correctly implemented, it will practically impose the notion of humanity inside the workplace, removing hard, unneeded labour, teaching employees how to do speedy tests using scientific techniques, and preventing waste. Kaizen discusses the Japanese life strategy, which states that each Japanese man or woman's life cycle may be improved indefinitely. It also focuses on resolving issues and implementing necessary improvements. Kaizen cultivates a growth mentality and motivates individuals to confront difficulties and solve problems (Carnerud et al., 2018). There are three sorts of waste that begin with the letter M, all which Kaizen is attempting to eliminate: MUDA: It refers to any activity that depletes resources while also adding value. It is split into seven types known as "The Seven Wastes," the most important of which is waste produced because of overproduction. Transportation, inventory, movement, waiting, superfluous activities, and faulty goods are all examples of waste. There is also an eighth type of waste, which is the waste of skills. MORA: It refers to waste that occurs because of a conflict of powers or procedures. MORI: It refers to waste created by physical tension as a result of unnecessary labour or stress, which might be caused by a flaw such as a technological breakdown. Kaizen highlights the need of constant improvement in thinking techniques.

Based on the model, the researcher finds that the person needs training and policy support from upper management, which will lead to motivation and self-confidence. All of this has a measurable impact on increasing performance using continuous improvement tools and processes. Kaizen is a management paradigm that satisfies the organization's, workers', and management's internal criteria. And, with the help of personnel at all levels, the external requirements of customers and others are addressed through the technologies and methods employed. Nonetheless, the applicability of management methods is linked to some future management duties (Berger, 1997).

### 2.3.2 Continuous improvement tools

CI is defined as a culture of continuous improvement focused at eliminating waste in all systems and processes, including all stakeholders in the organization (Bhuiyan & Baghel, 2005). Lean focuses on reducing waste and removing operations that do not bring value to the processes (Salah et al., 2010). The utilization of practices and components clustered around numerous key themes are used in CI programs (Bessant et al., 2001; Shah & Ward, 2007). A study defined 12 CI generic primary practices that are employed by the various programs based on the major articles of this literature study. Because 12 practices are a large number for a single construct to generate and perspectives ought not be compromised, four subconstructs were constructed to describe CI for this study. Bessant et al. (1994) emphasize the following aspects based on the belief that there are several key variables for CI adoption and success: strategy, culture, organizational structures and tools, and process. According to Shah and Ward (2003), Lean is made up of four components: Just in Time (JIT), Total Quality Maintenance (TQM), Total Productive Maintenance (TPM), and human resources. Philosophy, method, people, and issue solutions are all highlighted by Liker and Choi (2004). Soft Lean approaches are divided into three categories by (Alkhaldi & Abdallah, 2020) TQM 3 top management leadership, employee training, multi-functional teams, group problem resolution, and supplier collaboration. CI practices were separated into four subconstructs: top management, strategy, culture, and people.

Several writers believe that CI efforts should be related to and prioritized in the organization's strategic goals, across functional lines and at all levels (Yadav & Desai, 2017). Because not all processes can be addressed at the same time based on available resources and a strategic perspective, identifying crucial processes is critical (Jaca et al., 2012). Processes should be assessed on a regular basis to determine their contribution to the organization's goals and essential success criteria (Jaca et al., 2012). Mechanisms for the provides a key and selection of projects are critical for the alignment of program activities and strategic planning. Individuals and groups should track the outcomes of their development efforts, as well as the influence they have on business.

One common component identified for operational excellence has garnered great attention in the recent decade, thanks to the Japanese re-export of numerous renowned management ideas such as total quality control (TQC), JIT manufacturing, and lean production. The idea of kaizen has been brought to the management world, and it has been cited as the "missing link" in explanations for Japanese companies' well-known operational excellence. As a result, academics and practitioners have examined kaizen and claimed that it is one of the reasons why Western companies have not reaped the full benefits of associated Japanese management practices. In Western discourse, the Japanese experience has served

as a crucial guideline for definitions and conceptualizations of what has come to be known as "continuous improvement" (Levy et al., 1995; Lillrank & Noriaki Kano, 1991). However, history shows that transplanting ideas from one cultural and organisational setting to another can result in (almost) total failure. The Japanese notion of quality control circles (QCC) - one of the backbones of Japanese success - failed to contribute to any continuous improvement process when applied in the West, according to most writers (Lillrank, 1995). One reason is that in the Western notion, "quality control circles" became "quality circles" (QC), removing the center "C" altogether. This suggests that the management role and responsibility for QC efforts may have been overlooked. In the transfer of Japanese TQC to Western comprehensive quality management, (Hackman & Wageman, 1995) make similar points about the "loss" of essential notions such as scientific techniques (TQM). When it comes to adapting Japanese concepts to Western contexts, the debate frequently centers on "what and how much" of the original concept may be changed without jeopardizing its core benefits. To trace the origins of CI, this article provides a set of key concepts derived from the Japanese idea of kaizen. The contingency character of the design and organization of CI processes - particularly regarding product/process standardization and task design - is of particular importance.

The goal of establishing a CI competence is to define continuous improvement as a systematic process of searching out and adopting new and improved ways of functioning. 'The true sources of advantage are found in management's capacity to combine corporate-wide technology and production abilities into competencies that permit individual enterprises to react swiftly to new possibilities,' as Bessant et al. (2001), put it. The strategic goal of initiating a manufacturing CI project is to develop the capacity to make changes to a company's operational routines quickly and effectively, as well as to install new ones. Senior management must offer the organisational vision needed to drive the development of both business and operational performance improvement targets, including those for CI, to create such a competence. Furthermore, senior management must facilitate the creation of an infrastructure that can ensure that a company's manufacturing strategy objectives are aligned with the ongoing improvement of its production processes and people (G. Anand et al., 2009).

### 2.3.3 Developing a process CI capability

The purpose category of management decisions contains the main management decisions that enable the creation of a process to support CI activities inside a manufacturing. These are infrastructural design considerations made to keep a company's manufacturing strategy objectives in line with the continuous improvement programs it chooses to pursue. Bateman (2005) emphasises the need of having a supportive infrastructure in place to ensure that a CI program can be sustained. However, little information

on the components that make up this supporting CI management architecture is provided, but a practical approach is offered to encourage shop floor personnel to contribute suggestions for improving performance: 'This is usually handled with a five-to-ten-minute team briefing at the start' (orend). Bessant et al. (2001) established a theoretical maturity model that gives a road map for the development of a CI competence inside a firm. The model depicts how employee behaviour evolves from just executing individual production tasks to active engagement in team-based CI activities that necessitate knowledge sharing for the systematic analysis and resolution of production problems. The Bessant et al. (2001) model has a flaw in that it depicts the growth of employee behaviour necessary to support and maintain a CI project as a predetermined sequence of behavioural change that eventually leads to the formation of a learning organisation. No consideration is given to the potential of shop floor employees' 'discretionary effort' being lost to maintain a momentum of development (P. Anand et al., 2009). P. Anand et al. (2009)'s study has educated practitioners on two essential topics that have an influence on the successful establishment of a CI competence. The first is the requirement for processes to be put in place for the creation and implementation of CI projects, as well as educating individuals in problem-solving approaches and process performance improvement strategies. Another point to consider is the need of adopting a broad picture of the CI initiative management process (the collection, review and implementation of ideas generated as part of CI activities). According to previous studies, establishing an infrastructure to facilitate its coordination and administration is crucial (G. Anand et al., 2009; Eisenhardt & Martin, 2000; Garvin, n.d.). G. Anand et al. (2009) research approach had a weakness, which they admitted, in that their case studies were based on material gathered from only two levels inside the organisation: high level CI executives and project leaders; shop floor people were not questioned.

According to Bhuiyan and Baghel (2005) CI has no theoretical foundation and is instead employed as a catch-all word that has absorbed many of its characteristics from other quality efforts such as TQM and lean manufacturing. Nonetheless, according to Bhuiyan and Baghel (2005), CI is frequently characterised as a culture of continuous improvement at every level of a business. As a result, it might occur because of evolutionary advancements, incremental improvements, or critical modifications (Bhuiyan & Baghel, 2005). According to Anand et al. (2009), CI is typically characterised as a systematic fight to develop and use innovative approaches to improve processes actively and continuously. In their conclusion, (Zollo & Winter, 2002) describe CI as "a learnt and established pattern of collective action through which the organisation systematically produces and adapts its operational routines in pursuit of increased performance." According to Industri and Prajogo (2000), CI is a process that takes place throughout an organisation and is aimed at making small but consistent changes. CI, according to Singh and Singh

(2015), is a broad word that has been the subject of debate since the beginning of the industrial revolution. A definition of continuous improvement (CI) is offered as follows: a culture of continuous improvement focused at eliminating waste in all organisational systems and processes, engaging all organisational actors (Singh & Singh, 2015). Other writers have characterised the CI process as a collection of planned, coordinated, and systematic processes of continual change that are interconnected across the entire business, with the goal of enhancing productivity, quality, well-being, ergonomics, and effectiveness by including all employees (Jurburg et al., 2017). Several studies have attempted to explain the CI process and how it may be effectively performed through a collection of supporting elements (Bessant et al., 2001; Dahlgaard et al., 2019; Geralis & Terziovski, 2003; Prajogo & Sohal, 2004). Bessant et al. (2001). Throughout the CI literature, these aspects are referred to by many names and techniques. "Top management support and commitment, strategic focus on CI through the definition of an appropriate set of goals and objectives, using the right methodology to implement CI throughout the entire organisation, creating and maintaining a CI culture, employee support and commitment, good information, communication, and knowledge-transfer systems, and having a CI management and follow-up system to track the CI efforts and progress made," are some of the most common (Jurburg et al., 2017). To create successful and long-lasting CI systems, these facilitators should be integrated into the organization's culture (Jurburg et al., 2017; Sila & Ebrahimpour, 2002). Many writers consider CI to be a common TQM element (Sila & Ebrahimpour, 2002), and it is one of the key principles in the TQM foundation (Hansson & Klefsjö, 2003). CI activities are also guided by several frameworks like as Six Sigma, Lean Production, Balanced Scorecard, and Lean Six Sigma (G. Anand et al., 2009; Bhuiyan & Baghel, 2005). As a result, a vital source of knowledge on the procedures that should be used to support the 'bottom-up' generation of CI ideas and the level of their involvement in their implementation was not tapped. The only approach used in their study to generate improvement suggestions was the frequent conduct of 'workshops for middle management' (G. Anand et al., 2009). Galeazzo et al. (2017) investigated the influence of important elements of organisational infrastructure, such as strategy alignment and teamwork, on maintaining CI competency. They discovered that creating a CI competence requires the ability to translate company strategy into functional objectives and the strategic coordination of operations. Even though previous research has identified several enablers of CI capability development (Jaca et al., 2012; Jørgensen et al., 2003), there is still a need for organisations to gain a better understanding of how their leaders can cultivate a culture where all employees are recognised as capable of affecting the CI of operating performance.

A supply chain can be defined as a network of organizations that are involved – through upstream and

downstream linkages – in a full range of activities, including coordination, which is required to bring a specific production from its conception to its use and beyond. This includes all different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer (Murphy et al., 2019; Tan et al., 2006). Additionally, supply chain management is understood as planning, executing, and designing across the supply chain to deliver products of the right design, in the right quantity, at the right place, at the right time. The process requires the integration of all stakeholders along the chain.

## 2.4 DATABASE

Every industry and business sector generates a large and growing amount of digital data, which leads to big data difficulties (Jin et al., 2015). Manufacturing data, if gathered, includes significant information and knowledge that may help enhance decision-making and productivity. Manual analysis is problematic due to the massive volumes of data in industrial databases, which include vast numbers of records with various qualities that must be searched simultaneously to obtain meaningful information and knowledge (Brosch et al., 2009). As a result, intelligent and automated data analysis approaches are required.

In terms of machining, modern shopfloors have a wealth of digital data. Most data are either not gathered (particularly real-time data for machine-tool control) or remains uncollected. For processing data, looking for essential information, and updating operations, information technology has been used as a data management tool. During the database design stage, data for personnel, goods, and equipment, among other things, is reorganised in a table format. In the manufacturing business, database systems are widely used to manage the supply chain and track manufacturing items in factories, warehouse levels of inventory, and commodity orders (Abouzied et al., 2014). Database systems are created to assist individuals in efficiently managing massive amounts of data. It entails two phases to handle a big amount of data: establishing a structure for data storage and providing a method for data retrieval. Also, despite the system being hacked by other unauthorised persons, the database system's security must be ensured, particularly for databases that are shared by several users (Abouzied et al., 2014).

A database is a collection of tables and other structures that are linked together. The first database source is existing data from spreadsheets, data files, and database extracts; the second database source is new data from spreadsheets, datafiles, and database extracts. The second database source comes from the creation of new systems, which necessitated data modelling and database architecture. Third, a database is created because of the necessity to restructure an existing database to meet changing needs. Of course, data is crucial in production, but facts should take precedence.

For decision-making, the appropriate information supplied in the right format, to the right people, at the right time is beneficial. Raw data must be summarised, organised, and presented in a way that is easy to understand. The remarkable human mind can extract and generate valuable knowledge if information is paired with actual experience. Wisdom grows over time as information is gathered and blended with first-hand experience and judgement (Godreau et al., 2019).

### 3 RESEARCH METHODOLOGY

This chapter emphasizes the research approaches and discusses the methodological choices that have been applied to achieve the purpose of this thesis study. Thereby, the different methods of data collection are discussed in detail and the research methodologies are presented.

#### 3.1 OVERVIEW

The proposed CI tool consists of several components that together allows the DPS Erasmus atUM, to complete future academic research to assist and evolve regarding the students constant evolving needs. The first questionnaire (Q1) is submitted to the students before their departure, allowing to collect information about the reasons and motivations that led them to participate in the Erasmus program, as well as their expectations. The second questionnaire (Q2) allows us to find out about the routine of the university in each destination city, the various student support services, as well as the student's level of satisfaction with the university and the host city. It is important to mention that these questionnaires can be edited year on year, according to the investigators needs or themes of investigation.

As the following Figure 1 presents, here is the Q1 & Q2 workflow:

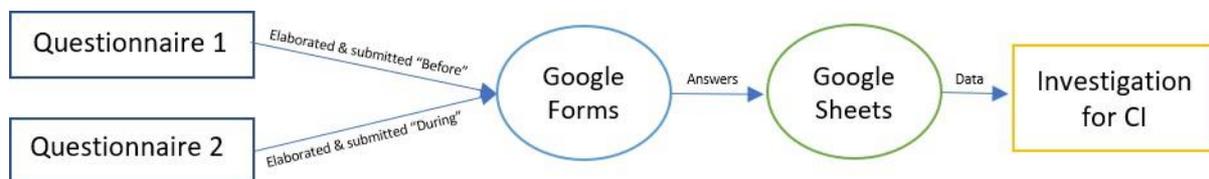


Figure 1- CI tool workflow

As it can be seen, the purpose of Q1 and Q2 is to, as mentioned above, analyse the OUTGOING Erasmus students in numerous ways. For this, the workflow process of these two questionnaires is:

1. Send the Q1 and Q2 on the predefined dates, always in accordance with Q1 being sent before the beginning of the Erasmus experience and Q2 being sent in the middle of the Erasmus experience, thus being able to measure and analyse the student's progress and involvement.
2. When the Erasmus Outgoing students have replied to the questionnaire, the second phase of the tool's workflow process will start. After all the answers are saved and exported to an excel file, it will be able to study the student's behavioural changes and perceptions, and therefore, hopefully, using this information to keep improving the Erasmus department capabilities, understanding of social and economic shifts that students go through, semester by semester. Also, it will be able to retrieve good information that could be subject to further studies and investigations.

The third questionnaire (Q3) was designed to collect information on the lifestyle of the destination city, including transport, accommodation, festive atmosphere, and overall costs. To help gather all the data and be able to provide it to the student's a proof of concept of a database structure, that consists in a combination of Google Sheets and Google API's software and a front-end.

Q3 has a different workflow process since its objective is not to retrieve information for academic and institutional purposes, but is to help students in their decision making, access to non-usual information that only people that have experienced the Erasmus life and/or the destination would know. For this, these are the recommended steps for questionnaire 3, as Figure 2 indicates:

1. Send questionnaire on the pre-defined date, always in accordance with it being sent after Q1 and Q2, and only after the Outgoing Erasmus students will have come back to their original country/residence.
2. When the Erasmus Outgoing student's will have replied to the questionnaire, these answers will be exported to a specific google account to be created where it will then automatically be exported to the developed platform, where all the answers can be accessed and analysed, always protecting the respondent's right to privacy. No sensitive information will be shared, and all the responses must be revised to ensure that no unwished content would be shared.



Figure 2 - Questionnaire 3 workflow

### 3.2 QUESTIONNAIRES

The most critical stage in planning a questionnaire is establishing the research question or research objective, because all other processes flow from there. One common guideline when establishing measurement methods for a study is to use or modify previously developed scales whenever possible. Using pre-made instruments is an excellent place to start. It must be remembered to include crucial psychometric assessments in our local usage, such as the instrument's reliability in the sample, as well as the possibility of identifying a previously constructed instrument with unknown psychometric features. The lack of psychometric evaluation can raise concerns about the instruments' reliability and validity. Researchers may use less-than-optimal procedures, such as item-by-item analysis, to follow the creators' approaches. Performing such an analysis solely because the developer performed it will only perpetuate

suboptimal analytic procedures and may result in inaccurate results. These existing but previously unvalidated instruments will need to undergo psychometric review at some time, or a new, validated instrument will need to be established. This also applies to instruments that must be created personally due to a lack of suitable options. Modification of previously produced validated equipment is a similar circumstance. Modifications should be avoided, if possible, as they may change the instrument's known psychometric features. When changes are required, the psychometric qualities must be re-evaluated.

The selection of a statistical test is context-dependent and must be justified. In terms of measurement methodologies, the research question or objective should lead the decision. A nonparametric test may be required or desired in some cases (Columbu et al., 2021). Assume the comparison of two groups of pupils in terms of their satisfaction with a certain teaching strategy. Students rate their satisfaction on a scale of 1 (not at all satisfied) to 5 (very satisfied). Assume that both groups of students have the same mean satisfaction; however, one group appears to be polarized, with students gravitating toward the two extremes of the response alternatives and the distribution of satisfaction. Assume that the students in both groups have the same mean satisfaction; however, students in one group appear to be polarized, moving toward the two extremes of the response options, and their satisfaction ratings are distributed bimodally. Even though the means are the same, the satisfaction rating has two separate distributions. This difference in distributions would be detected by a categorical test (e.g., Chi Square test) or nonparametric tests that compare distributions (e.g., Mann–Whitney U test), but not by a comparison of means (e.g., t test or ANOVA). In some cases, parametric procedures may be preferable to nonparametric ones, such as when interactions are required or when studying more than two variables at the same time (e.g., regression models). There are variants to the classic least squares regression model that consider the data distribution rather than assuming a normal distribution in certain instances. Making overly prescriptive directions regarding which statistical tests are "correct" or "wrong," or that some tests are "not acceptable," since it ignores the intricacies of a specific data collection and the data analysis process. As a result, knowing our real data and the main study issue should influence whatever statistical test is use.

### 3.3 LIKERT SCALE

The standard Likert scale is a 5 ordinal scale used by respondents to assess the degree to which they agree or disagree with a statement. It was developed in 1932 by Rensis Likert to measure attitudes. Responses can be scored or ranked on an ordinal scale, but the distance between them is not measured. On a frequency response Likert scale, the disparities between "always," "often," and "occasionally" are not always equal. In other words, even if the numbers allocated to the replies are equal, one cannot

assume that the differences between them are equal. Interval data, on the other hand, allows the difference between replies to be determined, and the numbers indeed correspond to a quantifiable "something." (Columbu et al., 2021).

The difficulty confronted in education is that many of the things aimed to assess are cognitive rather than physical. The challenge then becomes how these non-physical events can be measured. Some may be easily visible and measurable, such as the number of times a student makes an error when counselling a patient or the number of seconds an instructor waits for student answers after asking a question during a lecture. Other occurrences may be visible but not quantified in the traditional sense. A preceptor, for example, might give a qualitative appraisal of a student's performance in a skill or activity (e.g., "outstanding" or "below average"), but no numerical value can be shown. Finally, certain phenomena, such as self-confidence, cannot be measured directly and must be judged by self-report. These two categories encompass a wide range of phenomena that are of great interest to educators. A variety of rating scales and rubrics have been established to allow us to obtain quantitative measures of non-physical events by combining a collection of items that ask a person to make a series of qualitative judgments. Even though these devices are available, there has been a lot of uncertainty when it comes to analysing data obtained from them (Harpe, 2015).

In his initial study, according to Joshi et al. (2015), he highlighted the unlimited number of defined attitudes that exist in everyone, as well as the potential of organizing them into "clusters" of answers. He also talked about how he came up with the idea for his "survey of opinions," which he used to present his findings and psychological interpretations. The fundamental assumptions of his poll are that the items on the scale are presented in such a way that participants may pick clearly opposed alternatives. Second, the clashing topics selected were empirically significant ones, with the findings serving as an empirical check on the degree of success.

The goal of the questionnaires is anchored in the design of the Likert (or Likert-type scale). The goal of certain studies is to learn about the participants' beliefs and perceptions of a single 'latent' variable (the phenomenon of interest). Several 'manifested' items in the questionnaire express this 'latent' characteristic. These created elements target a distinct facet of the topic under investigation in a mutually exclusive way and, incoherently, quantify the whole phenomenon. During analysis, the scores from all the questionnaire's questions are added together (sum) to provide a composite score, which logically measures a unidimensional characteristic in its whole. The Likert scale is the name of this tool. The researcher's primary goal is sometimes not to synthesize the participants' positions per se, but to capture the

participants' sentiment and behaviours, and pragmatic opinions concerning mutually exclusive concerns surrounding the phenomenon/s under study. This necessitates an individual study of each item to determine the participant's overall level of agreement on the subject. The scale utilized in this case can be classified as a Likert type rather than a Likert scale.

The applicability of the issue in question, in the context of respondents' comprehension, and determined by the developer of the answer item, determine the validity of the Likert scale. Consider the following scenario: "How effective is a therapy technique in treating a certain disease?" When this question is posed to a group of people who are unconcerned with the condition or the treatment technique, the answer pattern may be consistent regardless of the number of points on the scale. The replies may be grouped together in the middle or at the extremes. On the other hand, providing more options when the issue is relevant to the respondents' context may improve the scale's content and construct validity. The role of ambiguity in replies is reduced by providing alternatives that are closer to the respondent's initial viewpoint. Furthermore, understanding of all elements and points on a scale necessitates varying judgment times and memory spans depending on communication style. When opposed to a written scale, listening to the replies of a lengthy scale allows you to distinguish the numerous alternatives on the scale with less time to judge. Even with more points on the Likert scale, the validity of the written scale will increase (Joshi et al., 2015).

## 4 DEVELOPING A CONTINUOUS IMPROVEMENT TOOL

### 4.1 QUESTIONNAIRE Q1 – BEFORE ERASMUS MOBILITY

#### 4.1.1 Questionnaire 1 objective

The ERASMUS exchange program is recognized as a substantial contribution to the tourism sector and higher education both inside and beyond the European Union (EU). The following concerns, however, arise: (1) What motivates people to take part in a study exchange? (2) What factors influence students' decision to study at a certain location? The highlighted worldwide mobility objectives represent students' needs for professional and personal development; however, research also indicates certain pleasure travel motives.

Mobility reasons (professional and personal advancement) and destination selection (infrastructure and image, as well as lifestyle and commercialization) occurred, and they were addressed considering the students' personal and situational characteristics. International study mobility is driven by students' desire to better emotionally and professionally while studying abroad, while students' choice of location is impacted by both general and touristic concerns. Students' reasons for mobility and destination decision are influenced by their personal and environmental factors. Because the market for student and educational tourism is gradually developing, the EU is advised to capitalize on it through ERASMUS and international student mobility to help bolster its sagging economy (Lesjak et al., 2015b).

The expectations, perspectives, and experiences of Erasmus students were also examined in these questionnaires. The purpose was to learn more about the students' ethnic and multicultural origins. The findings of the open-ended and closed-ended questions were compared to determine the most important components that learner's thought was required for a successful, pleasurable, and educational Erasmus experience.

As part of the investigation, the following hypothesis was also investigated. First, it was predicted that international students' desire to study abroad may be defined by two factors: their self-determined motivation for wanting to study abroad and the sorts of goals they set for themselves (i.e., goal content) when relocating to a new country. The study conducted supports this notion. Second, expectations were these two aspects of motivation to predict numerous indices of students' cultural adaptation and functioning independently. Also that students' autonomy in academic motivation and social adaptation would be positively correlated with their self-determined motivation to study abroad. This assumption is based on multiple findings from self-determination theory-guided studies that show the positive benefits of self-

determined motivation on different facets of human functioning. (Chirkov et al., 2007). The hypothesis that self-determination and goal content have separate effects on significant outcome variables is based on Sheldon and colleagues' recent discovery of this impact (Sheldon et al., 2004).

Having sufficient awareness of study abroad programs, particularly early in an academic program, an interest in new cultures/countries, and academic staff and family as excellent role models that urge students to study abroad are all elements that encourage students to do so. Major impediments include cost and linguistic barriers. Even when substantial funds are available, such as through the Erasmus project, language remains a significant barrier for students who are not proficient in the host country's language. Students pick nations where language is not an impediment or where there are cultural or historical links, such as Commonwealth members. Study abroad opportunities should be promoted early in a student's academic career. It should have a wealth of information as well as language support. As committed role models, faculty members play a critical role.

As a result, students have discovered that study abroad programs give significant benefits, such as developing cultural awareness and understanding of diverse healthcare contexts, rules, and procedures. Students are encouraged to take part in elective or Erasmus internships abroad to boost their personal and professional development as well as broaden their cultural horizons. As a result, it is critical to use these surveys to analyse and comprehend the changes and what they imply.

#### 4.1.2 Questionnaire 1 structure

In the first few questions of each questionnaire, some characterization questions have been made to be able to contextualize each response. The students were asked about their age, sex, course, year, destination, and period of mobilisation.

In Table 1 and Table 2, the first question was about the personal motives that motivated students to go on the Erasmus program.

Table 1 - Personal motives part 1

PERSONAL MOTIVES
Q10. There are different reasons why you are motivated to leave the country to study. Please indicate to what extent each of the following statements/reasons apply in your case when completing the following sentence:  I decided to have a study experience outside Portugal...
... because I think it will be fun and interesting.
... because it is personally important to me.
... because other people (relatives and friends) expected me to do it.
... so that other people would be proud of me.
... because I wanted to avoid the shame and guilt of not doing it.
... because I think I will like it.
... because that is what I really want to do with my life.
... because others (parents, friends, etc.) were pressuring me to do it.
... because I hope to get respect and recognition from other people for doing it.
... because it is a prestigious activity.
... so that other people would approve of me.
... because I think it is an exciting thing to do.
... because others (relatives and friends) have forced me to do it.
... because it is one of my goals in life.
... because I would be criticised for not doing it.

Table 2 – Personal motives part 2

... because it is of great personal value to me.
... because I would have had problems if I didn't do it.
... because it is an opportunity that I value very much.
... because I am very interested in doing it.
... because it is something I must do.
... because I feel I am forced to do it.
... because I know someone who has done it.
... because the University of Minho promotes mobility.
... because the Course Director encourages mobility.
... because Erasmus coordination promotes and facilitates mobility.
... because student organisations (ESN, ESTIEM, ...) promote mobility initiatives.

Moving to a new country is a significant life-changing choice, and it is understandable that a variety of factors, including economic, political, and religious considerations, play a part. As a result, motivational variables have been incorporated as major drivers of both migration and cultural adaptation processes in many migration and cultural adaptation models. Economists, sociologists, and psychologists all take various approaches to people's motivations for going overseas, but they all follow the same emphasis and theories. Economists, for example, look at international migration from the perspective of the international division of labour and varying labour demands in various nations (Massey, 1999). Sociologists have identified structural, political, and social variables that drive migrants to relocate. The most well-known view of migration motivating factors is the push and pull model of international migration, which is based on a socioeconomic approach to explaining international migration (Richmond, 1992).

Given this, the purpose of the questionnaire was to assess the hypotheses that, first, international students' motivation to study abroad could be described by two parameters: their self-determined motivation to study abroad and the type of goals they set for themselves (i.e., goal content) when moving to a foreign country. The evidence on self-determination theory described above strongly supports this view. Second, expecting these two aspects of motivation to predict numerous indices of students' cultural adaptation and functioning independently. Expecting that students' autonomy in academic

motivation, social adaptation, and PWB would be positively correlated with their self-determined motivation to study abroad (Chirkov et al., 2007).

This notion is supported by several findings from SDT-guided experiments that show the favourable impacts of self-determined motivation on a variety of human functions. The hypothesis that self-determination and goal content have separate effects on significant outcome variables is based on Sheldon and colleagues' recent discovery of this impact (Sheldon et al., 2004b).

The next question of the questionnaire 1, in Table 3 and Table 4, analysed the student's Erasmus mobility motives.

*Table 3- Erasmus mobility motives*

<i>Erasmus mobility motives</i>
Q11. There are different reasons for doing Erasmus mobility. Please indicate how strongly you agree with the following statements/motives when completing the sentence: I chose to do Erasmus because...
... I want to experience something new.
... I want to grow personally.
... I want to learn about different cultures.
... I want to meet new people.
... I want to have a semester away from home.
... I want to improve my foreign language skills.
... I want to experience the European identity.
... I want to experience a different educational system.
... I want to improve my academic knowledge.

*Table 4- Erasmus mobility motives part 2*

... I want to increase my job opportunities.
... I want to make new contacts in my field of studies.
... I want to explore academic support for my thesis/dissertation.

... I want to take advantage of the ERASMUS scholarship.

... it was/is compulsory.

Some questionnaires were based in (Lesjak et al., 2015b) findings and adapted to be able to retrieve data that could allow us to measure and analyse student's mobility motives and destination choices motives. The EU's goal is to create a globally competitive society in which different cultural, political, educational, and other social systems may work together for a more affluent and competitive future. In keeping with this notion, the ERASMUS programs allow participants to spend a brief period during their formal education in a foreign country, at a foreign institution, where they may improve professionally and personally while still having fun.

Since ERASMUS students constitute a considerable number of people traveling to a foreign nation, and because these people are also motivated by vacation-related reasons (Teichler, 2004). Assuming that the importance of leisure or vacation-related motives among exchange students is growing (Teichler, 2004), that the ERASMUS scholarship, which provides financial assistance to students during their exchange period, serves as a financial incentive for taking a vacation (Daly, 2011), and that international students contribute to the domestic tourism industry.

Although it has been proven that students participate in foreign ERASMUS mobility programs mostly for "fun motivations," which appear to be at odds with the ERASMUS mobility program's professionally focused aims, this should not be a cause for alarm. In support of this finding, it has been suggested that ERASMUS mobility experiences, personal growth and other "playful incentives" are not always in vain when it comes to achieving the ERASMUS mobility program's academic or professional growth objectives. When students are exposed to host cultures and lifestyles, they acquire an interest in new ideas and international events; as a result, when they return home, they are more engaged in academic or professional progress.

According to this concept, ERASMUS students should be exposed to the host culture and encouraged to interact with both students from their host university and people of the host city. Host institutions may also collaborate with local tourist companies to offer one-of-a-kind trips where students may learn about a variety of subjects while having fun.

It has been demonstrated that specially designed tours educate people and change their perspectives and attitudes about several local and global issues, including sustainability, and that such tours may even have an influence on one's behaviour when they return home (Ballantyne et al., 2009). They go on to claim that

students from upper socioeconomic levels who participate in international mobility for "pleasure" can benefit professionally and academically.

Such children have a strong desire to escape the difficulties of everyday life, and if given the opportunity, they would "escape" to renowned universities where they will excel intellectually.

In Table 5 and Table 6 follows question 12, that studies the student's Erasmus destination choice motives:

*Table 5 - Erasmus destination choice motives*

<i>Erasmus destination choice motives</i>
Q12. There are different features that you valued the most when choosing your Erasmus destination country. Please indicate how strongly you agree with the following statements/features when completing the sentence: I chose this Erasmus destination country...
... because it has natural attractions and sights.
... because it is safe and protected.
... because it is a place not yet discovered by tourists.
... because it is rich in culture, arts and history.
... because it offers many events.
... because it has a high standard of living.
... because it has an interesting nightlife.

Table 6 - Erasmus destination choice motives part 2

... because it is easily accessible.
... because it is not too expensive to live in.
... because it is sustainable and ecological.
... because it is a very popular destination.
... because it has a familiar language and lifestyle.

European students' academic level, primary study subject, and country area all have an influence on lifestyle and commercialization when it comes to destination-related aspects. These elements should be emphasized in relation to students' personal characteristics and might be considered motivating pull factors (Li & Bray, 2007). To recruit foreign exchange students and, more importantly, to satisfy their expectations, destination marketing groups should interact directly with educational institutions. While guiding host universities, ERASMUS coordinators should be conscious of students' needs and expectations, as well as the possible advantages of international exchanges. If students are primarily motivated by personal motivations, they will seek opportunities to learn about the host culture, meet new people, learn about European identity, and develop themselves; as a result, sites that cater to this market should reflect these objectives. Students pursuing professional development opportunities may still establish a market, but they will focus on interests that are related to professional development. As previously said, host locations should provide opportunities for students to engage in local culture and have fun to alleviate the stress of academic achievement, which will enhance their future professional growth.

Question 13 studies the Host institution effect, as Table 7, Table 8 and Table 9 show:

Table 7 - Host institution effect

<i>Host institution effect</i>
P13. There are different features that you valued the most when choosing your Erasmus host institution. Please indicate how strongly you agree with the following statements/features when completing the sentence: I chose my Erasmus host institution because...
... of its institutional prestige.
... its position in the ranking.
... of its academic reputation.
... of its research reputation.
... of their reputation for quality.
... of its professors' expertise.
... of its teachers' professional experience.
... the atmosphere of your campus.
... the social life at the university.
... of your safety and security.
... of your library facilities.
... of its availability on computers.
... of their availability of quiet areas.
... of their sports facilities.
... its availability of university residences.
... of your availability to answer questions (by email, by phone...).
... of the diversity of their educational offer.
... of its double degree.

Pupils are convinced to go abroad to improve their skills and raise their chances of landing a job, which influences all three dependent variables (all three stages). Career prospects are connected to future work opportunities or income increases, and they play an important role in the first two phases. Friends' suggestions and remarks are quite valuable, especially when it comes to sharing details about the host's facilities. As a motivator and a host factor, professorial counsel appears to have a substantial impact. Because students' families are crucial when shaping the host country's surroundings, only national measures can cope with – to some extent – modifying the host country's perceived image.

Travel Motivations, on the other hand, concentrate on all elements that may have a tourist-oriented influence on an international student, as well as their impact on all dependant components. Tourism characteristics have a considerable influence on decision-making, according to this study. Government agencies should pay more attention to this segment of the international student population and promote themselves as a tourist destination. The institutions have a strong base on which to create this framework as a country with a long and rich history; they should also adjust their current policies to this reality to fulfil the stated targets, such as doubling the number of international students in Portugal by 2020 (Pedro Dos, 2014). The goal of this question is to find out which factors were most essential in choosing on a location while considering the influence of the host institution.

Table 8 – Expectations part 1

Expectations
P14. When you decide to leave your country to study, there is always the possibility that something or something will happen. Please indicate to which extent each of the following statements/expectations apply in your case when completing the following sentence: With this Erasmus experience....
... I hope to become (more) independent.
... I hope to become (more) self-confident.
... I hope to build up a network of contacts for my career.
... I hope to contribute to making the world a better place.
... I hope to get involved in social activities.

Table 9- Expectations part 2

... I hope to get involved in cultural activities.
... I hope to enjoy the experience of being somewhere else.
... I hope to feel European.
... I expect to feel welcome and at home in my host institution/destination.
... I hope to feel welcome and at home in my host country.
... I hope to have another perspective on how things are at home.
... I hope to get good grades.
... I hope to have fun.
... I hope to improve my communication skills in the local language.
... I hope to improve my communication skills in a different language
... I hope to improve my communication skills regardless of the language.
... I hope to interact with people from different backgrounds.
... I hope to learn to accept that people think and behave differently from me.
... I hope to learn to behave like my colleagues at my host institution.
... I hope to learn to behave like the general population in my host society/country.
... I hope to learn how to do things in an unfamiliar context.
... I hope to make friends among the international students.
... I hope to make friends among the local students.
... I hope to make friends among the local non-student population.
... I hope to progress in my field of study in a way that would not be possible at home.
... I hope to travel a lot.
... I hope to understand how others are different from me.
... I hope to understand how others are like me.

The expectations, views, and experiences of students participating in Erasmus programs were investigated in this questionnaire. The goal was to gain a better knowledge of students' cultural and intercultural requirements so that teaching resources might be developed in Intercultural Education Resources for Erasmus Students and their Teachers (IEREST). The results of the open-ended and closed-ended questions were compared to discover the most critical criteria that learners considered necessary for a successful Erasmus experience.

The learners' growth in independence, receiving a new perspective on how things are done at home, and engaging with individuals of other backgrounds were all crucial variables, according to the findings. There were also substantial discrepancies across genders and disciplines of study, according to the findings. To that purpose, students were asked to declare what they considered to be the most significant criteria for judging the success of their Erasmus visit abroad. It was hoped that by asking the students directly about their success criteria for living abroad, information into their requirements would be gleaned indirectly.

Question 15 studies the student's perceived reasons not to go, as Table 10 and Table 11 shows:

*Table 10- Reasons not to go*

Reasons not to go
P15. Sometimes the will to study abroad is not enough. Please indicate to what extent each of the following statements/decisions apply in your case when completing the following sentence: Before making the decision to go on Erasmus, what I considered most carefully...
... my desire to travel.
... the expense involved.
... my desire to experience other cultures.
... my lack of foreign language skills.
... my desire to experience other higher education environments.
... the separation from family and friends during my absence.
... adequate information about existing programs.
... concerns about family responsibilities during my absence.

Table 11 - Reasons not to go part 2

... my previous travel experience
... already knowing other people involved in overseas projects.
... the faculty involvement in study abroad programs.
... the availability of scholarships and their regulations.
... the cultural similarities and/or differences with each potential country.
... concerns about my personal safety and the political situation in the host country.

The purpose of this question was to gather data on the factors that influence students' decision to engage in study abroad programs. There is a scarcity of data that looks at the factors that influence students' decision-making processes when it comes to participation in study abroad programs. It has been demonstrated that students are motivated by a desire to travel to new countries and learn about diverse cultures. Other factors, such as the cost of participating in study abroad programs, a lack of foreign language skills, and fear of leaving family/friends, may dissuade students from participating.

In conclusion, opting to study abroad is a difficult decision for students who must weigh a variety of factors. Universities must develop study abroad programs that recognize and explain the potential benefits while also addressing the inherent challenges.

Three open-ended questions were introduced in the final part of questionnaire 1, about their doubts, challenges predicted and cost estimate, as Table 12 shows:

Table 12 - Open ended questions

P16. When preparing a stay in a foreign country, there are always uncertainties or doubts...what are your main fears with this Erasmus experience? (open)
P17. What challenges do you anticipate with this Erasmus experience?
P18. I am sure that you have already thought about a budget for your expenses. Can you give us an approximate figure of how much you plan to spend monthly (in Euros)? (open)

## 4.2 QUESTIONNAIRE Q2 – DURING MOBILITY

### 4.2.1 Questionnaire 2 objective

The questionnaire 2 inquired about the availability of services, specific elements of the services, key challenges international students experienced overseas, and student satisfaction to gain a better knowledge of the supply of host university support services for foreign students. The major goal of this study was to investigate the services provided to foreign students and how they relate to student satisfaction.

According to an assessment made by OECD (2015), student happiness is not always related to the quality of the programs offered. Student happiness can be linked to service provision. As a result, it is critical to emphasise the relevance of support services in ensuring foreign students' contentment. Students are affected not only by their academic or learning experiences in the classroom, but also by a variety of support services provided by institutions to enhance the experience of foreign students.

Given the increased competition to attract international students to national university systems in the global higher education sector OECD (2013), higher education institutions should focus not only on the academic aspects of the student experience, but also on the needs that international students may have in terms of services and matters related to their stay and comfort in the host country. In summarising the results of survey on host university services, discovered that: - International students like the support services provided by host institutions; the more services offered, the better, since a bigger quantity of services equates to a higher level of satisfaction. - The problems persist in the areas of financing, course and test scheduling, and course enrolment. In general, the more challenges pupils face, the less happy they are.

Clearly, there is a need for a means to assess the climate on campus for foreign students to better equip institutions and professionals to develop cultures that value international diversity and actively seek to demonstrate their commitment to it (Brochado, 2009). As a result, the purpose of this question is to assess how welcoming a campus is to international students. Different essential aspects connected to international friendly campuses were also found. Essentially, the objective is to collect data to analyse and tell campuses about areas of friendliness and lack thereof, and thereby shift the responsibility of acculturation away from foreign students and toward their interactions with the institution's environment.

It discusses the findings of an analysis of a pre- and post-placement survey filled by Erasmus students from the two universities, which covered their self-perception of Byram's model of intercultural competence (Byram, 1997a)'s four dimensions: awareness, knowledge, attitudes, and skills.

Prior to their visit abroad, the goal was to create a profile of their intercultural communicative competence (ICC)

based on data regarding their self-perceived motivation and intercultural awareness, knowledge, attitudes, and abilities. Despite differences in previous international experience, language proficiency, and home university placement requirements, both groups had a positive attitude toward the host country, regarded themselves ready to adapt to new cultural environments, saw misperceptions and conflict resolution as their greater challenge, and expressed a willingness to grow personally and professionally. These findings will be used to inform a larger research project aimed at identifying factors that promote the acquisition of intercultural competences, with the goal of providing universities with tools to help students overcome obstacles that may pose an educational challenge and impede their development of ICC while on placement abroad.

#### 4.2.2 Questionnaire 2 structure

In the first few questions of this questionnaire, some characterization questions have been made to be able to contextualize each response.

The students were asked about their age, sex, course, year, destination, and period of mobilisation. Also, a question about an estimate of non-local students frequenting the classes and in which language where the classes taught.

In Table 13 and Table 14, the two questions elaborated to assess student’s perceptions of services and main difficulties for students.

*Table 13-Services and principal difficulties for students 1*

Q10. Services and main difficulties for students
... I had an official welcome presentation
... I was offered the possibility to take a course in the local language
... I found a student association that helps international students
... I was offered a week or a few days of orientation
... I was assigned a buddy, mentor, or tutor
... I have received support for my accommodation
... I was offered the possibility to take a course on cultural differences
... I received support from the Erasmus in office of the university

Table 14- Services and main difficulties for students 2

Q11. Services and main difficulties for students
... at the financial level
... with timetables and exams
... with the enrolment in the different courses
... with accommodation
... with information technology (use of computers, storage, network and other physical devices, infrastructure, and processes to create, process, store, protect and exchange all forms of electronic data)
... in health (physical illness or disease)
... on admission to university (student card? library access? ...)
... on the level of mental health (sadness, homesickness...)
... in terms of food
... at class level (language, teaching methods, etc.)

Questions 10 and 11 focus on foreign students' in-class experience by studying the academic components of a stay abroad with an emphasis on students' perspectives and satisfaction. In addition, a look is given at the interpersonal approach. An investigation of the attitude and openness that local students, professors, and university employees have toward international students using the interpersonal approach. This covers prejudice experienced by foreign students, as well as the attitudes of staff, professors, and local students toward international students.

The following questions are support and non-discrimination, to assess student's perception and satisfaction, as Table 15 and Table 16 show:

Table 15- Support and Non discrimination

Q12. Support and non-discrimination
... I feel that teachers here are willing to give useful academic advice to international students.
... I feel comfortable clarifying academic issues with teachers here when needed.
... I feel that teachers here try to understand the difficulties that international students may have with their academic work.
... I feel that I am treated by everyone equally and fairly to local students.
... I feel that I am treated by everyone as just as intelligent and capable as a local student.
... I have never heard insensitive or degrading comments about international students at the university.
... I find that I have the same access to resources and opportunities as local students.
... I have good relationships with local students
... I have good relationships with other international students
... I have good relationships with the staff of the university

Table 16- Satisfaction

Satisfaction
Q13. How do you evaluate your student experience at this new university?
I like to associate myself with this Erasmus university.
I am proud to be a student at this Erasmus university.
I am satisfied with my overall experiences at this Erasmus university.

Including measures of subjective well-being (i.e., life satisfaction, positive affect, and negative affect) in this study to assess the construct validity of this scale. Students who perceive a friendlier campus atmosphere should have better life satisfaction, stronger positive affect, and lower negative affect, according to our hypothesis. The validity of the IFCS was further validated by looking at its relationships with theoretically related dimensions including social closeness with mainstream culture, academic stress, linguistic discrimination, and racial/national prejudice. Expectations are that a more welcoming campus atmosphere is linked to a stronger sense of belonging in society, as well as less academic stress and prejudice.

In Table 17 and Tabel 18, question 14, which rates students based on Byram's four dimensions model of intercultural competence:

Table 17 – Four dimensions of Byram’s model of intercultural competence part 1

Q14. Byram’s four dimensions model of intercultural competence
... I am aware of the importance of the differences and similarities between my culture and the culture of the host country.
... I am aware of the importance of negative reactions to these differences (e.g. fear, ridicule, disgust, superiority, etc.).
... I am aware of the importance of how the specific context of situations alters my interaction with others.
... I am aware of the importance of how I am perceived (and why) by others in the host culture.
... I am aware of the importance of the dangers of generalising individual behaviour as representative of the culture of an entire country.
... I am willing to interact with members of the host culture.
... I am willing to learn the language and culture of my hosts.
... I am willing to communicate in the language of my host country and act as my hosts consider appropriate.
... I am willing to deal with different ways of perceiving, expressing, interacting, and behaving.
... I am willing to act in ways that are very different from those I prefer and have been used to.
... I demonstrate flexibility when interacting with people from the host culture.
... I use models of behaviour appropriate to my host culture to avoid offending my hosts.
... I demonstrate the ability to interact appropriately in different social situations in my host culture.
... I can identify and resolve cultural conflicts and misunderstandings when they arise.
... I develop strategies for learning the host language and culture.
... I am familiar with the historical, social, and political components of my own culture and the host culture.
... I can compare aspects of the host culture with my own

Table 18 - Four dimensions of Byram's model of intercultural competence part 2

... I know the essential norms and taboos of the host culture (e.g. greetings, clothing, behaviour, etc.)
... I recognise cultural differences that may cause difficulties in understanding and communication.
... I know strategies for dealing with cultural difficulties while immersed in the host culture

The breadth and direction of "academic mobility" in Europe is being shaped by internationalisation initiatives (Baltodano et al., 2012). The extent to which European language and cultural policies are intertwined can be seen by looking back to the 1970s work of the Council of Europe's committee for out-of-school education and cultural development, which had as one of its goals the development of "a common European cultural identity through unforced mutual influence". Using terms like 'small culture' (Holliday, 1999), 'ICC' (Byram, 1997a), and 'the third place' or 'space' (Byram, 2012; Kramersch, 1993), which has recently been redefined as 'symbolic competence' (Kramersch, 2011), this article discusses the findings of a comparative study of a pre-placement survey filled by British and Spanish college students, focusing on their reasons for participating in the period of residence (Byram, 1997b).

Even though it remains to be seen how students' perceived changes transfer into behavioural changes, Byram's ICC model has proven to be the most successful in eliciting students' self-reports on ICC before and after placement, as well as measuring their answers. It is worth noting that the examination of Fantini's self-reporting questionnaire (Fantini, 2017) reveals that following their placement, there was evidence of an overall sense of linear improvement in their ICC, with a few notable outliers. When looking at each of the groups separately, NTU students demonstrate that they have enhanced their understanding on Spain as well as their greater review, but they have not shown a substantial improvement in attitude or skill development.

On the other side, the results from the USAL students, the majority of whom had never spent time overseas before, reveal a less positive attitude than before their placement, despite a gain in the other three dimensions, notably in awareness and knowledge.

Indeed, research on stay-abroad initiatives contradicts popular beliefs that spending time in a foreign country will automatically result in a more positive response (Blair et al., 2001; Kent-Wilkinson et al., 2015), something akin to falling in love with a country and then losing touch when first impressions and perhaps idealizations are replaced by more accurate conceptions, which can lead to an initial disillusionment. For most European students, the Erasmus program represents their first intercultural tertiary education experience outside of their home country. Even if there is no research evidence of the Erasmus placement's impact on students' ICC when

travelling and communicating with societies and host cultures outside of Europe, it is a critical step toward other international intercultural communication experiences in various world hemispheres, as students discover a "new way of seeing themselves" (Kramsch, 2011).

Question 15 follows on Table 19 and Table 20, analyse student's expectations:

Table 19 – Expectations part 1

Q15. Expectations
... I am becoming (more) independent.
... I am becoming (more) self-confident.
... I am building a network for my career.
... I am contributing to make the world a better place.
... I am getting involved in social activities.
... I am getting involved in cultural activities.
... I am enjoying the experience of being somewhere else.
... I am improving my communication skills in the local language.
... I feel European
... I am feeling welcome and at home in my host institution/destination.
... I'm getting another perspective on how things are at home.
... I'm getting good grades.
... I'm having fun.
... I'm making friends among the international students.
... I am feeling welcome and at home in my host country.
... I am improving my communication skills in a different language
... I am improving my communication skills regardless of the language.
... I am interacting with people from different backgrounds.
... I am learning to accept that people think and behave differently from me.

Table 20 – Expectations part 2

... I am learning to behave like the colleagues in my host institution.
... I am learning to behave like the general population in my host society/country.
... I am learning how to do things in an unfamiliar context.
... I am making friends among the local students.
... I am making friends among the local non-student population.
... I am progressing in my field of study in a way that would not be possible at home.
... I am travelling a lot.
... I am understanding how others are different to me.
... I'm understanding how others are like me.
... I am understanding how things are in my host institution.
... I am understanding how things are in my host society/country.
... I am understanding who I am.
... I am exploring the possibility of developing my dissertation outside Portugal.
... I am learning to control my expenses within the budget I have estimated.

The questionnaire was designed to identify various issues and potential answers for students' cultural and intercultural demands. The expectations, views, and experiences of students participating in Erasmus programs were investigated in this study. The goal was to gain a better knowledge of students' cultural and intercultural requirements so that teaching resources might be developed in Intercultural Education Resources for Erasmus Students and their Teachers (IEREST).

To better understand the student's feedback and to gather the most information possible, 4 open-ended questions were introduced in the final part of questionnaire 3, more specifically, they were asked to give estimates about overall costs on their Erasmus destination, as Table 21 shows:

Table 21 - Open ended questions

<p>P16. Talking about budget, how do you evaluate your actual expenses with your planned budget (i.e.the budget you had thought of before the displacement)?</p>	<ol style="list-style-type: none"> <li>1. Over budget</li> <li>2. At the level of the budget forecasted</li> <li>3. Below budget</li> </ol>
<p>P17. Still at the level of the budget, can you indicate an approximate value of how much you spent or spend per month (in euros)? (open)</p>	<ol style="list-style-type: none"> <li>1. - Travel expenses (approximate value of all the expenses to the destination Erasmus)</li> <li>2. - Monthly food expenses (monthly average)</li> <li>3. - accommodation costs per month (average per month)</li> <li>4. - monthly expenses for transport (to and from university)</li> <li>5. - Monthly expenses for other trips (leisure, tourism...)</li> <li>6. - monthly expenses for health care (doctor, pharmacy, hospital, etc...)</li> <li>7. - Other monthly expenses (festivals, get-togethers, events, etc.)</li> <li>8.</li> </ol>
<p>P18. When you live a life experience in a foreign country, there are always uncertainties or doubts.... What are your main fears during this Erasmus experience? (open)</p>	
<p>P19. What challenges are you experiencing with this Erasmus experience? (open)</p>	

### 4.3 QUESTIONNAIRE Q3 – AFTER ERASMUS MOBILITY

#### 4.3.1 Questionnaire 3 objective

This questionnaire was made in purpose to gather as much information as possible about the student's lifestyle choices, transportation, the city's go-to locations, recommendations about the housing situation and much more. The objective was to get a deep understanding of the student's lifestyle, with the objective to get answers that will help future Erasmus students make their destination choices and go more prepared than ever!

#### 4.3.2 Questionnaire 3 structure

In the first few questions of each questionnaire, some characterization questions have been made to be able to

contextualize each response. The students were asked about their age, sex, course, year, destination, and period of mobilisation. The rest of the questionnaire was, as mentioned before, created with the intent of gathering the best “day-today” information, for the students (Table 22, Table 23, Table 24 and Table 25).

Table 22- Questionnaire 3 part 1

Questionnaire 3	
Q07: Regarding the trip from Portugal to the Erasmus destination, can you give an approximate value of how much you spent on the trip, all included? (travel + suitcase + transport from the airport to the destination) (OPEN)	
Q08: Still regarding the trip from Portugal to the Erasmus destination, do you have any recommendation for the next students who will go to the same university? (OPEN)	
Q09: In your destination Erasmus, which transport(s) did you use most often in your daily life?	<ul style="list-style-type: none"> <li>Metro</li> <li>Bus</li> <li>Tram</li> <li>Bicycle</li> <li>Cycle scooter</li> <li>Uber/Taxi</li> <li>On foot</li> </ul>
Q10: Regarding the transport used in your Erasmus destination, can you give an average monthly amount of how much you spent (in €)?	<ul style="list-style-type: none"> <li>Less than €20</li> <li>Between €20 and €40</li> <li>Between 40 € to 60 €</li> <li>Between 60 € to 80 €</li> <li>Between 80€ to 100€</li> <li>More than 100€</li> </ul>
Q11: In your Erasmus destination, is there a "pass" for one or several public transports that you justify or recommend to buy?	<ul style="list-style-type: none"> <li>yes</li> <li>no</li> <li>don't know</li> </ul>
Q12: If you answered yes to the previous question, can you explain its functioning and costs? (OPEN)	

Table 23 – Questionnaire 3 part 2

Q13: Compared to Portugal, how do you evaluate the price of food products in supermarkets?	More expensive than in Portugal Same as in Portugal Cheaper than in Portugal
Q14: Compared to Portugal, how do you evaluate the price of personal hygiene and cleaning products in supermarkets?	More expensive than in Portugal Same as in Portugal Cheaper than in Portugal
Q15: Regarding shopping at the supermarket, can you give an average monthly amount of how much you spent (in €)?	Less than €20 Between €20 and €40 Between 40 € to 60 € Between 60 € to 80 € Between 80€ to 100€ More than 100€
Q16: Compared to Portugal, how do you evaluate the price in cafeterias/bars/restaurants?	More expensive than in Portugal Like Portugal Cheaper than in Portugal
Q17: Regarding expenses in cafeterias/bars/restaurants, can you give an average monthly amount of how much you spent (in Euros)?	Less than €20 Between €20 and €40 Between 40 € to 60 € Between 60 € to 80 € Between 80€ to 100€ More than 100€
Q18: Do you want to leave any recommendation of cafeterias/bars/restaurants to the next Erasmus students in the same university?	
Q19: At your Erasmus destination, which accommodation option did you choose?	Room in university residences shared Flat room apartment
Q20: Compared to Portugal, how do you rate the price of accommodation?	More expensive than in Portugal Same as Portugal Cheaper than in Portugal

Table 24- Questionnaire 3 part 3

Q21: Regarding accommodation expenses(water, electricity and gas included), can you give a monthly figure of how much you spent(in €)?	Less than 100 euros Between €100 and €200 Between 200€ to 300€ Between 300€ to 400€ Between 400€ and 500€ Between 500€ to 600€ Between 600€ to 700€ More than 700€
Q22: Considering your experience, would you advise future students to live ...	... closer to the city centre ... nearer to the university
Q23: Can you justify the reason for your previous answer?	
Q24: Is there any area that you would recommend to future Erasmus students at the same university to go and live?	
Q25: Which language do you mostly teach at the university?	
Q26: As an Erasmus student, did you get the same treatment and attention from the lecturers as local (non-Erasmus) students?	Better than local pupils Equal to local pupils Worse than local pupils
Q27: Does the Erasmus destination university have...	(Several options)
Q25: Which language do you mostly teach at the university?	
Q31: How do you evaluate the access and quality of health care compared to Portugal?	Easier and better than in Portugal Equal to Portugal More difficult and worse than in Portugal
Q32: Would you like to explain the reason for your evaluation?	
Q33: During your stay, what kind of clothes did you wear the most?	Summer clothes Winter clothes Rainwear Other

Table 25- Questionnaire 3 part 4

<p>Q34: How do you evaluate your university for your Erasmus destination?</p>	<p>1 star 2 stars 3 stars 4 stars 5 stars</p>
<p>Q35: How do you evaluate the social life at your Erasmus destination?</p>	
<p>Q36: Do you have any activity suggestions for future Erasmus students at the same destination university? (Trips, tours, villages, towns and cities, bars, parties...)</p>	

#### 4.4 DEVELOPMENT OF THE DATABASE

##### 4.4.1 Overview

Regarding the database, the following Figure 3 represents an overview of the CI tool:

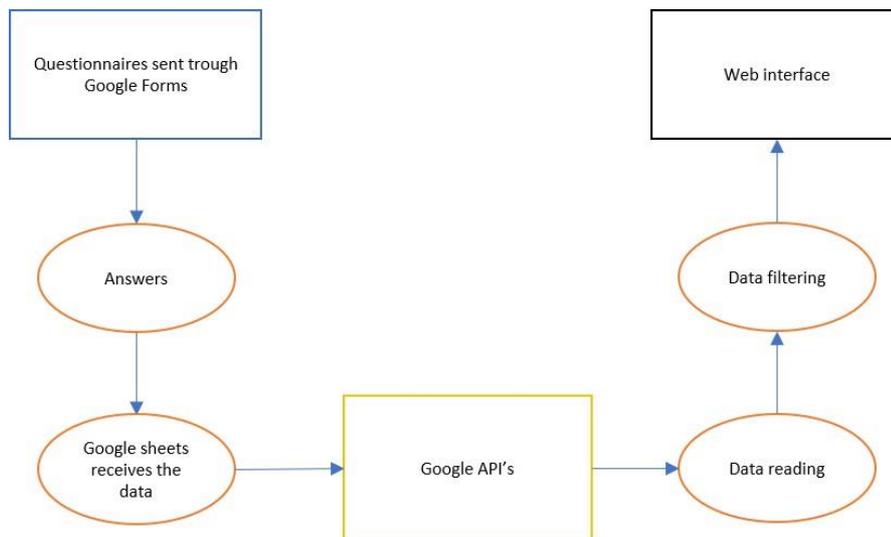


Figure 3 – Overview of CI

The questionnaires were developed and submitted to the students via Google Forms, as explained in chapter 3. The answers received are exported manually to Google sheets, by a DPS teacher or investigator in charge of the current year's Erasmus data collection and CI tool application. The process

of retrieving data from the questionnaires is done manually. First, it is necessary to check if there is any invalid questionnaire or if there is any data that should not be included. This will be done by said DPS teacher or student.

The data of the first and second questionnaire will be in the care of the faculty members of the DPS of UM. The information of the third questionnaire will be filtered by the teachers and then sent to the Google API's that will send the answers of the third questionnaire to the web interface.

For Q1 and Q2 the purpose is analysis via SPSS or other statistical or analytical tools used to study such data, therefore, the data is kept on separate Google Sheets files and analysed and then to be safekept via conversion to Excel format and then downloaded into a digital physical storage such as a pen drive.

For Questionnaire 3, after the person in charge of the data analyses and filter any non-desired responses, the data is sent through Google API's, located as an extension on the current Google Sheets files, to the to be developed Web interface. This would allow students to review crucial and much needed information via a simple and resourceful web interface. Currently, only a POC is available, as you will see in the end of this chapter.

The aim of this database is to provide both DPS teachers and coordinators and Erasmus outgoing students with as much information as possible. Through the first two questionnaires it is possible to analyse the student's growth and feedback for continuous improvement and develop improvements and support systems for students to get the most out of their experience, always promoting the development of their professional, cultural, and personal skills.

#### 4.4.2 Back End

Microsoft created the VScode platform, which is used to develop the back end of the platform. Microsoft's Visual Studio Code (often known as VS Code) is a free open-source text editor. For Windows, Linux, and macOS, VS Code is available. VS Code contains numerous noteworthy features that have earned it one of the most popular development environment tools in recent years, despite its modest weight.

VS Code is compatible with a wide range of programming languages, including Java, C++, Python, CSS, Go, and Dockerfile. VS Code also allows for the addition of additional extensions, such as code linters, debuggers, and cloud and online development capabilities, as well as the creation of new ones.

When compared to other editors, the VS Code user interface allows for a variety more interaction.

In Figure 4 is some of the code developed for the POC interface web:

```

1 import { google } from "googleapis";
2 import styles from "../../styles/FormResponse.module.css";
3
4 export async function getServerSideProps({ query }) {
5   const auth = await google.auth.getClient({
6     scopes: ["https://www.googleapis.com/auth/spreadsheets.readonly"],
7   });
8   const sheets = google.sheets({ version: "v4", auth });
9
10  // Query
11
12  const { id } = query;
13  const range = `Form Responses 1!A${id}:AL${id}`;
14
15  const response = await sheets.spreadsheets.values.get({
16    spreadsheetId: process.env.SHEET_ID,
17    range,
18  });
19  const arr = response.data.values[0];
20  const rows = arr.length;
21
22  const [data] = response.data.values;
23  return {
24    props: {
25      data,
26      id,
27      rows,
28    },
29  };
30 }
31
32 export default function Form({ data, id, rows }) {
33   return (
34     <div className={styles.container}>
35       {data.map((answer) => {
36         return (
37           <div className={styles.answerContainer}>
38             <h3>{answer}</h3>
39           </div>
40         );
41       })}
42     </div>
43   );
44 }
45

```

Figure 4 – Back-end web code example

For data protection and privacy, the full code will be only shared with the thesis orienteers, who will then decide the fate and the implementation of this continuous improvement tool!

#### 4.4.3 Front End

The platforms homepage is in Figure 5:



Figure 5 - Mainpage

When the students click on “Procurar” they will be directed to the questionnaire search page, as the Figure 6 shows:

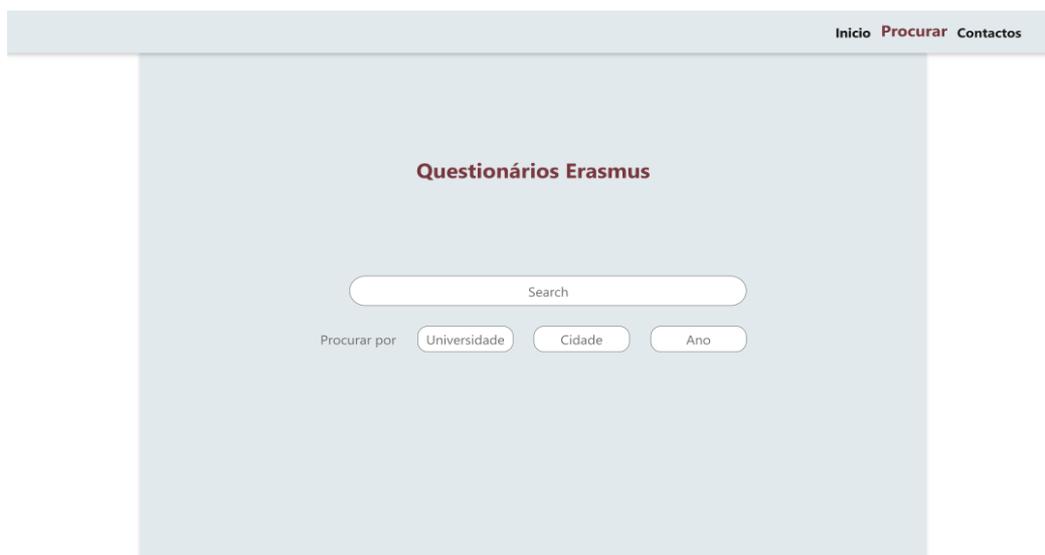
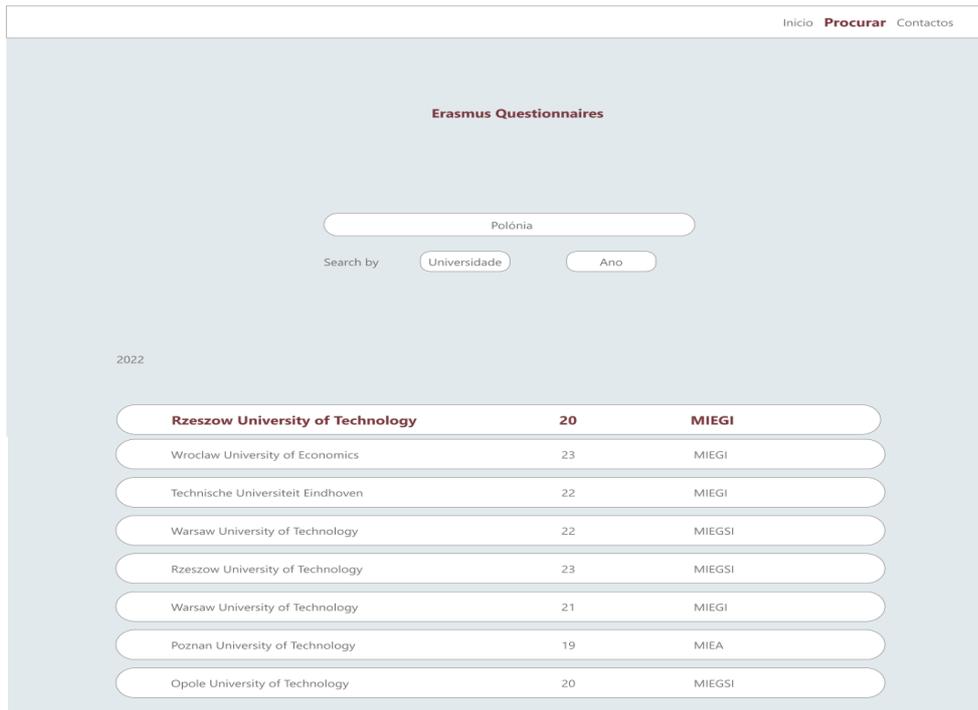


Figure 6 – Search Function

Afterwards, after selecting their search type, and input the wished country/year/university they will be directed to a page, where all the questionnaires from the search input will show (Figure 7).



*Figure 7 - Results*

The students, at this time, can now go through all the feedback given by Outgoing Erasmus students and have more information that is not accessible easily. These questionnaires always respect the respondent's privacy rights.

## 6 CONCLUSIONS AND FUTURE WORK

### 6.1 MAIN CONCLUSIONS

As mentioned in the objectives section, this investigation aimed to develop two questionnaires with specific analysis questions used to determine several topics, to retrieve data and posteriorly investigate. Topics such as recognized regulation and internal motivation, level of pleasure and experience, their growth during their time overseas. The third questionnaire was designed with a greater emphasis on capturing important data for the students themselves, to help their decision making on their Erasmus destinations and providing with suggestions from former student and cost averages.

The final objective of this dissertation was the investigation of the structure and the elaboration of a proof of concept of a database and a web interface experience on which the students would be able to research about possible Erasmus destinations. The database platform and web experience are still in a beta version, and further work on this subject could finish and implement this CI tool, with additional coding and all other security and server operations-related issues for the web interface.

All the targets for this project have been reached, from the development of 3 questionnaires for outgoing Erasmus students to the development of a database, creating the proposed continuous improvement tool. The surveys have been produced, and the platform has been structured, so the Erasmus mobility DPS has now a complete investigation and structure of a continuous improvement tool to obtain data and continuously enhance the department's OUTGOING activities with this improvement.

### 6.2 FUTURE WORK

Further work is needed to make this CI tool implementable and autonomous. The investigation and structuring of the tool are complete, but all the coding done needs to be revised and completed, to comply with the security and privacy laws and requirements from the UM. Furthermore, there is a need for a front-end developer to make the web experience functioning and giving the personalization desired by the DPS.

Regarding the questionnaires, it is important to periodically revise the contents and adapt to the change of times and to diverging needs of research.

With the application of this tool the DPS could have a better understanding of how the OUTGOING Erasmus students will grow, develop, and overcome their hardships, and what needs to be changed or adjusted to make the students experience even better. The questionnaires will also allow academics to

retrieve much more data for the development of articles and thesis, pushing the limit of the Erasmus understanding that we currently have.

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