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SYSTEMATIZING NATIONAL HIGHER EDUCATION INTERNATIONALIZATION STRATEGIES:

RECONCEPTUALIZING A PROCESS

BY

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Daniela Crăciun

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ABSTRACT

Internationalization has come to be considered the most significant development in higher education changing the face of the sector across the globe. At the same time, it is less clear what this transformation entails and how countries compare against each other in forwarding the process. The thesis recognizes, and subsequently addresses, a trifecta of interrelated problems with existing research on higher education internationalization: (1) a loose conceptualization of the process, (2) limited cross-country comparative research, and (3) the lack of a methodological apparatus to efficiently study policy developments across the globe.

Considering these limitations, the thesis asks: How can the conceptual clarity of 'internationalization' be improved so as to increase its analytical purchase in the study of higher education? In order to answer this central research question and address the uncovered research gaps, the thesis proposes to: (1) reconceptualize higher education internationalization by (2) building a typology of national higher education internationalization strategies from across the globe using (3) an innovative and efficient methodological apparatus to analyze, summarize and compare policy texts.

The thesis develops a novel methodological apparatus that enables higher education researchers to make reliable, valid and replicable inferences from textual data. It uses a mixed methods research design based on computer-assisted topic modeling techniques, specifically Latent Dirichlet Allocation, and qualitative interviewing of documents to show how researchers can carry out high-quality international comparative research with limited resources. The analysis is based on an original database comprising a census of national strategies for higher education internationalization.

The findings of the thesis reveal important insights into the intricate landscape of higher education internationalization at the national level as related to the prevalence, timing, geographical spread and the characteristics of the countries and higher education systems that pursue internationalization in a strategic manner. Moreover, the findings clearly show that internationalization is not an end in itself, but a means to a wider goal, with different countries pursuing different goals and priorities in relation to the process. The analysis uncovers two types of higher education internationalization approaches that countries pursue: (1) inward internationalization focusing on international student mobility and the internationalization of

universities and the study programs and courses they provide and (2) outward internationalization focusing on international student mobility and the internationalization of research through international cooperation. The table below shows the distribution of countries according to these types.

HIGHER EDUCATION INTERNATIONALIZATION TYPOLOGY	
<u>TYPE 1:</u> INWARD INTERNATIONALIZATION	**<u>TYPE 2</u>: OUTWARD INTERNATIONALIZATION**
International student mobility + Universities and study programs	International student mobility + Research innovation and development
CASES: Australia, Belgium, Kazakhstan, Netherlands, New Zealand, Poland, Spain	**CASES**: Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Malaysia, Norway, Singapore, South Korea, Sweden, Switzerland, UK

In light of the findings of the thesis, higher education internationalization is reconceptualized to ensure a link between the definition and the empirical manifestations of the process. The findings lend support to conceptualizing internationalization as: (1) a planned process (2) that covers a variety of measures that change the purposes, function and delivery of higher education (3) with a specific goal in mind. Thus, a updated definition of internationalization that covers all these attributes is proposed:

> Internationalization is the intentional process of integrating an international, intercultural or global dimension into the purposes, functions and delivery of post-secondary education**, in order to achieve intended academic, socio-cultural, economic and/or political goals**.

The thesis ends by highlighting the original theoretical, empirical and practical contributions of this study, identifying its limitations and pointing towards avenues for further research.

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LIST OF ABBREVIATIONS

ARWU	Academic Ranking of World Universities
ASEAN	Association of Southeast Asian Nations
EAIE	European Association for International Education
EHEA	European Higher Education Area
EU	European Union
EUA	European Association of Universities
HEI	Higher education institution
IAU	International Association of Universities
IHE	Internationalization of Higher Education
LDA	Latent Dirichlet Allocation
LSA	Latent Semantic Analysis
MoE	Ministries responsible for education, including higher education
NATO	North Atlantic Treaty Organization
OAS	Organization for American States
OECD	Organisation for Economic Co-operation and Development
pLSA	Probabilistic Latent Semantic Analysis
STM	Structural Topic Model
UK	United Kingdom
UN	United Nations
USA	United States of America
USSR	Union of Soviet Socialist Republics
WHED	World Higher Education Database

CHAPTER 1

THE CHALLENGE OF STUDYING HIGHER EDUCATION INTERNATIONALIZATION

1.1 Background[1]

Higher education has always been international in scope (Guruz, 2008; Matthews & Sidhu, 2005). Nevertheless, against the backdrop of globalization and neoliberalism, nation states – and, by extension, universities – have faced pressure to internationalize their practices at an increasing pace (P.G. Altbach, Reisberg, & Rumbley, 2009; Brooks & Waters, 2011). Arguably, this has turned internationalization into one of the most significant developments in contemporary higher education. Internationalization has come to be considered the "central motor of change" (Egron-Polak & Hudson, 2014) in higher education, with large-scale research revealing that the process has "grown in importance for higher education institutions" (Egron-Polak & Hudson, 2014) over time.

Higher education internationalization has not only become "firmly embedded in institutional mission statements, policies, and strategies as well as national policy frameworks" (Knight, 2011, p. 14), but is also discussed as a strategic priority for governments and considered to be at the forefront of policy agendas around the world (Brooks & Waters, 2011). This development has been mirrored in higher education research, where internationalization has become a key research topic in the last couple of decades and is "definitely past the 'new flavor of the month'

[1] This chapter is based on previously published work: (Crăciun, 2015): Crăciun, Daniela. 2015. "Systematizing Internationalization Policy in Higher Education: Towards a Typology." *Perspectives of Innovations, Economics and Business* 15(1): 49–56; (Crăciun, 2018c): Crăciun, Daniela. 2018. "Topic Modeling: A Novel Method for the Systematic Study of Higher Education Internationalization Policy." In *The Future Agenda for Internationalization in Higher Education: Next Generation Insights into Research, Policy, and Practice*, eds. Laura E. Rumbley and Douglas Proctor. Abingdon: Routledge, 102–12; and (Crăciun, 2018a): Crăciun, Daniela. 2018. "National Policies for Higher Education Internationalization: A Global Comparative Perspective." In *European Higher Education Area: The Impact of Past and Future Policies*, eds. eds. Adrian Curaj, Ligia Deca, and Remus Pricopie. New York: Springer International Publishing, 95–106.

stage" (Knight, 2012a, p. 14). In fact, already a decade ago, a study on the specific themes addressed in the articles of *Higher Education Policy* – one of the leading journals in higher education research – revealed that internationalization had become the most studied research area in tertiary education policy (Huisman, 2008).

At the same time, while it is commonly argued that internationalization has changed the face of higher education across the globe (Philip G Altbach, 2004; Bernasconi, 2008; Jowi, 2009), it is less clear what this transformation entails and how countries compare against each other in forwarding this process. Considering that 'to internationalize' is a transitive verb – characterizing a process related to a transition in higher education from a state to another – this is a surprising research gap with important consequences for both research and practice.

1.2 Problem Statement

The thesis recognizes, and subsequently addresses, a trifecta of interrelated problems with existing research on higher education internationalization: (1) a loose conceptualization of the process of internationalization, (2) limited cross-country comparative research, and (3) the lack of a methodological apparatus to efficiently study policy developments across the globe.

First, as many scholars have observed, the concept of internationalization has been inconsistently used (Callan, 2000; Johnstone & Proctor, 2018; Knight, 2004, 2011; Knight & de Wit, 1995; Kreber, 2009) with negative implications for knowledge accumulation and cross-case comparability. Surveying the literature on internationalization reveals that "since the Second World War the concept has been understood and applied in a highly variable fashion" (Callan, 2000, p. 16) and has come "to describe anything and everything remotely linked to worldwide, intercultural, global, or international" higher education activities becoming a "catchall phrase" without "meaning and direction" (Knight, 2011, p. 14).

The thesis maintains that the failure to sort out and clarify the meaning of internationalization has led to concept stretching which jeopardizes the ability to make systematic findings about the process. A major reason for this lack of conceptual clarity has been the perpetual quest for generalization which has led to a situation where internationalization is applied both when a university introduces a course taught in English and when the whole higher education system is overhauled to integrate an international dimension into its functioning and purpose. The ubiquitous use of the concept (Teichler, 2009) has resulted in what could be called a "Hegelian night in which all cows are black and eventually the milkman is taken for a cow" (Sartori, 1970, p. 64). In other words, trying to obtain worldwide applicability has led to concept stretching which, in turn, has reduced the analytical purchase (Dunlop & Radaelli, 2013) of internationalization. This is problematic, because it suggests that scholars talk past each other, making theory development and the accumulation of knowledge increasingly difficult (Dunlop & Radaelli, 2013). The thesis pleads for a more nuanced understanding of internationalization, and the policies that promote the process, so that it becomes a fact-finding category with adequate discriminating power.

Second, cross-country comparative research on higher education internationalization, especially at the national level, is scarce. Generally, the inquiries into higher education internationalization have a narrow focus typically centering on single cases or small-n comparative research. While providing valuable qualitative insights into the multidimensional fabric of internationalization, studies that have a restricted geographical scope are limited in their ability to map the global reach and impact of internationalization. Excluding some recent notable exceptions (de Wit, Hunter, Howard, & Egron-Polak, 2015; Helms, Rumbley, Brajkovic, & Mihut, 2015), there is little large-scale comparative research on the actual policies deployed by nation-states to internationalize higher education systems.

Although the national level has been shown to play the most significant role in internationalization, national policies are "**typically presented on a case-by-case basis - that is, without much reference to how each newly emerging national policy compares with other national policies around the world**" (emphasis in original) (Helms et al., 2015, p. 3). Even when large scale international comparative analyses are conducted, meta studies of higher education research show that the majority of them do not provide rigorous theoretical or methodological justifications for case selection but merely mention the availability of data (Kosmützky, 2016). Because some regions of the world tend to be systematically under-researched (Bedenlier, Kondakci, & Zawacki-Richter, 2018), international comparative education has been likened to "just a single spot on a leopard that infers what the animal looks like" (Yang, 2019, p. 64). This state of affairs is problematic because case selection bias can lead to wrong or skewed interpretations of wider phenomena and impair reliable and robust findings (Seawright & Gerring, 2008). The repercussions are significant not just for research, but also for practice as "international comparative higher education research enjoy[s] a high reputation in policy advice and considerable attention by higher education policy makers" (Kosmützky, 2018, p. 4). For these reasons, the thesis pleads for (and attempts to showcase) high-quality international comparative research that can accurately inform evidence-based policy making in higher education internationalization.

Third, there is an underdeveloped methodological apparatus to efficiently study policy developments across the globe. Higher education research is a multidisciplinary field that uses a variety of methodologies and methods common to social science research "focusing primarily on different forms of surveys and multivariate analyses, interviews and documentary analyses" (Tight, 2013, p. 149). However, "particularly when documentary analyses are used, there may not be any discussion of method or methodology at all" (Tight, 2013, p. 149) and systematic content analyses of documents are fairly scarce. Considering the number of procedural and

policy documents that are created at every level in higher education and that could provide valuable insight into processes and phenomena of interest, it is important to have a well-developed methodological approach to study such texts.

Because of the sheer volume of policy texts and the plethora of policy measures that mingle under the umbrella concept of internationalization at various levels (i.e. institutional, national, regional, supranational), researchers struggle to properly classify and make inferences about the process in a resource efficient manner. This has resulted in an absence of good descriptive research on higher education internationalization that is both comprehensive and comparative and on the basis of which theories can be developed and tested. The thesis pleads for introducing computer assisted content analysis of higher education internationalization policies and strategies in order to enrich the methodological toolbox of higher education research and to reach efficient, systematic, comprehensive and exhaustive analyses of textual data.

This section uncovered three key problems with existing higher education internationalization research: (1) a weak conceptualization of internationalization; (2) limited international comparative research on the process, and (3) inefficient methodological tools to study policy developments across the globe. The upturn of this state of affairs is that "deficits (…) can trigger a new phase of theory development by challenging us to extend out analytical frame" (Mayntz, 1998, p. 9). The next section presents the central research question that the thesis tries to answer and provides avenues for addressing the aforementioned limitations in higher education internationalization research.

1.3 Central Research Question

Concept formation lies at the heart of all social science research. Nevertheless, when it comes to higher education internationalization, there is no consensus on the meaning of the process (Callan, 2000; Johnstone & Proctor, 2018; Knight, 2004, 2011; Knight & de Wit, 1995; Kreber,

2009) making it a muddled concept that is commonly used but not yet fully explained (Howe, 2003). Considering the importance attached to higher education internationalization by universities (Egron-Polak & Hudson, 2014; European University Association, 2013), governments (Helms et al., 2015; Jones & de Wit, 2014; Kalvemark & van der Wende, 1997; Knight, 2004; Luijten-Lub, van der Wende, & Huisman, 2005), supranational organizations and institutions (European Commission, 2013; Henard, Diamond, & Roseveare, 2012), non-governmental actors (Ilieva & Peak, 2016) and scholars (Huisman, 2008), it is puzzling to understand why there is not more agreement on the conceptual borders of internationalization. Therefore, the question that this thesis aims to answer is:

How can the conceptual clarity of 'internationalization' be improved so as to increase its analytical purchase in the study of higher education?

Next, the points of departure for answering this central research question are outlined. Whether we look at concepts from a positivist or an interpretivist standpoint, they are necessarily relational generalizations. As Becker argues, "concepts are not just ideas, or speculations, or matters of definition. In fact, concepts are empirical generalizations, which need to be tested and refined on the basis of empirical research results – that is of knowledge of the world" (1998, p. 176). Whether causally or intentionally connected (see Wagenaar, 2007) meanings do not exist in a vacuum (Collier & Mahon, 1993; Schwartz-Shea & Yanow, 2012). Concepts are part of a system of terms that depend on each other for acquiring meaning (Becker, 1998). Starting from the premise that there no consensus on the scope of meaning of internationalization, the thesis suggests that the process should be reconceptualized in order to increase its analytical purchase. The proposed solution is to build a typology of national higher education internationalization strategies that can help to clarify the meaning of the process.

Before dealing with what the process of building a typology involves, it is important to establish criteria for evaluating concepts. In this regard, John Gerring provided a useful and influential

checklist of "criteria for conceptual goodness" (1999, p. 367): familiarity, resonance, parsimony, coherence, differentiation, depth, field utility, and theoretical utility. These criteria help to both emphasize the inherent trade-offs in concept formation and definition and to assess conceptualization against each other (Gerring, 1999). Concept formation commonly refers to three aspects: (1) the events and phenomena that are to be defined (i.e. the extension or denotation of the concept), (2) the properties or attributes that characterize them (i.e. the intension or connotation of the concept), and (3) the label that covers (1) and (2) (i.e. the actual term) (Gerring, 1999). Thus, conceptualization can be imagined as a triangular operation with 'good' concepts achieving a proper alignment with regards to the three aspects discussed. Changing one aspect of this relationship would lead to change in the others (Gerring, 2012).

Sartori's (1970) 'ladder of abstraction', that theorizes the relationship between a concept's extension and intension, helps to clarify this relationship. Climbing up and down the ladder of abstraction leads to different levels of generalization of a concept: the bigger the phenomenal range a concept applies to, the lower the number of properties that a concept exhibits; and the other way around (Sartori, 1970). Therefore, strategies of conceptualization generally balance two competing aims: on the one hand, increase analytic differentiation so as to capture the different embodiments of the concept and, on the other hand, ensure conceptual validity by making sure that the concept travels well between different contexts (Collier & Levitsky, 1997).

Thus, a useful conceptualization of higher education internationalization needs to appreciate the multi-dimensionality of the process, but also ensure that the different empirical manifestations of the process are adequately captured. As conceptualization "generally takes the form of *re*conceptualizing what we already know" (Gerring, 1999, p. 382), the thesis will initially analyze previous understandings of internationalization in order to capture the central attributes of the process (i.e. the intension of the concept) and provide a working definition for the current research. Then, by analyzing and comparing national higher education

internationalization policies – which arguably provide the most comprehensive understanding of what the internationalization process entails – the conceptualization of internationalization will be calibrated against empirical understandings of the process from around the world. Consequently, these steps will ensure both analytic differentiation and conceptual validity.

To achieve this, the thesis suggests the construction of a typology[2] of internationalization which can help to clarify the meaning of the process and against which policy efforts can be assessed. Indeed, such heuristic tools have already proven to be useful in comparative research[3] because they allow one to map the empirical distribution of cases and, thus, encourage rigor and enhance transparency in case selection (Elman, 2005). In higher education research, classificatory frameworks have been developed for systematizing the understanding of higher education regimes (Triventi, 2013), curriculum internationalization (Leask & Bridge, 2013), programs providing international scholarships for student mobility (Perna et al., 2014), educational monitoring (Richards, 1988), international education hubs (Knight & Lee, 2004) or institutional differentiation (Jones, 2008; van Vught et al., 2005; Ziegele, 2013). The typology of national higher education internationalization strategies developed in this thesis seeks to address gaps in the existing literature and to overcome some of the shortcomings of existing classifications. The question then becomes, how to achieve this objective in a resource efficient manner.

[2] In this thesis, typology is taken to mean "simplification, a heuristic device that helps us to organize important points of comparison" (Richards, 1988, p. 107). For a critical analysis of typologies see **Section 3.1** Rationales for Building a Typology of Internationalization.

[3] See for example the typologies on: public goods (Samuelson, 1954), regime types (Wigell, 2008), welfare regimes and policies (Arts & Gelissen, 2002; Esping-Andersen, 1990; McKernan, Bernstein, & Fender, 2005), varieties of capitalism (Hall & Soskice, 2001), health care systems (Wendt, Frisina, & Rothgang, 2009) or policy learning (Bennett & Howlett, 1992; Dunlop & Radaelli, 2013).

This thesis posits that using computer-assisted topic modeling techniques represent an innovative and efficient way to study higher education internationalization. Using an original database of national policies for the internationalization of higher education, the thesis demonstrates how topics can be automatically retrieved from documents while meeting validity and reliability standards. Specifically, the thesis demonstrates how Latent Dirichlet Allocation (LDA) can be applied to text corpora, using Python software, to efficiently process, summarize, compare, and classify public policy documents based on topic probabilities. This allows researchers to examine multiple cases while having limited resources and to discover new or understudied similarities between policies adopted by different countries. In order to ensure the validity of the quantitative findings from the computer-assisted content analysis, a mixed methods research design is proposed in order to qualitatively assess existent national higher education internationalization strategies along dimensions of interest.

Going about conceptualization in the manner outlined ensures that the development of internationalization is achieved "in continuous dialogue with empirical data" (Becker, 1998, p. 152). In turn, this allows for the comparison of internationalization processes in higher education across contexts and ensures that empirical data is lifted to a conceptual level.

1.4 Research Scope and Significance

Generally, there are three broad strands of public policy research: studies on policy meaning, studies on policy change, and studies on policy implementation. The current research falls in the first category, trying to decipher the meaning of public policies for higher education internationalization. While it is important that future research looks into the importance of and impact of higher education internationalization strategies, policy evaluation is outside the scope of the current inquiry. The thesis posits that it is difficult, if not impossible, to tackle causal question about the process (e.g. why some countries or institutions have been successful in

implementing internationalization strategies while others have not, why some countries or institutions are pursuing higher education internationalization while others are not) without a 'good conceptualization' of internationalization. It is in this area that the thesis tries to make a contribution.

Recollecting Patrick Dunleavy's warning against the syndrome of gap-filling PhD theses "designed solely to cover an uninhabited niche in the literature rather than advance a wider intellectual purpose" (2003, p. 21), this section aims to specify why pursuing the objective of this thesis is relevant. Treating the ailment involves articulating the reasons why this area of research should not remain uninhabited. This includes answering why consistent conceptualizations of internationalization have not been developed and spelling out the contribution of constructing a typology.

Gaps in the literature might exist either because they have little intrinsic value per se, or they are difficult to plug (Dunleavy, 2003). Nevertheless, conceptualization can be seen as the 'bread and butter' of any social scientist. Concepts are the building blocks of all scientific endeavors. As the literature review will show, there have been some attempts to carry out taxonomic exercises on the internationalization of higher education (Helms et al., 2015; M. van der Wende, 2001; Marijk van der Wende, 2007), however, the efforts have fallen short of bringing order to what could be called a 'conceptual minefield' (Dunlop & Radaelli, 2013). Also, while the effects of internationalization policies have received substantial scholarly attention, little consideration has been given to the input side of policy meaning and conceptual development (Enders, 2004). Moreover, measuring internationalization and its impact is difficult unless we first know what we are actually measuring (see Sartori, 1970).

An important question that can be asked in this context is whether constructing a typology is the only way to deal with this problem. Why is it not sufficient to develop a theory for understanding internationalization or to just clean the existing vocabulary? On the one hand, as

Sartori (1970) reminds us, proper conceptualization must precede theorization. As concepts define the range of phenomena that fall within their scope and those that do not, their precise meaning and their frame of reference must be clear before engaging in theorization (Gerring, 1999; Gerring & Barresi, 2003; Sartori, 1970). On the other hand, cleaning the vocabulary seems to be an insufficient exercise, since the concept is used in such a variable manner that it is questionable whether it can still serve as a valuable foundation for theory building. Gaining a clear understanding of internationalization is difficult due to the proliferation of different labels associated with the historical evolution of the process, the multitude of policy measures that come under the banner of internationalization, the development and coexistence of similar parallel processes across different scales of analysis.

The thesis argues that developing a typology of the process based on national higher education internationalization strategies is a useful way of reigning in the various dimensions of internationalization and offers a comprehensive global overview of how the process is understood at the national level. As such, adopting an international comparative perspective to higher education internationalization helps us to (1) "deconstruct narrow and often parochial national perspectives by illuminating intriguing differences and similarities among higher education systems practices, and policies throughout the world" and (2) "reflect upon phenomena within a higher education system through the lens of other systems" (Kosmützky, 2018, p. 2). What is more, the methodological apparatus developed by the thesis provides a systematic and efficient way to achieve these aims. These qualities make it potentially applicable to future efforts to improve conceptual clarity in research fields beyond higher education internationalization.

1.5 Thesis Structure

The thesis is organized in six chapters. **Chapter 1** offered an introduction to higher education internationalization research with the aim of uncovering gaps that need further scholarly attention to aid the theoretical development of the field. Specifically, it identified the need for a coherent conceptualization of internationalization that subsumes the key attributes of the process and can easily be operationalized to identify the universe of cases to which the concept applies to. Moreover, it provided an overview of the avenues the thesis intends to take in order to address existing limitations in higher education internationalization research.

Chapter 2 provides a literature review of three essential organizational themes of the thesis. First, it synthesizes the scholarly literature dealing with the conceptual development of internationalization to highlight the difficulty in coherently defining this process and the need for a solid conceptualization of internationalization that increases its analytical purchase. Second, it provides an overview of the actors influencing the policy space of internationalization and establishes the central role and significance of the national level in furthering the process. It argues that governments have different approaches at their disposal to influence higher education internationalization, but that analyzing national strategies represent and effective way of forwarding the understanding of internationalization. Finally, the chapter critically discusses existing attempts of classifying national internationalization policies and practices to highlight the need for good descriptive and comparative research that supports causal inquiries and theoretical development in the field.

Chapter 3 builds on the arguments made in the literature review chapter and puts forward an innovative and efficient research design and methodology that attempts to mitigate existing limitations in internationalization research. First, it advances the argument that classifications provide a viable way of decluttering the conceptual space of internationalization. Second, it

provides a do-it-yourself manual for computer assisted content analysis that enables researchers to acquire, preprocess and analyze textual data on higher education, more generally, and on internationalization, more specifically. Specifically, it proposes Latent Dirichlet Allocation as a viable algorithm of automatically uncovering topics from policy texts. As such, the chapter aims to bring a novel methodological apparatus to the field of higher education research that has been successfully used in comparative politics and media studies.

Chapter 4 provides a global comparative perspective on higher education internationalization at the national level based on the strategies put forward by governments to forward the process. It shows that comparative large-scale investigations provide important insight into the empirical manifestations of internationalization at the national level that can help future research in advancing and testing causal theories about the process. More precisely, the chapter looks into the global prevalence of higher education internationalization strategies, the time interval in which they were published, the regional distribution of such strategies, and the characteristics of countries and higher education systems that forward internationalization through strategic planning. The chapter concludes by synthesizing empirical research on the importance of national strategies for higher education internationalization, the impact they have on forwarding the process, and how successful they are in reaching their intended goals.

Chapter 5 provides a global comparative overview of the content of national higher education internationalization strategies. First, it empirically establishes that function of national strategies as a written statement intended to guide, support, incentivize, and provide direction and impetus to internationalization through an operationalized, targeted, and planned set of measures and actions. Second, it looks into the prevalence of key strategic elements (i.e. actors, timeline, alignment with other strategies, funding, geographic and strategic targets) in national strategies of internationalization and contextualizes them with reference to existent research at the institutional level. Third, it shows that governments aim to achieve different goals through

higher education internationalization and, as such, pursue different priorities. The topic modelling analysis uncovers two main types of approaches to internationalization pursued at the government level: inward and outward internationalization. Nevertheless, the analysis also demonstrates that there is a certain level of homogenization when it comes to internationalization measures as all of them heavily focus on (incoming and/or outgoing) international student mobility.

Chapter 6 summarizes the empirical findings and underlines the academic as well as practical contributions of the thesis to the field of higher education internationalization. In addition, the concluding chapters identifies the limitations of the current research and highlights research avenues for further inquiries.

CHAPTER 2

LITERATURE REVIEW

This chapter maps out the state of the art in higher education internationalization research. To begin with, it provides a succinct overview of the strands of literature in higher education internationalization research in order to position the current study in a wider frame of reference. The literature review identifies a two-fold gap, which the thesis subsequently aims to address: first, a lack of conceptual clarity with regards to internationalization and second, a lack of comparative analyses of higher education internationalization from a global perspective. Thus, the chapter proceeds by synthesizing the literature dealing with the conceptualization of internationalization. It examines the historical evolution of definitions of the concept and how the concept can be distinguished from the related process of globalization. Next, the role and importance of the nation-state in higher education internationalization is discussed and the different approaches governments can take towards furthering the process are catalogued. The chapter makes the case for studying explicit national higher education internationalization strategies as a way to reach a comprehensive understanding of internationalization in different national contexts and be able to compare and contrast country-level approaches on a world scale. Finally, the chapter critically engages with existing attempts of classifying internationalization strategies.

2.1 Overview of the Literature on Higher Education Internationalization[4]

In the last couple of decades, the theme of internationalization in higher education has received so much attention in academia that the assertion that it would be "impossible to provide an overview claiming to be somewhere near complete" (Kehm, 2003, p. 112) still holds true today. Nevertheless, sorting through the literature reveals several broad strands of scholarship:

(1) attempts to ensure **conceptual clarity** through terminological definitions (Beelen & Jones, 2015; de Wit et al., 2015; see Knight, 2003, 2004; Qiang, 2003) and differentiation from parallel processes such as globalization or regionalization (Callan, 2000; Knight, 2012a; Maringe, 2010; Melo, 2016; Ogachi, 2009; Scott, 2000; Teichler, 2002);

(2) studies on **national policies** for internationalization and cross-country comparisons (see Graf, 2009; de Wit et al., 2015; Helms, 2015; Helms, Rumbley, Brajkovic, & Mihut, 2015; Ilieva & Peak, 2016; Kalvemark & van der Wende, 1997; Lane, Owens, & Ziegler, 2014; Luijten-Lub, van der Wende, & Huisman, 2005; Reichert & Tauch, 2005; van der Wende, 2007);

[4] Chapter 2 is based on previously published work (Crăciun, 2015): Crăciun, Daniela. 2015. "Systematizing Internationalization Policy in Higher Education: Towards a Typology." *Perspectives of Innovations, Economics and Business* 15(1): 49–56; (Crăciun, 2018c): Crăciun, Daniela. 2018. "Topic Modeling: A Novel Method for the Systematic Study of Higher Education Internationalization Policy." In *The Future Agenda for Internationalization in Higher Education: Next Generation Insights into Research, Policy, and Practice*, eds. Laura E. Rumbley and Douglas Proctor. Abingdon: Routledge, 102–12; and (Crăciun, 2018a): Crăciun, Daniela. 2018. "National Policies for Higher Education Internationalization: A Global Comparative Perspective." In *European Higher Education Area: The Impact of Past and Future Policies*, eds. eds. Adrian Curaj, Ligia Deca, and Remus Pricopie. New York: Springer International Publishing, 95–106.

(3) in-depth analyses of **specific features** of internationalization such as international student mobility (see Baláz & Williams, 2004; Barblan, 2002; de Wit, Ferencz, & Rumbley, 2013; Fernandes, 2006; Findlay, 2010; Guruz, 2008; Kratz & Netz, 2018; Souto-Otero, Huisman, Beerkens, de Wit, & Vujic, 2013), quality assurance (Abdouli, 2008; Hou, 2014; Van Damme, 2000), internationalization of teaching and learning (Bentao, 2011; Kelly, 2010; Leask, 2015), forms of education delivery (Annabi & Wilkins, 2016; Beerkens, 2002; Moreira, 2016), or language policies (Bulajeva & Hogan-Brun, 2014; Doiz, Lasagabaster, & Sierra, 2013; Kibbermann, 2017);

(4) studies on internationalization strategies and programs of **supranational organizations** (Battory & Lindstrom, 2011; Capano & Piattoni, 2011; Enders, 2004; Vögtle & Martens, 2014) and **higher education institutions** (Bartell, 2003; Childress, 2009; Engel, Sandström, van der Aa, & Glass, 2015; European University Association, 2013; Hudzik, 2011; Sandström & Hudson, 2018); and

(5) **systematic overviews and state-of-the-art reports** of internationalization trends (P.G. Altbach et al., 2009; Brandenburg & Federkeil, 2007; de Wit, 2010; Egron-Polak & Hudson, 2014; Teichler, 2004).

The dissertation contributes to the first two strands of research: pursuing further conceptual clarity and analyzing national policies for internationalization in a comparative perspective. This is important and timely because, on the one hand, higher education internationalization is considered a strategic priority for governments across the world and, on the other hand, large scale comparative research on what policies nation-states deploy in order to strategically forward internationalization remains scarce. The thesis argues that looking at existing national strategies of higher education internationalization can help to improve our understanding of the process, highlighting the role of the nation-state as a central actor in steering internationalization. In what follows, the state of the art in the two relevant areas of research

will be examined so as to map out the field and position this study's contribution to higher education internationalization literature.

2.2 Conceptualizing Internationalization in Higher Education

As we cannot dig for any construction without landscaping, the present section aims to delineate how internationalization is understood in the wider literature as well as provide a working definition for the current study. This point is very important as it sets the ground for understanding that the process of internationalization is not monolithic, it is in fact an umbrella term for a dynamic intentional process at various scales that comprises a variety of measures. Moreover, it is important to clarify how internationalization relates to and differentiates itself from the similar process of globalization.

2.2.1 Defining Internationalization

What do we mean when we talk about internationalization? Answering this question is no simple task (van Gyn, Scherholz-Lehr, Caws, & Preece, 2009, p. 27). Gaining a clear understanding of internationalization is made difficult by a number of factors:

(1) the plethora of policy measures that come under the "banner concept of internationalization" (Callan, 2000, p. 21), i.e. incoming and outgoing international student, researcher and staff mobility, collaborative research, the development of internationalized curricula and strategies for teaching and learning, or the establishment of cross-border institutional networks and branch campuses (P.G. Altbach et al., 2009);

(2) the emergence and proliferation of different labels associated with the historical development of internationalization[5], i.e. "internationalization at home" (Crowther et al., 2000), "third wave internationalization" (Mazzarol, Soutar, & Seng, 2003), "re-internationalization" (Teichler, 2009), "post-internationalization" (Brandenburg & Federkeil, 2007), "comprehensive internationalization" (Hudzik, 2011), "globalized internationalization" (Jones & de Wit, 2014), or "intelligent internationalization" (Rumbley, 2015);

(3) the coexistence of various scales of analysis – institutional, national, regional, global – that provide a different manifestation and understanding of the process "and are frequently used interchangeably to highlight the international activities and outreach of higher education" (Enders, 2004, p. 367), i.e. regionalization versus Europeanization versus internationalization versus globalization (Callan, 2000) ; and

(4) the development of similar parallel processes in higher education, i.e. "de-monopolization", "de-institutionalization", or "de-nationalization" (Enders, 2004; Kehm, 2003).

Nevertheless, there have been considerable attempts to standardize the usage of the term internationalization. Definitions of internationalization have changed over time in various ways to reflect this reality: from focusing on a set of specific activities to be carried out by universities (Arum & van de Water, 1992) to viewing it as a dynamic process to be integrated in the wider set of organizational activities of higher education institutions (Knight, 1993); from focusing on internationalization as an institutional endeavor to viewing it as a result of broader developments and synergies between various national levels of authority with the power to steer internationalization (Marijk Van der Wende, 1997); from viewing internationalization as a

[5] Borrowing from democratization research (see Collier & Levitsky, 1997), the author has referred to this surprising number of labels attributed to the process throughout the years as "internationalization with adjectives" (Crăciun, 2019).

limited function of a university's context (Sonderqvist, 2002) to viewing it as a broad and eclectic mix of policies and processes that evolve on various scales (Knight, 2003); and from viewing it as something that just happens as a result of globalization to viewing it as a deliberate process (de Wit et al., 2015).

Table 2.1[6] presents a chronological summary of how definitions of internationalization and their focus have evolved over the years[7] to reflect the ever-changing reality of internationalization. By comparing the various existent conceptualizations, the thesis highlights the difficulty in defining the "complex and multifaceted" (Henard et al., 2012, p. 7) term of internationalization. At the same time, the systematic analysis of the evolution of the most widely-used conceptualizations of internationalization also reveals a recurrent set of attributes of the process.

[6] The definitions of internationalization were compiled from existent literature on higher education internationalization with the aim of providing an overview of the transformation in understanding internationalization over time. The selection was made by identifying the definitions that were most commonly employed in research on internationalization. Until 2015, Jane Knight's initial definition and its revised versions were the most influential and widely used as working definitions in internationalization research (see Abdouli 2008; Childress 2009; Jones 2008; Qiang 2003; Teichler 2009; de Wit 2010) – combined, the publications in which the definitions were published have more than 4000 thousands recorded citations on Google Scholar. Since 2015, the definition suggested by Hans de Wit et al. (2015) – which in essence is based on the definitions proposed by Jane Knight – has become the preferred working definition of internationalization in higher education research.

[7] As it becomes apparent from the table, studies concerned with the conceptualization of internationalization were mostly published in the 1990s and the beginning of 2000s. This periodization corresponds to what has been identified as the first development phase of higher education internationalization research: delineation of the field (Bedenlier et al., 2018). This phase was characterized by "attempts to clarify the meaning and role of internationalization within higher education, and its associated components" (Bedenlier et al., 2018, p. 118).

Table 2.1 Evolving conceptualization of higher education

Focus	Internationalization Definition	Source
Set of institutional activities	"the multiple activities, programs and services that fall within international studies, international education exchange and technical cooperation"	(Arum & van de Water, 1992, p. 202)
Dynamic institutional process	"the process of integrating an international/ intercultural dimension into the teaching, research and service functions of the institution"	(Knight, 1993, p. 21)
National response to the external environment	"any systematic, sustained effort at making higher education (more) responsive to the requirements and challenges related to the globalization of societies, economy and labor markets"	(van der Wende, 1997, p. 19)
Institutional process to increase the quality of teaching and learning	"a change process from a national higher education institution to an international higher education institution leading to the inclusion of an international dimension in all aspects of its holistic management in order to enhance the quality of teaching and learning and to achieve the desired competencies"	(Söderqvist, 2002, p. 29)
Dynamic national, sectorial and institutional process	"at the national, sector, and institutional levels is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education"	(Knight, 2003, p. 2)
Intentional process	"the **intentional** process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, **in order to enhance the quality of education and research for all students and staff, and make a meaningful contribution to society**" (emphasis in original)	(de Wit et al., 2015, p. 29)

Source: compiled by author

The term internationalization "has been used for centuries in political science and governmental relations, but its popularity in the education sector has really only soared since the early 1980s" (Knight, 2015, p. 2). To begin with, during the 1980s and the beginning of the 1990s, definitions of internationalization in higher education focused mainly on the institutional level. Arum and van de Water (1992) provide an illustrative example of the time's understanding of internationalization as a set of specific activities to be carried out by universities.

Following this, Knight (1993) furthered the understanding of internationalization as a dynamic process to be integrated in the organizational activities of higher education institutions (Qiang, 2003). In this conceptualization, the internationalization of higher education does not represent a mere set of isolated one-time institutional activities, but "an ongoing and continuing effort" (Knight, 2003, p. 2). As previously mentioned, the scholarship from this period was heavily focused on internationalization at the institutional level. This can be explained by the North American provenance and context of this scholarship, where universities are strong autonomous actors that have the tools needed to independently pursue internationalization.

However, as Marijk van der Wende (1997) astutely observed, the focus on the institutional level limits the understanding of broader developments and synergies between various levels of authority with the power to steer and influence internationalization. Moreover, she criticized Knight's definition for presenting internationalization as "an aim in itself, while in many countries and settings it is rather a means to achieve a wider goal" (van der Wende, 1997, p. 20). In turn, van der Wende (1997) proposed a wider definition of internationalization that is better at accounting for the role played by different actors, specifically governments, in fostering internationalization. In this view, the internationalization of higher education is assumed to represent a qualitative leap, a "signal that there was a problem in the past, there is an opportunity for improvement and there are trends facilitating this opportunity" (Teichler, 2009, p. 95). Despite this, the definition has been criticized for not viewing internationalization

as rooted in the higher education sector, contextualizing it as a mere national response to wider globalization processes (Knight, 2004).

The two subsequent definitions of internationalization from **Table 2.1** will be discussed in parallel. This will help to illuminate an important aspect of conceptualization: the phenomenological range of a concept. On the one hand, Söderqvist (2002) provides a better contextualized and specified definition of internationalization which, although a development in terms of definitions focused on the institutional level of the process, "has limited applicability to institutions and to countries that see internationalization as broader than teaching and learning and the development of competencies" (Knight, 2004, p. 10). In fact, the motivations for promoting internationalization processes are numerous and vary cross-nationally. A taxonomical exercise has revealed four broad groups of rationales: political, economic, socio-cultural, and academic[8] (de Wit, 2010; Knight, 2003, 2004; Knight & de Wit, 1995; Qiang, 2003). Seen in this light, Söderqvist's (2002) definition has a small conceptual range and, thus, a more limited empirical applicability (Gerring & Barresi, 2003).

On the other hand, Knight's (2003) revision of the definition from 1993 gives a broader understanding of internationalization. First, it moves away from defining internationalization solely at the institutional level and towards acknowledging the importance, influence and dynamic relationship of the national and sector levels as well. Second, it moves away from defining internationalization only as it relates to the three main missions of higher education – i.e. teaching, research and service to society – towards defining it in the more generic terms of purpose, function, and delivery in order to "reflect the growing number and diversity of new education providers and delivery methods" (Knight, 2003). Third, unlike the definition proposed by Söderqvist (2002), it moves away from specifying the benefits or rationales of

[8] A more in-depth discussion of these rationales is provided in **Section 2.4.2**.

internationalization "as these vary across nations and from institution to institution" (Knight, 2003, p. 2). Adopting such a broad definition has the advantage of catering for an eclectic mix of policies and processes that come under the umbrella concept of internationalization and, thus, can comprise a wide phenomenal range (Gerring & Barresi, 2003) of higher education systems and institutions. Nevertheless, this comes at the cost of watering down the concept by reducing its specific attributes (Gerring, 1999; Sartori, 1970).

A more recent definition of internationalization (de Wit et al., 2015) builds on Knight's (2003) conceptualization but provides a better specification for the concept by highlighting the fact that it is a planned process aimed at improving the quality and impact of higher education for all stakeholders. The emphasis on internationalization as a planned activity is an important milestone in understanding the process because it underscores the fact that internationalization 'does not just happen out of the blue' to a higher education institution or system, but that it is always deliberate. How policy makers or institutional leaders understand and pursue internationalization differs from country to country (Graf, 2009; King, 2010; Matei & Iwinska, 2015) and from university to university (American Council of Education, 2012), depending on the specific needs of these entities. While this definition does not provide a more exact account of what internationalization entails, it allows for the identification and investigation of specific and explicit policy endeavors to promote the process.

The thesis adopts the working definition proposed by de Wit et al. (2015) as its starting point. Internationalization will be taken to mean the active engagement with the design of policies, strategies, plans, programs and approaches at the institutional, regional, national and supranational level so as to promote the ideal of internationality in higher education. As such, a clear distinction is made between two key concepts: 'internationality' and 'internationalization'. In order to differentiate these terms the specifications proposed by Brandenburg and Federkeil (2007) are employed. On the one hand, internationality refers to *a*

state, and can be used to characterize either a higher education institution's or system's "current status or the status discernable at the date of data acquisition" (Brandenburg & Federkeil, 2007, p. 7). On the other hand, internationalization refers to a process in which a higher education institution or system shifts – in a steered manner – "from an actual state of internationality at time X towards a modified actual status of internationality at time X+N" (Brandenburg & Federkeil, 2007, p. 7). In other words, internationalization is seen as a process forwarded by active policy making, not by drift.

Against this background, internationalization can be understood as an umbrella process that subsumes diverse measures which were designed to tackle specific issues, but it is not a one-size-fits-all approach to reforming higher education. As such, a viable way to understand the complex development of internationalization is to analyze, assess, and compare the strategies intended to forward the process, i.e. to modify the actual state of internationality of an institution or system. While institutional strategies are important, a first step is to look at national strategies for internationalization because they provide the framework of rules and resources within which universities generally have to function (see **Section 2.3** for an extended discussion on the role and importance of the nation state in higher education internationalization).

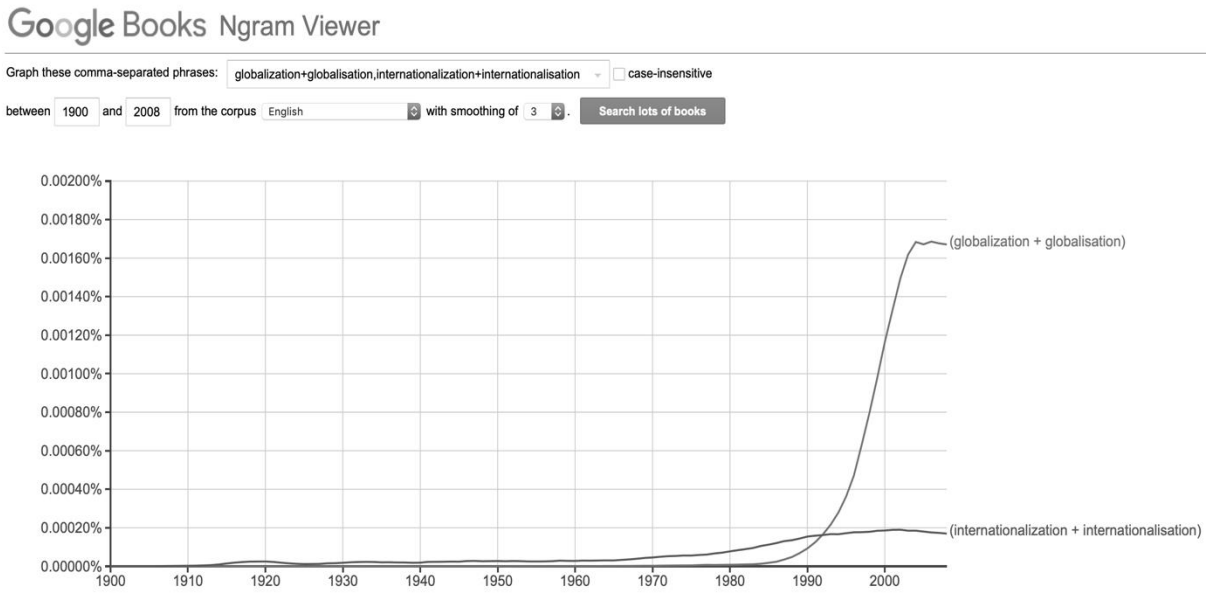
2.2.2 Internationalization vs. Globalization

This section discusses the conceptual distinctness of the term internationalization from the related and "highly contested concept" (Brooks & Waters, 2011, p. 4) of globalization. The section shows that internationalization and globalization are conceptually different (Abdouli, 2008; Kehm, 2003; Peck & Hanson, 2014; Scott, 2000; M. van der Wende, 2001; Marijk van der Wende, 2007) and reflect different historical realities. While both concepts deal with similar border-transcending processes, they relate to different spatial scales. As such, there is an inherent contradiction between internationalization which "reflects a world dominated by

nation states", and globalization which involves both "processes of global competitiveness" and "intensified collaboration" (Scott, 2000) that transcend the nation state container. This also becomes apparent if we look at the historical usage of the two concepts in academic literature.

Looking at **Figure 2.1** we can observe that the concept of internationalization started to be used in academic literature around the time of the First World War (1914-1918). This can be explained by the nature of the war, which was fought, to a large degree, over the idea of national self-determination – understood as a people's right to their own state and self-rule – in opposition to imperial hegemony. Thus, the concept of internationalization emerged in the context of the struggle for national self-determination, which resulted in the legitimization and normalization of the nation-state as the standard polity in a nascent international system.

Figure 2.1 Historical usage of the concepts of 'internationalization' and 'globalization' between 1800 and 2008



Source: developed by author using Google Books Ngram Viewer[9] (Michel et al., 2011)

[9] Google Books Ngram Viewer is an online search engine that charts a graph showing how selected terms and phrases have occurred over selected years (from 1500 to 2008) in a selected corpus of academic books (i.e. English,

After the Second World War (1939-1945), international relations were re-structured by the bi-polar Cold War conflict. However, while the relationship between the two ideological camps was characterized by confrontation, within each camp systems of international economic (Bretton Woods and Comecon) and military cooperation (NATO and Warsaw Pact) were actively institutionalized by the two superpowers: the USA and the USSR. Moreover, the United Nations served as a diplomatic arena for international interest coordination among the most powerful nation states. However, while the creation of multi-lateral international institutions enhanced international cooperation and limited conflict, the nation state remained the primary unit of political contestation and economic accumulation.

Globalization, then, is a set of technological advances and political decisions which challenge this primacy of the national scale. From the 1970s, globalization led to the integration of a global economic system and, thus, began to set the main parameters in which states pursued their interests. In the West, the crisis of the Bretton Woods system resulted in market liberalization and New Public Management. Inspired by the monetarist ideas of the Chicago School of Economics, US President Ronald Reagan and UK Prime Minister Margaret Thatcher ushered in an era in which free markets should rule with as little state intervention as possible. In the East, the Socialist Bloc disintegrated under the weight of its internal political and economic inefficiencies. After 1989, globalization meant the universalization of the Western model of liberal economics and liberal democracy, as codified in the Washington Consensus. It is in this period that the term globalization started to be consistently used in academic literature (see **Figure 2.1**).

Chinese, French, etc.). If found in more than 40 books for the corresponding year, the program charts the words and phrases in the graph.

Like in the case of internationalization (see **Table 2.1**), the understanding of what globalization means has evolved to reflect these historical developments (Maringe, 2010). As such, over the years, globalization has been conceptualized in different ways[10]: as a capitalist world system (Wallerstein, 1974), as growing social, political and ideological interdependence between nation-states (Giddens, 1990)**,** as global economic integration (Daly, 1999), as "the widening, deepening and speeding up of worldwide interconnectedness" (Held, McGrew, Glodblatt, & Perraton, 1999, p. 2), or as a neo-liberal philosophy (Harvey, 2003).

In relation to education[11], globalization can be understood as a "complex range of geopolitical and cultural processes involved in transforming the spatial organization of educational and social relations" (Findlay, King, Smith, Geddes, & Skeldon, 2011, p. 120). Globalization, thus, subsumes the "economic, political and societal forces pushing 21st century higher education towards greater international involvement" (P. G. Altbach & Knight, 2007, p. 290). This suggests that globalization represents a multi-dimensional and multi-level challenge/opportunity structure for national higher education systems. Traditionally, the University has been a medium for promoting national cultures through standardized teaching and research methodologies, which was dependent on the nation state for funding (Scott, 2000; M. van der Wende, 2001). Globalization has challenged this very nature of higher education, pushing it to reform "both the content and the scope of its activities"[12] (Guruz, 2008).

[10] For a comprehensive overview of definitions of globalization and how they have evolved over time see (Al-Rodhan & Stoudmann, 2006, pp. 9–20).

[11] One of the earliest registered usages of the term globalization as a noun was in the field of education in 1930 in a publication entitled "Towards a New Education" (Boyd & MacKenzie, 1930) to denote a holistic view of human experience in education (Oxford English Dictionary Online, 2009).

[12] The impact of globalization on the nation state has been the subject of much research within and beyond higher education literature. There are three main schools of thought on the importance of the nation state in an era of

Thus, internationalization cannot be properly understood unless one takes into account the challenges and opportunities bought about by globalization which "affect each country in a different way due to a nation's individual history, traditions, culture and priorities" (Knight, 2003, p. 3). Thus, the internationalization of higher education "is one of the ways a country responds to the impact of globalization, yet at the same time respects the individuality of the nation" (Knight, 1997, p. 6). As a result, it has been argued that these national response strategies impose two competing laws of motion upon higher education: the internationalization of learning and the nationalization of its purposes (Kerr, 1990). In other words, there is a tension between the "internationality of substance versus the nationality of form" in the response approaches of nation-states to the process of globalization. The next section discusses the role of the nation-state in the internationalization of higher education and the approaches that governments use to forward the process.

globalization: (1) the nation state has been undermined by globalization and has been rendered powerless (hyperglobalists); (2) the nation state has been transformed by globalization processes and has taken on a different role (transformationalists); and (3) the nation state has retained its power and has remained broadly unaffected by globalization (skeptics) (Solakoglu, 2016). This thesis adopts a transformationalist view of the impact of globalization on the relevance of the nation state arguing that globalization has pushed the state to reform the way it operates but has not made it powerless. As shown in the discussion of **Figure 2.1** the "frequently mentioned model of the retreating state did not emerge in the context of globalization but materialized as a response to the overtaxed form of regulatory government in the 1950s and 1960s" (Beerkens, 2003, p. 131).

2.3 The Role of the Nation-State in the Internationalization of Higher Education

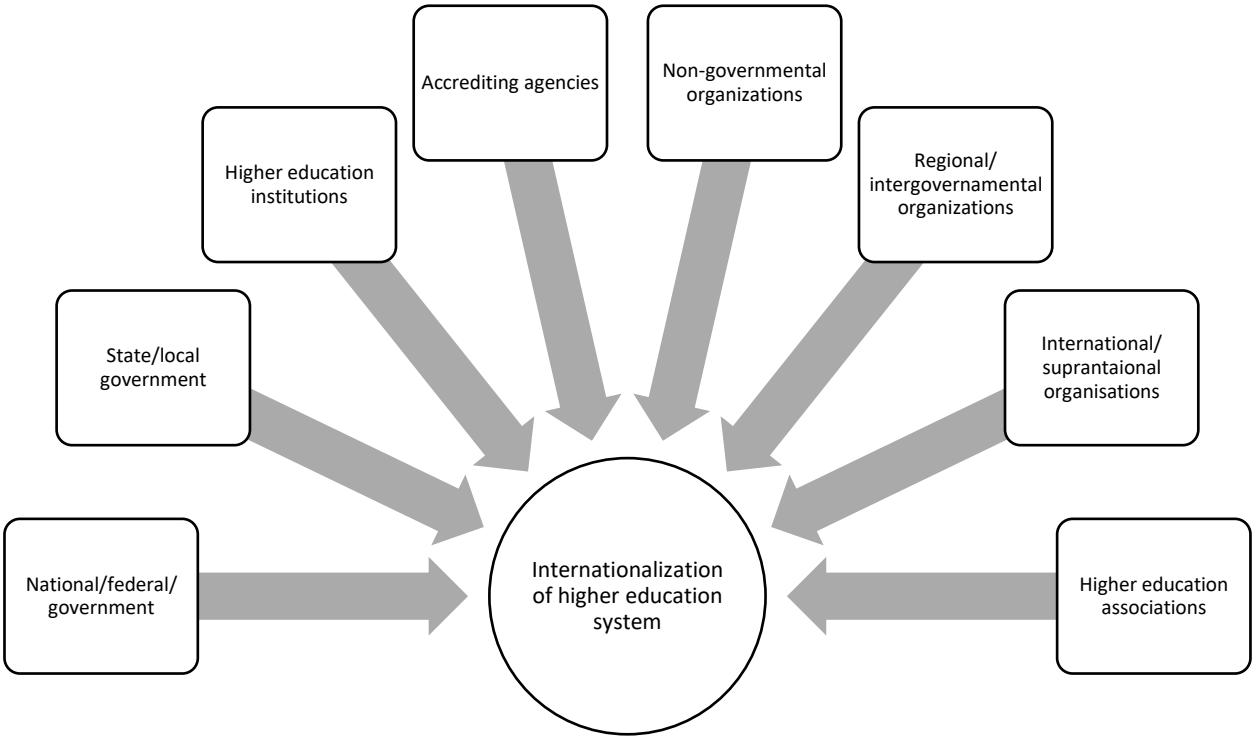
This section discusses the different policy actors influencing higher education internationalization at the system level. It focuses on showing that the nation-state is essential in promoting internationalization and understanding the different approaches that governments have at their disposal in doing so. Subsequently, it argues that national internationalization strategies provide the most comprehensive overview of the rationales, measures, and strategic targets that governments pursue. Thus, allowing for an ample understanding and cross-country comparison of what internationalization means, why it is pursued, which are its main priorities, and how are they measured.

There is a plethora of types of actors (e.g. public/private, governmental/quasi-governmental/ non-governmental, political/administrative, etc.) at different scales (e.g. local, national, regional, international, supranational) influencing the policy space of higher education systems, and by extension internationalization processes within those systems (see **Figure 2.2**), through their activities (e.g. regulation, legislation, advocacy, research, networking, funding). Depending on the national context some actors are more influential than others in setting the agenda for internationalization.

Understanding the role that these actors play in the internationalization of higher education is a crucial issue both in academic literature and policy practice. The distinction between empirical evidence and normative issues is not always clear cut. Nevertheless, there is a broad consensus around the central role of national governments in the internationalization of higher education across all world regions (Enders, 2004; Graf, 2009; Helms et al., 2015; Luijten-Lub et al., 2005). In fact, recent research surveying "a broad range of policies, across all regions of the world"(Helms et al., 2015, p. 1) has concluded that national government entities continue to

hold the most significant role in the internationalization policy context. While the "role of "other influencers" in the shaping and implementation of internationalization policy" is also important, "[i]n many countries, a ministry of education or related office is the primary player" (Helms et al., 2015, p. 1).

Figure 2.2 Policy actors influencing higher education internationalization at the system level



Source: developed by author

It is hard to dispute that the development of modern higher education institutions is closely linked to the nation state:

> "Their regulatory and funding context was, and still is, national; their contribution to national cultures was, and still is, significant; students tended to be, and still are, trained to become national functionaries; and universities played, and still play, a considerable role in what some have called the military-industrial complex of the nation state." (Enders, 2004, p. 365).

While globalization and "the insustainability of the welfare states as we knew them in the decades following the Second World War" has led governments to loosen their grip on higher education as the sole "provider of financial resources and as legislator", that does not mean that they have lost their grip (Beerkens 2003, 142). In fact, governments continue to play the central role in steering higher education (Beerkens 2004; Vlk 2006; Witte 2006) having been "actively involved in the transfer of authority" (Beerkens 2003) to other actors (see **Figure 2.2**) , while at the same time ensuring that higher education policy underscores the traditions and conditions of the nation state (Enders, 2004).

As previously mentioned, when it comes to higher education internationalization, research has consistently shown that national policies and the national context play the most significant role (Enders, 2004; Graf, 2009; Luijten-Lub et al., 2005). Moreover, both higher education institutions (Egron-Polak & Hudson, 2014; European University Association, 2013), international and supranational organizations (European Commission, 2013; Henard et al., 2012) expect and encourage the participation of the state in forwarding the process.

As a result, there are calls for (1) more centralized and comprehensive strategic approaches[13] to internationalization that go beyond promoting international student mobility and (2) harmonization of policies across sectors of government activity (e.g. labor market, migration, trade, economic development, foreign affairs) so as to address both national and institutional interests (Enders, 2004; European Commission, 2013; Ilieva & Peak, 2016). This points to the

[13] Comprehensive internationalization strategies include a wide range of activities such as international mobility of students, scholars and administrative staff, integration of an international dimension in the curricula and other educational activities of institutions, international research collaboration, establishment of transnational institutional networks and programs, or cross-border delivery of education. The meaning, elements and role of comprehensive internationalization strategies will be discussed in detail in what follows.

fact that, depending on the level of involvement, there are many ways in which governments can influence the policy space[14] of higher education internationalization.

Jane Knight (2004) proposed the most comprehensive heuristic device to characterize the different types of possible involvement with internationalization at the national level: approaches to internationalization (see **Table 2.2**). The term approach "reflects or characterizes the values, priorities and actions that are exhibited during the work towards implementing internationalization" (Knight, 2004, p. 18). Four major approaches to internationalization are suggested: ad hoc approach, programs approach, policy approach, and strategy approach[15]. A brief description of each of these approaches is provided in **Table 2.2**.

These approaches provide an ample overview of the different paths that national states can pursue in order to internationalize their higher education systems. These pathways are not to

[14] Policy space "can be defined as the combination of *de jure* policy sovereignty and *de facto* national policy autonomy" (Mayer, 2009, p. 376). On the one hand, *de jure* policy sovereignty (i.e. sovereignty by law) refers to the legal authority held by national policy-makers over policy instruments (Mayer, 2009; Sanders, 2013). On the other hand, *de facto* sovereignty (i.e. sovereignty by practice) refers to the capacity of national policy-makers to use these policy instruments to achieve their intended goals (Mayer, 2009; Sanders, 2013).

[15] Jane Knight (2004) proposed an additional approach in her classification of modes of national engagement with higher education internationalization: the rationales approach. In this approach higher education internationalization involvement is understood in terms of the reasons why the national higher education system should pursue internationalization. The rationales can vary widely from country to country, but they broadly fall into four broad groups of motivations: political, economic, socio-cultural and academic. The thesis argues that this approach does not stand on its own but underscores all the other types of involvement with internationalization. Therefore, it was not included in the heuristic device presented in **Table 2.2**. Nonetheless, the motivations behind why governments are pursuing internationalization are very important and are discussed at length separately in **Section 2.4.2**.

be understood as mutually exclusive[16], rather they provide a way in which to classify countries according to the dominant characteristics of the method they employ to further internationalization at a particular point in time (Knight, 2004). Thus, the dominant approach a country adopts in pursuing internationalization can change over time. However, it is unclear why and how this change occurs[17].

Examining the characterization of the different ways in which governments can influence the policy space of internationalization reveals that the utilization of policy instruments can be impromptu (ad hoc approach), punctually targeted (programs approach), spread across different policy areas (policy approach), or holistic (strategy approach). A strategy transforms the ""siloed" nature of internationalization-related policies and programs in separate government agencies" (Helms, 2015, p. 40) and ministries into an integrated approach. This suggests that the four approaches involve increasing levels of commitment from national policy-makers with the advancement of internationalization.

[16] Because the different types of approaches proposed in Knight's (2004) classification are not mutually exclusive, this heuristic device does not meet the standards for being a typology. Typologies must meet two conditions: exhaustivity (provides a complete overview of all existing empirical cases) and mutual exclusivity (provides the possibility to allocate each empirical case to one category only) (Bailey, 1994). For further details on typologies and their characteristics see **Section 3.1**.

[17] As it stands, this heuristic device is not a full-blown typology, but a free floating one. Free floating classifications "lack explicit anchoring in dimensional thinking" (Collier et al., 2012, p. 225). In other words, like the one proposed by Knight (2004), free floating classifications are unidimensional.

Table 2.2 Approaches to higher education internationalization

Approach	Description
Ad hoc	Higher education internationalization is presented as an impromptu or reactive answer to the opportunities that arise from international mobility, cooperation and delivery.
Programs	Higher education internationalization is described in terms of implementing funded programs that provide opportunities for both institutions and individuals to engage in international activities (i.e. mobility, research collaborations, institutional networks).
Policy	Higher education internationalization is seen in terms of the policies that deal with the international and intercultural facet of tertiary education. Policies promoting internationalization can stem not only from the education sector, but also from other sectors such as: foreign affairs, science and technology, culture, economic development, commercial trade, migration, or labor.
Strategy	Higher education internationalization is treated as a key building block of wider national strategies for achieving a nation state's objectives and priorities at institutional, national and international levels.

Source: adapted by author from Knight (2004)

Given the many different actors (see **Figure 2.2**) whose programs and policies bear upon the policy space of higher education internationalization, the plethora of activities they carry out, the dispersed nature of information of these activities, the different languages and levels of transparency in disseminating this information, "inventorying existing policies and programs is a formidable challenge" (Helms, 2015, p. 11) even for one case study. In the case of a large-N cross-national comparison, as is the case of the current research, the challenge becomes impossible to surmount. This thesis argues that the strategic approach can subsume and integrate the other approaches (see **Table 2.2**) under its banner and, thus, examining

internationalization strategies provides a fruitful avenue for comprehensively understanding what internationalization means and why and how it is pursued in different national contexts[18].

Therefore, restricting the empirical analysis to strategies of internationalization – rather than including the other approaches as well – is not necessarily a compromise. Due to the nature of strategic plans, such documents bring together the whole vision of internationalization of a government that is to be then executed by the relevant actors giving researchers a comprehensive view of internationalization in a specific national context. A strategy is in effect "a pattern of purposes, policies, programs, actions, decisions, or resource allocations that define what an organization is, what it does and why it does it" (J. M. Bryson, 1995, p. 163). Like in the case of higher education institutions, a national internationalization strategy is "a change management tool" (Stewart, 2004, p. 17) that shifts a higher education system in an explicit and deliberate manner "from an actual state of internationality at time X towards a modified actual status of internationality at time X+N" (Brandenburg & Federkeil, 2007, p. 7) (see **Section 2.2**).

Thus, a national internationalization strategy can be defined as " a comprehensive national policy that draws together multiple initiative across categories with a specific goal of furthering higher education internationalization" (Helms, 2015, p. 29). The question then becomes, what are the constitutive elements of comprehensive internationalization[19] strategies? In the absence

[18] Research into the effectiveness of strategic planning in the public sector "report mixed results" (J. Bryson & Edwards, 2017, p. 14). Nevertheless, as this thesis is concerned with policy meaning and not with policy evaluation, strategies (e.g. governmental, institutional, etc.) represent a good source of data for understanding internationalization from the perspective of the actors issuing the strategic plan.

[19] The concept of "comprehensive internationalization" has been popularized by the American Council on Education as an "organizing paradigm to think holistically about higher education internationalization" (Hudzik, 2011, p. 5) at the institutional level. It is defined as "a commitment, confirmed through action, to infuse international and comparative perspectives through the teaching, research, and service missions of higher

of large scale cross-national empirical investigations, research has used deductive inference to provide some tentative answers to this question.

Table 2.3 provides a comparison of what prominent higher education internationalization researchers have theorized as the main elements of a comprehensive internationalization strategy. A comparison of what scholars think should be part and parcel of internationalization strategies reveals some consistency on the main elements. It becomes apparent that comprehensive internationalization strategies are thought to include a wide range of activities[20] such as international mobility of students, scholars, faculty and administrative staff, integration of an international dimension in the curricula and other educational activities of institutions, international research collaboration, establishment of transnational institutional networks and programs, or cross-border delivery of education. As following a strategic approach to internationalization pushes governments to operationalize their understanding of the process, cross-national comparison of international strategies around the world provides an avenue for checking the validity of these intuitions and furthering research in the field.

education" (Hudzik, 2011, p. 6) in the entire higher education institution. The concept can be scaled up to denote the same type of commitment and involvement with internationalization at the national level.

[20] The elements mentioned by three or more scholars as being part of a comprehensive internationalization strategy (see **Table 2.2**) were included in the specification presented here.

Table 2.3 Elements of a comprehensive national internationalization strategy

	INTERNATIONALIZATION SCHOLARS			
ELEMENT	(van Vught, van der Wende, & Westerhejden, 2002)	(Knight, 2004)	(Teichler, 2009)	(P.G. Altbach et al., 2009)
Mobility	Transnational mobility of students and staff	Mobility of students and faculty	Physical mobility of students and staff	International mobility of students and scholars
Curricula	Internationalization of curricula	International dimension of curriculum		Development of curricula and strategies for teaching and learning
Research cooperation	Interinstitutional cooperation in education and research	Strengthening international research collaboration		Collaborative research
Institutional networks	Establishment of international consortia	Development of joint academic and twinning programs		Establishing networks between higher education institutions
Higher education delivery	Cross-border delivery of education	Establishment of branch campuses	Transnational education	
Quality assurance	Quality assurance			Integrate national quality assurance schemes on an international level
Credentials			Recognition across borders of study achievements	
Knowledge transfer			Transfer of knowledge across borders	
Trade		Commercial export and import of education		

Source: developed by author (P.G. Altbach et al., 2009; Knight, 2004; Teichler, 2009; van Vught et al., 2002)

There are a number of additional reasons that support the analysis of national strategies of internationalization. Such strategies can be considered a proxy for political commitment to internationalization being considered a constitutive part of the policy output of any government that promotes a supportive culture towards forwarding the process. Research has shown that well-defined and coherent national strategies are an important component for forwarding internationalization in higher education (Henard et al., 2012; Ilieva & Peak, 2016). "In contrast to the private sector, where true business strategies are not put out for public consumption, public agencies wear their strategic badges proudly, as a way of publicly authenticating their sense of purpose and direction" (Stewart, 2004). Moreover, because internationalization does not occur in isolation, but nation-states have to cooperate with and compete amongst each other, such national strategies are generally also published in English. In turn, this allows for a holistic evaluation of the attributes of these strategies and ensures cross-country comparability.

2.4 Building on Existing Classifications

Existent classifications of national policies and practices for internationalization provide a solid point of departure for the current investigation. In order to ensure that a comprehensive and representative survey of higher education internationalization classifications was conducted, a methodical search and selection procedure was designed. This procedure was devised following the guidelines proposed by systematic literature review studies (Crăciun & Orosz, 2018; Grosemans, Coertjens, & Kyndt, 2017; Kyndt & Baert, 2013). As such, a systematic search was run on the Education Research Information Centre (ERIC) database which is "the world's largest educational database and the most-frequently used index for carrying out educational research" (Crăciun & Orosz, 2018, p. 14).

First, a list of keyword combinations to be used in the database searches was developed in order to capture all the possible publications proposing classifications of higher education

internationalization[21] (see **Table 2.4**). The different combinations of topic keywords and attribute keywords were searched for in all the relevant ERIC database fields (i.e. title, key words, and abstract) to retrieve articles published between 1966 and 2019. This search revealed 398 results. After removing the duplicate publications from the results and keeping only those publications that were peer reviewed, 249 unique references remained – almost all of them having been published in the last 20 years (240 references), spanning almost two dozen scientific journals[22].

Table 2.4 List of keyword combinations used for the ERIC database search

Topic keyword	**Attribute keyword**	**Number of database results**
internationalization OR internationalisation	classification	33 results
	typology	20 results
	taxonomy	2 results
	heuristic	12 results
	framework	221 results
	categorization/categorisation	7 results
	type	103 results
		TOTAL = 398 results

Source: developed by author

[21] Both American English and British English spellings were used in the systematic database searches in order to ensure that a comprehensive list of studies was retrieved. Moreover, the search was not limited to classifications at the national level because the database search was meant to capture any existent classification of internationalization practices irrespective of the level at which the analysis was carried out (i.e. program, institutional, national, regional or supranational). The rationale behind casting such a wide net was that classifications can theoretically be scaled up or down easily and that there is much to learn from any such heuristic device.

[22] Most of the publications were journal articles (250 records), but the results included a range of publication types, e.g. reports, dissertations/theses, books, speeches, opinion papers, etc.

Second, exclusion criteria were developed in order to keep the just the most relevant articles in the pool of references. These criteria were meant to exclude the references that (1) were not related to higher education (e.g. publications on early childhood education, primary and elementary education, secondary education, etc.), (2) were not related to internationalization processes, (3) did not propose a classification, typology, taxonomy, heuristic device, framework or any sort of categorization of higher education internationalization policies and practices, and (4) were not written in English.

As in other studies employing systematic literature reviews, the selection was conducted in several stages: (1) title review, (2) abstract review, (3) initial text review, (4) detailed text review. At every stage, the publications that met the exclusion criteria detailed above were discarded. Subsequently, the full texts of the remaining references were retrieved[23]. The initial review of the text of the publications revealed that most articles either did not contain any classification of internationalization[24], or they were providing one for specific aspects of the process (e.g. international student mobility, curriculum, knowledge collaboration, etc.). Only three classifications that attempt to map the terrain of internationalization in a systematic way were discovered and subjected to a detailed review: one that focuses on the challenges and opportunities brought about by globalization (van der Wende 2007), one that focuses on the rationales behind why governments internationalize their higher education systems (Knight & de Wit, 1995), and one that focuses on the priorities set by governments in national

[23] An additional empirical report (Helms et al., 2015) that was absent from the database search results, but that was known by the author because it proposes a higher education internationalization typology, was also included in the pool of references.

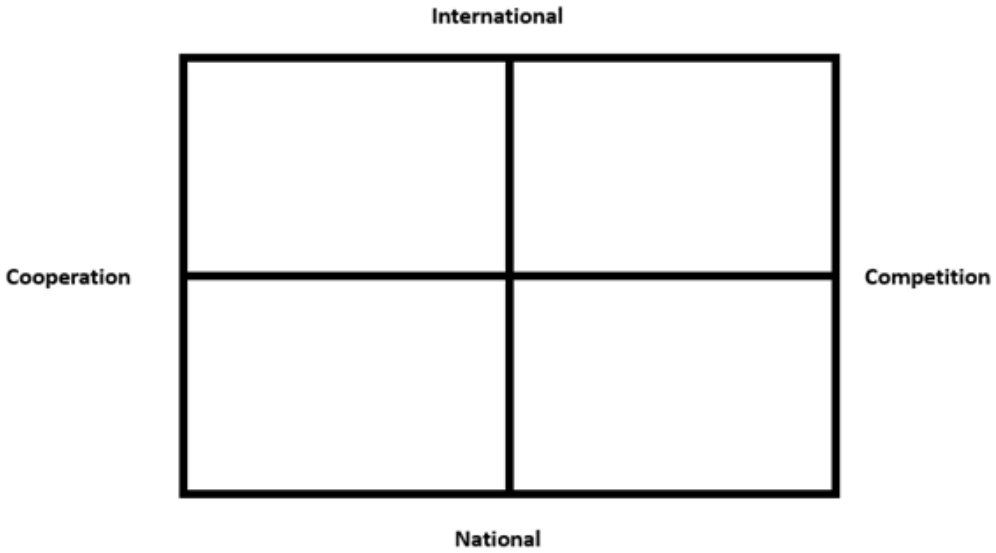
[24] The inclusion of the attribute keywords 'framework' and 'type' in the database search helped to extend the pool of results, but the terms were most frequently used to refer to aspects other than actual classifications, e.g. theoretical framework, Bologna framework, types of partnerships, types of activities, etc.

internationalization strategies (Helms et al., 2015) . They serve as the foundation and building blocks of the current research and will be discussed next.

2.4.1 Challenges and Opportunities

Marijk van der Wende (Marijk van der Wende, 2007) proposes a taxonomy (see **Figure 2.3**) of possible national responses to the challenges and opportunities brought about by globalization which recognizes that even though some aspects of "higher education reform are coordinated at the supranational level" (van der Wende 2007, 286), "the strategic policies of national governments continue to play a major role in setting the frames for international communication, cooperation and mobility, as well as international competition" (Teichler, 2004, p.21). She suggests that cooperation and competition represent the two major strategic options available to governments when they develop higher education internationalization strategies to respond to the challenges and opportunities brought about by globalization (van der Wende 2007). The second dimension of the taxonomy is represented by the spatial level at which cooperation and competition are fostered: national or international level.

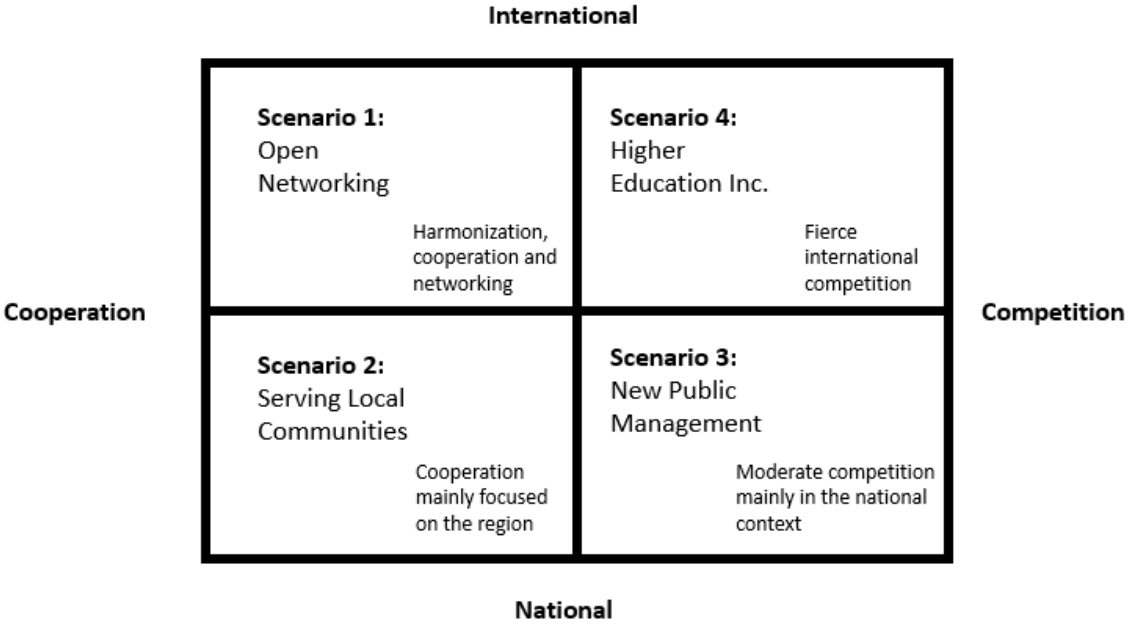
Figure 2.3 Taxonomy of national responses to the challenges and opportunities of globalization



Source: van der Wende (Marijk van der Wende, 2007)

This heuristic tool for classifying higher education internationalization strategies comes close to a typology in the traditional sense[25]. However, the author stops short of erecting a full-blown typology as she fails to specify the cell types[26] of the framework. The value of the framework is increased when the cell types are associate with the four future scenarios of higher education developed by the OECD (2006): open networking, serving local communities, new public management, and Higher Education Inc. (see **Figure 2.4**).

Figure 2.4 Typology of possible national responses to the challenges and opportunities of globalization



Source: Crăciun and Orosz (2018, p. 7)

The scenarios presented in **Figure 2.4** are based on two crucial dimensions that fit well with van der Wende's taxonomy: the extent of globalization (global versus local) and the extent of government involvement in higher education (administration versus market mechanisms). This indicates that the typology can help to differentiate between the policy trajectories of different

[25] For a discussion on typologies and their characteristics see **Section 3.1**.

[26] Cell types represent the concepts located in the cells of the typology (Collier et al., 2012).

countries, even when their objectives are similar. As such, it recognizes that internationalization is an umbrella process under which a variety of policy measures can be enacted, with different repercussions for the higher education system.

According to the OECD (2006), competitiveness-increasing strategies are at the core of the internationalization of higher education and, therefore, Scenario 4 ('Higher Education Inc.') is the likeliest to prevail. This idea is supported by a number of scholars who argue that internationalization is increasingly dominated by economic rationales (Kalvemark and van der Wende 1997; van der Wende 2001). Others beg to differ, arguing that economic reasons are "the top driver in only a handful of countries around the world" (Knight, 2012b, p. 34) and that academic (Kreber, 2009), socio-cultural, or political rationales (Lo, 2009) are driving most governments to pursue internationalization. This debate brings into the picture a second classification of internationalization practices based on the rationales that drive the process.

2.4.2 Rationales

The second taxonomy of internationalization practices aims to classify why nation states are pursuing internationalization (see **Table 2.5**). Hans de Wit (1995) has recognized four broad groups of motivations that drive internationalization in higher education: political, economic, socio-cultural and academic. Over the years, academic literature has built on these categories and further specified the rationales to better understand the similarities, differences and development of higher education internationalization strategies between countries and within countries.

Table 2.5 provides a classification and specification of these rationales at the macro level[27]. First, political rationales generally have to do with the position and role of the nation state in the world order (e.g. national security, foreign policy). Particularly during the Cold War, this group of motivations assumed a leading role in forwarding internationalization (de Wit, 2010). Second, economic rationales have to do with the direct/indirect and short-/long-term economic benefits of internationalization (e.g. revenue generation, economic competitiveness). In the last couple of decades, as the rise of the knowledge economy and economic globalization have made knowledge the most important factor of production, and thus a key ingredient for national competitiveness (Qiang, 2003), economic rationales have been considered the key driver of internationalization. Third, socio-cultural rationales focus on the importance of intercultural understanding and the promotion of cultural and linguistic diversity for the development of a global consciousness that would enable humanity to address globally shared problems. Historically, "their importance does not carry the same weight" (Knight, 2004, p. 25) as the other motivations for internationalization. Finally, academic rationales directly relate to the mission and functions of higher education (Kreber, 2009). They are invoked to argue that international academic standards boost the overall quality of teaching, learning and research in a higher education system. Since the advent of university rankings, academic rationales for internationalization have gained more prominence.

Because motivations are "integrally tied to economic and social circumstances, as well as the state of the higher education system" (Helms et al., 2015), research has implied that the rationales that underscore strategies for internationalization can change between countries and over time as some motivations assume greater importance in different contexts (Egron-Polak

[27] The same categories of rationales can be applied at the institutional/meso level of analysis, i.e. looking at the political, economic, socio-cultural, and academic motivations of universities to engage with internationalization (Knight, 2012b; Qiang, 2003).

& Hudson, 2014; Knight, 2012b). However, as it stands, the rationales typology is merely theoretical: in the absence of large scale cross-country international research, it is difficult to know what rationales dominate the pursuit of higher education internationalization in any given country at any given moment. This is important because different rationales are underscored by different priorities set for the process, which in turn would allow us to better specify the meaning of internationalization.

Table 2.5 Rationales for higher education internationalization at government level

RATIONALES	EXAMPLES
Political	Foreign policy, diplomacy, soft power, strategic alliances, national security, peace and mutual understanding, nation building, national and/or regional identity, ideological influence, international development, technical assistance, capacity building
Economic	Economic growth, competitiveness, investment, export portfolio diversification, labor market, workforce development, net economic effect of international students, institutional income diversification, national demand for education, economies of scale and efficiency
Socio-cultural	Intercultural/mutual understanding, linguistic diversity, cultural diversity, social development, cultural development, national identity promotion and/or preservation, equality promotion, addressing global problems, global citizenship, community development
Academic	Quality of overall education sector, quality of teaching and learning, quality of research, curriculum development, academic rankings and prestige, competitiveness of higher education system, research and teaching capacity, knowledge creation and advancement, international academic standards, institution building

Source: developed by author from various sources (Helms et al., 2015; Knight, 2004; Knight & de Wit, 1995; Qiang, 2003)

2.4.3 Priorities

As previously argued, internationalization is an umbrella concept for a variety of policy measures that can be adopted by governments to open up their higher education systems to external influence. As such, national priorities for higher education internationalization become evident only when documents supporting the process are analyzed. Following this line of thought, Helms et al. (2015) have developed a classification of national and regional policies and programs according to the priorities they pursue in order to make sense of the complex policy landscape of higher education internationalization. The authors distinguish between 5 types of national and regional programs, policies and strategies: (1) student mobility, (2) scholar mobility and research collaboration, (3) cross-border education, (4) internationalization at home, and (5) comprehensive internationalization strategies (Helms et al., 2015). A description of each of these types is provided in **Table 2.6**.

The classification by Helms et al. (2015) makes an important step in cataloguing the priorities of different governmental approaches to higher education internationalization (see **Table 2.2**) and therefore, allows for a critical analysis of policies in a wider frame of reference. It has, however, a few limitations. Typologies must meet two conditions: exclusivity and exhaustiveness. Like the classification of rationales, this heuristic device is unidimensional as it uses only one attribute to organize the different kinds of existent strategies. As the authors themselves recognize, this results in categories that are not mutually exclusive, i.e. empirical cases can be allocated to more than one category in the classification. Type 5 (‘Comprehensive internationalization strategies’) provides the clearest example of “overlap with many of the themes and activities presented in the previous categories of this typology” (Helms et al., 2015, p. 45). The implication is that individual countries can be classified in multiple categories of the framework which could make comparison between them difficult.

Table 2.6 Classification of higher education internationalization priorities

TYPE	DESCRIPTION
TYPE 1: **Student mobility**	The category includes policies and programs to support inbound student mobility, outbound student mobility and/or bilateral or regional mobility through grants and scholarships, special visa policies, preferential admission policies, financial aid policies, harmonization of higher education systems, "Study in" initiatives, intra-regional scholarships, and/or networks, consortia and exchange agreements.
TYPE 2: **Scholar mobility and research collaboration**	The category includes policies and programs to support scholar mobility and research collaboration through funding for visiting scholars, programs and grants to send faculty abroad, policies to repatriate faculty from abroad and/or project-based research grants.
TYPE 3: **Cross-border education**	The category includes policies and programs to support cross-border education through partnerships for capacity building, "hubs", campuses and programs abroad and/or regulation.
TYPE 4: **Internationalization at home**	The category includes policies and programs to support internationalization at home through the internationalization of curriculum and/or broad institutional engagement with internationalization.
TYPE 5: **Comprehensive internationalization strategies**	The category includes initiatives that "present a more sweeping set of rationales, action lines, focus areas, and/or geographic orientations, providing an indication of a more holistic orientation toward the perceived scope of internationalization and its possible benefits for the policy initiator(s)" (Helms et al., 2015, p. 45). This type of strategies is split into strategies with a global focus and strategies with a specific geographical focus.

Source: developed by author from Helms et al. (2015)

Moreover, because the classification is arrived at deductively and the empirical cases it uses as examples represent a convenience sample, it cannot claim to be exhaustive, i.e. there might be empirical cases that do not fit any of the categories. In order to build an exhaustive typology, data collection and analysis have to be carried out in a systematic and comprehensive manner

and not just provide a "diverse and informative snapshot" (Helms et al., 2015) of the empirical universe of cases.

The problem is that there is little knowledge about the prevalence and spread of governmental strategies around the world in order to allow for the application of statistical sampling techniques. In other words, we do not know which countries have a formal internationalization strategy, which countries have included internationalization aspects in their general higher education strategies, or which countries have no formal strategies in this respect. In the absence of this data, the analysis of a representative sample of countries with regard to governmental internationalization practices becomes impossible.

This thesis argues that there is a need for good descriptive and comparative research in the field of higher education internationalization, especially as it relates to governmental policies and practices. If done in a comprehensive and systematic manner, comparative research on governmental strategies for higher education internationalization can "offer fruitful cross-national insights into national patterns" (Enders, 2004, p. 370) and allow us to move forward with answering the important questions of 'what works?', 'why it works?', and 'where it works?'. A comprehensive mixed-methods research design for how to systematically study internationalization at the national level in a resource effective manner is proposed and detailed in the next chapter.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Building on the state of the art mapped out in the previous chapter, this chapter puts forward a research design and methodology that attempts to mitigate for the limitations of existing literature on higher education internationalization. First, it advances the rationale for building a typology and how such an exercise could help to declutter the conceptual space of higher education internationalization. Constructing a typology that combines the conceptual and empirical levels of analysis helps to systematize current understandings of internationalization in higher education and provides a framework in which past and future research can be located and interrelated. Secondly, it makes a case for a research design that combines computer assisted content analysis and qualitative interviewing of policy documents as a resource-efficient way of increasing the conceptual clarity of internationalization. As such, it provides a do-it-yourself manual for data analysis that can be easily adapted and adjusted as the policy space of higher education internationalization evolves.

3.1 Rationales for Building a Typology of Internationalization[28]

It has been argued that classifications are central to social sciences as "without classification, there could be no advanced conceptualization, reasoning, language, data analysis or, for that matter, social science research" (Bailey, 1994, p. 1). Yet, skepticism about the value of classifications is commonly expressed. In what follows, this section will outline the benefits of building a typology of internationalization policy in higher education. Moreover, it will review some of the most common points of criticism regarding classification and try to provide possible solutions or counter arguments. But before doing this, the most basic characteristics of classificatory devices are examined.

Generally, a typology is a classificatory device that reduces the complexity of empirical phenomena by arranging cases according to theoretically significant dimensions (Collier, LaPorte, & Seawright, 2012). In other words, cases that score similarly on the variables of interest are catalogued as belonging to the same type of phenomena. Thus, good typologies must have two characteristics: exhaustivity (ability to allocate all the existing cases to an appropriate type) and mutual exclusivity (ability to assign membership to each empirical case to one type only) (Bailey, 1994).

Directly following from this definition are a number of advantages that make typologies a viable, if not necessary, tool "that helps to arrange the observable empirical 'mess' in a more ordered, transparent and therefore comprehensible manner" (van Kersberger & Vis, 2015, p. 116). These benefits include, but are not limited to: comprehensive and exhaustive descriptions of types and cases, parsimonious descriptions due to the reduction of feature space complexity,

[28] This section is based on previously published work (Crăciun, 2015): Crăciun, Daniela. 2015. "Systematizing Internationalization Policy in Higher Education: Towards a Typology." *Perspectives of Innovations, Economics and Business* 15(1): 49–56.

identification of similarities and differences between cases that can help with case selection for research, identification of an exhaustive list of dimensions or variables of theoretical interest, introduction of types as criteria for measurement, and versatility in that it provides the possibility to showcase either concepts, empirical cases, or both (Bailey, 1994).

Thus, when dealing with complex multi-dimensional concepts such as internationalization, a viable solution is a taxonomical exercise which "unpacks concepts and plays a non-replaceable role in the process of thinking in that it decomposes mental compounds into orderly and manageable sets of component units" (Sartori, 1970, p. 1038). The merit of typologies does not only apply to established fields of comparative research such as comparative politics, but also to new fields. For young research fields, as is the case of internationalization in higher education, typologies have proven to be invaluable tools for dealing with epistemological problems (Arts & Gelissen, 2002). In other words, a typology can map the conceptual dimensions of internationalization in a systematic way (Callan, 2000) and uncover the multiple dimensions of internationalization policy in higher education.

Therefore, the main contribution of building such a typology is twofold: (1) theoretical and (2) practical. In addition, constructing a typology enhances transparency (Ziegele, 2013). On the one hand, the theoretical contribution would be to build the foundational blocks of an analytic heuristic, as an essential tool to increase conceptual clarity and set the boundaries within which the concept of internationalization can travel (Gerring & Barresi, 2003), increase analytic differentiation so as to capture the diverse forms of internationalization in higher education (Collier & Levitsky, 1997), encourage rigor in concept formation, use, and measurement (Collier et al., 2012), represent a baseline for comparing diversified policy approaches and conceptual understandings (van Vught et al., 2005), and, thus, improve the likelihood of generating cumulative knowledge (Elman, 2005). On the other hand, the practical contribution of such a typology would be to increase the transparency of higher education policies and

processes for students, universities, businesses, and policy makers (Ziegele, 2013), to ease consortia formation between universities and mutual agreements between states (van Vught et al., 2005), and to show how a typology can be put to work by mapping national policies of internationalization.

Despite the outlined advantages of typologies, there are a number of voices that are more critical of such classification tools. Bailey (1994) surveyed the literature on typologies and put together a comprehensive list of common concerns expressed about such classifications: they provide no explanation as they are purely descriptive devices, they lead to the reification of theoretical constructs, they are static rather than dynamic in their framing of phenomena, it is difficult to select appropriate cases and dimensions of theoretical interest, and large classification are unmanageable while small ones are too simplistic. In what follows, the section will attempt to disperse some of these criticisms.

First, possibly the most prevalent contention is that classifications are purely descriptive devices that have no explanatory function. As Mahoney points out, even though " descriptive inference receives second billing next to causal inference in contemporary social science, it is still (…) a fundamental component of research" (2004, p. 93). Hence, rather than dismissing typologies for being non-explanatory, scholars should remember that descriptive inferences are foundational components for explanation and theorization (Bailey, 1994; Mahoney, 2004). Proper conceptualization must precede theorization (Sartori, 1970). As concepts define the range of phenomena that fall within their scope and those that do not, their precise meaning and their boundaries must be clear before engaging in causal explanations (Gerring, 1999; Gerring & Barresi, 2003; Sartori, 1970). All in all, good descriptive inferences are the bedrock of good causal inferences.

Second, there is a concern that classifications may treat theoretical constructs that have no empirical manifestation as being real empirical cases. Typologies are often criticized for being

based on ideal types[29], rather than being empirically grounded. However, the problem of reification can be avoided if scholars make sure to specify whether the types in a typology are based on theoretical constructs or empirical cases (Bailey, 1994). The present thesis proposes the construction of a typology that combines the conceptual and empirical levels of analysis, so as to make sure that reification does not become an issue. Following this strategy, it is proposed that actual national strategies of internationalization should be analyzed according to the variables of interest, thus forming empirical clusters to which conceptual levels are subsequently attached.

Third, typologies are criticized for being static rather than dynamic, and that it is difficult to select cases and variables for building them. However, these problems are not specific to classifications. Statistical techniques, such as regression analysis, are also static research approaches that posit similar problems to researchers when justifying case selection and choosing dimensions of interests (Bailey, 1994). Also, the problem of being static may represent a bigger issue for heuristic frameworks that are purely empirical, rather than conceptual or a combination of conceptual and empirical (as is the one proposed in this thesis). In regard to choosing appropriate variables for analysis, the development of a typology helps to rein in the various dimensions of internationalization as it "rests on the assumption that

[29] An ideal type is a theoretical construct described by Max Weber, the sociologist most associated with the term, as "the synthesis of a great many diffuse, discrete, more or less present and occasionally absent *concrete individual* phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct" (Weber, 1949, p. 90). Thus, ideal types describe a category using "all major attributes associated with the category" (Mahoney, 2004, p. 95). In terms of Sartori's (1970) ladder of abstraction, an ideal type has a maximum intension (number of properties) and as such has a reduced or non-existent phenomenal range. In fact, Weber himself likened ideal types with "utopia" as, in their "conceptual purity", ideal types "cannot be found empirically anywhere in reality" (Weber, 1949, p. 90). As a result, typologies based on ideal types have been criticized for having little empirical utility.

although definitions for a given term are, in principle, infinite (…), most definitions juggle and re-juggle the same set of attributes" (Gerring & Barresi, 2003, p. 207). Thus, building on the features of internationalization revealed by the literature review in the previous chapter represents a solid starting point for constructing a typology.

Finally, critics contend that large classifications are unmanageable, and the scholars have to be content with small typologies that are ultimately too simplistic to characterize complex phenomena (Bailey, 1994). Computerized clustering methods can mitigate this problem in a resource-efficient manner. Cluster analysis is a tried and tested method for reducing the complex feature space of phenomena as it helps to group empirical cases into homogenous types using as a basis the similarity of those cases on the dimensions of theoretical interests. For this purpose, I propose the use of Latent Dirichlet Allocation, a computer assisted content analysis method for classifying documents into unknown categories using fully automated clustering. The next section will present the components of computer assisted content analysis research design in detail, and it will discuss how they have been operationalized in the framework of the thesis.

3.2 Computer Assisted Content Analysis[30]

In order to answer the research question and set the building blocks of the proposed typology, a research design that makes use of computer assisted content analysis[31] to examine higher education internationalization is suggested. The main objective is to establish similarities and differences between morphological constructions of policies for internationalization and thus, develop a better understanding of the concept. In what follows, the operationalization of the components of a computer assisted content analysis research design will be detailed together with how the primary data was collected, pre-processed and analyzed. The strengths of the methodology together with the steps taken to mitigate its weaknesses are discussed at the end of the section.

3.2.1 Operationalized Components of a Content Analysis Research Design

As defined by Krippendorff, the founding father of this scientific method, "content analysis is any research technique for making replicative and valid inferences from data to their context" (Krippendorff, 1980, p. 21). Content analysis can be applied so as to objectively quantify the existence of certain words, concepts, themes, sentences, phrases, idioms, or characters in texts, establishing a link between their content and their institutional, social and cultural context (Berg, 2001). This issue will be further discussed later. For now, it is enough to say that this

[30] This section is based on previously published work (Crăciun, 2018c): Crăciun, Daniela. 2018. "Topic Modeling: A Novel Method for the Systematic Study of Higher Education Internationalization Policy." In *The Future Agenda for Internationalization in Higher Education: Next Generation Insights into Research, Policy, and Practice*, eds. Laura E. Rumbley and Douglas Proctor. Abingdon: Routledge, 102–12.

[31] Computer assisted content analysis and computer assisted text analysis are used interchangeably in this thesis. The latter has a more restricted meaning referring to the analysis of text data only, while the latter encompasses other forms of content as well (e.g. pictures, sounds, artifacts).

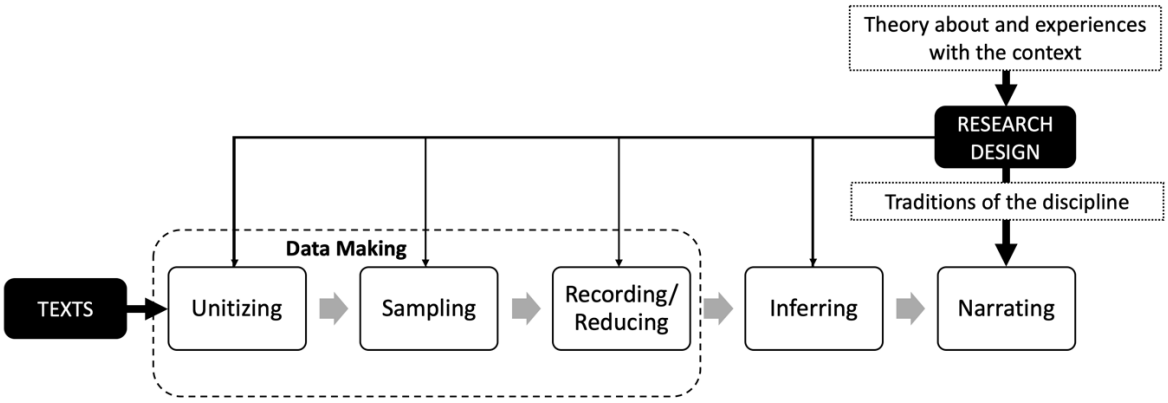
method is particularly useful for tackling the question proposed by the thesis as it can reveal the empirical features of internationalization.

Like with all other methods, there are both advantages and possible pitfalls in using content analysis as a research method. Among its strengths are the facts that: texts can be easily procured, it is virtually unobtrusive, it provides quantifiable data, it is replicable, it can be used to analyze both past and current events or their development in time (Berg, 2001; Berger, 2005; Elo & Kyngas, 2007). Alternatively, the trade-off is that content analysis is associated with a set of weaknesses such as: difficulties in finding a relevant sample, complication of defining a topic comprehensively, access to documents, problems with setting a measurable unit, and the fact that it is time consuming (Berg, 2001; Berger, 2005; Franzosi, 2008). The decisions made at each stage in the operationalization of the content analysis research design were meant to mitigate the aforementioned problems.

The practical makeup of any content analysis research design includes the following stages: unitizing, sampling, recording/coding, reducing data, abductively inferring, and narrating the answer to the research questions (Krippendorff, 2004). **Figure 3.1** provides a simplified illustration of a research design using content analysis showing how the different stages are interrelated and how they inform each other. The inherent aim of the whole process, and of each individual stage for that matter, is to update the theory about and experiences with the phenomenon under study. Next, these constitutive parts are discussed in more detail[32] and operationalized for the purposes of the current research.

[32] This is done for all the stages with the exception of the last two – abductively inferring and narrating the answer to the research question – which represent the focus of the findings chapter.

Figure 3.1 Components of a content analysis research design



Source: adapted by author from Krippendorff (2004, p. 86)

First, unitizing refers to "the systematic distinguishing of segments of text (…) that are of interest in the analysis" (Krippendorff, 2004, p. 83). In other words, it means making decisions about the units that will inform your content analysis exercise. Units are entities that the researcher differentiates for the analysis and considers as independent (Krippendorff, 2004). At this point it is important to distinguish between two types of units: sampling unit and coding unit.

On the one hand, sampling units represent the entities that are "distinguished for selective inclusion in an analysis" (Krippendorff, 2004, p. 98). These represent the texts to be analyzed, for example newspaper articles, speeches, press releases, diaries, policy documents, movies, sounds or images. In the context of this thesis, national strategies for higher education internationalization of tertiary education will serve as the sampling unit for the study. The corpus of documents to be analyzed is formed by stand-alone national strategies and plans for internationalization. These strategic documents "can include goal statements, mission statements, vision statements, implementation initiatives, allocated resources, timelines and performance indicators" (Childress, 2009, p. 3). Because they express a country's vision and

understanding of internationalization, they are particularly well suited for answering the central research question of this research.

On the other hand, coding units represent the entities that are "distinguished for separate description, transcription, recording, or coding" (Krippendorff, 2004, p. 98). These represent the units that are to be categorized, for example paragraphs, phrases, words or objects. In the context of this research, as in most other research using computer assisted content analysis, the word will represent the unit of coding. This issue will be considered in further detail when the recording/coding stage of content analysis is discussed.

Second, sampling in a content analysis research design refers to the same process like in survey research – but instead of sampling people from a population, the researcher samples texts[33] from corpora, which is a collection of populations of text. In the context of this research, the corpora of texts refer to all the national policy documents issued with the intention of internationalizing higher education. Due to a number of theoretical reasons, the corpus of this study, i.e. the populations of texts to be analyzed, represents a census of national strategies for the internationalization of post-secondary education. The rationales behind conducting a census rather than sampling documents are that (1) there is no reliable population list of higher education internationalization policies from which documents could be selected using a reliable sampling technique; (2) related to the previous point, the "cases you choose affect the answers you get" (Geddes, 1990, p. 131) and can lead to selection bias; (3) in order to build an exhaustive and valid typology for a young field of research it is important to analyze the whole range of national approaches to internationalization; and (4) as mentioned before, in order to

[33] This is a more limiting definition of content analysis adapted for the purposes of this research that focuses specifically on the analysis of texts. However, as previously mentioned content analysis as a method can be conducted on a variety of kinds of data beyond written or transcribed words, such as "visual images, characterizations, nonverbal behaviors, sound events, or any other message type" (Neuendorf, 2002, p. 24).

further good causal inferences it is important to have comprehensive descriptive inferences about internationalization processes.

Before moving on to the next constitutive stage of a content analysis research design, it is necessary to reiterate why the proposed data collection and analysis is carried out at the national policy level rather than the institutional, regional or supranational level. Understanding the role that the nation-state plays in the internationalization of higher education is a crucial issue both in the academic literature and in policy practice. The decision to conduct the analysis at the national level was taken for a number of reasons. To begin with, as a plethora of studies have shown, nation states still play a central role when it comes to steering higher education (Beerkens, 2004; Enders, 2004; Vlk, 2006; Witte, 2006). As such, higher education policy "still tends not only to reflect but to underscore the specific traditions and circumstances of individual countries" (Enders, 2004, p. 361). In addition, these plans express a political commitment to internationalization, and not just political rhetoric. In other words, they can be considered part and parcel of the policy output of any government that promotes a supportive culture towards internationalization. Also, such plans push governments to operationalize their understanding of internationalization. Having a well-defined and coherent national strategy has been shown to be an important ingredient for moving forward with internationalization efforts (Henard et al., 2012; Ilieva & Peak, 2016). Lastly, the advantage of employing this strategy is that the unit of analysis remains constant on a cross-national basis. Moreover, it helps to establish the parameters of the study and represents a guide of data sourcing (Yin, 2003).

Third, recording and coding "bridges the gap between unitized texts and someone's reading of them, between distinct images and what people see in them, or between separate observations and their situational interpretations" (Krippendorff, 2004, p. 84). In the context of this research, this task will be carried out using automatic computer coding. Such an analysis assumes that texts are bags of words. This means that the grammar of the text and order of the words in the

text are not important for the analysis and thus, they are discarded. What is important is the occurrence of the words in the text. As such, it is assumed that "a simple list of words (…) is often sufficient to convey the general meaning of the text" (Grimmer & Stewart, 2013, p. 6). It cannot be emphasized enough that "[a]ll quantitative models of language are wrong – but some are useful" (Grimmer & Stewart, 2013, p. 6).

For the research objective of this thesis, which is building a classification of internationalization policies, adopting a quantitative view of language is useful because it allows for a considerable reduction in the complexity of the texts. Moreover, this research works under the assumption proposed by Hopkins and King that "[p]olicy makers (...) may be interested in finding the needle in the haystack (…), but social scientists are more commonly interested in characterizing the haystack" (2010, p. 230). Heuristic devices such as typologies are necessarily more useful in achieving the latter. However, the thesis recognizes that the bag of word assumption can be problematic when trying to uncover the meaning behind a certain concept, therefore it supplements this quantitative view on language with a qualitative analysis of the policy documents (see **Section 3.3**).

Fourth, reducing data "serves the analysts' need for efficient representations, especially of large volumes of data" (Krippendorff, 2004, p. 84). Needless to say, this component of the research design is crucial in achieving the goal of any thesis or study. Thus, the method selected to simplify the data has to be chosen with the research objective in mind. In a seminal article on computer assisted content analysis methods for political texts, Grimmer and Stewart offer " an overview of text as data methods" (2013, p. 2).

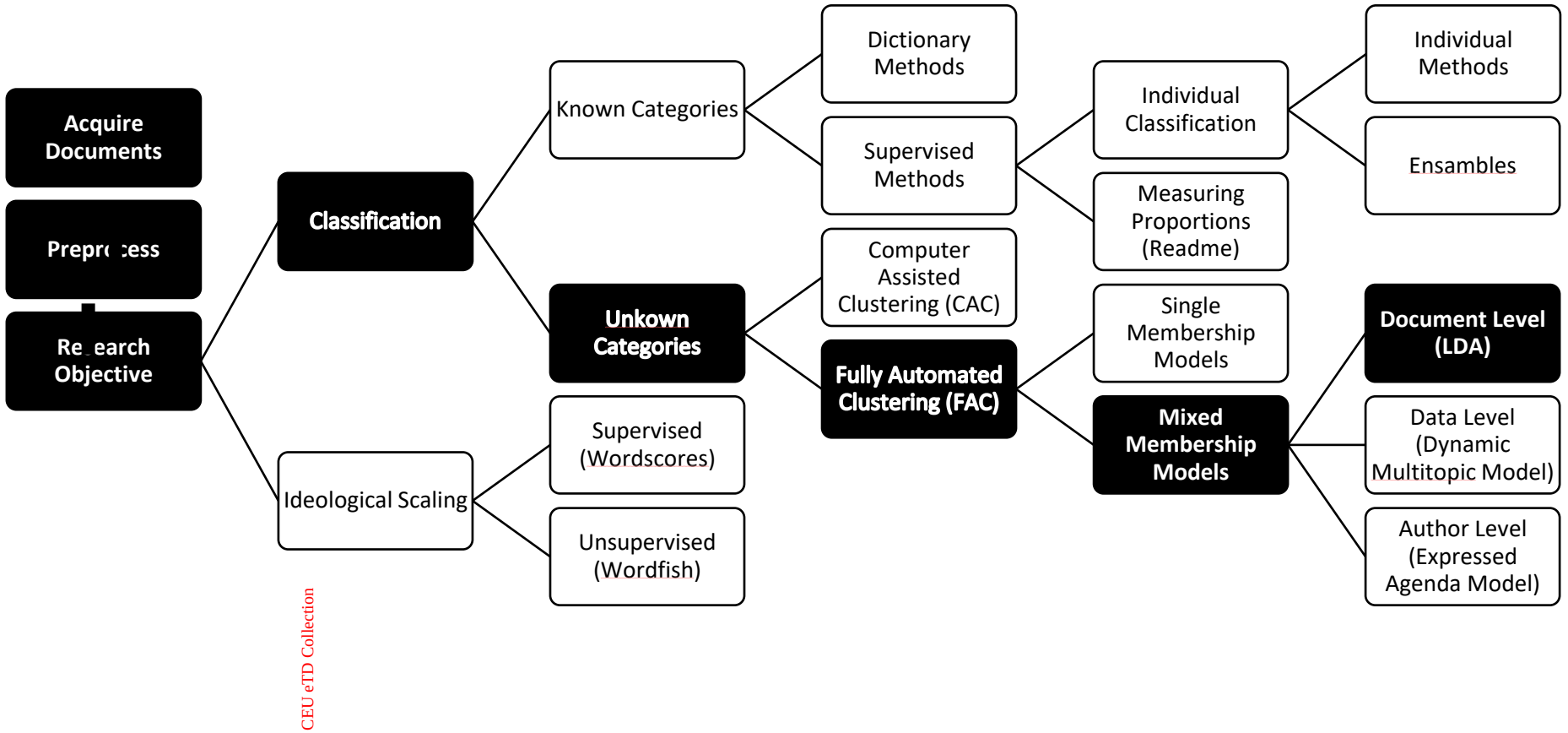
The heuristic device presented in **Figure 3.2** considerably helps in making the decision of which method to use for reducing the complexity of data depending on the main objective of each research project. In order to reach to objective of constructing a classification of higher education internationalization strategies, this research project uses Latent Dirichlet Allocation

(LDA) to simplify the data and analyze it. The steps[34] made in arriving at this decision and how they apply to this thesis will be discussed in the next subsection.

Finally, making abductive inferences "bridges the gap between descriptive accounts of texts and what they mean, refer to, entail, provoke or cause" (Krippendorff, 2004, p. 85), while narrating ensures that the results are understood by others. These final couple of stages are the subject of the findings presented in **Chapter 4** and **Chapter 5**.

[34] The boxes colored in black in **Figure 3.2** represent the steps that apply to the research design of this research project. They also help to follow the line of argumentation in the next subsection.

Figure 3.2 Overview of computer assisted content analysis for political texts and steps for data collection, pre-processing and analysis



Source: adapted by author from Grimmer and Stewart (2013, p. 2)

3.2.2 Steps in Data Collection, Data Preprocessing and Data Analysis[35]

Once the theoretical decisions about the components of the research design have been made, three steps are invariably part of any computer assisted content analysis – or of any content analysis for that matter – follow: acquiring documents, preprocessing them for analysis, and actually analyzing them. They are inextricably linked with the research objective of any study. As previously mentioned, the research objective of the thesis is to provide a classification of higher education internationalization policy. The categories of this classification remain unknown before the data analysis is conducted. This decision is in line with what was argued in **Section 3.1** on typologies: constructing the categories of the classification directly from empirical data avoids the problem of reification.

In cases where classificatory exercises were not previously conducted – as is partly true for internationalization[36] – it is difficult to derive the categories in advance "due in part to the massive number of potential organizations of even a small number of texts" (Grimmer & Stewart, 2013, p. 15). A way to arrive at such categories is to apply fully automated clustering techniques. These are a type of unsupervised learning methods[37] that return a single cluster

[35] This section is based on previously published work (Crăciun, 2018a): Crăciun, Daniela. 2018a. "National Policies for Higher Education Internationalization: A Global Comparative Perspective." In *European Higher Education Area: The Impact of Past and Future Policies*, eds. Adrian Curaj, Ligia Deca, and Remus Pricopie. New York: Springer International Publishing, 95–106.

[36] See **Chapter 2** for a comprehensive discussion of existing attempts to develop typologies of internationalization.

[37] Unsupervised learning methods are a category of methods that "learn the underlying features of text without explicitly imposing categories of interest" (Grimmer & Stewart, 2013, p. 15) *a priori*. This class of methods are especially valuable because they can uncover features of theoretical importance that are "perhaps misunderstood or previously unknown" (Grimmer & Stewart, 2013, p. 15).

arrangement of the texts given as input and provide a way of extracting categories or dimensions of interests from them.

Inverting for a second the chain of thought proposed by **Figure 3.2**, let us return to a previously made proposition. The thesis suggests that national policies for the internationalization of higher education express and operationalize a country's understanding of the process. As such, the position of individual policies in different clusters is considered to be representative for the position of the country with regard to internationalization. As a result of this assumption the classification has to be carried out at document level. In order to avoid the simplistic supposition that each document is characterized by association with a single topic, the analysis proposes to approach the task of reducing the complexity of the data by using Latent Dirichlet Allocation which is a method of clustering texts in mixed membership models.

To summarize **Figure 3.2**, three essential steps in the process of reducing the data can be distinguished: (1) acquiring documents, (2) preprocessing documents, and (3) coding the documents using the LDA algorithm. These steps and how they were applied to this research are discussed in more detail in what follows.

First, acquiring a census of documents involves systematically collecting documents from all the countries of the world that have national policies for the internationalization of higher education. Desk research soon revealed that there is no repository for such plans and strategies, and therefore one had to be custom built for the purposes of this research. The question then became: how to carry this task in a systematic and resource-efficient manner? The solution proposed was to use the World Higher Education Database (WHED) built by the International Association of Universities (IAU) which gathers systematic information about higher education systems, institutions and credentials worldwide (International Association of Universities, 2015).

However, because the WHED website is tedious to use, a web scraping[38] exercise was conducting using the Python programming language[39]. This process involves building a web crawler that automatically copies data of interest from the World Wide Web and stores it into a local database so that it can be easily accessed and used for the purpose of the research. **Appendix 3.1** shows the Python code developed and used for web scraping WHED data. Web scraping made it possible to acquire an offline library of documents[40] with systematic and reliable information about national higher education systems[41] and national bodies responsible for international cooperation that proved invaluable for the next data collection step.

Using the WHED as a data sourcing guide, qualitative desk research was employed to gather data for each country. This points to a question that is anything but trivial: how many countries are there in the world? Triangulating information from institutions with worldwide membership

[38] Web scraping is also known as web harvesting, web data collection or web data extraction.

[39] Python is an open source high level programming language like C++ or Java but with a clearer and simpler syntax structure. This particular programming language was chosen because it is versatile and allows researchers to incorporate all the steps of computer assisted content analysis, i.e. acquiring documents, preprocessing documents, and applying the algorithm for data reduction. In general, it is used by a variety of users for a variety of purposes: "The Central Intelligence Agency has employed it for hacking, Pixar for producing films, Google for crawling web pages and Spotify for recommending songs" (The Economist, 2018). This is mostly because Python is an easy to read and parsimonious coding language that builds on existing packages made by developers for different purposes "covering everything from astronomy to game development" (The Economist, 2018).

[40] When the data on credentials and higher education systems was collected, the information in the WHED had been last updated on the 6th of June 2015.

[41] The library has 205 entries: 189 countries, 13 provinces of Canada which are listed separately (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwestern Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon), 3 territories of China (Hong King, Macao, Taiwan), and Belgium separated in the Flemish and French Community.

did not work in answering this question as three fairly reliable sources (in terms of institutional development) came up with three different numbers: 189 in the WHED, 193 in the United Nations (UN), and 209 in the International Federation of Association Football (FIFA). For the initial desk research, the list of countries proposed by the WHED was used as it is a data repository build for higher education, so it fits with the research object of the thesis. Then data from UN members which were not in the WHED was gathered. It turned out that these latter countries were small island states that generally did not have fully fledged higher education systems and thus, no higher education policy per se. In the end the database constructed includes 198 countries.

The following aspects were recorded for each country: (1) when the data was retrieved; (2) the websites of bodies responsible for governing higher education and international cooperation; (3) the official language(s) of instruction in higher education institutions; (4) remarks on the country, higher education system, and higher education policies that were pertinent to answering whether a higher education internationalization policy exists in the country; (5) the existence of a national internationalization policy plan split into three categories: a stand-alone internationalization strategy, a section/references to internationalization in the general higher education strategy, no internationalization strategy; and (6) policy documents of higher education strategies (general or specific to internationalization) and reports and articles on the international dimension in the country's higher education system[42]. **Appendix 3.2** provides the recording instructions for data collection that have been consistently applied to each country in order to get comparable results. Descriptive statistics and insights from this data collection process are presented in **Chapter 4** of the thesis.

[42] The data recorded for points (1) to (5) for the 198 countries yielded a document of 46 pages (approximately 15,000 words).

Two measures were taken to ensure the reliability of the data collection process: one during the data collection process and the other after the data collection process. At the moment of data collection, the existence (or non-existence) of a national higher education internationalization strategy was verified against scholarly literature and reports on the state of internationalization in the particular national context researched. If one of the official languages of the country researched was English, German, Spanish, Italian, Portuguese or Romanian, the additional reliability measure of searching for a national higher education internationalization strategy in the native language was employed[43]. After the data collection process was completed, the results from a convenience sample of 11 observations[44] were verified once again by graduate students from various countries that were studying higher education. For the reliability test, the intercoder reliability measure from manual content analysis was adapted to 'intercollector' reliability – the extent to which two or more independent data collectors agree on the coding of the content of interest, i.e. the existence/non-existence of a higher education internationalization strategy. The measure of percent agreement was used as a diagnostic tool for reliability yielded a result of 100%. Altogether the two measures taken point to a high reliability in the data collection process.

Appendix 3.3 provides an inventory of all the countries which have a national internationalization strategy, the name of the strategic document, the year when it was published, the issuing authority, the number of pages of the document, the language in which it

[43] These specific languages were chosen because the author is proficient in them. As such, this reliability measure was applied to a convenience sample.

[44] The convenience sample included the following countries: Hungary, USA, The Philippines, Albania, Romania, Saudi Arabia, Singapore, Greece, Croatia, Brazil, and South Korea.

was published[45], and whether the document could be located for this analysis[46]. These documents represent the primary data of the current analysis. In order to be able to apply the pre-processing and data simplification algorithm to all the documents consistently it was important to obtain an English version of each strategy. Because English is the academic lingua franca (Björkman, 2013) or "Latin of the 21st century" (P.G. Altbach, 2005, p. 66) and because higher education internationalization by definition transcends the borders of the nation state, the intuition was that there would be no problem in finding these strategic documents in the English language. This assumption turned out to be valid (see **Appendix 3.3**).

Second, once the documents were acquired, they had to be preprocessed to prepare them for analysis (see **Figure 3.2**). This is a tedious, but very important step because of the "garbage in, garbage out" rule. To put it another way, if the quality of the data put into the analysis is not good, the results will not be good either. This is hardly a specific issue of content analysis or computer assisted content analysis. All data analysis methods (e.g. statistics, qualitative case analysis, discourse analysis, ethnography) have the same problem.

The literature on computer assisted content analysis recommends a set of document preprocessing steps (Grimmer & Stewart, 2013):

(1) transform .pdf documents into .txt documents in order to have them in the format needed by the programming language the researcher is using;

[45] If the document was also published in English, the category was coded as "English". In general, all the strategic documents that could be located were also published in English (see **Appendix 3.3**).

[46] From a total of 31 strategic documents, only 3 could not be located (see **Appendix 3.3**). These represent the higher education internationalization strategies of Lithuania (which was only published in Lithuanian and could not be located for translation) and of South Korea (for which only 1 of 3 strategic documents could be located). As such, Lithuania was excluded from the text analyses conducted, but was included in the mapping exercise (see C**hapter 4**).

(2) clean the text by removing the title page, content page, introductory arguments, executive summary, annexes/appendices, reference list/bibliography, headers and footers, and any other repetitive text features that do not add to the content of the policy;

(3) apply UNIX readable encoding to the text which means converting the text to UTF-8 encoding (otherwise special characters from texts would not be recognized by the computer);

(4) tokenize[47] the documents in order to transform them into bags of words;

(5) remove stop words which means taking out from the text the most common words in a language because they do not provide insights into the substantive content of the text, i.e. articles, prepositions, pronouns, auxiliary verbs[48];

(6) stem the words which means reducing the words to their root form, i.e. words from the same morphological field such as "international", "internationally", "internationalize",

[47] Tokenization is the process of breaking a stream of text into units. Depending on the research objective of the analysis, the units can be letters, words, phrases, paragraphs, etc. As previously argued (see **Section 3.2.1**), the current research project has unitized the documents at the word level.

[48] For the purpose of this research project, a general list of stop words employed by all projects involving natural language processing tools was used. The stop words taken out from the policy texts are: 'ourselves', 'hers', 'between', 'yourself', 'but', 'again', 'there', 'about', 'once', 'during', 'out', 'very', 'having', 'with', 'they', 'own', 'an', 'be', 'some', 'for', 'do', 'its', 'yours', 'such', 'into', 'of', 'most', 'itself', 'other', 'off', 'is', 's', 'am', 'or', 'who', 'as', 'from', 'him', 'each', 'the', 'themselves', 'until', 'below', 'are', 'we', 'these', 'your', 'his', 'through', 'don', 'nor', 'me', 'were', 'her', 'more', 'himself', 'this', 'down', 'should', 'our', 'their', 'while', 'above', 'both', 'up', 'to', 'ours', 'had', 'she', 'all', 'no', 'when', 'at', 'any', 'before', 'them', 'same', 'and', 'been', 'have', 'in', 'will', 'on', 'does', 'yourselves', 'then', 'that', 'because', 'what', 'over', 'why', 'so', 'can', 'did', 'not', 'now', 'under', 'he', 'you', 'herself', 'has', 'just', 'where', 'too', 'only', 'myself', 'which', 'those', 'i', 'after', 'few', 'whom', 't', 'being', 'if', 'theirs', 'my', 'against', 'a', 'by', 'doing', 'it', 'how', 'further', 'was', 'here', 'than' (Bird, Klein, & Loper, 2009). This is a very conservative list of stop words that is unlikely to have any major impact in understanding the content of the policy documents. By removing these words the validity of the results is increased as the data becomes less noisy.

or "internationalization" are transformed into "internat*" for the purpose of the analysis[49].

These preprocessing steps have to be carried out on all the documents in the corpus. Applying these procedures consistently to each of the documents that are to be analyzed is crucial if the results are to be reliable. Luckily, most of these tasks can be carried out automatically through the functions of the natural language toolkit[50] library available in the Python programming language. Carrying out the preprocessing tasks automatically rather than manually has the advantages of ensuring full reliability and efficiency in the use of research resources (e.g. time, money, human resources, etc.). **Appendix 3.4** provides the Python code used to preprocess the policy documents for higher education internationalization analyzed in the current research project[51].

Third, the method that fits the research objective of the study is applied to reduce the complexity of the data (see **Figure 3.2**). As previously mentioned, this thesis makes use of Latent Dirichlet Allocation to reach the research objective of classifying national higher education internationalization policies in a resource efficient manner. LDA is a "generative probabilistic model for collections of discrete data such as text corpora" (Blei, Ng, & Jordan, 2003, p. 993). The goal of the algorithm is to:

[49] For the purpose of this research project, the Porter stemming algorithm which was developed by Martin Porter (Porter, 1980) was used to remove the most common morphological and inflectional endings from English words. This is the most widespread stemming algorithm used for information retrieval and natural language processing tasks.

[50] The natural language toolkit library in Python is more generally known as NLTK.

[51] This code can be used by other scholars both to replicate the results of this study and to conduct similar analyses on a topic of their choice.

> "find short descriptions of the members of a collection that enable efficient processing of large collections while preserving the essential statistical relationships that are useful for basic tasks such as classification, novelty detection, summarization, and similarity and relevance judgements" (Blei et al., 2003, p. 993).

To put it in simple terms, LDA is a way of automatically discovering topics from documents and thus, the unknown categories become known (see **Figure 3.2**). This is achieved through three steps: (1) the researcher defines the number of topics/categories to be extracted from the text through a qualitative process of trial and error informed by the type of data introduced, academic literature and, ultimately, by the judgement of the researcher; (2) every word from each document is assigned (semi)randomly to a topic; and (3) the LDA algorithm updates this (semi)random assignment through an iterative process based on probabilities every time it passes through the corpus of documents. As topic probabilities offer an explicit representation of the document, each document can be associated with multiple topics leading to what was previously referred to as a mixed membership model of classification (see **Figure 3.2**). Because the statistical relationships are kept, documents can be easily clustered and compared with each other. In the context of the current research this means that countries can be compared with each other based on their national higher education internationalization strategies. **Appendix 3.5** provides the Python code used to apply the LDA algorithm to the corpus of public policy documents gathered for the analysis.

The current section presented the operationalization of the components of a computer assisted content analysis research design. In addition, it discussed how the primary data was collected, how it was pre-processed, and how it was analyzed. In order to ensure the feasibility and viability of the research design a pilot study using this methodology was conducted on a

convenience sample of national strategies for higher education internationalization[52] (Crăciun, 2018c). The results of this pilot study helped in refining the various elements of the research design. Because this is such a novel mode of studying higher education internationalization (Proctor & Rumbley, 2018), the pilot study also uncovered the need of designing measures to ensure the validity of the findings.

3.2.3 Strengths and Weaknesses of a Computer Assisted Content Analysis Research Design

The method of computer assisted text analysis is very well-developed in domains like media studies and party politics to analyze messages from texts such as newspapers, press releases or party manifestos (see for example Grimmer, 2010; Laver, Benoit, & Garry, 2003; Laver & Garry, 2000; Lucas et al., 2015; Proksch & Slapin, 2010; M. E. Roberts, Stewart, & Airoldi, 2016; Slapin & Proksch, 2008; Young & Soroka, 2012). However, computer assisted text analysis has not been extensively employed in higher education studies.

This is even more the case for methods pertaining to the topic modelling family[53] as only a couple of very recent studies in higher education have applied such methodologies (see Perez-Encinas & Rodriguez-Pomeda, 2017; Rodriguez-Pomeda & Casani, 2016) – none of them looking specifically at higher education internationalization policies. Introducing topic modelling to the study of higher education internationalization is one of the main contributions

[52] The pilot study analyzed the higher education internationalization strategies of Australia, Estonia, Finland, Germany, Japan, Malaysia, The Netherlands, New Zealand, Spain and The United Kingdom (UK).

[53] Besides Latent Dirichlet Allocation, there are a number of other topic modelling methods for computer assisted content analysis such as Structural Topic Model (STM) (M. E. Roberts et al., 2014; M. Roberts, Stewart, Tingley, & Airoldi, 2013), Latent Semantic Analysis (LSA) (Deerwester, Dumais, Furnas, Landauer, & Harshman, 1990), Probabilistic Latent Semantic Analysis (pLSA) (Hofmann, 1999).

of this thesis[54]. Therefore, the advantages and disadvantages of this methodology have to be considered.

The main advantages of unsupervised computer assisted content analysis methods such as topic modelling are that they can quickly detect patterns (efficiency) in a large number of texts (scope) in a consistent manner (reliability). Thus, they are efficient in covering a great scope of data in a reliable manner (Krippendorff, 2004; Young & Soroka, 2012). Issues of efficiency and scope have been covered in previous sections, so the focus here is on reliability[55].

Reliability is understood as "the extent to which a measuring procedure yields the same results on repeated trials" (Neuendorf, 2002, p. 112). The method proposed here provides perfect reliability of results, as the same procedures or algorithms are applied consistently and systematically by the computer. Unlike human coding which is prone to error due to attention deficit, misunderstanding or fatigue (Krippendorff, 2004), computer coding yields exactly the same results at the document level irrespective of the corpus size (R. Weber, 1990; Young & Soroka, 2012). Moreover, the data analysis is perfectly replicable by other researchers or analysts "working under varying conditions, at different locations, or using different but functionally equivalent measuring instruments" (Krippendorff, 2004, p. 215). All they would have to do to get the same results is to apply the data pre-processing steps (see **Appendix 3.4**)

[54] Topic modelling has been successfully used in a variety of research areas such as genetics, comparative politics or social networks because the algorithms can be easily adapted to fit many different types of data (Blei, 2012).

[55] In **Section 3.2.2** the issue of reliability with regards to data collection and data preprocessing was discussed. This section refers to reliability as it applies to data analysis. For a more broader discussion on standards of good measurement in (computer assisted) content analysis consult Krippendorff (2004), Neuendorf (2002) or Weber (1990).

and the data analysis algorithm (see **Appendix 3.5**) to the same corpus of documents (see **Appendix 3.3**).

However, "there is still no such thing as a methodological free lunch" (Laver et al., 2003, p. 303). Automated text analysis methods have their own drawbacks[56]. Most importantly, perfect reliability does not assure greater validity (Krippendorff, 2004). Validity is understood as "the extent to which a measuring procedure represents the intended, and only the intended, concept" (Neuendorf, 2002, p. 112). Validity is a measurement standard that ensures that we are actually measuring what we intend to measure. As such, "reliability is a necessary but not sufficient condition for validity" (Neuendorf, 2002, p. 141).

In order to validate unsupervised learning methods such as LDA, researchers have two options. One is to validate the topics identified by the algorithm through semantic validity (Quinn et al., 2010). Semantic validity in this case is the extent to which the topics extracted through LDA identify coherent groups of higher education internationalization strategies "that are internally homogenous, yet distinctive from other topics" (Grimmer & Stewart, 2013, p. 21). The other is to validate the expressed priorities of the higher education internationalization strategies by

[56] Besides the methodological disadvantages discussed here, comparative politics research – specifically research on the Comparative Manifestos Project which uses party manifestos to determine party positions on the left-right spectrum – has questioned the validity and reliability of the data from which inferences are made (Gemenis, 2013; Zulianello, 2014). Particularly, researchers have questioned the assumption that elections manifestos are reliable indicators of parties' policy positions as parties might emphasize one thing in their manifestos but do another once in government While this represents an important theoretical issue for the validity of findings in this strand of literature, it does not apply in the same way to the current research project. This thesis looks into policy meaning to establish how internationalization is understood at the national level. The aim is to lift empirical data to a conceptual level, not to use it – like in the case of the Comparative Manifestos Project – to understand the empirical realities of political competition between parties.

either checking the alignment of the text with the empirical world (Grimmer & Stewart, 2013) or the alignment of the LDA findings with a qualitative analysis of the policies. The thesis attempts to do both.

From the above discussion it becomes apparent that automated text analysis "counts but does not rate entries; it identifies but does not interpret semantic patters; it quantifies concepts but not symbols" (Young & Soroka, 2012, p. 208). Researchers are the ones that need to interpret and validate the findings. In other words, automated quantitative methods of text analysis "augment humans, not replace them" (Grimmer & Stewart, 2013, p. 4). As such, besides computer assisted content analysis, the research design was supplemented with a qualitative structured "interviewing" of the policy documents under study in order to ensure the validity of the findings and tease out the specificities of the emerging patterns. This will be discussed next.

3.3 Interviewing Documents

In order to make the most out of the primary data gathered (see **Appendix 3.3**) the research design uses a multi-method approach for data analysis. The different methods employed are meant to complement each other's strengths and weaknesses. Therefore, quantitative computer assisted content analysis was used to efficiently identify the general patterns and priorities of higher education internationalization policies, and a qualitative analysis – what is referred to here as interviewing documents – was used to delve deeper into the meaning of the emerging patterns and priorities of the documents.

By "interviewing documents" the thesis simply refers to the act of going into the qualitative analysis of the texts with a specific list of questions that are of theoretical interest to the study as pointed out by both existent literature and the automated text analysis of the higher education internationalization policies. Thus, instead of asking people (e.g. elites, experts, administrators,

etc.) questions as in a regular interview, documents were asked questions pertinent to the topic at hand.

The interview situation was conceptualized as an in-depth structured interview with both open and close ended questions. This meant building a structured interview schedule[57] (Bryman, 2016) with theoretically guided questions to be asked from the documents. The collection of questions below (see **Table 3.1**) present the structure of the qualitative interview schedule for each country that had a national higher education internationalization strategy. The answers to these questions extracted from national higher education internationalization strategies became transcripts to be coded and analyzed inductively according to ensuing major themes.

Such a research design allowed for both structure (looking for answers to the same questions in all the policy documents) and flexibility (looking for specificities in the higher education internationalization approach of each country). This design ensured the comparability of findings across cases and the generation of new knowledge. Another advantage of applying this method to a census of documents is that the "non-response rate" does not represent an issue, as it does in the case of surveys and interviews. This is because the interview schedule could be applied to all the documents identified as relevant for the analysis.

The aim of carrying out this exercise was threefold. First, to validate the results of the LDA algorithm looking at both semantic validity and the validity of expressed priorities (see **Section 3.2.3**). Second, to better understand the meanings and discourses underscoring the process of internationalization. Third, to gain new information and evidence about higher education

[57] An interview schedule is "[a] collection of questions designed to be asked by an interviewer" (Bryman, 2016, p. 692) in a structured interview.

internationalization that is of relevance to both theory and practice beyond the findings of the quantitative analysis.

Table 3.1 Interview schedule for policy documents on national higher education internationalization

QUESTIONS
(1) What is the official name of the c**ountry**?
(2) How is the process of **internationalization** understood?
(3) How is a **strategy** defined?
(4) **Who, what, where, when, and how** is internationalization pursued?
• **WHO**: Are other actors besides the government involved in pursuing higher education internationalization? (YES/NO)
• **WHAT**: Does the strategy mention specific targets it wants to achieve? (YES/NO) Is the strategy aligned with other policies/policy areas promoted by the government? (YES/NO)
• **WHERE**: Does the strategy mention a specific geographical focus where internationalization efforts are/should be concentrated? (YES/NO)
• **WHEN**: Does the strategy set a specific timeline for accomplishing the intended objectives? (YES/NO)
• **HOW**: Does the strategy mention the allocation of funding for the proposed measures? (YES/NO)
(5) What is the overarching **goal** of the strategy?
(6) What are the main **priorities** for internationalization?
(7) What are the strategic **targets/indicators** for monitoring success?
(8) Are there any **particularities** in the approach to higher education internationalization pursued by the country? If yes, what are they?

Source: developed by the author

The combination of qualitative and quantitative methods in this research design is complementary and avoids the general trade-offs inherent in each approach as "each perspective generates useful information the other cannot see" (Young & Soroka, 2012, p. 209).

Using the powerful imagery proposed by Hart, the qualitative interviewing of documents "may be likened to the perspective of a beat cop in a specific neighborhood, rich in context and detail oriented, while computer automation offers a bird's eye view like a helicopter pilot circling the city to monitor overall crime patterns" (in Young & Soroka, 2012, p. 209). Computer assisted content analysis helps to uncover patterns and regularities in the data and allows for generalizations, document interviewing provides a deeper insight into the context and priorities of national higher education internationalization policies. The findings form this multi-method research design are presented in the following chapters.

CHAPTER 4

MAPPING NATIONAL POLICIES FOR HIGHER EDUCATION INTERNATIONALIZATION: A GLOBAL COMPARATIVE PERSPECTIVE

Building on the current state of the art in internationalization research and on the documents gathered for analysis by the author, this chapter puts forward a global map of national higher education internationalization strategies. The chapter argues that there is a lot to learn about the process of internationalization by taking a bird's eye view on whether and which governments actively forward the process through public policies. It shows that comparative large-scale investigations into the characteristics of countries and higher education systems provide fruitful avenues for understanding the empirical manifestations of internationalization processes and for uncovering patterns hinted at by theoretical arguments. The chapter concludes by discussing existing research on the importance, impact and success of national higher education internationalization strategies and pointing towards avenues for further research.

4.1 Why is it Important to Map the Global Landscape of National Higher Education Internationalization Strategies?[58]

Even though good descriptive research and comprehensive classificatory exercises are paramount for advancing theories in any field of study**,** higher education internationalization research is lagging in these respects. This is not a problem specific to the study of internationalization but applies more broadly to the whole field of higher education research. The repercussions for the development of this research field are notable: "an a-theoretical community of practice"[59] (Tight, 2004, p. 395). The way forward is to acknowledge the problem and start from the beginning: with solid descriptive research that systematically maps the universe of phenomena under study. The findings of the thesis address this issue and provide a wider frame of reference for future research.

It has been suggested that "[c]lassifying is an activity inextricably linked to the human desire for creating order out of chaos" (van Vught et al., 2005, p. 9). Classifications – of which mapping is a sub-type – are spatial and/or temporal dissections of the world which "provide a systematic, nominal distribution among a number of classes or characteristics without any

[58] This chapter is based on previously published work (Crăciun, 2018a): Crăciun, Daniela. 2018. "National Policies for Higher Education Internationalization: A Global Comparative Perspective." In *European Higher Education Area: The Impact of Past and Future Policies*, eds. eds. Adrian Curaj, Ligia Deca, and Remus Pricopie. New York: Springer International Publishing, 95–106; and (Crăciun, 2018b): Crăciun, Daniela. 2018. "Navigating National Internationalisation Policies: Moving Internationalisation from the Periphery to Centre Stage." *Forum Magazine*: 6–9.

[59] Malcom Tight analyzed a database of articles published in the top 17 higher education journals – a sample which should be "indicative of the best quality research in this field" (2004, p. 409) – and concluded that "in the majority of cases, any theoretical perspective is only implicit, and broader engagement with theory is absent" (2004, p. 395).

(intended) order of preference" (Ziegele, 2013, p. 79). By assessing the similarities and differences between units and clustering them based on empirical information, they provide a description of the diversity within a system. As such, classifications – in this case of national higher education internationalization strategies – are not directly aimed at assessing or establishing causality, but at promoting transparency (Ziegele, 2013) by allowing us to uncover patterns that may not be obvious when examining individual cases.

On the one hand, mapping can be considered as a purely descriptive endeavor that establishes indicators of diversity without assembling "a specific normatively fixed combination of features that stands for a type" (Ziegele, 2013, p. 80). On the other hand, such classificatory exercises are the bedrock of causal claims. Mapping allows for the flexible combination of indicators and leads to the possibility of dynamic clustering[60] which ultimately enables researchers to discover relationships between observed phenomena and processes. Thus, mapping, classifying and creating typologies – while descriptive – represent the first steps in establishing causal mechanisms and building theories.

In the field of internationalization, there is little large-scale comparative research on the actual policies deployed by nation-states to internationalize their higher education systems. And virtually no research looking at the global landscape of internationalization. With some recent notable exceptions (de Wit et al., 2015; see Helms et al., 2015; Ilieva & Peak, 2016), country level studies on internationalization typically focus on in-depth case studies or small-n comparative research. Nevertheless, internationalization does not occur in a vacuum. It occurs at the intersection of cooperation and competition between nation-states, institutions, and

[60] Per se, classifications and maps are static because they portray a structure at a defined point in time, i.e. the period when the data was collected. However, what is meant here is that users can dynamically combine indicators to produce different classifications.

individuals. Therefore, studies that have a narrow geographical scope – while providing valuable insights into the multidimensional fabric of the process – are limited in their ability to map the global reach and impact of internationalization.

In what follows, the chapter presents a global map of higher education internationalization strategies and highlights the key insights it reveals. Beyond helping to advance causal theories about the process, mapping the global landscape of internationalization provides important benefits for both research and practice[61]. In the academic field, mapping national higher education internationalization strategies helps to capture the diversity within the system and encourages rigor in the case selection, conceptualization, operationalization and measurement of the process. Systematic research would lead to knowledge accumulation and, ultimately, to theoretical engagement with the causal questions surrounding internationalization which, in turn, would help the field to "develop further, and gain more credibility and respect" (Tight, 2004, p. 409). In practice, mapping can help institutional leaders and policy makers to reflect, from a global perspective, on the policies (or lack thereof) advanced by their governments and on the position of their institutions vis-à-vis internationalization in the higher education systems in which they operate. Awareness of the similarities and differences between internationalization practices in different countries, could ease transnational consortia formation between universities and mutual agreements between nation states (van Vught et al., 2005).

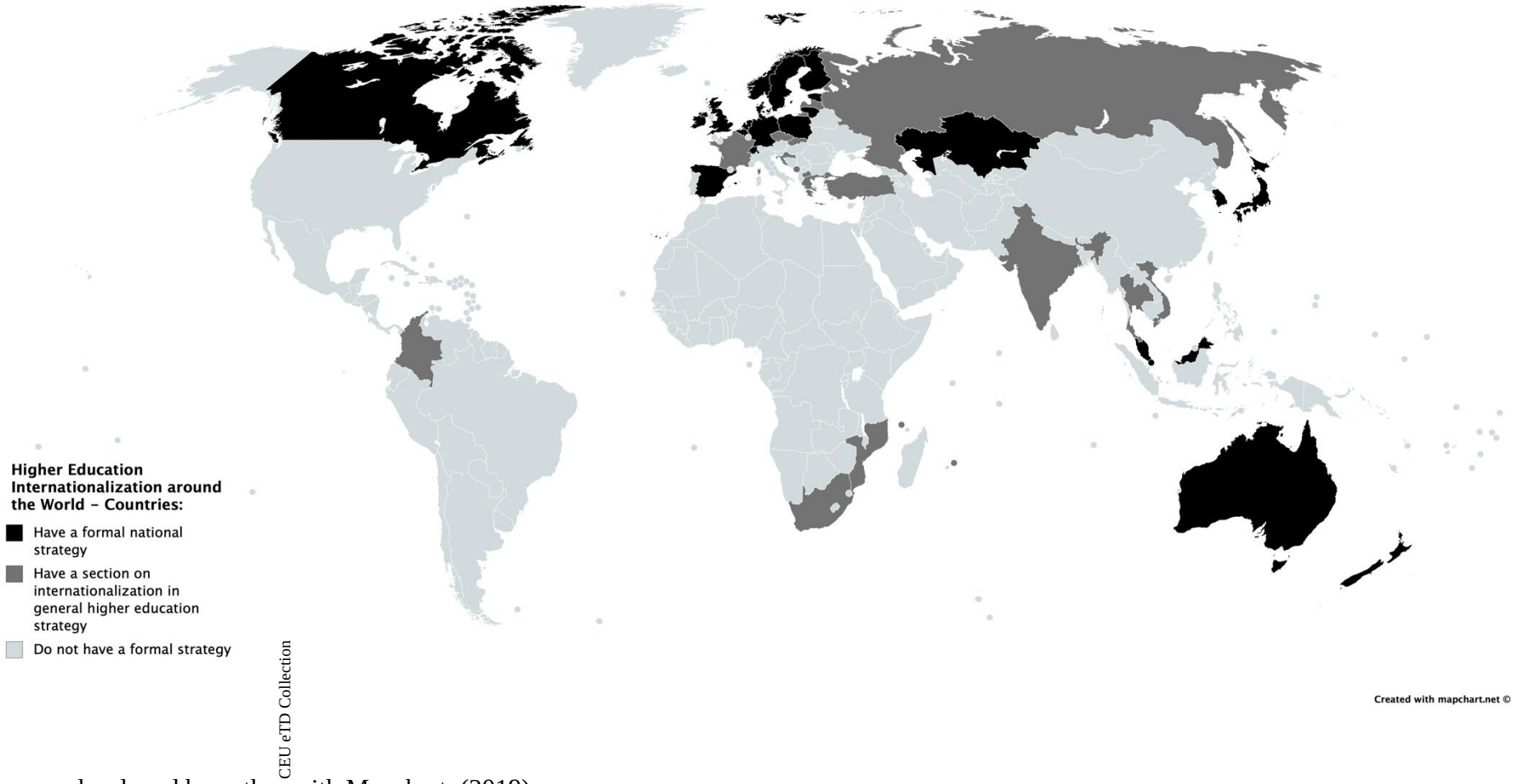
[61] For a more detailed discussion on the attributes and benefits of classificatory devices in academic research see **Section 3.1** Rationales for Building a Typology of Internationalization.

4.2 What Does a Global Map of National Higher Education Internationalization Strategies Reveal?

The extensive data collection exercise carried out for this research (see **Section 3.2.2** and **Appendix 3.2**) brought to light significant patterns and insights into higher education internationalization that help to enhance, contextualize and link the granular findings of in-depth country-level case studies on the process. The findings presented in this chapter are primarily focused on identifying the characteristics of the countries and higher education systems that are promoting internationalization at the national level, not on the content of the policy documents[62]. **Figure 4.1** presents a global map of national higher education internationalization strategies. The countries in black represent those which have a formal national strategy for internationalizing their higher education system, the countries in dark grey represent those which have a section on internationalization in their general higher education strategy, and the countries in light grey represent those which do not have a higher education internationalization strategy. **Appendix 4.1** provides a list of countries broken down according to the above-mentioned categories intending to support a more detailed interpretation of **Figure 4.1** and to offer data for further studies examining national higher education internationalization strategies.

[62] For findings derived from the text analysis of national higher education internationalization strategies consult **Chapter 5** Understanding National Policies for Higher Education Internationalization: A Content Analysis.

Figure 4.1 Global map of national higher education internationalization strategies



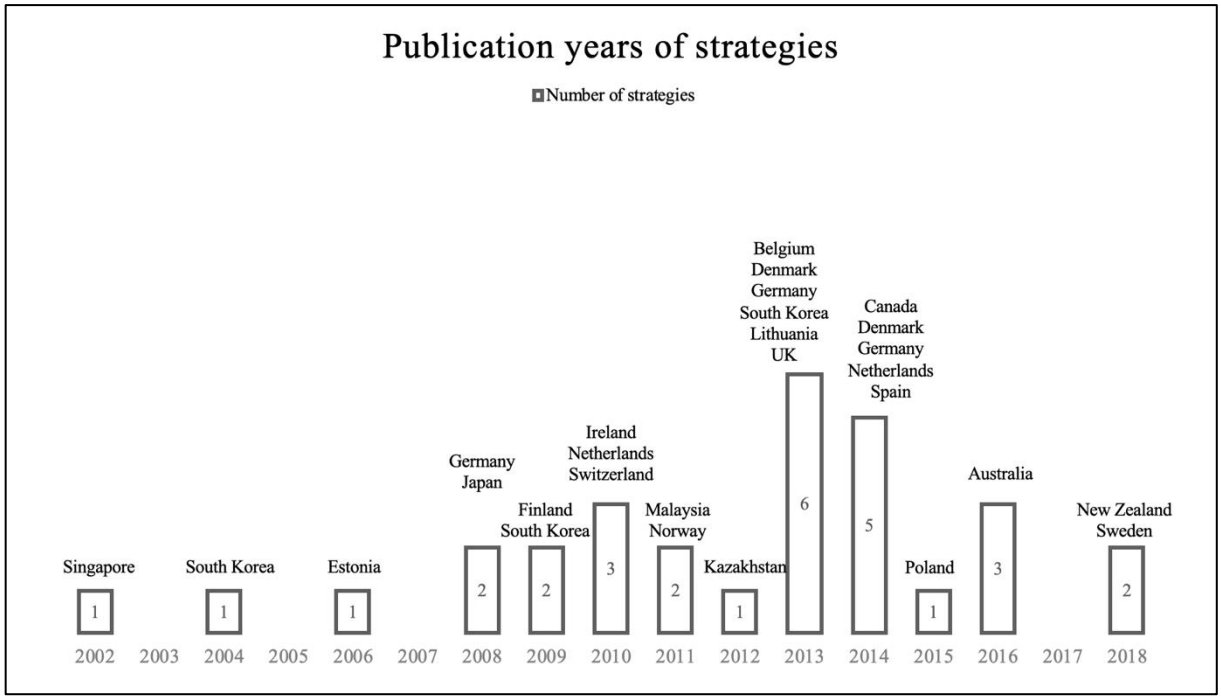
Source: developed by author with Mapchart (2019)

In alphabetical order, the countries that have a higher education internationalization strategy are: Australia, Belgium, Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Kazakhstan, South Korea, Lithuania, Malaysia, the Netherlands, New Zealand, Norway, Poland, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. Looking at the map, it becomes immediately apparent that most governments do not have a strategic document to guide their internationalization activities in the higher education sector: 80% of countries worldwide – to be precise, 158 out of 198 countries – do not have any national higher education internationalization strategy. In fact, only 11% of countries – 22 out of 198 countries – have an official strategy in this area, and 9% of countries – 18 out of 198 countries – make some mention of internationalization as part of their overall higher education strategy. Thus, it can be reasonably concluded that thinking about higher education internationalization strategically is not a very widespread phenomenon around the world.

Figure 4.2 presents a summary of when and where the uncovered national higher education internationalization strategies were published. The interval in which these strategies were published is 2002 to 2018. Almost all the strategies have been published in the last decade and a majority of them only in the last 5 years. Therefore, it can be concluded that strategic thinking about higher education internationalization at the government level is a new phenomenon. Moreover, because the strategies that exist are so recent, it is difficult to assess their results and impact. Thus, evidence on 'what works' (Davies, Nutley, & Smith, 2000) and best practices is at best anecdotal[63].

[63] Monitoring and evaluation exercises of this scale are resource intensive in terms of cost, time, and human resources. It is, thus, impossible to tackle this subject in a PhD thesis. Nonetheless, monitoring and evaluation are very important, and the current thesis strongly encourages impact assessments of national higher education internationalization policies. For a more detailed analysis of the importance, impact and success of national higher

Figure 4.2 Higher education internationalization strategies according to publication years



Source: developed by author

Bearing in mind the central role of governments in higher education and the "ubiquity of strategic planning across the globe" (J. Bryson & Edwards, 2017, p. 2) – which has made it a standard practice in all public sector areas since the advent of New Public Management – it is surprising that in the area of internationalization the practice is so recent and not more prevalent. These finding are also unexpected considering that relevant scholarship suggests that national policies and the national context are considered to play the most important role in internationalizing higher education (Enders, 2004; Graf, 2009; Luijten-Lub, van der Wende & Huisman, 2005) and that, since years, not only higher education institutions (Egron-Polak & Hudson, 2014; European University Association, 2013) but also supranational organizations (European Commission, 2013; Henard et al., 2012) have encouraged and supported the

education internationalization strategies see **Section 4.3** Evaluating National Higher Education Internationalization Strategies.

participation of the nation state in the process. Examining some of the characteristics of the countries which are strategically pursuing internationalization (see **Appendix 4.2**) helps to contextualize these findings and brings to light further insights into the manifestations of internationalization.

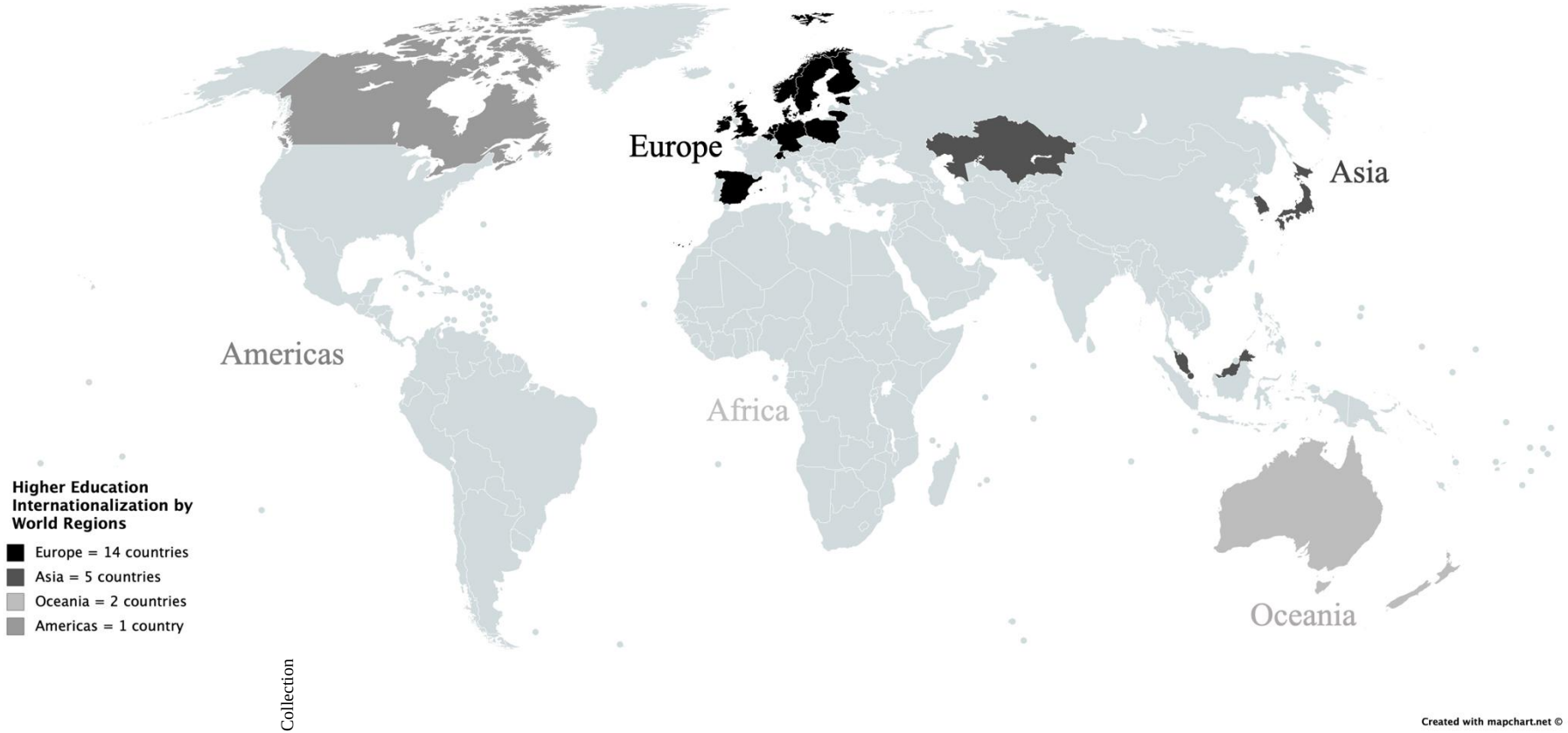
In terms of geographic coverage, thinking about higher education internationalization strategically is mainly a European phenomenon. If we look at the location of countries according to world regions[64] (see **Figure 4.3**), we find the following distribution of countries which have a national higher education strategy: 14 countries in Europe (out of which 13 are EU members), 5 countries in Asia, 2 in Oceania, 1 in the Americas, and 0 in Africa[65].

The over-representation of European countries in the regional distribution of countries, could be explained by the fact that the 2007 internationalization strategy of the European Higher Education Area (EHEA) established that all members should create higher education internationalization strategies with verifiable indicators both at the national and institutional level (EHEA, 2007). This position was reiterated at the Bologna Process ministerial meeting that took place in Bucharest (Romania) in 2012. Thus, it could be argued that the Bologna Process is driving the development of national internationalization policies in the EHEA countries.

[64] The categorization of countries according to regions is based on United Nations country groupings which divides the world geographic regions into Africa, Americas, Asia, Europe, and Oceania (UN Statistics Division, 1999). These groupings are based on continental regions and used by the UN Statistics Divisions for their publications since 1999.

[65] If we examine the countries that only have a section on internationalization in their general higher education strategy (see **Appendix 4.3**), European countries also dominate this category (10 out of 18 countries).

Figure 4.3 Higher education internationalization by world regions



Source: developed by author with Mapchart (2019)

Still, the majority of EHEA member countries[66] have not put forward a national strategy to forward the process. From the 48 full member countries, only 15 have a fully-fledged formal internationalization strategy and a further 11 have a section on internationalization in their general higher education strategy (see **Appendix 4.1**). This is not surprising. The Bologna Process, while "a major historical development, at least in its intentions and the scope of work it has generated" (Matei, Crăciun, & Torotcoi, 2018, p. 171) to forward intra-regional cooperation in higher education, has suffered from the delayed implementation of agreed upon measures. This is due in part to its voluntary nature, and in part to the different speeds at which member countries take-up and implement the policies (Matei et al., 2018). It has taken some countries more time than other to translate and transfer Bologna measures into national policies.

An additional explanation, specific to the limited development of national internationalization strategies by member countries, could be that the Bologna Process already covers the central aspects of internationalization and also fosters intra-regional cooperation through its harmonization policies (Knight, 2012a). In fact, the Bologna Process is described as an intergovernmental cooperation that "guides the collective effort (…) on how to improve internationalization in higher education" (European Commission, 2019, para. 1). The European Commission also actively supports the internationalization of higher education in the region through various programs and policies, even though it does not have competences over education in the member states. In 2013, the European Commission even issued a

[66] The EHEA currently has 48 countries as full members: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Holy See (Vatican), Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Serbia, Switzerland, Turkey, Ukraine, the UK (EHEA, 2019).

Communication entitled *European Higher Education in the World* (European Commission, 2013) which is widely considered a regional strategy for higher education internationalization. Together, these initiatives are promoting a sort of regional internationalization in the EHEA, providing policy scripts for national internationalization strategies, or standing in as internationalization strategies for countries that have not yet developed such plans.

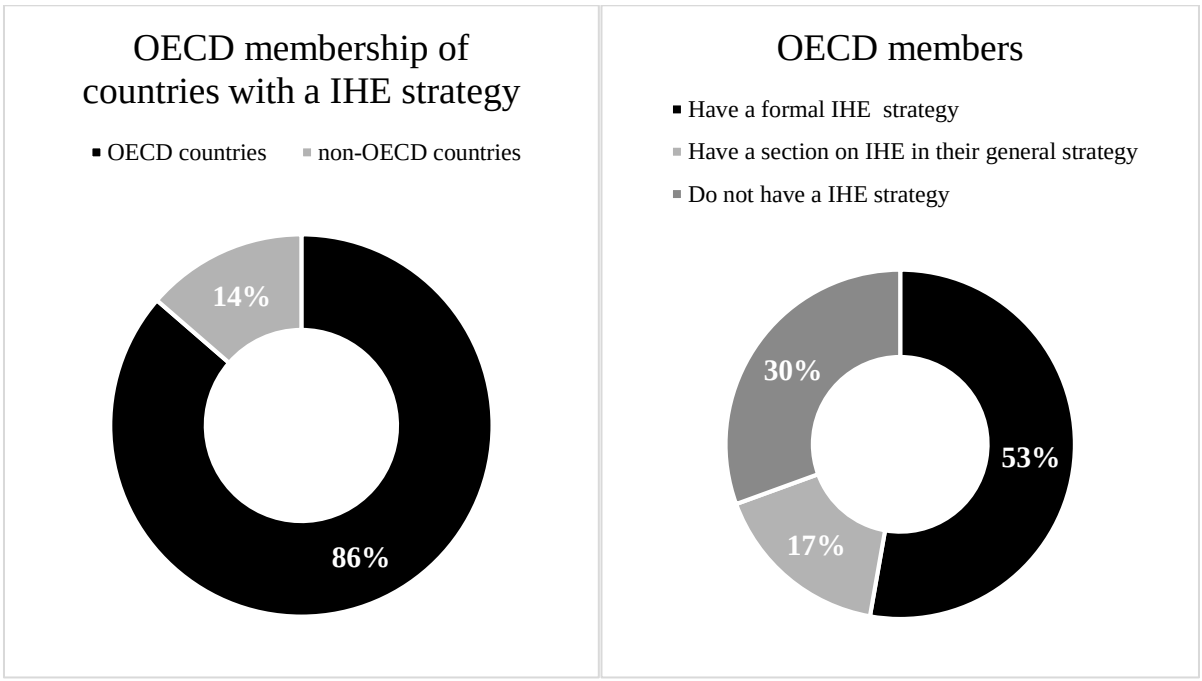
In terms of economic development, thinking about higher education internationalization strategically is mainly a developed country phenomenon. If we look at the Organization for Economic Co-operation and Development (OECD) membership – which is an intergovernmental organization with 36 member countries[67] founded in 1960 to stimulate economic progress and trade (OECD, 2019) – we find that 86% of the countries which have a higher education internationalization strategy are OECD members (n=19) (see **Figure 4.4**). In fact, 70% of all the OECD member countries either have a formal higher education internationalization (IHE) strategy or a section on internationalization in their general higher education strategy (see **Figure 4.4**).

These findings support the argument that "the reality of international education is geographically uneven and far from global in scope and reach" (Brooks & Waters, 2011, p. 45). The spread of internationalization in developed countries is in stark contrast to what is happening at the global level where 80% of countries do not have any formal internationalization strategy (see **Figure 4.1**). Research has shown that the domination of developed countries has enabled them "to reap the benefit[s] of internationalization" (Wadhwa

[67] The OECD currently has 36 member countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, South Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden Switzerland, Turkey, UK, USA (OECD, 2019).

& Jha, 2014, p. 99) by generating an important revenue stream for their economies, more generally, and for their higher education institutions, specifically. One important revenue stream, if not the most important, are international students.

Figure 4.4 Higher education internationalization and OECD membership



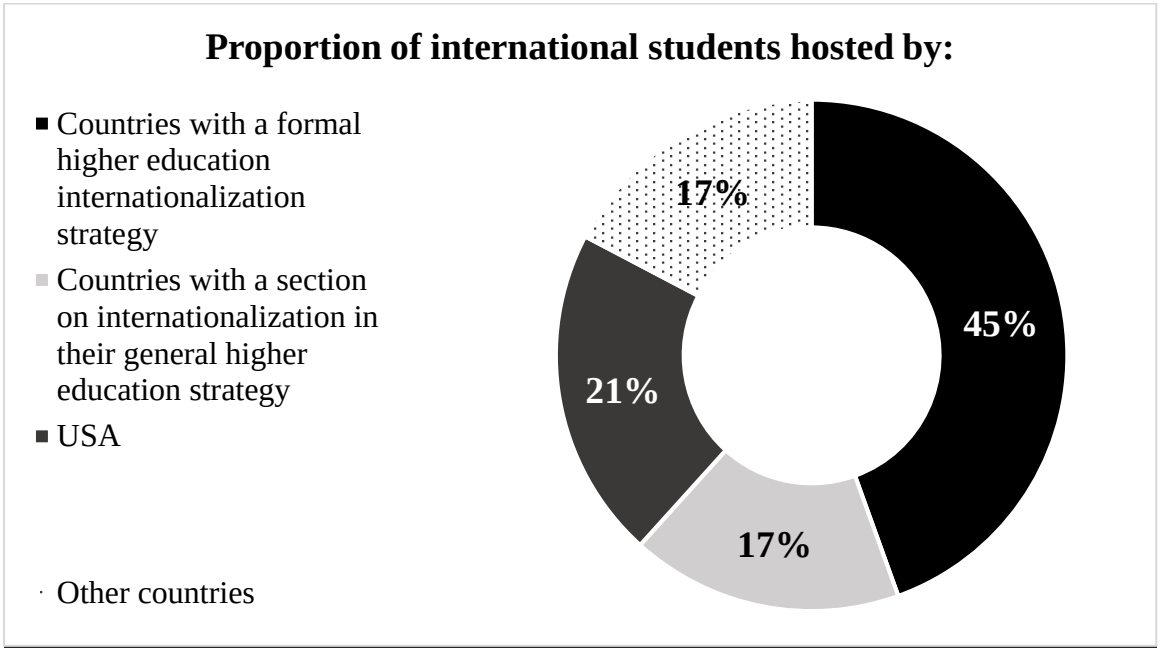
Source: developed by author with data from OECD (OECD, 2019)

Out of 4.6 million students who studied abroad in 2015 (OECD, 2017), the 35 OECD[68] countries attracted 3.3 million of them, that is 72% (OECD, 2016). By comparison (see **Figure 4.5**), the 22 countries that have formal higher education internationalization strategies hosted almost half of all the international students worldwide in in 2015 (UNESCO, 2017). To be precise, the countries with a fully-fledged policy and those with a section on internationalization attracted 62% of all international students in 2015, despite constituting only 20% of all countries (40 out of 198 countries). Together with the USA these countries receive 83% of all global

[68] Lithuania only became a member in 2018, bringing the total number of OECD member countries to 36 (OECD, 2019).

mobility flows – that is 4 in 5 international students go to study in one of these countries. Moreover, only 32% of outgoing mobility originates from these countries[69]. In fact, 80% of the countries with a formal strategy or with a section on internationalization each account for less than 1% outgoing mobility. This data points towards a very skewed distribution of international students with some countries being net receivers and others being net senders.

Figure 4.5 Proportion of international students hosted by country groupings



Source: developed by author with data from UNESCO (2017)

The map **in Figure 4.6** strengthens the finding that internationally mobile students are not evenly distributed across countries. Instead, they are highly concentrated in economically advanced states, especially Anglo-Saxon societies. The data shows that more than 40% of the

[69] Outgoing student mobility from these countries is distributed in the following way: 16% from the countries with a formal higher education internationalization strategy (n=22), 15% from the countries with a section on internationalization in their general higher education strategies (n=18), 1% from the USA. On the whole, these countries are net receivers of international students. For details on incoming and outgoing international students at the country level check **Appendix 4.2** and **Appendix 4.3**.

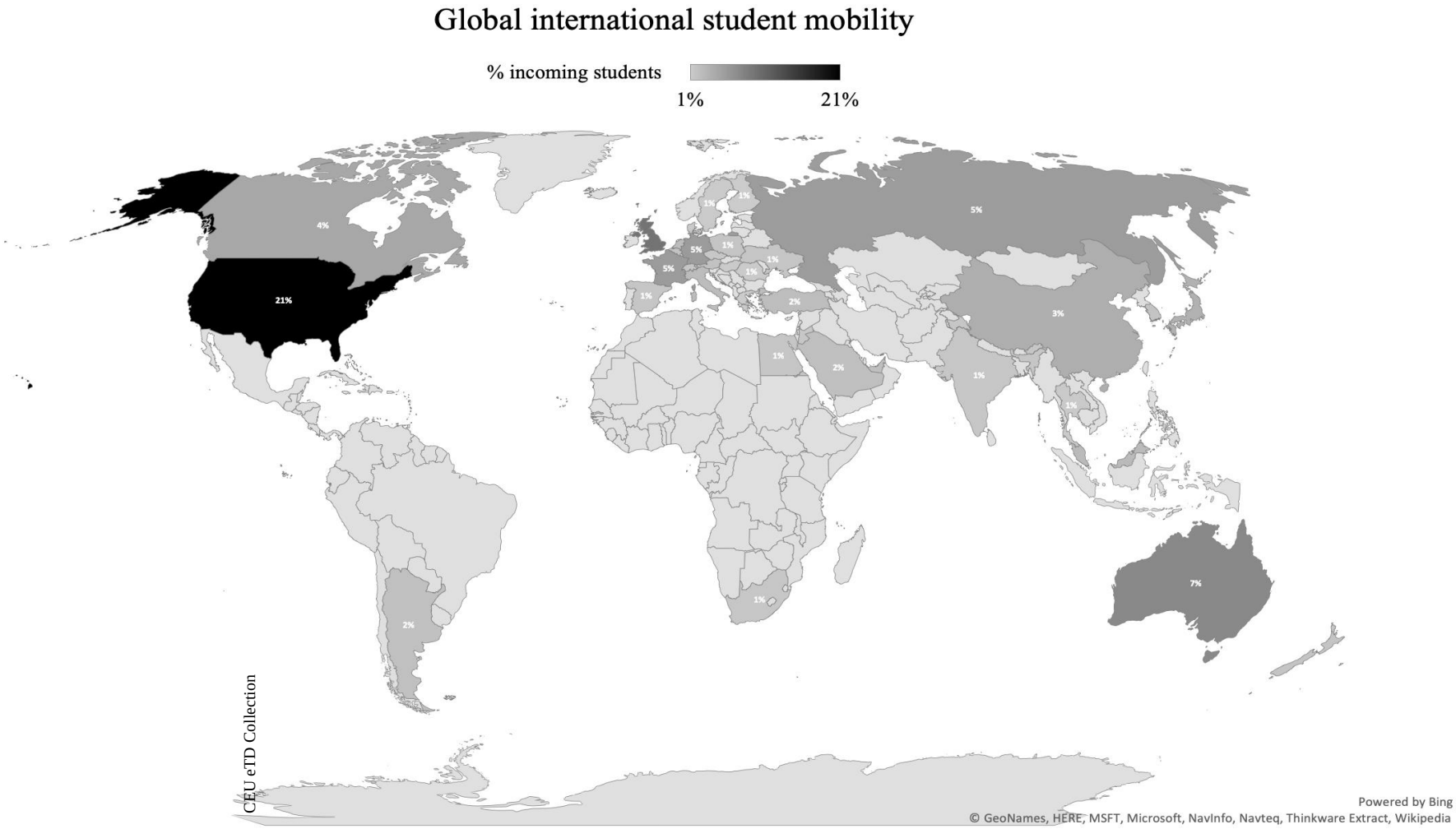
students who study abroad are clustered in just four English-speaking countries: United States of America, United Kingdom, Australia and Canada. It has been argued that these countries have benefited from English being "the Latin of the 21st century" (P.G. Altbach, 2005, p. 66) and the reputation and capacity of their higher education systems (Hughes, 2008).

It is beyond the scope of this thesis to uncover the causal mechanisms for the direction of international student mobility flows, but because the countries with higher education internationalization strategies attract so many international students, the gathered data (see **Appendix 4.2** and **Appendix 4.3**) allows us to probe these hypotheses and see if they offer fruitful avenues for future empirical investigations into the issue.

First, whether teaching in English provides an advantage in terms of attracting international students can be investigated by looking at the languages of instruction used in the different higher education systems with a formal higher education internationalization strategy. The data seems to support this hypothesis. In three quarters of these countries – to be precise, 17 out of 22 countries - English is (one of) the official languages of instruction in higher education (see **Appendix 4.2**). Like Latin before it, English has become the globally preferred language in a variety of fields (e.g. business, science, medicine, technology, education, law, entertainment, diplomacy) which means that "[a]nybody who wants to make their way in the world must speak it" (The Economist, 2019, p. 14)[70]. This has resulted in "a surge in "English-medium" education all over the world" (The Economist, 2019, p. 14) both to attract international students and to prepare domestic students for the global labor market.

[70] Both of these languages "perfectly exemplif[y] the "network effects" of a global tongue: the more people use it, the more useful it is" (The Economist, 2019, p. 14). As the demise of Latin shows, the opposite is also true.

Figure 4.6 Global map of the distribution of international students



Source: developed by author with data from UNESCO (2017) and OECD (2017)

Second, whether reputation provides and advantage in terms of attracting internationals students can be investigated by looking at how many higher education institutions in each of these countries make it in international university rankings (see **Appendix 4.2**). The data also seems to support this hypothesis. From the top 100 universities in the Shanghai Ranking (2017), 44 universities are from countries with formal higher education internationalization strategies, 48 are from the USA (total=92)[71]. Times Higher Education specifically publishes a specific ranking of universities based on their reputation which reveals similar results. From the top 100 universities in the World Reputation Ranking (2018), 44 universities are from countries with formal higher education internationalization strategies and 44 are from the USA (total=88). It seems that the dominance of these countries in university rankings replicates their dominance in attracting international students (see **Figure 4.5**).

Third, having a higher education internationalization strategy might also explain the success of these countries in attracting international students – especially since internationalizing the curricula (i.e. introducing courses/programs/degrees in English) and increasing the quality of higher education (i.e. improving the standing of universities in international rankings) are important features of internationalization[72]. As this thesis focuses on policy meaning, it is

[71] This pattern extends to the top 500 universities of the Shanghai Ranking. From the top 500 universities, 220 universities are from countries with formal higher education internationalization strategies and 135 from the USA (total=355).

[72] The evidence presented shows that there is some relationship between English language instruction, the reputation of higher education systems (as measured by international rankings), having a national higher education internationalization strategy and international student mobility. Nevertheless, it is unclear what is the direction of influence between these variables (e.g. does the availability of English language instruction influence the number of international students or does the increase in international students lead to more countries offering higher

beyond its scope to answer questions pertaining to the field of policy evaluation. Nevertheless, engaging with these questions is important for providing research avenues for further inquiries. Existing studies provide some tentative answers to these queries and reveal areas that are not sufficiently addressed by research. The next section tries to gauge the importance, impact and success oh national higher education internationalization strategies.

4.3 Evaluating National Higher Education Internationalization Strategies

There are three central questions that inevitably come to the fore when discussing national higher education internationalization strategies: (1) how important are they in driving higher education internationalization, (2) what kind of impact do they have on higher education institutions, and (3) how successful are they in reaching intended outcomes. This section provides tentative answers to these questions by analyzing existing evidence.

4.3.1 Importance of National Higher Education Internationalization Strategies

First, existing research suggests that national policies are very important in driving higher education internationalization. The fourth IAU Global Survey – which collected responses from 1336 higher education institutions in 131 countries in every region of the world – asked respondents to rank what they perceive to be the top three most important external drivers of internationalization[73] (see **Table 4.1**). The results show that government policy is ranked as the

education instruction in English?). The possible mutual influence between these variables makes it difficult to ascertain which is the cause and which is the effect (i.e. think of the chicken and egg analogy).

[73] The respondents had to rank the top three key external drivers of internationalization (where 1 represented the most important driver) from the following list: government policy, regional policies, business and industry

most important external driver (32% of HEIs ranked it 1st) followed by business and industry (18% of HEIs ranked it 1st) and national and international rankings[74] (9% of HEIs ranked it 1st) (Egron-Polak & Hudson, 2014).

If we examine regional results, with the exception of North America, all other world regions ranked government policy as the most important or second most important external driver of internationalization, thus confirming the significance of this factor in forwarding the process (see **Table 4.1**). Comparing these results with the distribution of countries with national internationalization strategies according to world regions (see **Figure 4.3**), it becomes apparent that there is a link between the importance attached to government policy and the existence of national strategies in those world regions. Europe, Asia and the Pacific[75] regions account for 21 out of the 22 national strategies uncovered and also rank government policy as the number one external driver of internationalization.

demand, demographic trends, lack of public funding for higher education, demand from foreign higher education institutions, national and international rankings, other (please describe) (Egron-Polak & Hudson, 2014).

[74] This finding illustrates very well the direction of influence issue discussed in **Footnote 15**, i.e. do rankings influence internationalization, or does internationalization influence rankings? It seems that "the two processes of ranking and internationalization have become intertwined. Both apparently exert an influence on each other" (Coelen, 2009, p. 45).

[75] Following the nomenclature established by the UN grouping of countries on world regions (UN Statistics Division, 1999) the thesis referred to the Pacific region as Oceania. Both denominations represent a collective name given to islands in the Pacific Ocean. The sub-regions of Oceania are Australasia (Australia and New Zealand), Melanesia, Micronesia, and Polynesia.

Table 4.1 Top 3 ranked external drivers of internationalization according to world regions

World region / External driver	Global	Africa	Asia & Pacific	Europe	Latin-America & Caribbean	Middle East	North America
Government policy	1st	2nd	1st	1st	1st	2nd	
Business and industry demand	2nd	3rd	2nd		2nd	3rd	2nd
National and international rankings	3rd	1st	3rd	3rd	3rd	1st	
Demand from foreign higher education institutions		2nd					3rd
Demographic trends							1st
Regional policies				2nd			
Lack of public funding for higher education							

Source: Egron-Polak & Hudson, 2014a, p. 58

Certainly, the USA is the 'odd man out' in this study as it does not have a national strategy for internationalization[76], but it is still considered the leader when it comes to internationalization

[76] The USA is not analyzed in this thesis because the research focuses on countries that have a formal national internationalization policy (for a more detailed explanation see **Chapter 3** Research Design and Methodology). Nevertheless, because the USA is considered a leader in higher education internationalization, this case is briefly discussed in this section.

and especially in attracting international students (see **Figure 4.6**). Nevertheless, while US higher education is at an advanced level of internationality, there is little system-level support for internationalization[77]. The reality is that "most international efforts continue to come from faculty members, students, and staff members" (Lane et al., 2014, p. 3) and that "internationalization-related support is still very much centered on individual opportunities and activities" (Helms, 2015, p. 27). Thus, the case of the USA raises significant questions about the importance of national higher education internationalization strategies in forwarding the process.

While there have been calls for a federal level policy, the main hypothesis that has been broadly circulated to explain the absence of a policy at the national level is that, unlike in most other countries, the responsibility for steering higher education in the USA does not fall on the federal government[78], but it is devolved to the state government (Helms, 2015). Nevertheless, other federations – see for instance Germany, Switzerland or Canada – do have national higher education policies.

So, on its own the decentralization of US higher education does not explain the lack of a national policy. Thus, factors related to the size and the institutional diversity of the US higher education system have been added to the decentralization-argument to explain the absence of a federal level policy (Helms, 2015). The question then becomes, what is the state level engagement with

[77] In fact, a study inventorying current internationalization policies and programs from key policy players in the US higher education (i.e. Department of State, Department of Education, and Department of Defense, National Science Foundation, etc.) revealed that "current U.S. initiatives center principally on student mobility" (Helms, 2015, p. 1)

[78] Moreover, the fact that the USA does not have a ministry of education or any other nationwide agency that is responsible for the overall purpose, function and delivery of higher education "sets the U.S. apart from most countries" (Helms, 2015, p. 5).

higher education internationalization in the USA? This is a pertinent counterfactual question as at the state level the size and diversity of the system are greatly reduced and the authority for higher education is centralized. The answer, however, is that state-level engagement with higher education internationalization is very limited too and few efforts have been made to approach the issue "from the perspective of how the state can support higher education's work in this area instead of how higher education can support the needs of the state" (Lane et al., 2014, p. 25).

Traditionally, US "states have been ambivalent, if not outright hostile, toward the international engagements of their colleges and universities" (Lane et al., 2014, p. 24). Recent research on the current state of affairs has also concluded that support for internationalization at the state level in the USA is quite limited. In fact, there are very few states with an international higher education policy agenda of any kind (mostly *Study in*[79] initiatives that are actually run and financed mostly by higher education institutions through membership fees, not by state agencies), there is little state funding for the process (in 2016 only 5% of universities had received any state funding for internationalization), and there is also a lack of formal administrative structures to manage internationalization (Helms, 2015; Helms, Brajkovic, & Struthers, 2017; Lane et al., 2014).

Thus, it seems that the combination of size, diversity and decentralization of the US higher education system do not explain the lack of a formal policy for higher education internationalization. The thesis suggests an alternative hypothesis derived from the findings

[79] Most *Study in* [your State] (e.g. Study Alabama, Study Iowa, Study Mississippi, etc.) initiatives in the USA are private nonprofit organizations that "pool resources of multiple entities to brand the education sector in each state and market to students outside of the state, with an emphasis on attracting and recruiting international students" (Lane et al., 2014, p. 16).

presented in this chapter. As previously shown, higher education internationalization strategies at the national level are a relatively new phenomenon that is not very widespread globally. Therefore, not having a national internationalization strategy can be considered the status quo. In the US, system-level internationalization happened as a result of policy drift, being triggered by powerful private universities with clear internationalization strategies at the institutional level. Thus, US activities in the area of internationalization have to be analyzed by looking at the activities of the large private higher education sector in the country, and not through the lens of state or federal level decision-making.

A possible explanation, for why other countries have adopted comprehensive system-level internationalization strategies, could be to catch-up and compete with the USA. This claim is supported by the fact that the adoption of national policies in other parts of the world is very recent and by the fact that strategies have mostly been adopted by other developed countries that are competing with the USA in international rankings and in attracting international students. Moreover, the higher education systems in countries with formal internationalization policies are mostly dominated by public higher education institutions which are steered and funded by the state, so there is little that universities can do in the area of internationalization without system-level support. Further research into the matter would be needed to test this hypothesis. Nevertheless, in examining the European case (see **Table 4.1**) – a region where higher education systems are mostly composed of public universities – it is interesting to note that higher education institution find both national and regional level policy as an important driver.

European higher education institutions ranked regional policies[80] as one of the top 3 drivers of internationalization (Egron-Polak & Hudson, 2014), giving it second billing only to

[80] Regional policies refer to policies put out by regional bodies such as the EU, ASEAN, OAS, etc.

government policies. These results clearly point towards the importance attached by European universities to EU policies and programs (e.g. the Erasmus student, faculty and staff mobility program, the Marie Curie research fellowships, the Horizon 2020 research and innovation program, the European agenda for internationalization) and the Bologna Process in forwarding internationalization (de Wit et al., 2015). More broadly, the results highlight the significance ascribed to structured policies and programs supporting internationalization at any level[81]: "the fact that European respondents are the only ones who place regional policy among the top three ranked external drivers can also be seen as demonstrating the continued lack of such strong and effective regional policies and programs in other parts of the world" (Egron-Polak & Hudson, 2014).

All in all, there is ample evidence to suggest that national policies are considered important in driving higher education internationalization. Future research should look into how external drivers influence the trajectory of internationalization in different national contexts or world regions. The results of the IAU Global Surveys (see **Table 4.1**) provide a solid case selection framework to pursue inquiries in this direction.

4.3.2 Impact of National Higher Education Internationalization Strategies

Second, research suggests that higher education institutions perceive national policies as having a strong and positive impact on internationalization. The first EAIE Barometer – which collected answers from university staff in approximately 1500 higher education institutions in

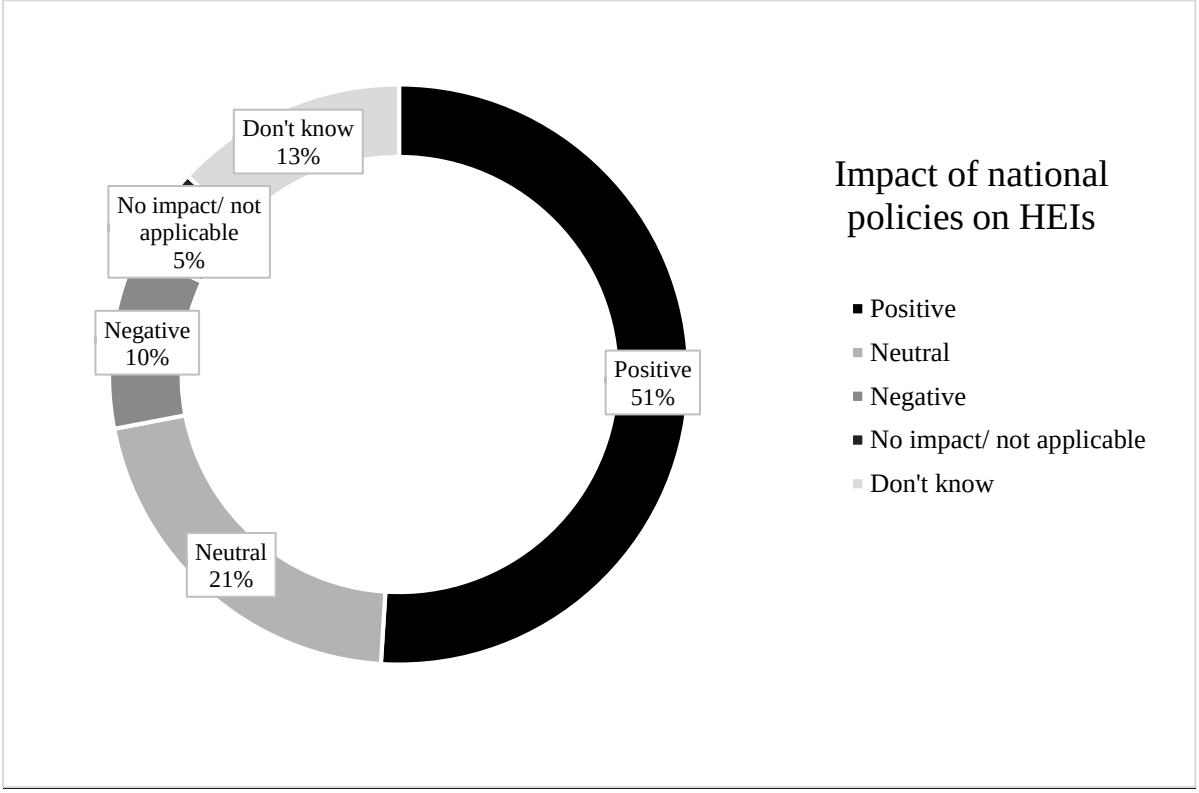
[81] In both editions of the EAIE Barometer which surveys higher education institutions in the EHEA, only 2% to 3% of respondents reported that EU policies have no impact on internationalization at their institutions (Engel et al., 2015; Sandström & Hudson, 2018). Moreover, a staggering 73% of respondents in the second EAIE Barometer argued that EU policies have a positive effect on internationalization at their university (Sandström & Hudson, 2018).

33 EHEA countries – asked respondents to rate the influence of the national level on institutional internationalization on a 5-point scale from (1) no influence to (5) strong influence (Engel et al., 2015). The majority of staff (68%) perceived the national level as being influential or strongly influential and only 7% perceived it as having little or no influence (Engel et al., 2015).

The second EAIE Barometer – which collected answers from administrators and staff in 1292 higher education institutions in 45 EHEA countries – asked respondents about the impact of national polices on internationalization at their home institutions (see **Figure 4.7**) (Sandström & Hudson, 2018). The majority of staff (51%) reported that national policies have a positive impact on internationalization and only 10% reported a negative impact (Sandström & Hudson, 2018). It is unclear why this is the case: is it the existent policies or the lack thereof that makes university staff view the government as hampering or having an affirmative effect on internationalization?

Anecdotal evidence seems to suggest that government policies for internationalization are generally appreciated by higher education institutions. The first EAIE Barometer indicated that higher education institutions "appear to attach great value to internationalization policies coordinated by governmental organizations and/or bodies at the national level" (Engel et al., 2015, p. 8). Existent evidence also shows that staff at public universities – institutions that can be more easily influenced by national governments – "have a more favorable view of the impact of national policies on internationalization at their HEI (54%) than those working at privately-funded HEIs (private non-profit 43% and private for-profit 40%)" (Sandström & Hudson, 2018, p. 33). Moreover, heads of international offices – administrative staff that arguably have a good grasp of external factors affecting internationalization at their institutions – have the most positive view (56%) about the impact of the national level on internationalization (Sandström & Hudson, 2018).

Figure 4.7 Impact of national policies on internationalization at higher education institutions in the European Higher Education Area (EHEA)



Source: developed by author with data from the EAIE Barometer (Sandström & Hudson, 2018, p. 31)

All in all, this evidence seems to suggest that at least in the EHEA region, national internationalization strategies generally "offer a spring-board for HEIs, not a strait jacket" (Egron-Polak, 2017, sec. 4). Future research should extend the inquiry beyond EHEA countries, look into the rationales behind these positive and negative attitudes towards government policies, and compare the impact of government between countries with higher education internationalization strategies and those without. Ultimately, such research could better inform governments about the needs of higher education institutions and lead to the design of more impactful national strategies, policies and programs.

4.3.3 Success of National Higher Education Internationalization Strategies

Third, little is known about the success of national strategies in achieving their intended goals. The existing evidence is puzzling. On the one hand, for some countries having a national strategy has represented a blueprint for success (de Wit, Rumbley, Craciun, Mihut, & Woldegiyorgis, 2019). For example, experts consider that the strategy of Estonia has taken the country "from zero to hero" (Kiisler, 2018) in the area of higher education internationalization[82]. On the other hand, some countries – most notably, the USA (see **Figure 4.6**) have been successful without having a national strategy.

Examining the ranking of the top 100 most international universities in the world developed by Times Higher Education (2018a) reveals that the majority of higher education institutions (n=68) are from countries (n=15) that have a national higher education internationalization strategy[83]. The ranking was compiled using not just international student metrics, but also international staff, international research co-authorship, and international reputation metrics (Times Higher Education, 2018a). Nevertheless, without further research, it remains unclear what role national internationalization strategies played in supporting these higher education institutions to internationalize and achieve these results, or how internationalized the whole

[82] This conclusion is supported by an interim impact assessment of the Estonian higher education internationalization strategy (see Tamtik, Kirss, Beerkens, & Kaarma, 2011) and an upcoming report that evaluates Estonia to be a best practice example (see de Wit et al., 2019).

[83] The 67 higher education institutions come from 15 countries that have national higher education internationalization strategies. These countries are: Australia (6), Belgium (3), Canada (7), Denmark (4), Finland (2), Germany (7), Ireland (1), the Netherlands (6), New Zealand (1), Norway (1), Singapore (2), Spain (2), Sweden (5), Switzerland (4), and the UK (17). The ranking also includes 5 universities from countries with a section on internationalization in their general higher education strategy, and 29 universities from countries with no national higher education internationalization strategy (22 of these are US institutions).

higher education system in those countries is beyond the flagship universities that made it into the ranking.

"The business literature is unequivocal about strategy – it is the essence of competitive success" (Stewart, 2004, p. 17). In the private sector, where the financial bottom line is the universal yardstick for measuring success, evaluating the outcomes of strategies is easier. In the public sector, where actors have to balance different and sometimes contradictory objectives, evaluating the actual success of strategies is harder and can sometimes lead to inconsistent assessments (Matei et al., 2018). As a result, "specific data and clear answers about issues of impact are fairly scarce" (Helms & Rumbley, 2016, para. 9).

In addition to their complexity, there are further reasons that constrict the impact assessments of national internationalization strategies. For one, it is too soon to tell whether long term policy goals have been successfully achieved (European University Association, 2013; Helms & Rumbley, 2016). As previously shown, national internationalization strategies are quite a new phenomenon (see **Figure 4.2**) and, thus, evaluating their results at this moment in time seems premature in most cases. Directly related to this point, there is a lack of raw data and comprehensive indicators to measure the success of internationalization strategies. Beyond circumstantial evidence, there is "not much data showing the impact of different internationalization strategies" (Helms & Rumbley, 2016, para. 1). Finally, there is scant research about the interaction effects between the national level and higher education institutions which are the main actors in the operationalization and implementation of national internationalization strategies.

Even when assessing the success of internationalization strategies at the institutional level research reports conflicting results. On the one hand, self-reported results from higher education institutions suggest that institutional strategies have a positive effect on internationalization enabling universities to achieve their stated goals. The European Universities Association

(EUA) conducted a survey of its members – collecting answers from 175 higher education institutions in 38 EHEA countries – and found that "all but one institution state that their strategy has had a positive impact on their institution's internationalization" (European University Association, 2013b, p. 7). On the other, researchers argue that even though many universities launch strategies in the hopes of forwarding internationalization, "a closer look at what is actually happening post-announcement shows that many of these initiatives have a marginal impact on the institutions that launched them and often fail to deliver what they promise" (Hawawani, 2011, p. 3).

If there is such disagreement on assessing the impact of institutional strategies which are narrower in scope and size, what are the prospects for assessing the success of national strategies of internationalization? Because of the above mentioned reasons "determining the effectiveness of internationalization policies is a formidable challenge" (Helms et al., 2015, p. 53). This thesis argues that future research should nevertheless deal with this challenge and take a data-driven systematic approach to assessing the success and failure of internationalization strategies.

Previous studies have suggested that national support for internationalization – grounded in a thorough understanding of institutional realities – and institutional autonomy are the core ingredients of successful internationalization (Helms et al., 2015; Ilieva & Peak, 2016). In other words, national internationalization strategies "that fail to take into account institutional priorities, and vice versa, present major challenges for achieving successful outcomes" (Helms & Rumbley, 2016, para. 16). This argument is rooted in a solid theoretical understanding of higher education institutions as both objects and subjects of internationalization that "are affected by and at the same time influence these processes" (Enders, 2004, p. 365).

Starting from these observations, a typology that operationalizes the possible interaction outcomes between the national and institutional levels is proposed (see **Figure 4.8**). Both nation

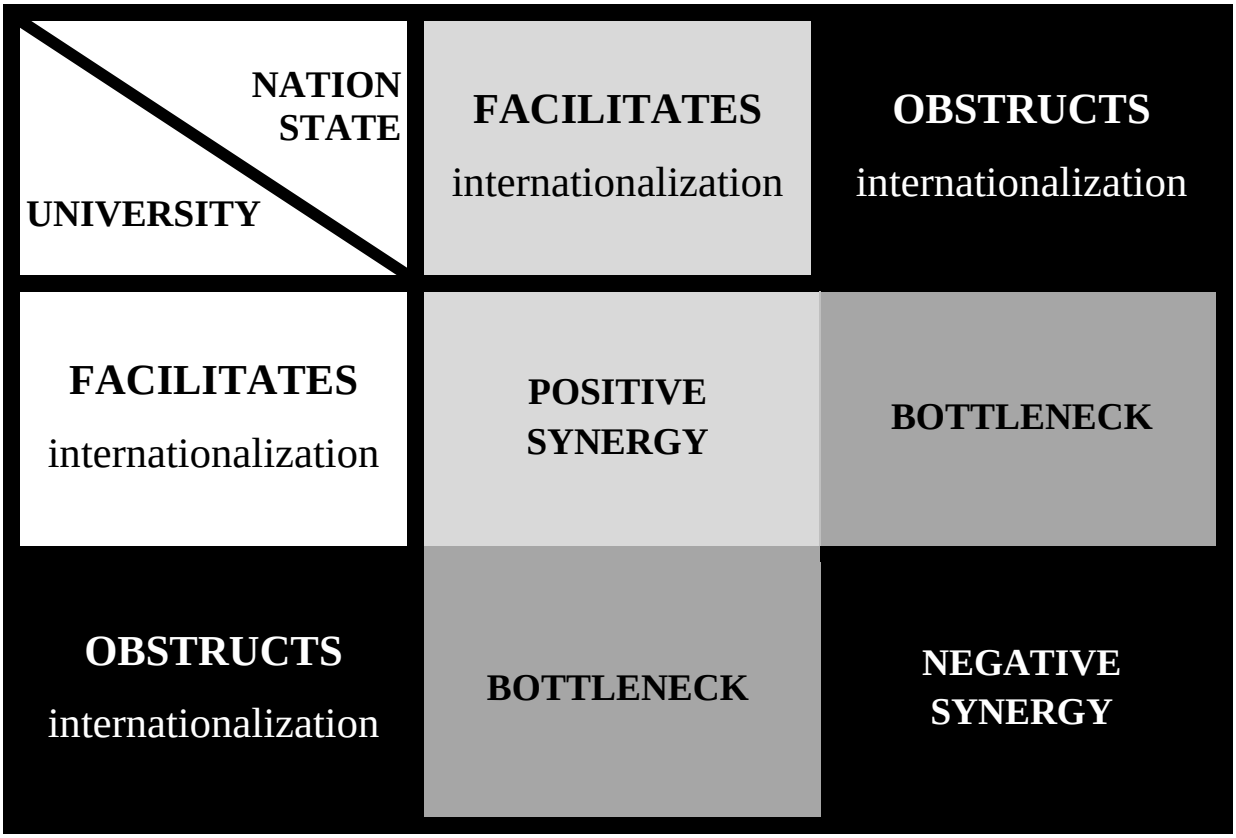
states and higher education institutions can facilitate or obstruct the process of internationalization through their activity or inactivity. Through these interactions, three possible outcomes are theorized: (1) positive synergies when both the nation state and higher education institutions facilitate internationalization, (2) negative synergies when both the nation state and higher education institutions obstruct internationalization, and (3) bottlenecks when either the nation state or higher education institutions obstruct internationalization while the other tries to facilitate it.

National higher education internationalization strategies provide general frameworks for making decisions about how the higher education system, and its constituent institutions, should engage with the process of internationalization. Like strategies from other public sectors, higher education internationalization strategies "can include goal statements, mission statements, vision statements, implementation initiatives, allocated resources, timelines, and performance indicators" (Childress, 2009, p. 3). Thus, strategies offer a comprehensive overview of the ways governments pursue, and the means they employ, to facilitate internationalization and point to areas where internationalization might be obstructed. Thus, a systematic analysis of these strategies is be a valuable source of information for both research and practice. Having an understanding of the national rationales, priorities, and measures for facilitating internationalization is the first step in empirically analyzing these interaction effects and establishing the conditions that affect policy success.

The typology presented in **Figure 4.8** enables researchers to empirically test the interaction effects between national and institutional strategies of internationalization and could provide much needed answers about policy success and failure. Employing it affords some further immediate benefits. The level of analysis can be scaled up or down depending on the aims of the research, e.g. investigating specific policies or higher education institutions or looking at the higher education system as a whole. The framework provides a basis and justification for

case selection into policy success and failure for empirical research. Moreover, it can facilitate systematic cross-national and cross-institutional comparative analysis. As it can be used in both qualitative and quantitative studies, it offers a scaffolding for systematizing emerging findings and, thus, can lead to cumulative knowledge about when and how higher education systems and institutions succeed to internationalize.

Figure 4.8 Typology of interaction outcomes between national and institutional level in higher education internationalization



Source: adapted by author (Cerna, 2014; Henard et al., 2012)

In sum, the inventory exercise conducted in this chapter was intended to provide an initial mapping of global trends in higher education internationalization from a national level perspective. While these findings offer a new point of view on higher education internationalization around the world, further research is needed to dig deeper into the different rationales, approaches, and substantive measures that these countries employ to forward the process. In other words, further analyses should examine more precisely who is doing what,

when, where, how, and why. Such benchmarking exercises have been fruitfully conducted at the institutional level (de Wit, 2009), the same is needed at the national level. The next chapter aims to do just that.

CHAPTER 5

UNDERSTANDING NATIONAL POLICIES FOR HIGHER EDUCATION INTERNATIONALIZATION: A CONTENT ANALYSIS

Building on the new perspectives on higher education internationalization developed in the findings presented in the previous chapter, this chapter digs deeper into the different goals, priorities, and substantive target measures that countries employ to further the process. To this end, the content analysis of national strategies of internationalization reveals important similarities and differences between them. The comparative perspective helps to characterize and contextualize individual policies within a global reference framework and to highlight the most prominent aspects of internationalization. In what follows, the chapter will analyze and present the content features of higher education internationalization strategies so as to provide a more refined understanding of the process. The classifications of internationalization strategies that emerge from this analysis provide a solid foundation which can help future research agendas to uncover novel puzzles and ask relevant causal questions. The chapter finishes by providing a renewed conceptualization of higher education internationalization that takes into account the totality of the findings of this thesis regarding the process.

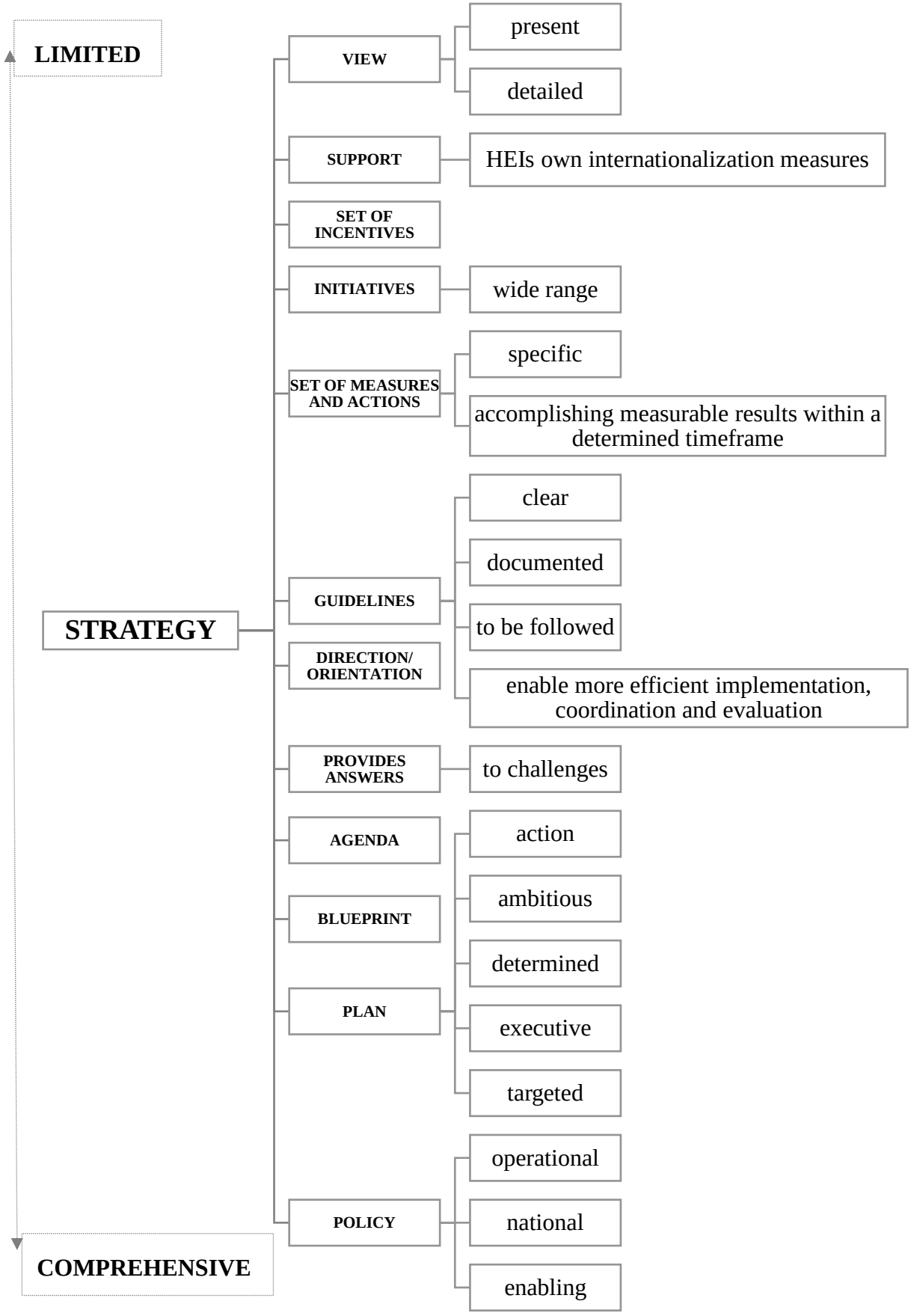
5.1 What are national strategies for higher education internationalization?

Before presenting and analyzing the findings on the understandings, rationales, priorities, and targets of internationalization strategies around the world, it is important to identify what exactly a strategy is. Understanding how countries themselves interpret the function of a strategy helps to further illuminate this point. **Figure 5.1** presents a concept map of the different ways in which countries view the functionality of internationalization strategies.

The data analysis behind **Figure 5.1** was conducted using key words in context (KWIC) method of computer assisted text analysis and validated using qualitative interviewing of documents (see **Section 3.3**). The method, developed by Hans Peter Luhn (1966), rests on a contextual theory of meaning arguing that "you shall know a word by the company it keeps" (Firth, 1956, p. 11). In other words, the method enables researchers to better grasp the intended meaning of a word by looking at the words surrounding it. Starting from this quick way of simplifying the complexity of the higher education internationalization strategy documents, the analysis then proceeded to validate the emerging categories qualitatively.

Looking at **Figure 5.1** it can be seen that the understanding of 'strategy' evolves on a continuum, from providing a limited symbolic present view of what internationalization means at one end to a comprehensive operationalized national policy that enables the development of internationalization at the other end. Thus, a spectrum of government engagement with the process of internationalization is apparent: from a more passive and limited role to a more active and comprehensive role (see **Figure 5.1**). Most of the documents make a direct reference to the fact that strategies are meant to provide a framework of guidelines and resources that assist and support higher education institutions in developing, consolidating, or accelerating their own internationalization activities.

Figure 5. 1 Strategy concept map



Source: developed by author

Table 5.1 Responsibilities of authorities issuing national internationalization strategies

Responsibility / Country	Government wide	(Higher) education	Science	Research	Skills/ training	Culture	Technology	Foreign affairs	Trade	Investment	Development
Australia	■							■	■	■	
Belgium		■			■						
Canada									■		■
Denmark	■										
Estonia		■		■							
Finland		■									
Germany		■	■	■							
Ireland		■			■						
Japan		■	■			■	■				
Kazakhstan		■	■								
South Korea	■	■	■				■				
Lithuania		■	■								
Malaysia		■									
Netherlands		■	■			■					
New Zealand	■										
Norway		■		■							
Poland		■	■								
Singapore											■
Spain		■				■					
Sweden	■										
Switzerland	■										
UK	■										
TOTAL	7	14	7	3	2	3	2	1	2	1	2

Source: developed by author

In this sense, governments' role is to 'steer not row' higher education internationalization, i.e. "make policy but utilize other actors actually to deliver the public services" (Peters, 2011, p. 5). Thus, policy strategies are what governments intend to change (Stewart, 2004). They are different from legislation or rule of law: "while law can compel or prohibit behaviors (…), policy merely guides actions towards those behaviors that are most likely to achieve a desired outcome" (Kutsyuruba, Burgess, Walker, & Donlevy, 2013, p. 8). This perspective is clearly reflected in the documents analyzed (see **Figure 5.1**) where strategy is not described as law, but as a written statement intended to guide, support, incentivize, and provide direction and impetus to internationalization through an operationalized, targeted, and planned set of measures and actions.

In most cases internationalization strategies come from government bodies that are directly in charge with overseeing higher education, i.e. ministries of education (MoE) (see **Table 5.1**). Nevertheless, the data also shows that such strategies can be issued by a variety of national authorities: from the whole government (e.g. Denmark, Sweden, UK) to national agencies, ministries and departments in charge of an assortment (or a combination) of issues: science, research, skills, culture, technology, foreign affairs, trade, investment and development[84]. In general, the issuing authorities of national higher education internationalization strategies are either in charge of academic or economic affairs. It can be reasonably expected that depending on the profile and responsibilities of the entities issuing national higher education internationalization strategies the rationales behind, the priorities set, and the measures taken to facilitate internationalization will be different (Helms et al., 2015). The analysis of the

[84] Depending on the country, ministries or departments are in charge of a single issue (e.g. the Ministry of Higher Education in Malaysia) or a variety of issues (e.g. the Department of Foreign Affairs, Trade and Development in Canada). For further details on the issuing authorities of national higher education internationalization strategies see **Appendix 3.3** and **Table 5.1**.

strategic documents enables us to examine this expectation. Therefore, the next section in this chapter will analyze the country-specific goals, priorities and measures taken by governments to enable the internationalization of their higher education systems.

5.2 What are the elements of national strategies for higher education internationalization?[85]

Policy strategies provide guidelines for the overarching question of how a policy should be implemented to achieve the outcomes intended by government. Without a strategic document to guide decisions, institutions and organizations "run in too many different directions, accomplish little, squander profits, and suffer enormous confusion and discord" (Latham, 2017, para. 2). The same logic applies to higher education systems pursuing internationalization. In effect, a national strategy answers the questions of who, what, where, when and how the country will pursue the internationalization of their higher education system.

Figure 5.2 presents an overall picture of central strategic issues included in higher education internationalization strategies. It looks into (1) whether actors other than the government are involved in promoting internationalization at the system level (*who*), (2) whether the strategy mentions specific internationalization targets the government wants to reach and whether it is aligned with other policies promoted by the government (*what*), (3) whether the strategy mentions a specific geographical focus where activities are to be concentrated (*where*), (4) whether the strategy mentions a specific timeline in which the intended goals are to be achieved (*when*), and (5) whether funding is allocated for the measure proposed by the strategy (*how*).

[85] This section is based on an upcoming publication written by the author (Crăciun, 2019): Crăciun, D. (2019). Internationalization with Adjectives. In H. de Wit & K. Godwing (Eds.), Intelligent Internationalization: The Shape of Things to Come. Rotterdam: Sense Publishers.

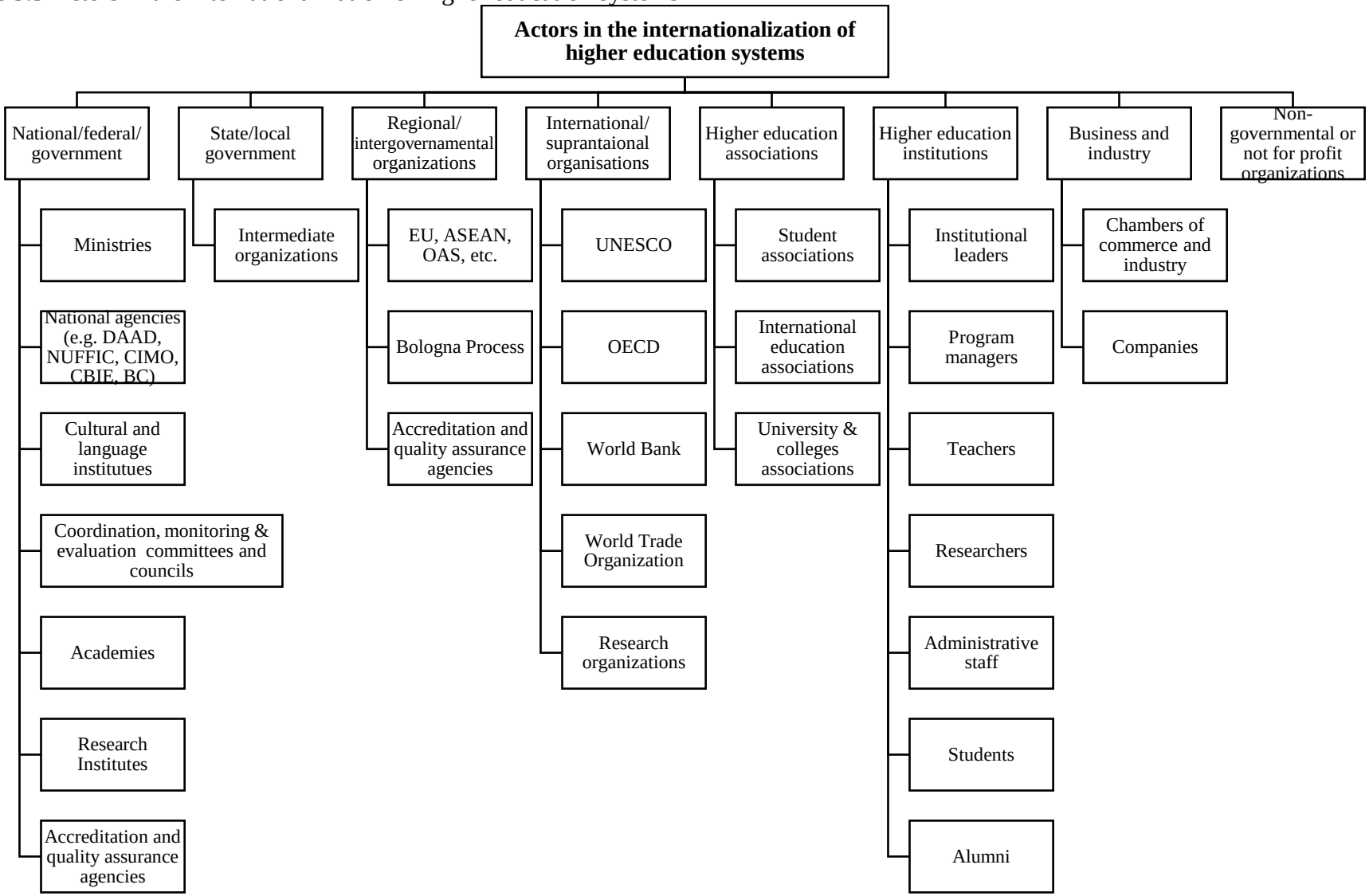
The results presented in **Figure 5.2** show that the vast majority of documents tackle the central issues pertaining to strategic planning.

Figure 5.2 Proportion of national higher education internationalization strategies discussing central strategic issues

Source: developed by author

The analysis revealed that all the strategies mention the role of actors other than the issuing authority in higher education internationalization (see **Figure 5.2**). In fact, there are so many actors with which issuing authorities coordinate, or that are referenced as playing key roles in forwarding particular internationalization measures, that it is almost impossible to provide a complete picture.

Figure 5.3 Actors in the internationalization of higher education systems



Source: developed by author

Figure 5.3 attempts to give a glimpse into the intricate tapestry of actors at various levels of authority directly mentioned by the national strategies analyzed[86]: from individuals to supranational organizations. Looking at the lists of actors, it becomes apparent that national strategies bring together most, if not all, the different stakeholders of higher education internationalization providing a holistic vision of the process in a particular country.

Depending on their type, institutional architecture, and the level at which they operate, the actors presented in **Figure 5.3** are responsible either for specific or for comprehensive roles to play in advancing internationalization at the system level. These roles generally include:

(1) **policymaking**: integrate internationalization efforts, ensure that various policies are mutually compatible and internationally competitive, outline academic and educational policy frameworks and standards, draft policies in line with national priorities and international standards and decisions;

(2) **regulating**: define academic and educational conditions and rules of activity, outline regulatory frameworks (i.e. transnational education, recognition of diplomas, etc.), reduce international cooperation barriers, seal bi-lateral, multi-lateral and regional agreements and memorandums of understanding (MoU), license, inspect and enforce standards;

(3) **funding**: provide and allocate financial resources, subsidize certain activities, apply market incentives, charge fees;

[86] Depending on the country, some of the actors might be under the direct purview of the state or local government rather than the national or federal government (or institutions may be replicated at both levels of authority). In other cases, organizations carrying out particular tasks might be independent from government authorities (e.g. governments can contract out the provision or evaluation of particular services). Thus, the actor chart will look different from country to country.

(4) **programming and implementation**: promote specific initiatives (e.g. mobility) through designated programs, translate national policies into institutional programs, implement internationalization programs and initiatives;

(5) **monitoring and evaluation**: benchmarking against international standards, overseeing activities and facilities, providing interim and final evaluations of policies and programs;

(6) **advocacy**: provide recommendations and opinions, stakeholder representation, issue advocacy;

(7) **networking**: establish networks of actors, connect academic and business professionals, connect higher education institutions;

(8) **research**: support or conduct research and development, promote evidence-based policy making;

(9) **information collection and exchange**: gather and disseminate pertinent and timely data on internationalization or on issues that might impact the process, develop information channels with target publics and between actors and

(10) **branding**: develop a country brand, promote the national higher education system and institutions abroad, connect with influential alumni.

Looking at the roles and activities carried out by different actors shows that governments use a plethora of policy tools at their disposal to address the policy issue at hand. Nevertheless, the strategies recognize higher education institutions as the central actors in ensuring policy success as they are both the objects and subjects of these internationalization activities. The elevated status given to higher education institutions in national higher education international strategies makes the typology of interaction outcomes between national and institutional levels of analysis (see **Figure 4.7**) a viable framework for analysis in future research investigating policy success and failure.

The actor analysis also revealed that the issuing authority – usually the ministry of education or a similarly named body (see **Appendix 3.3**) – acts as the lead governmental entity in advancing higher education internationalization, but that a wider range of ministries and departments are directly involved in developing, coordinating and supporting the strategy (e.g. ministries and departments in charge of international/adult/vocational/higher education, immigration, youth, tourism, commerce, innovation, science, technology, research, language, home affairs, foreign affairs, information, communication, finance, employment, business, economy, development, investment, trade, competitiveness, cooperation). This shows that strategies really do transform the ""siloed" nature of internationalization-related policies and programs in separate government agencies" (Helms, 2015, p. 40) and ministries into an integrated approach. This claim is also supported by the fact that the vast majority (86%) of internationalization strategies make direct reference to other policies or strategies with which they are aligned[87] (see **Figure 5.2**).

The documents analyzed often mention (76%) specific geographical regions where government efforts[88] (e.g. attracting international students, research cooperation, capacity building) are targeted. Generally, these regions are the ones to which the countries belong to (e.g. European countries focusing on the EHEA), in the immediate neighborhood of the countries (e.g.

[87] These are formal policies and programs promoted by the variety of actors presented in **Figure 5.3** and which national higher education internationalization strategies try to implement, complement or supplement in order to achieve wider national goals (i.e. political, economic, socio-cultural and academic goals).

[88] This is quite similar to the findings of the 4th IAU Global Survey which found that 60% of higher education institutions have a geographic priority for internationalization (Egron-Polak & Hudson, 2014). The disaggregated regional results show that this is even more so the case for the regions where more countries have national higher education internationalization strategies (see **Figure 4.3**): 66% of HEIs in Europe and 62% of HEIs in Asia and Oceania report that they have a geographic priority for internationalization (Egron-Polak & Hudson, 2014).

Australia focusing on Asia and the Indo-Pacific region), well-established (e.g. Norway focusing on North America) and upcoming (e.g. Switzerland including a targeted cooperation initiative with BRICS[89] countries) players in higher education internationalization, or developing and emerging economies (e.g. Spain including a targeted cooperation initiative with MINT[90] countries). In most cases, countries pursue targeted activities in a variety of regions. Nevertheless, similarly to the findings of multiple IAU Global Surveys of higher education institutions (Egron-Polak & Hudson, 2014), an intra-regional focus could be detected in the higher education internationalization strategies of nation states in Europe, Asia and Oceania[91], but not in North America[92]. The fact that higher education institution and national-level strategies have similar geographic priorities for internationalization is a good sign as it could work to facilitate the process and lead to positive synergies between the activities of these actors (see **Figure 4.7**).

[89] BRICS is an acronym that refers to: Brazil, Russia, India, China and South Africa. The term was coined in 2001 – South Africa was added in 2011 – by Jim O'Neill, an economist from Goldman Sachs, to refer to large emerging market economies projected to have a GDP growth larger than the G7 countries (Canada, France, Germany, Italy, Japan, UK, and USA) (O'Neill, 2001).

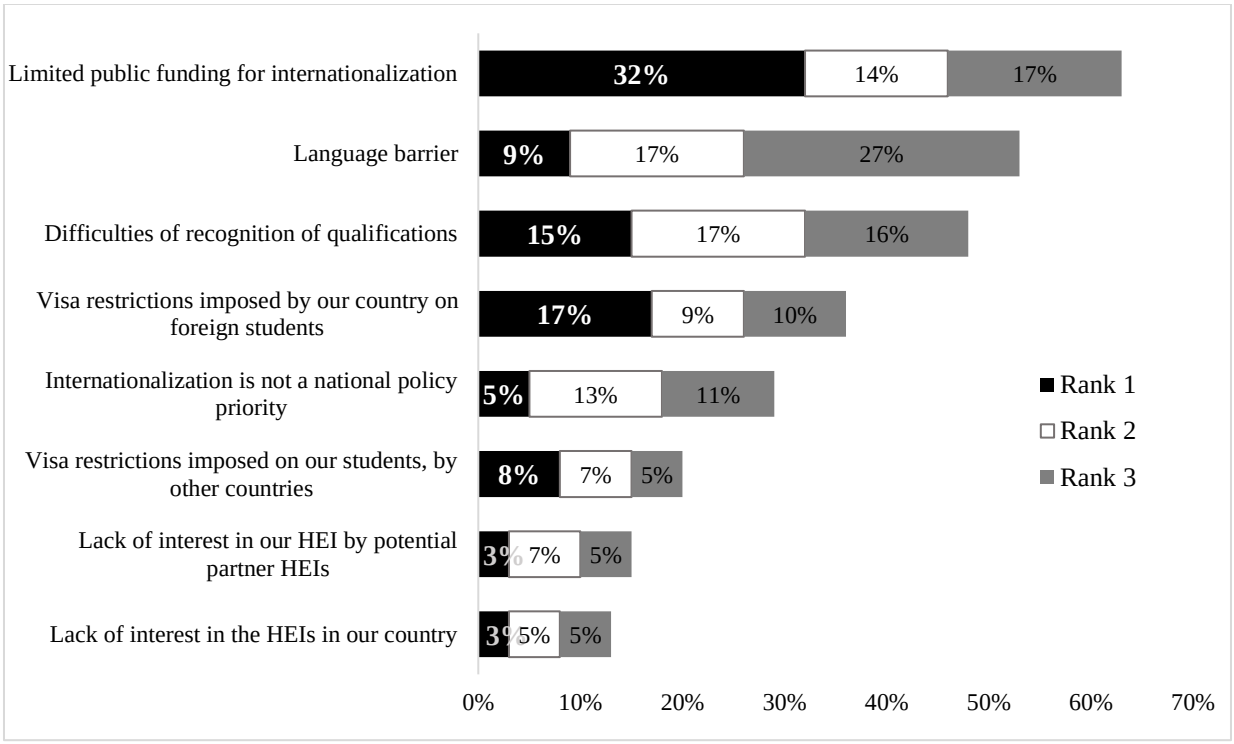
[90] MINT is an acronym that refers to: Mexico, Indonesia, Nigeria and Turkey. This term was coined in 2014 and was also popularized by Jim O'Neill and refers to the next "emerging economic giants" (BBC, 2014, para. 1) after the BRICS.

[91] For a distribution of countries with national higher education internationalization strategies according to world regions see **Figure 4.3** and **Appendix 4.2**.

[92] Granted that Canada is the only country from North America with a national higher education internationalization strategy, this conclusion is based on just one data point. Nonetheless, it is somewhat supported by the regional-level results from the 4th IAU Global Survey (Egron-Polak & Hudson, 2014). Canada's national strategy focuses on China, India, Brazil, Turkey and the MENA (Middle East and North Africa) region.

However, it is important to note that the picture is not as bright in terms of funding for internationalization. Only around half of the countries (48%) mention specific funding sources or mechanisms for the higher education internationalization measures proposed in the strategic documents (see **Figure 5.2**). The findings of the 4th IAU Global Survey (Egron-Polak & Hudson, 2014) presented in **Figure 5.4** suggest that the general lack of attention to funding in national higher education internationalization strategies, does not go unnoticed by higher education institutions. Insufficient public funding for internationalization is recognized by higher education institutions in all the regions of the world as the key external obstacle to forwarding the process. In fact, 32% of higher education institutions ranked it first and 63% ranked it in the top three most important external factors obstructing the development of internationalization at their university (see **Figure 5.4**).

Figure 5.4 Top 3 ranked external obstacles to internationalization by higher education institutions



Source: (Egron-Polak & Hudson, 2014)

To date, several studies have reached similar conclusions. The 3rd IAU Global Survey (2010) reached "almost identical" (Egron-Polak & Hudson, 2014) results in terms of external obstacles to internationalization. The 2nd EAIE Barometer also found insufficient funding to be the top external challenge to internationalization in the EHEA region, 31% of respondents classifying it as such (Sandström & Hudson, 2018, p. 40). Likewise, a recent EU-wide study by the Joint Research Centre found obstacles related to funding as the most important barriers for transnational collaborative partnerships between higher education institutions (Karvounaraki et al., 2018). Specifically, 66% of respondents perceived the lack of sustainable funding as the most important barrier, followed by the complexity of the funding instruments (56%) (Karvounaraki et al., 2018, p. 17).

All in all, "the persistence of the financial barrier suggests that despite the new or reinforced national and regional policies to advance internationalization of higher education, little has been achieved in this regard" (Egron-Polak & Hudson, 2014). The analysis of the national higher education internationalization strategies supports this claim showing that in the majority of cases funding sources and mechanisms are not spelled out. Even when they are mentioned, funding mechanisms receive little attention in comparison to other aspects (e.g. specification of actors or geographical priorities) and are rather limited in their reach (e.g. providing scholarships to promote outgoing or incoming international student mobility).

Insufficient financial resources for internationalization are not only an external obstacle, but are also perceived as the key internal obstacle to pursuing internationalization at the institutional level: 49% of higher education institutions rank it first and 69% rank it in the top three most important internal factors obstructing the development of internationalization at their

university[93] (Egron-Polak & Hudson, 2014). In fact, "[n]o other obstacle comes even close to the issue of the lack of resources; all others lag far behind, serving to underline just how significant a barrier the lack of funding actually is." (Egron-Polak & Hudson, 2014). Taken in conjunction, these findings clearly show that insufficient funding from both the national and the institutional levels can obstruct internationalization and lead to bottlenecks in the process.

More research is needed to better understand the implications of these financial constraints, but "it is evident that internationalization and its related activities are held back by being insufficiently funded, both internally and externally, more than by any other challenge" (Sandström & Hudson, 2018, p. 40). Considering that the majority of national higher education internationalization strategies mention a specific timeframe[94] in which internationalization targets[95] are to be reached (see **Figure 5.2**), future research could investigate the impact of funding on policy success by comparing countries with different investment patterns in internationalization. Nevertheless, it "is quite clear that any major endeavor in higher education would require some level of funding" (Matei, Iwinska, & Crăciun, 2015, p. 206). If internationalization is the "*central motor of change* in higher education, then the funding could

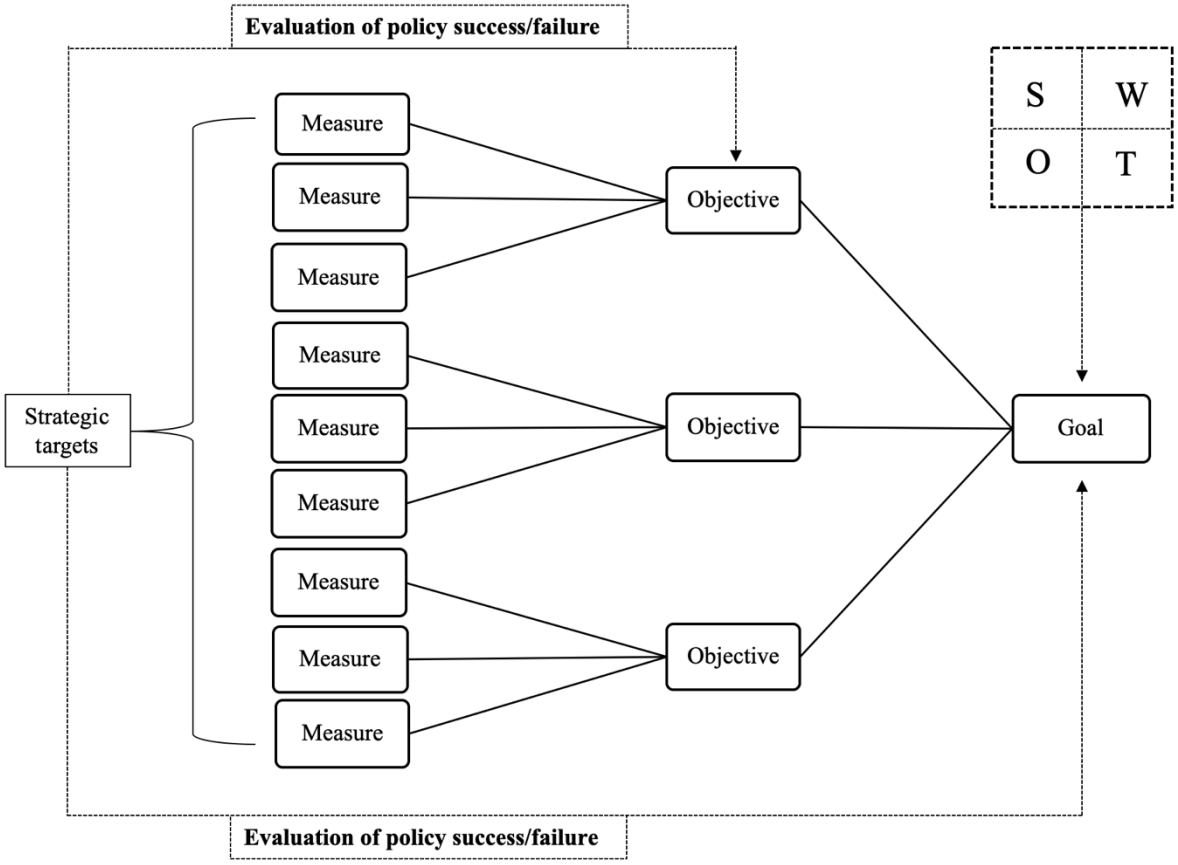
[93] The recent EAIE Barometer also found that 39% higher education institutions in the EHEA recognize the insufficient internal budget as the top challenge of pursuing internationalization at their university (Sandström & Hudson, 2018, p. 37).

[94] The analysis of national strategies showed that 76% of countries mention a specific timeframe in which they want to achieve their intended internationalization goals (see **Figure 5.2**). The timelines for reaching different strategic targets differ from country to country – depending on the complexity, scope and scale of the ultimate goal – but they are generally capped at 10 years.

[95] The analysis of national strategies showed that 90% of countries mention specific internationalization targets to be reached (see **Figure 5.2**). A more detailed discussion of these targets is presented in **Section 5.4**. What are the priorities of higher education internationalization?

be seen as the *fuel*" (Matei et al., 2015, p. 206). In other words, the lack of appropriate funding mechanisms and limited funding levels for higher education internationalization can mean that the objectives and goals of national strategies can rarely be reached.

Figure 5.5 General structural elements of policy strategies



Source: developed by author

As previously argued[96], a national higher education internationalization strategy is "a change management tool" (Stewart, 2004, p. 17) that shifts a higher education system in an explicit and deliberate manner "from an actual state of internationality at time X towards a modified actual status of internationality at time X+N" (Brandenburg & Federkeil, 2007, p. 7). From this

[96] For a comprehensive discussion see **Section 2.3** The Role of the Nation-State in the Internationalization of Higher Education.

perspective, all strategic plans – for higher education internationalization or otherwise – have a similar structure and constituting elements (see **Figure 5.5**). The journey metaphor best describes their architecture: "[e]very time we move anywhere, there is a place we start from, a place we end up at, places in between, and a direction" (Turner, 1998, p. 25). To this image, we should add the *means* (measures) we intend to use to move from the *initial location* along the *path* (objectives) and towards the *destination* (goal), and the *GPS (*strategic targets) that allows us to check whether we are on the right path towards our destination. **Figure 5.5** presents a general framework for understanding the connections between these central structural elements of policy strategies, i.e. goals, objectives, measures, and strategic targets. In order to carry out policy evaluations, it is important to understand them.

National higher education internationalization strategies generally start by scanning the environment to understand the point of departure – i.e. state of internationality – for the journey towards internationalization. This usually means conducting a SWOT[97] analysis, i.e. an analysis of the strengths and weaknesses of the higher education system and the opportunities and threats it faces from internal and external factors. Next, a destination for the journey is selected. This implies spelling out the intended goal of the national strategy for higher education internationalization. In turn, the strategic goal reflects the government rationale[98] behind pursuing internationalization. As there are more ways to reach a destination, strategies then proceed to map their way from the initial point of departure to their intended goal by setting out

[97] SWOT is an acronym that refers to strengths, weaknesses, opportunities and threats. A SWOT analysis is a strategic planning tool used both in the public and private sectors. The aim of SWOT analyses is to diagnose problems and come up with solutions, i.e. turning weaknesses into strengths and threats into opportunities. For an example of how a SWOT analysis is conducted and used as a diagnostic tool see the national higher education internationalization strategy of Spain (2014).

[98] For a theoretical discussion on the rationales for internationalization see **Section 2.4.2** Rationales.

the paths and means to reach it. This means setting objectives, i.e. defining the changes and progress needed to accomplish the goal. As can be seen in **Figure 5.5**, reaching the intended "goal may require a number of objectives to be reached" (Mohammadian, 2017, p. 65). By the same token, in reaching the intended objectives may require taking a number of measures, i.e. actions, tactics or tools used to pursue an objective. In essence, the objectives and measures of a strategy reveal the internationalization priorities of nation states. Finally, setting strategic targets helps to check whether the means used, and the paths taken, are leading to the intended destination. Strategic targets reveal what gets measured in higher education internationalization and, as the mantra goes, "what gets measured, gets funded" (Choudaha & Conteras, 2014, para. 23). Moreover, they help to assess the impact of strategies (see **Figure 5.5**).

Therefore, in order to carry out analyses of policy success or failure it is important to understand the intended goals, objectives, measures and strategic targets set out by national higher education internationalization strategies. Having a thorough grasp of these aspects does not just help policy evaluation, but also improves research by enabling a better conceptualization and operationalization of the process of internationalization. The next sections will provide an analysis of these aspects in order to provide a comprehensive understanding of internationalization in higher education at the national level.

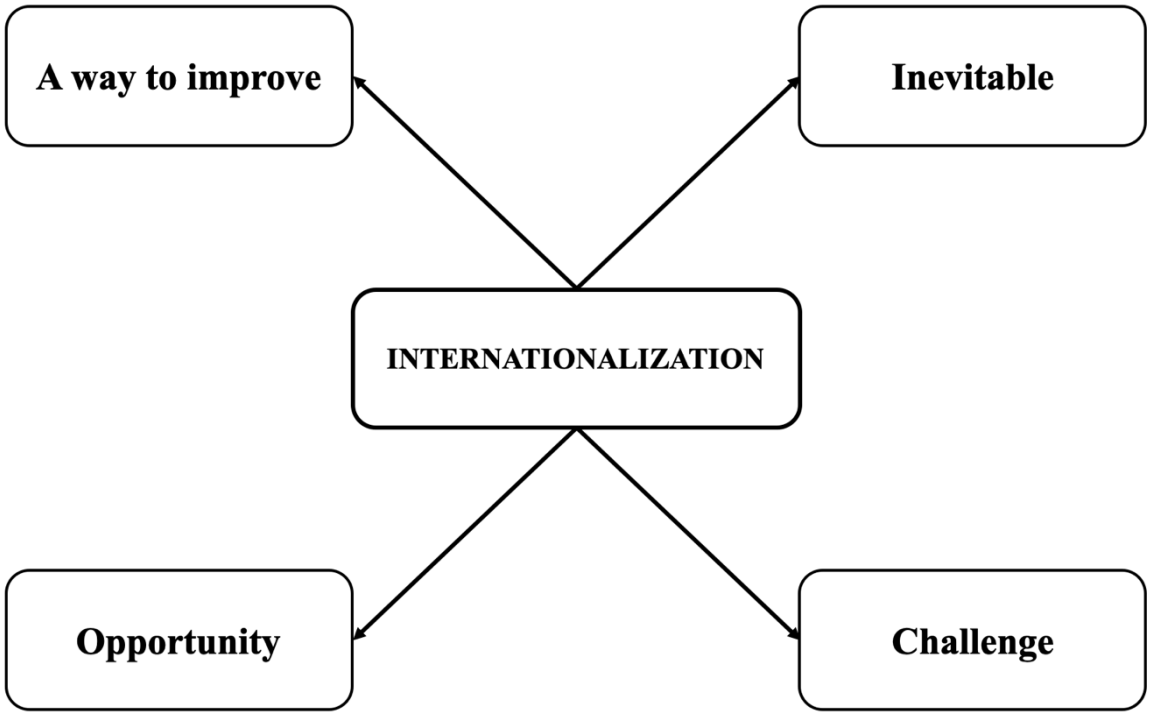
5.3 What are the goals of higher education internationalization?

By analyzing the strategic documents for the internationalization of national higher education systems, it became apparent that the process is understood differently in different countries. As such, a key words in context (KWIC) analysis[99] was conducted and then validated using

[99] For further details on the KWIC method of text analysis, see **Section 5.1** What are national strategies for higher education internationalization?

qualitative interviewing of documents (see **Section 3.3**) to better grasp the different interpretations of the process. **Figure 5.6** provides a concept map of the different understandings of 'internationalization' as expressed in the strategic documents. The general understanding characterizing the different meanings attached to internationalization in different national strategies is that it is a means to an end, not an end in itself.

Figure 5.6 Concept map of internationalization



Source: developed by author

As can be seen in **Figure 5.6**, countries engage with higher education internationalization quite differently. On the one hand, some countries perceive internationalization as but one important factor in achieving wider reforms in higher education (e.g. Spain, Canada, Finland, Ireland, Netherlands, Norway, Germany), others as an inevitable process that has to be managed (e.g. Malaysia, Estonia, Belgium, Kazakhstan). For example, Spain portrays internationalization as "an essential factor in reforms for the improvement of quality and efficiency of Spanish universities" (p. 3), while Malaysia sees is as an "inevitable force to accelerate the country

forward" (p. 20). On the other hand, some countries perceive it as an opportunity (e.g. England, Australia, New Zealand, Singapore, Denmark), others as a challenge (e.g. Poland). For instance, Australia describes internationalization as "an unprecedented opportunity to capitalize on increasing global demand for education services" (p. v), while Poland describes it as "one of the most important challenges that the Polish system of higher education faces" (p. 1). These different perspectives certainly inform to some extent how internationalization is pursued (i.e. what priorities are set), for what purposes (i.e. what is the goal of the process), and ultimately its empirical manifestations. The next sections investigate the goals and priorities of higher education internationalization as presented in national strategies.

As previously suggested, internationalization is not an end in itself, it is "a means to achieve a wider goal"(Marijk Van der Wende, 1997, p. 20). The question then becomes why do governments wish to pursue internationalization? How countries understand the process of internationalization, the strengths and weaknesses of their higher education systems and the opportunities and threats they face[100], frames the rationales behind their pursuit of internationalization and the goals they set out to reach. Moreover, the goals for internationalizing higher education systems depend on the benefits expected from this process

[100] It is beyond the scope of this thesis to provide a detailed analysis of the particular strengths, weaknesses opportunities and threats recognized by each individual higher education system analyzed in this study. Such analyses can already be found in in-depth country case studies on internationalization (for example, see the country cases in the study by de Wit et al. (2015) or directly in the text of the strategic documents for higher education internationalization analyzed in this thesis. However, it is important to mention that the opportunities and threats documented in the strategic documents have to do with changes happening in the global context (e.g. global economic downturn), in the higher education environment (e.g. rising impact of rankings), in higher education systems and institutions (e.g. growing competition between and within higher education systems), and in international education (e.g. increasing number of international students).

for the country and higher education system (macro level), institutions (meso level) and individuals (micro level)[101] (Crăciun & Orosz, 2018).

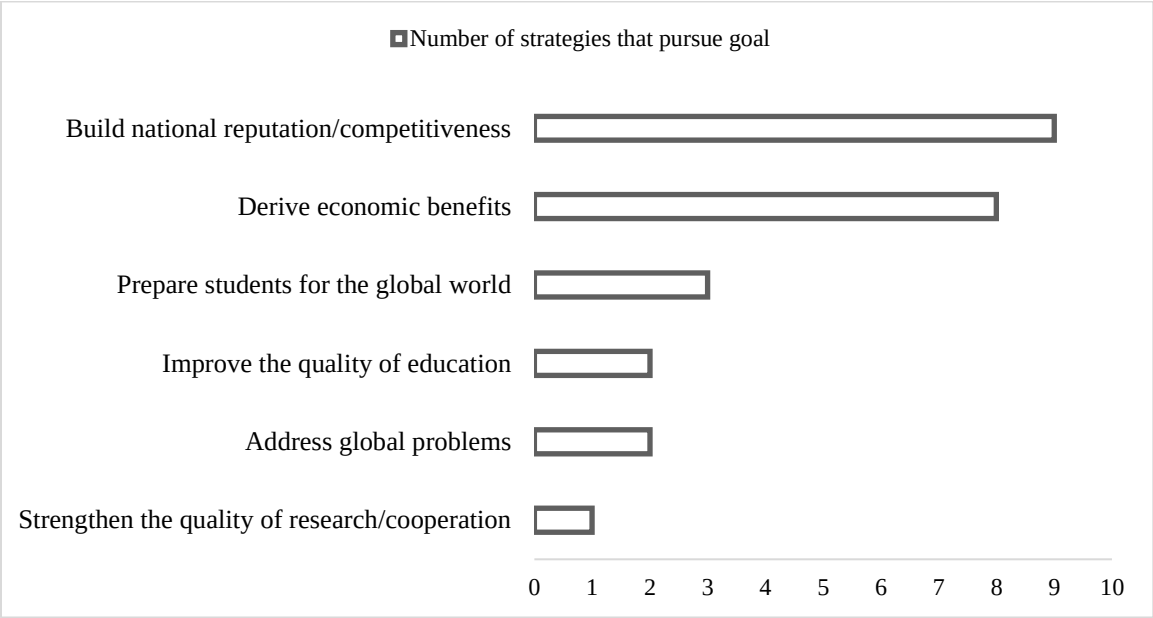
Examining the documents revealed that there are some recurring goals that countries pursue through national internationalization strategies. These goals are: building the national reputation and/or competitiveness of the country or higher education system, deriving economic benefits, improving the quality of education, preparing students for the global world, strengthening the quality or research and/or cooperation, and addressing global problems. **Figure 5.7** presents an overview of the importance of the main goals pursued by nation states according to the frequency with which they appear in internationalization strategies.

The aggregate results suggest that some goals are more prevalent than others. Specifically, building the national reputation and competitiveness of the country and higher education system and deriving economic benefits[102] from internationalization are the most common goals of national strategies. By the same token, preparing students for the global world, improving the quality of education, addressing global problems and strengthening the quality of research and cooperation are prioritized by fewer countries (see **Figure 5.7**). Thus, the findings seem to suggest that prestige and economic-related benefits carry more weight than academic quality or making meaningful contributions to society.

[101] A recent report by Crăciun and Orosz (2018) provides a comprehensive framework for analyzing the macro, meso and micro level benefits and costs of transnational collaborative partnerships between higher education institutions which can be easily applied to the wider process of internationalization.

[102] This category subsumes a wide variety of economic benefits, e.g. employment gains, direct expenditure of international students on tuition, housing, goods and services, export portfolio diversification, economic value of education industry, labor market and workforce development, brain gain, etc.

Figure 5.7 Frequency of main types of goals pursued by countries

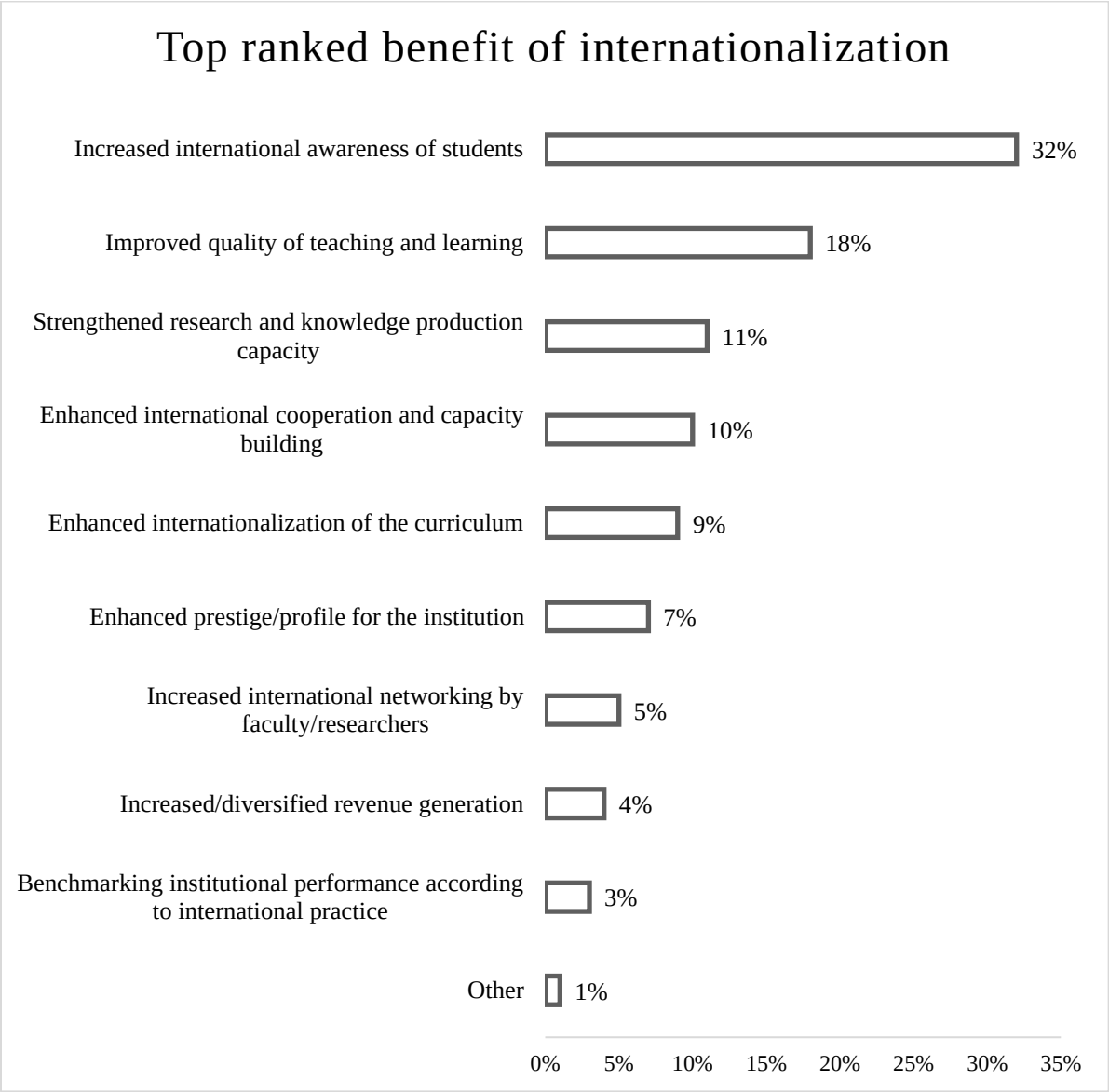


Source: developed by author[103]

As the goals of internationalization strategies influence the objectives set and the measures taken, it is important that the national and the institutional levels pursue similar ends. In this way, national and institutional internationalization measures could work to produce positive synergies and facilitate the achievement of intended goals. The IAU Global Surveys (2005, 2010, 2014) ask respondents to rank the top expected benefits of higher education internationalization at their institutions and, thus, can provide some insight into this matter. **Figure 5.8** shows the top ranked benefits of internationalization according to the latest edition of the IAU survey (Egron-Polak & Hudson, 2014).

[103] For a country level breakdown of internationalization goals and how they were categorized see **Appendix 5.1**. In cases where the goals were ambiguous, they were categorized according to the surrounding context and the objectives set.

Figure 5.8 Top ranked benefits of internationalization at the institutional level



Source: (Egron-Polak & Hudson, 2014)

Reviewing the results presented in **Figure 5.8** it becomes apparent that the types of benefits of internationalization expected by higher education institutions are similar to those pursued by nation states, but that the emphasis is reversed. At the institutional level, the top three ranked

benefits are increased international awareness of students (32%), improved quality of teaching and learning (18%) and strengthened research and knowledge production capacity (11%)[104].

At the national level, the similar end goals of preparing students for the global world, improving the quality of education and strengthening the quality of research, respectively, are less prevalent (see **Figure 5.8**). At the same time, while improving the national reputation and deriving economic benefits were the most frequent benefits expected at the national level, at the institutional level these benefits rank low. Only 7% of respondents ranked enhanced prestige/profile of the institution as a top benefit and even less (4%) ranked increased/diversified revenue generation as such[105]. Over time comparisons have shown that "expected benefits at the aggregate level have generally remained similar" (Egron-Polak & Hudson, 2014).

All in all, the discrepancy between the goals pursued at the national and institutional level is somewhat surprising. The incongruity might be explained by the fact that the benefits expected by higher education institutions are self-reported[106]. Thus, for example, "it is quite likely (...)

[104] Throughout the different iterations of the IAU Global Survey (2005, 2010, 2014), the top three expected internationalization benefits at the institutional level remain constant and "mainly focus on increasing the international awareness/orientation of students and improving academic quality" (Egron-Polak & Hudson, 2014).

[105] Previous iterations of the IAU Survey (2005, 2010, 2014) have reached similar results relating to the importance of economic benefits: between 2% and 4% of respondents ranked the diversification of or increase in income generation as the top benefit of internationalization at the institutional level. On the other hand, enhancing the prestige and profile of the institution has decreased in importance over time. In 2005, 2010 and 2014 improving the international profile and reputation of the institutions was ranked as a top benefit by 18%, 14% and 7% of respondents, respectively.

[106]Self-reported benefits have been consistently shown "to be affected by social-desirability bias" (Crăciun & Orosz, 2018, p. 15).

that respondents offered a more 'politically correct' answer to this question rather than indicating that revenue might be a driving force of internationalization" (Egron-Polak & Hudson, 2014). Even if economic goals are not the key driver of institutional internationalization "their importance cannot be ignored especially when higher education institutions rely so strongly on government policy and public support for their internationalization strategy" (Egron-Polak & Hudson, 2014). Further research into the actual benefits – as opposed to the expected benefits – of internationalization would help to clarify this point. In this regard, the thesis' finding of an incongruency between national and institutional goals lends itself to hypothesizing that the actual goals and benefits of internationalization are essentially different for different actors in different contexts[107].

Regional level results show that prestige and revenue generation are not ranked by higher education institutions in the top three benefits of internationalization in any world region, but that international student awareness, academic quality and strengthening research are (Egron-Polak & Hudson, 2014). In turn, the country-level findings from the analysis of national higher

[107] The findings of a systematic literature review (Crăciun & Orosz, 2018) of almost three decades empirical research looking into the benefits of transnational collaborative partnerships in higher education – in other words, a sub-section of higher education internationalization activities – seem to support this hypothesis as the study reports different benefits at different levels of analysis. Empirically documented benefits of transnational collaborative partnerships show that such institutional arrangements lead to: (1) more and better patents, economies of scale and positive attitudes towards open borders and democracy at the national/regional level; (2) strengthened research and teaching capacity, more and better research output and increased university attractiveness for foreign scholars at the institutional level; and (3) higher likelihood of employment, better foreign language proficiency, increased mobility, and more and better publication at the individual level (Crăciun & Orosz, 2018, p. 38). It is likely that a summary of empirical evidence on the overall benefits of internationalization would lead to similar results, i.e. internationalization benefits are essentially different at different levels of analysis (macro, meso, micro).

education internationalization strategies conducted here show otherwise. **Table 5.2** presents the disaggregated results of the main goals of internationalization at the country level.

Table 5.2 Main internationalization goals by country

Build national reputation/ competitiveness	**Derive economic benefits**	**Improve quality of education**	**Prepare students for global world**	**Strengthen quality of research/ cooperation**	**Address global problems**
Estonia Finland Germany Ireland Netherlands Poland Spain Sweden Switzerland	Australia Canada Denmark Japan New Zealand Singapore South Korea UK	Kazakhstan Malaysia	Belgium Denmark Netherlands	Norway	Finland Germany

Source: developed by author

It seems that European nation-states are the most concerned with enhancing the national reputation and competitiveness of their higher education systems (all the countries in this category are European). In the same vein, it is also only European countries that pursue preparing students for the global world, strengthening the quality of research and cooperation or addressing global problems as their primary internationalization goal. Improving the quality of education is the main goal of Kazakhstan and Malaysia, two upper middle income[108] Asian countries. Finally, a mix of high-income countries from Asia, Europe, Oceania, and North America seek to derive economic benefits from higher education internationalization. It is

[108] For a classification of countries into high-income, upper middle income, lower middle income and low-income according to gross national income (GNI) see the World Economic Situation and Prospects report issued by the United Nations (United Nations, 2019, p. 172).

interesting to note that the Anglo-Saxon countries which, as shown in the previous chapter (see **Figure 4.6**), attract the lion's share of international students prioritize economic gains as the goal of their national internationalization strategies.

Thus, it can be reasonably concluded that the recognized strengths and weaknesses of the higher education systems plays an important role in what goals countries set through their national internationalization strategies. For instance, countries that already have high-quality education systems[109], do not pursue quality improvement. Instead, countries seek to capitalize on the already existent academic quality or have it internationally recognized. Disaggregate results at country level of the IAU Survey findings would help to get a more refined picture of what higher education institutions in different contexts perceive as the main benefit of internationalization. In turn, this would help to better judge how aligned national and institutional strategies for higher education internationalization actually are. Moreover, it would help to form and test hypotheses as to why different countries pursue different aims.

To conclude, the diverging goals for the enactment of higher education internationalization strategies at the national level show that different countries have different priorities for pursuing the process. In turn, these priorities should also be reflected in the specific internationalization objectives and measures for forwarding internationalization proposed by the nation state. The next section presents an overview and analysis of these priorities.

[109] See **Appendix 4.2** on the standing of countries in international rankings, for example.

5.4 What are the priorities of higher education internationalization?[110]

As previously argued, internationalization is an umbrella term for a variety of measures that can be adopted by governments to open up their higher education systems to outside influence. As such, national priorities for the internationalization of higher education become evident when the documents supporting the process are analyzed. This section looks at the objectives, measures and strategic targets set by governments in national higher education internationalization strategies. The findings presented were derived through computer assisted content analysis and qualitative document interviewing.

In order to uncover the priorities of governments for higher education internationalization in an efficient manner the national strategies were analyzed using computer assisted content analysis, specifically Latent Dirichlet Allocation (LDA) which is an algorithm that enables researchers to automatically retrieve the main topics covered in a collection of texts[111]. As such, it is an appropriate algorithm for the task at hand: uncovering the priorities of national higher education internationalization strategies. The advantage of this methodology is that the researcher intervenes very little in the results of the analysis beyond pre-processing the texts, setting the number of topics to be retrieved from the documents, and interpreting the results. To ensure that the algorithm provides valid results, a pilot study (Crăciun, 2018c) was conducted which

[110] This section is based on previously published work (Crăciun, 2018c): Crăciun, D. (2018). Topic Modeling: A Novel Method for the Systematic Study of Higher Education Internationalization Policy. In L. E. Rumbley & D. Proctor (Eds.), The Future Agenda for Internationalization in Higher Education: Next Generation Insights into Research, Policy, and Practice (pp. 102–112). Abingdon: Routledge.

[111] For further details on the methodology see **Section 3.2** Computer Assisted Content Analysis.

in turn informed the further steps to be taken in pre-processing the documents and setting the suitable number of topics to be uncovered considering the characteristics of the corpus.

For the pilot study[112] the computer was given the task to find three topics from the texts and three words that characterize these topics. **Figure 5.9** shows the results of the LDA analysis.

Figure 5.9 Latent Dirichlet Allocation pilot study results

LDA RESULTS

PILOT STUDY (3 topics & 3 descriptive words)

TOPIC 1: educ* + intern* + student*

TOPIC 2: student* + educ* + intern*

TOPIC 3: intern* + research* + univers*

Source: developed by author using Python (Crăciun, 2018c)

It is important to remember that the computer program did not know what the texts were about, but it, nevertheless, identified that they relate to internationalization (a word that features in all three topics), education, research, universities, and students (see **Figure 5.9**). The words in each category seem to be overlapping, probably because of the reduced number of texts given as input. After seeing that the algorithm can correctly identify that the texts are about internationalization and education (which speaks to the validity of the method), the program was optimized by feeding this piece of information into the algorithm to fine-tune the results. This basically meant further pre-processing the documents by adding a line of code in the

[112] The pilot study was conducted with a convenience sample of documents. The analysis included the strategies of Australia, Estonia, Finland, Germany, Japan, Malaysia, the Netherlands, New Zealand, Spain, and the United Kingdom.

program, before the LDA algorithm is applied, that removed all the words with the stems "internat*" and "educ*". Through the pilot study, it also became apparent that the name of the country issuing the strategy and its corresponding demonym were appearing very frequently in the policy texts. As this was causing noise in the data and the researcher already knows to which country the strategy belongs to, the country names and demonyms were also removed in the pre-processing stage of the documents.

A further insight derived from the pilot study was related to the number of topics that the LDA algorithm should retrieve. The size of the corpus of documents and the variety of issues discussed in it should inform the number of topics to be retrieved. As a general rule of thumb, the larger the corpus and the greater the variety of documents, the larger the number of topics. Because the number of national higher education internationalization strategies is quite small and the texts discuss the same issue, the initial number of topics set for the pilot-study analysis was also small. Nevertheless, the overlap in the words associated with each topic pointed to the fact that the number of topics should be further reduced[113]. As such, for the final analysis of the whole corpus of documents the LDA algorithm was set to retrieve two topics from the documents.

Following the observations collected from the pilot study[114], the whole corpus of national higher education internationalization strategies was further pre-processed and then analyzed. **Figure 5.10** presents the final results of the LDA analysis.

[113] This insight was further tested in the pilot study and proved to be valid. The results of this trial are not presented here as they are subsumed in the final LDA analysis of the whole corpus of national higher education internationalization strategies.

[114] The insights derived from the pilot study show that this is a helpful exercise that makes important steps towards ensuring the meaningfulness and validity of the results. Considering that each corpus of documents has its own

Figure 5.10 Latent Dirichlet Allocation results

LDA RESULTS FINAL ANALYSIS (2 topics & 2 descriptive words) **TOPIC 1**: student* + univers* **TOPIC 2**: student* + research*
Results: [u'0.038*student + 0.017*univers', u'0.021*student + 0.014*research']

Source: developed by author using Python (for code template see **Appendix 3.5**)

As can be seen from **Figure 5.10**, Topic 1 is related to students and universities and Topic 2 is related to students and research. The fact that 'students' appear in both topics is not surprising either methodologically, or theoretically. From a methodological perspective, as can be seen from the pilot study presented (see **Figure 5.10**), the word 'student*' was picked up as relevant for multiple topics. Considering that students are the main stakeholders in higher education it is to be expected that they would figure prominently in any higher education strategy, for internationalization or otherwise. From a theoretical perspective, it also not surprising that the word 'student*' was identified as the most characteristic word for both of the topics as international student mobility – both incoming and outgoing – is considered to be one of the most prominent aspects, if not the most prominent, of higher education internationalization. As such, it is to be expected that this term would figure prominently in the higher education internationalization strategies of all the countries. Therefore, the consistent appearance of this term in both topics is an initial sign of the reliability and the validity of the results.

characteristics, there is no fixed recipe for how to pre-process documents or how many topics to retrieve from them. It is a trial and error exercise informed by the knowledge of the researcher and the actual analysis results. Like in survey research, a pilot study ensures that we are getting the intended answers to our questions and allows us to fine-tune the final analysis instrument.

The results of the LDA analysis (see **Figure 5.9**), thus, show that all countries focus on students in their national internationalization strategies. What this means in terms of internationalization priorities is further discussed below. For now, it is significant to point out that the topics uncovered by the LDA analysis show that some countries focus more on institutional internationalization in their national strategies, while others focus more on the internationalization of research[115]. Broadening the results of the most prominent terms that characterize each topic confirms this interpretation. On the one hand, the seven most characteristic words for the first topic are: students, universities, new, studies, provide and courses.[116] Thus, Topic 1 seems to cover countries that are more inward looking and concerned with internationalizing their universities or providing new courses and study programs for students (international or domestic). On the other hand, the seven most characteristic words in the second topic are: students, research, program, institution, mobility, development and

[115] As discussed in **Chapter 3** Research Design and Methodology, the position of countries of internationalization is considered to be represented by their national higher education internationalization strategy. For the cases in which countries has more than one document supporting the process at the national level, the texts were merged. This provides a comprehensive view of the country's priorities for internationalization. Considering that the countries that have multiple strategies published them in a short time frame (see **Appendix 3.3**) and that these strategies refer to one another, merging the documents represents a sound methodological choice.

[116] The actual results are stemmed versions of these words – i.e. 'student*', 'univers*', 'new', 'studi*', 'school*', 'provid*', 'cours*' – as the documents were pre-processed before the analysis to get to the root form of each word. This ensures that the computer interprets various morphological forms of the same word as one entity, e.g. 'student' and 'students' refer to the same concept, so they are treated as such (for further details see **Section 3.2.2** Steps in Data Collection, Data Preprocessing and Data Analysis). To ensure the readability of the results, the words are presented in an unstemmed version in the body of the text.

countries[117]. Therefore, Topic 2 seems to cover countries that are more outward looking and concerned with the internationalization and development research, cooperation with other countries and student mobility.

Further examination is needed to validate these findings, nevertheless, the internationalization literature lends support to these claims. Moreover, a separate computer assisted collocation analysis of the corpus of texts revealed similar results. Like the KWIC analysis, collocation analysis is based on a contextual meaning of language (Firth, 1956) and uncovers the co-occurrence of words in documents (Lehecka, 2015) revealing "a network graph of highest frequency terms that appear in proximity with each other" (Telle, Špaček, & Crăciun, 2019, p. 156). Thus, unlike the LDA algorithm which relies on the bag-of-words assumption and discards the order of words in text, collocation analysis reveals the relationship between significant words and their immediate context. As such, it represents a good test for validating the results of the LDA algorithm.

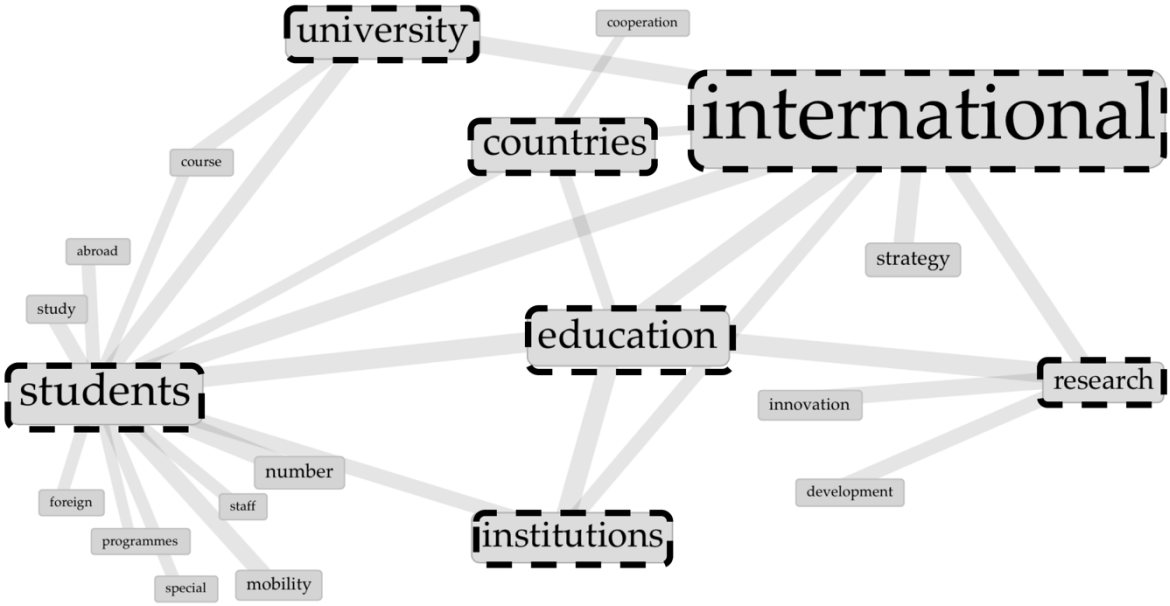
Figure 5.11 shows the network graph of the terms that have the highest occurrence and appear next to each other in the national higher education internationalization strategies[118]. The keywords appearing in internationalization strategies are shown in the dashed line containers and the words appearing in their proximity, known as collocates, are shown in the continuous line containers. The width of the lines uniting the containers represents the frequency with

[117] The actual results are stemmed versions of these words, i.e. 'student*', 'research*', 'program*', 'institut*', 'mobil*', 'develop*', 'countri*'. See previous footnote for explanation.

[118] For the collocation analysis the only preprocessing task carried out on the national higher education internationalization strategies was cleaning the texts (for details see **Section 3.2.2** Steps in Data Collection, Data Preprocessing and Data Analysis).

which the terms appear in proximity of each other, i.e. the wider the line the more often the terms appear together.

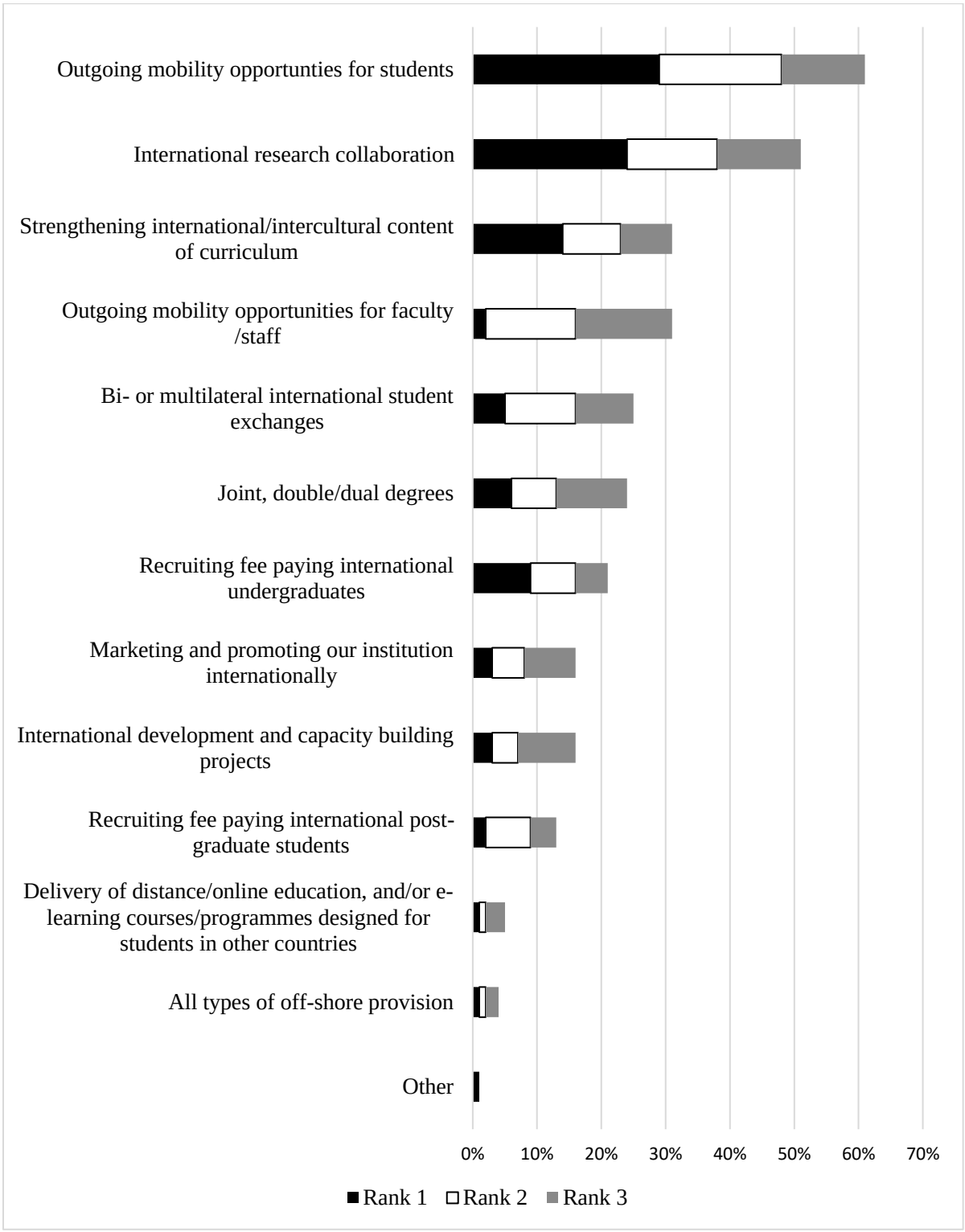
Figure 5.11 Collocation analysis of national higher education internationalization strategies



Source: developed by author using Voyant Tools (Sinclair & Rockwell, 2017)

As it becomes apparent from **Figure 5.11**, the results of the LDA analysis are reinforced and validated by the collocation analysis which focuses on the same concepts as the above stipulated topics. According to the results of the collocation analysis, at the core of the higher education internationalization strategies are students – especially international/foreign students, their mobility, their numbers, and the study abroad programs and courses that cater to them – the internationalization of universities, and research development and innovation through cooperation with other countries.

Figure 5.12 Top three ranked priority internationalization activities undertaken by higher education institutions



Source: (Egron-Polak & Hudson, 2014)

Previous research on the priorities of internationalization at the institutional level reveal that universities around the world pursue similar priorities. The 4th IAU Global Survey (Egron-Polak & Hudson, 2014) asked respondents to rank the top three internationalization priorities at their institutions. The results are presented in **Figure 5.12**. Looking at the top five priorities of internationalization it becomes apparent that universities also focus on international mobility (mostly of students, but also staff and faculty), international research collaborations, and strengthening the international and intercultural components of their curriculum (and thus, of their courses and programs). In a way, most of the institutional priorities for internationalization can be subsumed under the topics uncovered by the LDA algorithm.

Unfortunately, there is no cross-national survey investigating the priorities of national government when it comes to higher education internationalization. It has been suggested, that in order to understand what governments actually intend to do with regards to forwarding internationalization – as opposed to what they say they will do – one has to look at the strategic targets of internationalization. The idea follows the mantras of 'what gets measured gets funded' and 'what gets funded gets done' (Choudaha & Conteras, 2014). In turn, this could help to compare strategies against each other and classify them according to their priorities. As such, a qualitative analysis of the specific targets set by governments in national higher education internationalization strategies to monitor and evaluate the success of the measures taken was undertaken.

Table 5.3 presents an overview of the internationalization areas where indicators are set, their frequency, the countries that set such indicators and illustrative examples from national strategies. As it becomes immediately apparent, internationalization indicators are also predominantly focused on mobility, rarely going beyond measuring this particular aspect of the process. Moreover, all the countries that set strategic targets use this type of indicator in one way or another.

Table 5.3 Types, frequency, countries and examples of strategic targets set by national higher education internationalization strategies

INDICATOR	FREQ.	COUNTRIES	EXAMPLE
Incoming mobility (students, staff, faculty, researchers)	37	Australia, Canada, Estonia, Finland, Ireland, Japan, Malaysia, New Zealand, Norway, Singapore, South Korea, Spain, UK	Double the size of our international student base from 239,131 in 2011 to more than 450,000 by 2022 (without displacing Canadian students) (Canada, 2014, p.11)
Outgoing mobility (students, staff, faculty, researchers)	26	Belgium, Denmark, Estonia, Finland, Germany, Ireland, Kazakhstan, Norway, South Korea, Spain, Sweden, UK	By 2025, at least 25% of students spend at least three months of their education abroad. (Sweden, 2018, p.19)
Economic value/impact of international education	12	Australia, Canada, Ireland, New Zealand, UK	By 2015, enhance the economic impact of international education by some €300 million, to approximately €1.2 billion in total. (Ireland, 2010, p.12)
Scholarships/state-funded study places for international students and for local students to study abroad	3	Estonia, Netherlands	Approximately € 5 million annually available for scholarships so that over the next 10 years 10,000 top-class students will be enabled to study abroad and students primarily from outside of the European Economic Area will be able to study in the Netherlands. (Netherlands, 2014, p.3)
Institutional internationalization	2	Japan, Spain	Thirty universities selected as bases of globalization and developed intensively. (Japan, 2008, p.4)

International student satisfaction	2	New Zealand	By 2025, achieve 92-95% international student satisfaction. (New Zealand, 2018, p.9)
Drop-out rates of international students	1	Denmark	The drop-out rate among international students must be brought into line with that of Danish students. (Denmark, 2014, p.3)
Employment of international student graduates	1	Denmark	International graduates who remain in Denmark must have the same employment to population ratio as Danish students. (Denmark, 2014, p.3)
Foreign language study programs	1	Estonia	By 2015, develop 5 to 7 state-supported foreign language study programs. (Estonia, 2006, p.7)
Recognition of diplomas	1	Spain	By the 2nd semester of 2016, a maximum period of recognition of qualifications of 1 month. (Spain, 2014, p.46)

Source: developed by author

All in all, the computer assisted text analysis suggests that there are two general types of internationalization that countries pursue following the two main missions of higher education (teaching and research): (1) inward internationalization focusing on international student mobility and the internationalization of universities and the study programs and courses they provide and (2) outward internationalization focusing on international student mobility and the internationalization of research through international cooperation. **Figure 5.13** presents a graphic visualization of these two types of higher education internationalization. The two types of internationalization are shaped by the topics retrieved from the LDA analysis.

Figure 5.13 Typology of national higher education internationalization strategies

HIGHER EDUCATION INTERNATIONALIZATION TYPOLOGY	
<u>TYPE 1:</u> INWARD INTERNATIONALIZATION	**<u>TYPE 2</u>: OUTWARD INTERNATIONALIZATION**
International student mobility + Universities and study programs	International student mobility + Research innovation and development

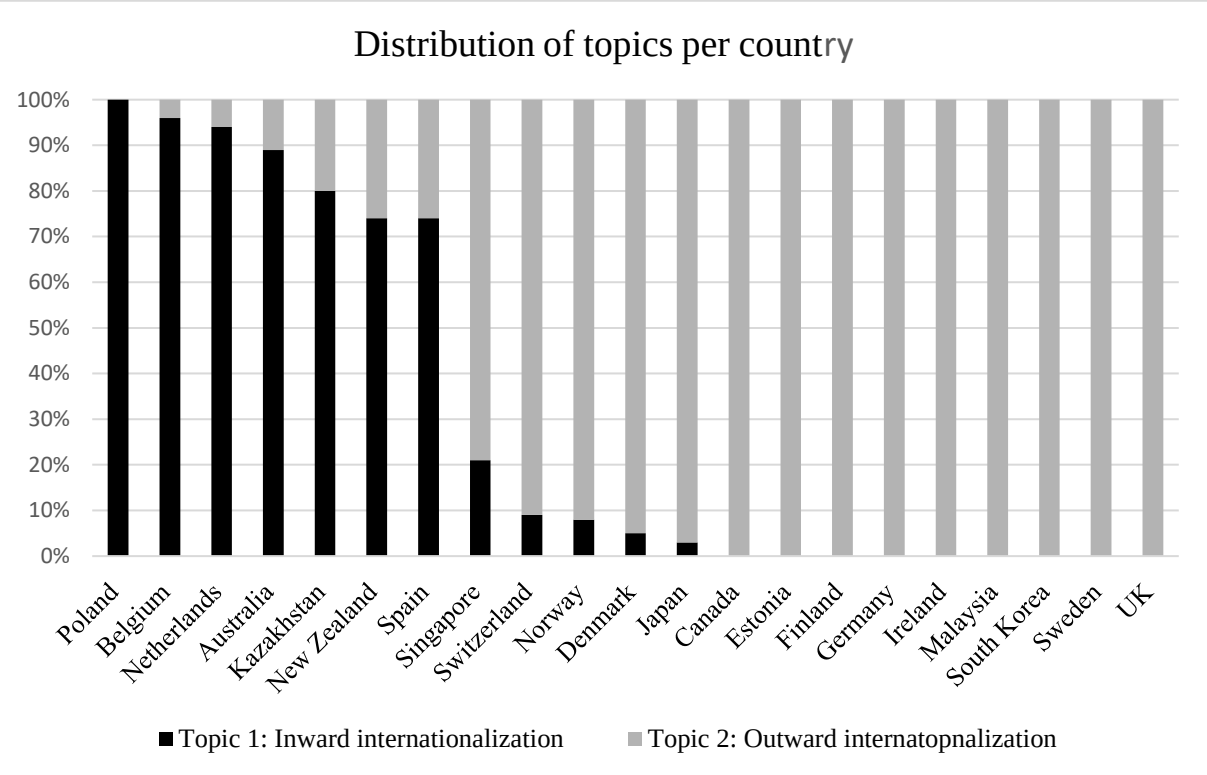
Source: developed by author

The fact that there are just two main approaches to internationalization pursued by governments support the qualitative findings of this study and of recent comparative research on national policies of internationalization arguing that there is a homogenization of the priorities pursued (de Wit et al., 2015). Like the LDA findings, the qualitative analysis of national strategies revealed that, for most countries, the recruitment of international students and promoting the mobility of home students is the most important priority area of internationalization. In fact, all the countries analyzed established objectives and measures related to mobility, especially of students. Measures to promote mobility were by far the most frequent activities mentioned in strategic documents. This finding is consistent with the claims that international student mobility is the most visible and impactful phenomenon of the internationalization of higher education (Guruz, 2008).

As previously argued, a good typology reduces the complexity of empirical phenomena and is able to locate all existing cases to an appropriate type (exhaustivity) and to assign membership to each empirical case to one type only (exclusivity). It is notoriously hard to achieve exhaustivity and exclusivity in classifying cases of higher education internationalization. Because countries pursue a plethora of activities in national higher education internationalization strategies with different objectives in mind, cataloguing the measures

present in strategies provides a blurry picture of the process and makes it difficult to catalogue the cases. Nevertheless, because the LDA algorithm is a probabilistic model that can offer explicit representations of the documents by assessing the likelihood that a document belongs to a topic or another, this problem can be surpassed. As the statistical descriptions of documents are retained, national higher education internationalization strategies can be easily characterized according to the topics they contain and thus, assigned to the types of internationalization described in **Figure 5.14**.

Figure 5.14 Distribution of topics according to countries



Source: developed by author using Python

Figure 5.14 shows the distribution of the uncovered LDA topics according to countries. As it becomes apparent, most countries fit neatly into a particular type of internationalization. On the one hand, Topic 1 best characterizes the national higher education internationalization strategies of: Australia, Belgium, Kazakhstan, the Netherlands, New Zealand, Poland, and

Spain (n=7). On the other hand, Topic 2 best describes the national higher education internationalization strategies of Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Malaysia, Norway, Singapore, South Korea, Sweden, Switzerland, and the UK (n=14). **Figure 5.15** provides an updated version of the typology that includes the distribution of country cases according to the two types of internationalization uncovered.

Figure 5.15 Typology of national higher education internationalization strategies and distribution of cases

HIGHER EDUCATION INTERNATIONALIZATION TYPOLOGY	
TYPE 1: INWARD INTERNATIONALIZATION	**TYPE 2: OUTWARD INTERNATIONALIZATION**
International student mobility + Universities and study programs	International student mobility + Research innovation and development
CASES: Australia, Belgium, Kazakhstan, Netherlands, New Zealand, Poland, Spain	**CASES**: Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Malaysia, Norway, Singapore, South Korea, Sweden, Switzerland, UK

Source: developed by author

On the one hand, the countries that are characterized by an inward-looking approach to internationalization tend to focus on developing internationalization at the institutional level through new study programs and courses with and international and intercultural focus. In practice, this can mean developing "a diverse, flexible and innovative education and training system" with "innovative education products and services" (Australia), "encouraging the incorporation of internationalization in the curriculum" (Belgium), "expanding the experience of developing and implementing joint educational programs" (Kazakhstan), establishing "international classrooms" (Netherlands), pursuing "greater market and product diversity" of

education services, increasing "the multilinguism and the international environment of university campuses", or providing "courses of studies (…) in foreign languages (…) or e-learning form, including MOOCs" (Poland).

On the other hand, the countries that are characterized by an outward-looking approach to internationalization tend to focus on research innovation and development through cooperation with other countries. In practice, this can mean establishing the country as "a global center of innovation, research and development" (Canada), providing "access to research environments of elite international caliber" (Denmark), enabling graduate students to "continue their research in the area they have chosen" (Estonia), creating an "internationally strong and attractive higher education institution and research community" (Finland), developing the status of the country as "a center of science and research" (Germany), increasing "the proportion of international students undertaking advanced research" (Ireland), supporting "the students' international activities after their return to their home country" (Japan), promoting "R&D capacity of higher education institutions and research institutes through initiatives with international counterparts" (Malaysia), developing "institutional partnerships and stronger correlation between higher education and research collaboration" (Norway), pursuing "world-class research" (Singapore), expanding "universities' R&D support" (South Korea), increasing "the quality of research" (Sweden), providing "top researchers with the very best research equipment" (Switzerland), or strengthening "research collaboration" (UK).

This is not to say that countries classified in one category strictly engage with internationalization activities related to universities and study programs and the other just with research development and innovation. As previously mentioned, beyond mobility, countries

pursue a plethora of measures[119] in their national higher education internationalization strategies. In fact, this is the aim of comprehensive national internationalization strategies: to integrate various measures under one umbrella. Nevertheless, the results of the analysis seem to point out that, besides international student mobility, some countries gear the activities more in the direction of institutional and program development, while others more in the direction of research development. The typology developed here offers some advantages and disadvantages that will be discussed next.

In terms of advantages, the typology helps to clarify the priorities of national higher education internationalization strategies. It brings to the fore, the realization that in all the contexts internationalization is still very much concerned with international mobility – an issue observed at the institutional level as well. In turn, this leads to homogenization of measures pursued to promote internationalization. At the same time, it shows that internationalization clearly impacts the two core missions of higher education: teaching and research. The typology can easily be applied at the institutional level and can help to compare the internationalization strategies of teaching focused or research-intensive universities. Furthermore, new cases of

[119] The inventory of internationalization measures gathered from the qualitative analysis of the national strategies includes activities related to: international recruitment of students, staff, faculty and researchers, international mobility of home students, staff, faculty and researchers, quality and quality assurance, changes to legal and regulatory frameworks (e.g. visa, labor market, recognition of qualifications), strategic partnerships at the national and institutional levels, distance/online/blended learning, information and communication technology, research, courses and programs developing international awareness and foreign language learning, programs in local and non-local languages, branch campuses, transnational education, internationalization of the curriculum, joint/dual/double degrees, internationalization of staff training, engagement with local community, campus internationalization, capacity building in developing countries or countries, international rankings focused activities, student services, alumni networks, communication and branding, building infrastructure (e.g. accommodation, data gathering platforms, research centers).

national higher education internationalization strategies can be easily classified in the established categories of the typology using the trained LDA algorithm. As the landscape of internationalization changes, new analyses can be easily carried out to see the developments in the process. As such, the main advantage of the typology is that it can dynamically change to reflect the emerging empirical realities of underscoring the process.

In terms of disadvantages, the typology is unable to portray the complexity of the objectives that countries pursue through their activities. The qualitative analysis revealed that the rationales behind following an approach or another and what countries want to achieve by following a specific path towards internationalization differ greatly from context to context. For instance, some countries focus on attracting international students as a way to obtain economic benefits (Australia), while others do so in order to internationalize their classrooms and curricula (Netherlands). In the same vein, some countries promote outbound international mobility in order to strengthen the international competencies of their domestic students (Denmark), while others try to curb it in order to address the decrease in working age population (South Korea). There are many more examples like these emerging from the qualitative interviewing of the strategic documents. Thus, while it helps us to characterize the focus of governments in pursuing internationalization, the typology does not reveal these important causal connections that governments make in establishing priorities. This is an important issue because internationalization is a means towards achieving wider goals. Nevertheless, the typology is meant to describe the universe of cases, not to reveal causal relationships between the activities and goals of internationalization.

To conclude, using the lens provided by this inductively constructed typology enables a better characterization of the process of internationalization, but at the same time obscures the goals behind why actors pursue different internationalization priorities. In order to mitigate this problem, the next section provides a reconceptualization of higher education

internationalization that takes into account the totality of the findings of this thesis regarding the process.

5.5 What is higher education internationalization?

In light of the findings of this thesis, it is important to return to the definition of internationalization and check if the existing conceptualization of the process for research is in line with its empirical manifestations. The fact that meanings are consequential for any object of study is hardly debatable, no matter the research tradition (e.g. positivist, interpretivist) with which a scholar associates herself/himself. Therefore, it is imperative to ensure that the concepts we use are clearly defined and apply to the range of phenomena intended. In turn, this would ease operationalization, use in empirical research, and increase the analytical purchase of internationalization.

As the literature review[120] has shown definitions of higher education internationalization have evolved over time in order to capture its complexity, the different actors that impact it, the multiple measures that can be taken to forward it, and the different goals that can be pursued through it. The latest, and currently the most popular, definition of internationalization proposed by de Wit et al. (2015), and used in this thesis as a working definition, has captured the essence of these elements well. Nevertheless, the combination of findings from this thesis suggests that the precise conceptualization of the process must be rethought.

As a reminder, de Wit et al. define internationalization as "the **intentional** process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, **in order to enhance the quality of education and research for all students and staff, and make a meaningful contribution to society**" (emphasis in original)

[120] See **Section 2.2.1** Defining Internationalization.

(de Wit et al., 2015, p. 29). The findings of this thesis lend support to the conceptual premise that internationalization is: (1) a planned process (2) that covers a variety of measures that change the purpose, function and delivery of higher education (3) with a specific goal in mind. Nevertheless, the findings also clearly show that not all the actors pursue internationalization with the goal of improving academic quality or addressing societal problems.

As a result, a conceptualization that rests on the assumption that internationalization is only meant to "enhance the quality of education and research for all students and staff, and make a meaningful contribution to society" (de Wit et al., 2015) does not apply to the whole universe of cases, i.e. countries that pursue higher education internationalization at the national level, but for different purposes. The problem with the definition is that it rests on normative assumptions about the intended uses and purposes of internationalization which leads to the exclusion of empirical cases if this conceptualization is rigorously applied.

The red line going through the different meanings attached to internationalization in different national strategies is that it is a means to an end, not an end in itself. To draw attention to this fact, the conceptualization of the process must include the goals pursued through higher education internationalization. However, it should not restrict them to a designated few. In order to surpass this conundrum and provide a parsimonious definition of internationalization that at the same time covers all the universe of cases meant to be captured by the concept, the thesis suggests borrowing from the taxonomy of rationales for internationalization[121]. Like the rationales for internationalization, the goals of the process vary from actor to actor and from context to context but fall under four main categories of expected benefits: political, economic, socio-cultural, and academic. This insight can help to provide an improved definition of internationalization by updating the existing one:

[121] For an extensive discussion on the matter, see **Section 2.4.2** Rationales.

> Internationalization is the intentional process of integrating an international, intercultural or global dimension into the purposes, functions and delivery of post-secondary education**, in order to achieve intended academic, socio-cultural, economic and/or political goals**.

Before explaining why this is a good conceptualization of higher education internationalization, it is important to establish standards for evaluating concepts. In this regard, John Gerring (1999, p. 367) provides a useful checklist of 'criteria of conceptual goodness': familiarity, parsimony, coherence, differentiation, depth, and theoretical utility[122]. These dimensions help to emphasize the inherent trade-offs in concept formation and provide a systematic criterial framework for analyzing concepts (Gerring, 1999).

First, familiarity refers to the extent to which the new definition "conforms, or clashes with established usage" (Gerring, 1999, p. 368). The central ideas behind this criterium are commonsensical: new conceptualizations should not appear if there is nothing wrong with the old ones and there should be a "demonstrable fit between new and old meanings of a given

[122] John Gerring`s (1999) framework of concept formation also includes the criteria of resonance and field utility. First, the criterium of resonance relates to how a newly coined concept (i.e. a new label) rings. In other words, how catchy it is. Since the terminological label was not changed in the new definition proposed – i.e. the process is redefined but still called 'internationalization' – the criterium of resonance is not relevant for this analysis. Nevertheless, it is important to mention that many times "the search for a catchy label tempts writers to violate the familiarity criterion, making up new words to replace existing words or choosing exotic options over plain ones" (Gerring, 1999, p. 370). This has happened in higher education internationalization research as well and has cluttered the conceptual field of internationalization with "rhetorical covers for poor research" (Gerring, 1999, p. 371). Second, the criterium of field utility refers to the semantic field changes that happen when a new term is introduced or redefined. Since the updated definition proposed here does not "steal referents from neighboring terms", but better stipulates the existent conceptualization of the process the relationship with neighboring terms does not change. As such, the criterium of field utility is not discussed here.

term" (Gerring, 1999, p. 368). As shown in this section, the new conceptualization of internationalization proposed here meets these standards. Considering that "[c]onceptualization generally takes the form of *re*conceptualizing what we already know" (Gerring, 1999, p.382), the proposed definition builds on existing understandings of internationalization as conceptualized by previous researchers (de Wit et al., 2015; Knight, 1993, 2003; Marijk Van der Wende, 1997). As such, it includes all the key elements proposed by previous definitions and updates the precise conceptualization of the process in light of the empirical findings of the thesis: that internationalization is employed to achieve a variety of goals beyond the ones stipulated in existing definitions.

Second, parsimony refers to the fact that researchers should be able to clarify what they are "talking about without listing a half-dozen attributes" (Gerring, 1999, p. 371). In other words, "[g]ood concepts do not have endless definitions" (Gerring, 1999, p. 371). The criterium of parsimony is thoroughly reflected upon in the new conceptualization of internationalization. If anything, the new definition is shorter than the previous one proposed by de Wit et al. (2015) while at the same time covering a wider variety of cases of higher education internationalization.

Third, coherence refers to the extent to which the attributes in the definition of a concept and the actual properties of the phenomenon or process in question fit with each other (Gerring, 1999). Throughout their evolution, definitions of internationalization have struggled to include all the empirically observed properties of the process in a coherent and parsimonious manner. Specifically, the process of higher education internationalization is characterized by (1) the different actors which impact on the policy space of internationalization, (2) the fact that internationalization does not only influence the core missions of higher education (i.e. teaching and research), (3) the realization that internationalization is not an end in itself, but a means to a wider goal, and (4) the diversity of purposes that underscore different actors' engagement

with the process. The proposed definition of internationalization subsumes all these attributes catering to the actor-driven quality of the process (internationalization as an intentional process), the wide-ranging measures it subsumes (affecting the purpose, function and delivery of post-secondary education), and the variety of goals (academic, socio-cultural, economic and/or political) actors intend to achieve through the process. The coherence criterion is achieved by the new definition of internationalization because all the attributes covered in the conceptualization and the actual properties of the process of internationalization harmoniously fit together. This conclusion is further supported by the empirical findings of this thesis.

Fourth, differentiation refers to the borders that separate the concept from other similar terms (Gerring, 1999). The conceptual distinctness of internationalization from the similar, yet different, process of globalization is reflected in the definition of de Wit et al. (2015) and reiterated in the conceptualization proposed here: internationalization is not a by-product of human activity, it is a deliberate process with which actors at various levels (individual, institutional, local, national, regional, supranational, etc.) intentionally engage to a achieve a desired goal. Moreover, the updated definition helps to differentiates between different categories of goals that can be pursued with the aim of drawing attention to the wide applications of the process that actors pursue. The definition is also in line with the transformationalist perspective of globalization adopted in this thesis arguing that globalization has pushed actors to reform the way they operate but has not rendered them powerless.

Fifth, depth refers to "the number of properties shared by the phenomena in the extension[123]" (Gerring, 1999, p. 380). The depth of a concept increases with the number of properties that empirical manifestations covered by the concept share. The addition of broader categories of goals that can be pursued through internationalization ensures that the proposed

[123] The extension of a concept refers to the empirical cases it applies to, its denotation.

conceptualization of internationalization is not shallow. In other words, as the extension of the concept is increased, the definition applies to a wide variety of internationalization cases without watering down the concept. In the case of a developing area of research, as is the case of higher education internationalization, the depth of concepts is significant also because it impacts on the ability of scholars to research new trends and developments. The updated definition can be easily operationalized and applied to upcoming actors in internationalization (e.g. the rise of supranational and private actors), innovative measures for promoting internationalization (e.g. virtual international classrooms), novel trends (e.g. emerging regionalization), new goals (e.g. development of a European polity, addressing the decrease of sustainable population). If we are to pursue integrated, comparative, comprehensive, and systematic research that leads to knowledge accumulation about the process, we need a conceptualization that applies to all the existent manifestation of internationalization and can easily integrate new cases and developments. The proposed definition achieves that.

Finally, theoretical utility refers to the usefulness of a concept in making inferences and building theories. Concepts are at the basis of all types of inferences (i.e. descriptive/causal, deductive/inductive/abductive) and "the building-blocks of all theoretical structures" (Gerring, 1999, p. 381). Therefore, good conceptualizations of phenomena and processes greatly aid researchers in arriving at scientific discoveries. Without the updated definition, many of the national higher education internationalization strategies would not qualify as cases for analysis – even though they are clear instances of internationalization – because they focus on other goals than the ones specified by the previous definition. This is a problem for deriving accurate inferences about the process (e.g. why, how and with what results is internationalization pursued) and, eventually, building accurate theories to explain it.

As much as we want internationalization to only be about academic quality and solving global problems, it is as much about economics (think of ministries of trade and development, private

for-profit universities, diploma mills, etc.) and politics (think of ministries of foreign affairs, the European Commission, memorandums of understanding, etc.). If we are to pursue meaningful research and move away from being classified as "an a-theoretical community of practice" (Tight, 2004, p. 395), we need a theoretically useful conceptualization of internationalization. The definition proposed here better applies to the whole biosystem of actors influencing the policy space of higher education internationalization and, as such, to the universe of cases that come under the label of internationalization. Furthermore, the definition is well suited for operationalization and promotes rigorous research into the full range of benefits – expected or actual – that accrue from the process. By grouping the goals of internationalization into different categories, the updated definition allows for comparisons between contexts and levels of analysis and provides a framework in which findings can be located, interrelated, and evaluated.

All in all, the updated definition of internationalization proposed by this thesis provides a better conceptualization of the process because (1) it includes all the key elements proposed by previous definitions, (2) it precises the definition by stipulating the categories of benefits that can result from the process, (3) as the extension of the concept is increased, it applies to a wider universe of empirical cases that fall under the umbrella of internationalization, (3) it encourages systematic research into why, how and with what results different actors are pursuing internationalization, (4) while, at the same time, remaining parsimonious. The analysis of the proposed definition of internationalization according to the 'criteria of conceptual goodness' proposed by John Gerring (1999) shows that it is possible to arrive at a conceptualization of internationalization "that is at once comprehensive and reasonably concise" (Gerring, 1999, p. 367), that has breadth and analytical purchase.

This is not just about semantics, definitions matter. They are used by university leaders when designing programs, by policy makers when they plan local, national or regional

internationalization strategies or by researchers as the back-bone of their inquiries. If researchers want to 'speak truth to power' (Wildavsky, 1987), investigations should not be just about what we would like internationalization to achieve, but what is has achieved; not just about its positive impacts, but about its actual consequences for the variety of stakeholders it affects; not just about what is being done, but about what works. The new definition of internationalization proposed by this thesis enables researchers to follow this course of action.

CHAPTER 6

CONCLUSION

6.1 Synthesis of findings

The thesis argued that while internationalization is a significant development in higher education research and practice there is little consensus on the meaning of the process. The thesis recognized three interrelated problems in the academic literature on higher education internationalization: (1) a loose conceptualization of the process of internationalization, as only timid attempts were made to systematize the concept, (2) limited large-scale international comparative research on the process, as research mostly focuses on single-n or small-n case studies, (3) an underdeveloped methodological apparatus to efficiently study policy developments in internationalization across the globe, as systematic content analyses of policy documents are fairly scarce.

The thesis asked: **How can the conceptual clarity of 'internationalization' be improved so as to increase its analytical purchase in the study of higher education?** In order to answer this central research question and address the uncovered research gaps, the thesis proposed to: (1) reconceptualize higher education internationalization by (2) building a typology of national higher education internationalization strategies from across the globe using (3) an innovative and efficient methodological apparatus to analyze, summarize and compare policy texts.

As conceptualization usually implies "*re*conceptualizing what we already know" (Gerring, 1999, p. 382), the literature review (**Chapter 2**) started by providing a critical review of the evolution of conceptualizations of internationalization in higher education with the aim of uncovering the central properties of the process and providing a working definition for the current study. It argued that internationalization is a process characterized by a planned transition "from an actual state of internationality at time X towards a modified actual status of internationality at time X+N" (Brandenburg & Federkeil, 2007, p. 7). This highlighted the fact that the internationalization process is not driven by policy drift, but by active policy making. Due to the national embeddedness of higher education systems, nation-states where shown to

play a central role in shaping internationalization. Examining the different ways in which governments can influence the policy space of internationalization – from ad hoc to comprehensive engagement – the thesis argued that national higher education internationalization strategies transform the "'siloed' nature of internationalization-related policies and programs in separate government agencies" (Helms, 2015, p. 40) and ministries into an integrated approach. Therefore, national strategies were shown to represent a reliable and valid source of data for extracting a comprehensive and well-rounded conceptualization of internationalization.

In order to efficiently analyze, summarize and compare national higher education internationalization strategies, the thesis proposed novel and virtually unobtrusive methodological apparatus that enables researchers to make reliable, valid and replicable inferences from textual data (**Chapter 3**). The thesis used a mixed methods research design based on computer-assisted topic modeling techniques and qualitative interviewing of documents to show how researchers can carry out high-quality international comparative research with limited resources. Because there was no reliable population of national internationalization strategies from which documents could be selected, using reliable sampling techniques, a census was conducted. This ensured that the findings of the thesis are not plagued by selection bias and provide a comprehensive descriptive analysis of the universe of cases that can be used by future research to form hypotheses, select cases and make causal inferences.

The global mapping of national strategies (**Chapter 4**) revealed significant insights into the empirical reality of higher education internationalization. First, thinking about higher education internationalization in a strategic manner at the national level is a relatively new phenomenon and it is not as widespread as the literature might suggest. This is important because it implies that the majority of governments still do not take a holistic approach to higher education internationalization. Considering the importance attached to government policy as the most

important external driver of internationalization (Egron-Polak & Hudson, 2014) and the strong (Engel, Sandström, van der Aa, & Glass, 2015) and positive influence (Sandström & Hudson, 2018) it is perceived to have by a majority of higher education institutions, the limited spread of national higher education internationalization strategies suggests that the vast majority of higher education systems still do not take advantage of a targeted comprehensive plan of action.

Second, strategic thinking is concentrated in developed countries more generally, and European countries more specifically. This is significant because it implies that the benefits of a strategic approach to internationalization will be concentrated in places that are already economically developed, already have an advanced state of internationality in higher education, and where higher education systems have a reputation for quality. In fact, the findings also showed that 44% of the institutions ranked in the top 100 of both the Shanghai Ranking[124] (2017) and the World Reputation Ranking (2018) are located in the countries that have a higher education internationalization strategy. Moreover, 45% of all international students are received by the countries that have a national internationalization strategy in place, and only 16% of international students worldwide come from these countries. Thus, overall, countries with national internationalization strategies are net receivers of international students.

Finally, three quarters of the countries that have a national internationalization strategy use English as (one of) the official languages of higher education instruction. This finding lends further support to the emergence of English as the global language of academia. The hegemony of English in teaching and research suggests that "[a]nybody who wants to make their way in the world must speak it" (The Economist, 2019, p. 14). As the case of the Anglo-Saxon countries shows, the countries that provide English-medium instruction at the tertiary level have

[124] The proportion remains the same if we examine the top 500 universities of the Shanghai Ranking: 44% of higher education institutions are from countries with national higher education internationalization strategies.

a competitive advantage in attracting international students and scholars, conducting international research or sealing transnational collaborative partnerships between higher education institutions.

These trends point towards the possibility of growing inequality between higher education systems that have strategic plans guiding their internationalization efforts and those that do not. Considering the academic, socio-cultural, economic and/or political benefits expected to derive from higher education internationalization, the findings suggest that these benefits will be unevenly distributed across the globe and the inequality between higher education systems will grow. Similar conclusions are being drawn from the results of the 5th IAU Global Survey – expected to be released later this year – which finds that the "importance of internationalization is increasing in higher education institutions that already consider it important" implying that this "could have negative consequences in terms of equality as it could create a gap between higher education institutions" (Marinoni & de Wit, 2019, para. 16). The same could happen at the system level between different countries.

The content analysis of national strategies (**Chapter 5**) revealed further important insights into the empirical reality of higher education internationalization. First, the findings showed that the understanding of 'strategy' evolves on a continuum of government engagement with the process of internationalization: from a more passive and limited role to a more active and comprehensive role. Nevertheless, the analysis also revealed that national strategies attempt 'steer not row' higher education internationalization respecting the autonomy of higher education institutions and utilizing other actors to deliver the intended outcomes of the policies. Generally, internationalization strategies are issued by government bodies that are directly in charge with overseeing higher education, but also by ministries in charge of national economic affairs (e.g. trade, investment, economic development). Nonetheless, all the strategies mentioned the important role of actors other than the issuing authority in forwarding

internationalization. In this regard, the findings revealed an intricate biosystem of actors (from individuals to supranational organizations) responsible for a variety of roles in promoting higher education internationalization (e.g. policymaking, regulating, funding, implementing, monitoring, evaluating, advocating, networking, researching, collecting and exchanging information, branding) and consistent attempts to align the national higher education internationalization strategy with other policies pursued by the government. This finding is significant because it supports the claim that strategic documents actually play a role in integrating and coordinating the disparate policies and programs of separate government bodies.

Second, the analysis showed that only one in two countries mention specific funding sources or mechanisms for the higher education internationalization measures proposed in the strategic documents. Considering that insufficient financial resources are consistently ranked as the most important obstacle for pursuing internationalization by higher education institutions (Egron-Polak & Hudson, 2014; Karvounaraki et al., 2018; Sandström & Hudson, 2018), this finding suggests that the lack of appropriate funding mechanisms and limited funding levels for higher education internationalization can lead to bottlenecks in the pursuit of strategic objectives and goals and, ultimately, to policy failure.

Third, the thesis found that countries pursue a variety of goals through higher education internationalization strategies. Nevertheless, there were some recurring goals, and some were more prevalent than others. Specifically, building the national reputation and competitiveness of the country and higher education system and deriving economic benefits from internationalization were the most common goals of national strategies. At the same time, preparing students for the global world, improving the quality of education, addressing global problems and strengthening the quality of research and cooperation were prioritized by fewer countries. These findings indicated that that, at the national level, prestige and economic-related

benefits carry more weight than academic quality or making meaningful contributions to society. At the institutional level, previous studies suggested that universities pursue similar goals, but that the emphasis is revered (Egron-Polak & Hudson, 2010, 2014). Possible explanations for this incongruity might be that the institutional-level benefits are self-reported and, as such, they are affected by social desirability bias or that in fact the actual goals and benefits of internationalization are essentially different for different actors in different contexts.

Fourth, according to priorities, the analysis revealed two types of higher education internationalization strategies that countries pursue: (1) inward internationalization focusing on international student mobility and the internationalization of universities and the study programs and courses they provide and (2) outward internationalization focusing on international student mobility and the internationalization of research through international cooperation. These findings are consistent with claims that international student mobility is the most salient measure of internationalization around the world and that, even though countries pursue different goals, there is a certain level of homogenization of the measures adopted to reach them. As the statistical description of documents were retained, the topic modeling algorithm also allowed to visualize a distribution of countries according to the two types of internationalization uncovered.

In light of these findings, higher education internationalization was reconceptualized in order to ensure that there is a link between the definition and the empirical manifestations of the process. The findings lend support to conceptualizing internationalization as: (1) a planned process (2) that covers a variety of measures that change the purposes, function and delivery of higher education (3) with a specific goal in mind. Thus, a renewed definition of internationalization that covers all these attributes was proposed:

> Internationalization is the intentional process of integrating an international, intercultural or global dimension into the purposes, functions and delivery of

post-secondary education**, in order to achieve intended academic, socio-cultural, economic and/or political goals**.

The renewed definition of internationalization was evaluated against the 'criteria of conceptual goodness' proposed by John Gerring (1999, p. 367): familiarity, parsimony, coherence, differentiation, depth and theoretical utility. These criteria helped to highlight the inherent trad-offs in conceptualization and provided a systematic criterial framework to analyze the proposed definition against existing conceptualizations of internationalization. The aim was to show that the renewed definition improved the analytical purchase of the concept. While meeting the criteria for conceptual goodness, the reconceptualization of higher education internationalization tried to balance two competing aims: analytic differentiation and conceptual validity.

On the one hand, in order to capture the different embodiments of internationalization, the updated definition tried to increase the analytic differentiation of the concept. As such, the conceptualization was adapted to include the different types of goals that actors can pursue through internationalization, i.e. not only academic goals, but also socio-cultural, economic and/or political goals. This definition will enable researchers to easily operationalize the concept in order to capture a variety of empirical manifestations of higher education internationalization. This is significant, because internationalization does not only lead to increased academic quality of teaching and research, but also to predatory behaviors from agents recruiting international students (Ashwill & West, 2019), diploma mills (Knight, 2013), or low-quality transnational education ventures (Sharma, 2018). The renewed conceptualization enables scholars to capture and research such manifestation of the process as well.

On the other hand, in order to make sure that the concept travels well between different contexts and levels of analysis, the renewed definition tried to ensure conceptual validity. To do this, the

thesis tried to lift the empirical data captured from a census of national higher education internationalization strategies to a conceptual level, and not the other way around. The definition applies not just across contexts, but across the variety of types of actors (e.g. public/private, governmental/quasi-governmental/ non-governmental, political/administrative) influencing the policy space of higher education internationalization at different scales (e.g. local, national, regional, international, supranational) as it captures the different intentions in pursuing internationalization. As internationalization is a dynamic and ever-changing process, it is important that the conceptualization of the process can capture new trends and emerging actors.

All in all, the findings of the thesis (1) enabled a reconceptualization of internationalization that increases the analytical purchase of the concept, (2) showed how large-scale cross-country comparative research can bring to light new aspects of the internationalization process that would otherwise be obscured by small-n in-depth case studies, and (3) indicated how systematic content analyses of documents can be efficiently used to make reliable, valid and replicable inferences from textual data.

6.2 Contribution

The thesis makes several important contributions to the field of higher education internationalization. In terms of theoretical contributions, the thesis built a systematic conceptualization of internationalization by examining meanings in use and lifting empirical data to a conceptual level. Thus, it set the boundaries within which the concept of internationalization can travel and increased the analytic differentiation of the process so as to capture its diverse empirical forms. The reconceptualization of internationalization can, moreover, be easily operationalized for research in in different contexts and at different scales of analysis. This ensures measurement validity as it sensitizes the researcher to contextual

specificities in the quest to establish measurement equivalence across cases (Adcock & Collier, 2001). As such, the thesis contributes to research on higher education internationalization with a conceptualization that transforms the process of internationalization in a fact-finding category with adequate discriminating power on which causal theories of the process can be developed and tested.

In terms of empirical contributions, the thesis supports research on higher education internationalization in various ways. First, it provides a census of national higher education internationalization strategies from across the world describing and characterizing the countries and higher education systems that pursue the process in a strategic manner at the national level. The descriptive inferences of the whole universe of cases provides researchers with a population frame from which countries can be selected for further analyses using reliable sampling techniques. In addition, it provides an original and comprehensive database of national higher education internationalization strategies that can be updated as new plans are issued and can be extended to include institutional and supranational strategic documents. Second, it provides a step-by-step manual of instruction on how to design, implement and validate computer assisted content analyses. This methodological apparatus helps future research to make reliable, valid and replicable inferences from documentary analyses. Moreover, it enables the efficient use of resources when dealing with large corpora of texts. Third, it provides a typology of higher education internationalization at the national level. The value of this heuristic device is that it comprehensively describes the universe of empirical cases and, thus, eases the case selection and justification for international comparative analyses (Seawright & Gerring, 2008). As such, it represents a baseline for comparing diverse policy approaches to higher education internationalization and increases the likelihood of generating cumulative knowledge. What is more, the typology can be easily adapted for other levels of analysis (e.g. institutional) and can be combined with other characteristics described in this thesis in order to provide a more fine-

grained distribution of cases and test causal hypotheses. For example, the two types of internationalization approaches (inward and outward approach) can be combined with the primary goals of internationalization (e.g. economic vs. non-economic) to form a new distribution of the universe of cases. Thus, depending on the focus on future inquiries, the typology can be easily re-designed in line with the aim of the research. This is significant because it implies that the typology is dynamic rather than static. As such, it could provide an integrative guiding post for future research and increase the comparability of results of between different research projects.

In terms of practical contributions, the findings increase the transparency of national internationalization strategies for higher education stakeholders: students, universities, businesses and policy makers. Because the analysis focused on similarities and differences among national higher education systems, the international comparison helps policy makers to contextualize their activities in the field of higher education internationalization. Understanding the diversity within the system can help actors decide on grounds for cooperation and competition. Specifically, the findings can enable consortia formation between universities and mutual agreements between states based on their similarities (correspondence) and differences (complementarity). All in all, the main contribution of the thesis is to increase the transparency of the process of internationalization for both researchers and practitioners.

6.3 Limitations and avenues for further research

There are two areas of research that fall outside the scope of this thesis, but which form a significant agenda for further research. As this thesis focused on policy meaning, questions related to policy change and policy evaluation were not dealt with in the current research. Nevertheless, these are important avenues to be explored by future inquiries into higher education internationalization.

The first limitation refers to policy change, or more precisely, the lack thereof. The limited number of countries that have national higher education internationalization strategies poses a significant question: If national strategies are considered so important for forwarding higher education internationalization, why are they not more widespread. As previously argued, the private sector "is unequivocal about strategy – it is the essence of competitive success" (Stewart, 2004, p. 17). In the public sector, a similar conclusion can be drawn: "If your future is assured, you don't need a strategy, and neither do you need it when you are doomed. But the rest of the time (which is most of the time), strategy seems a good investment, provided it is done openly, and within acknowledged structures of accountability" (Stewart, 2004, p. 21). So why are national internationalization strategies so uncommon around the globe. A possible explanation, supported by the timeframe in which these strategic plans appeared, is that such holistic approaches to reforming higher education internationalization at the system level are novel. Therefore, it could happen that as time passes more countries will put forward national higher education internationalization strategies. Another explanation, supported by the characteristics of the countries who have develop such strategic plans, is policy capacity. Policy capacity refers to governments' "ability to marshal the necessary resources to make intelligent collective choices, in particular to set strategic direction, for the allocation of scarce resources to public ends" (Painter & Pierre, 2005, p. 2). Thus, it is possible that the over-representation of economically developed countries in the population of nations that have national higher education internationalization strategies could be explained by their increased policy capacity as compared to countries that are less developed economically. Future research could explore these avenues to explain policy change in the area of higher education internationalization by looking into policy diffusion and policy capacity as explanatory frameworks.

The second limitation refers to policy evaluation, or more precisely, the lack thereof. Even though national higher education internationalization strategies are perceived as important and

impactful in forwarding internationalization, there is little evidence to support either the policy success or policy failure of such strategies. This state of affairs poses a second significant question: How successful are national higher education internationalization strategies in achieving their goals? Research has suggested that "clarity, commitment, flexibility, and buy-in from a broad spectrum of actors are crucial ingredients for policy effectiveness" (Brajkovic, 2017, para. 2). The findings of the thesis have highlighted some possible factors that could impair policy success. First, to explore the issue of clarity, the strategic targets set by governments could be used as a proxy. As the findings show, the internationalization indicators present in strategic plans are predominantly focused on mobility, rarely going beyond measuring this particular aspect of the process. While quantitative indicators related to mobility increase the clarity of the targets to be achieved, many times it is unclear whether these indicators are measuring the outcomes intended to be achieved by the strategies. Nevertheless, they are a good place to start in evaluating the policy effectiveness of internationalization strategies. Second, to explore the issue of commitment, funding mechanisms and amounts could be used as a proxy. The findings showed that half of the countries analyzed did not explicitly integrate funding mechanisms in the strategic documents guiding their internationalization activities. Future research should investigate the impact of funding on policy success by comparing countries with different investment patterns in internationalization. Third, to explore the issue of flexibility, the government understanding of strategies could be used as a proxy. As the findings show, issuing authorities view strategies not as straitjackets, but as written statements intended to guide, support, incentivize, and provide direction and impetus to internationalization through an operationalized, targeted, and planned set of measures and actions. As such, the results underscore that strategies have a built-in flexibility that allows various actors and stakeholders to follow their own path towards internationalization. Finally, to explore the issue of actor buy-in, the biosystem of actors consulted and involved in delivering

the objectives of higher education internationalization strategies could be explored. As the findings showed, all the strategic documents mentioned actors other than the issuing authority as playing a role in higher education internationalization activities. The thesis uncovered a broad spectrum of actors with a variety of roles across all strategies. Nevertheless, future research should look at the interaction effects between these actors. Specifically, **i**nteraction effects between national and institutional strategies to forward internationalization should be explored to reveal areas where positive/negative synergies and bottlenecks can occur.

The stories we tell about internationalization shape our understanding of the process. As researchers, we have a responsibility to objectively document the causes, manifestations and effects of the process. Thus, it is important that we do not talk only about what internationalization should be, but about what it is; not only of its successes, but also of its failures; not only about what governments should so, but what they are doing and why they are doing it. There is still much to be learned about higher education internationalization.

APPEDICES

APPENDIX 3.1

WEB SCRAPING PYTHON CODE

The picture below shows a print screen of the Python code that was developed and used for web scraping data from the World Higher Education Database.

Picture Python code for web scraping[125]

First, we have to import thte libraries needed for webscraping.

```
# library for sending HTTP requests
import requests
# library for webscraping
from bs4 import BeautifulSoup as bs
# library for transforming ASCII in Unicode text
# useful if the name of countries have'strange characters' in them
from unidecode import unidecode
```

Next, we want to set the base URL from where we want to retrieve the information. The webpage of the World Higher Education Database (WHED) is complicated, and there are a number of ways the information can be retreived(i.e. continent, institutions, fields of study), but I noticed in the page source that each country can basically be accessed by going to http://whed.net/results_systems.php?= and adding it's own id number (for instance the id number of the Czech Republic is 72).

```
base_url = 'http://www.whed.net/detail_system.php?id='
```

I want to see the total number of higher education systems/countries that are present in the WHED, so let's set a variable to keep this information.

```
total = 0
```

[125] The code was written in Jupyter Notebook which is an execution environment that supports Python programming language. Jupyter Notebook is a useful software because it allows researchers to integrate comments and code in a seamless easy-to-read way. Moreover, Jupyter Notebook files can be easily saved as HTML pages and shared online with other researchers who want to replicate studies or apply the code to their own corpus of texts.

Now to get the pages we want to loop through a range of numbers that could be added at the end of the base_url so that we can access the info for the different countries.

```
''' I assume there are not more than 300 countries
or higher education systems'''
for country_id in range (1, 300):
    r = requests.get(base_url + str(country_id))
    soup = bs(r.text, 'html.parser')
    try:
'''had to add this because for some ids in the range there is no webpage
and the program raised an attribute error (because the pages were just
empty, I could just make the program skip them)'''
        if len(soup.title.text.split('-')[0].strip()):
            print (country_id)
            country='-'.join(soup.title.text.split('-')[:-2]).replace('/','')
            print(unidecode(country))
            with open (country+'.html', 'w') as file:
                file.write(unidecode(r.text))
            total += 1
    except AttributeError:
        pass
```

```
1
Afghanistan
2
Albania
3
Algeria
5
Andorra
6
Angola
7
Antigua and Barbuda
8
Argentina
```

So what the program did was request the pages for the different id's and if the page was found it tried to get the name of the country and print the contents of the page into an html file with the name of the country. If it managed to do this then the total number of countries was increased. I also printed the name and id of each country above so we can have a look.

Let's see how many countries/entries were found:

```
print (total)
```

```
209
```

Source: developed by author

Note: The total number of entries in the WHED presented here (total=209) is different than the total number of entries presented in the body of the text (total=205). This is because the tutorial to webscraping presented in the Appendix was put together at a later point than when the primary research was conducted and some entries in the WHED have been restructured. However, the update made by IAU does not affect the reliability and validity of the results.

APPENDIX 3.2

RECORDING INSTRUCTIONS FOR DATA COLLECTION

The table presents the recording instructions used during the data collection process in order to gather data on each country case.

Table Recording instructions for data collection

Country name	**Existence of internationalization plan**	**Language of instruction**	**Remarks**	**Date of data retrieval**
What is the official name of the country?	**Does the country have a stand-alone higher education internationalization strategy?** Yes No Mentions of internationalization in general higher education strategy	**What are the official languages of instruction in higher education institutions as defined by the WHED?**	**Insert remarks on the country, higher education system, higher education policies that support the finding that the country has/does not have an internationalization strategy.**	**When was the data for the country retrieved?**

Source: developed by author

APPENDIX 3.3

INVENTORY OF NATIONAL STRATEGIES FOR HIGHER EDUCATION INTERNATIONALIZATION

Table Inventory of national policies for higher education internationalization

Country	Name of strategy	Year	Issuing authority	No. of pages	Language	Found doc.
Australia	National Strategy for International Education 2025	2016	Australian Government	40	English	Yes
	Australian International Education 2025	2016	Australian Government (Australian Trade and Investment Commission)	16	English	Yes
	Australia Global Alumni Engagement Strategy 2016-2020	2016	Department of Foreign Affairs and Trade	20	English	Yes
Belgium	Brains on the move: action plan for mobility 2013	2013	The Department of Education and Training	116	English	Yes
Canada	Canada's International Education Strategy: Harnessing our knowledge advantage to drive innovation and prosperity	2014	Foreign Affairs, Trade and Development Canada	30	English	Yes
Denmark	Enhanced Insight through Global Outlook: More students studying abroad, stronger international learning environments and better foreign language skills	2013	Danish Government	14	English	Yes
	Denmark – an attractive study destination: How to attract and retain talent from abroad	2014	Danish Government	6	English	Yes
Estonia	Strategy for the internationalization of Estonian higher education over the years 2006-2015	2006	Ministry of Education and Research	11	English	Yes

Finland	Strategy for the Internationalisation of Higher Education Institutions in Finland 2009-2015	2009	Ministry of Education	60	English	Yes
Germany	Strategy for the Federal and Länder Ministers of Science for the Internationalisation of Higher Education Institutions in Germany	2013	Resolution of the 18th Meeting of the Joint Science Conference in Berlin	10	English	Yes
	The BMBF's International Cooperation action plan: Summary of the central points	2014	Federal Ministry of Education and Research	18	English	Yes
	Strengthening Germany's role in the global knowledge society: Strategy of the Federal Government for the Internationalization of Science and Research	2008	Federal Ministry of Education and Research	29	English	Yes
Ireland	Investing in Global Relationships: Ireland's International Education Strategy 2010-15	2010	High-Level Group on International Education to the Tánaiste and Minister for Education and Skills	82	English	Yes
Japan	Outline of the Student Exchange System: Study in Japan and Abroad	2008	Ministry of Education, Culture, Sports, Science and Technology	48	English	Yes
Kazakhstan	Academic Mobility Strategy in Kazakhstan for 2012-2020	2012	Ministry of Education and Science of the Republic of Kazakhstan	13	English	Yes
South Korea	Study Korea Project	2004	Ministry of Education Science and Technology	n/a	n/a	No
	Study Korea 2020 Project	2013	Ministry of Education Science and Technology	25	English	Yes
	World Class University Program	2009	Government of the Republic of Korea	n/a	n/a	No

Lithuania	Action Plan of Promotion of Higher Education Internationalisation in 2013-2016	2013	Minister of Education and Science	n/a	Lithuanian	No
Malaysia	Higher Education Malaysia: Internationalisation Policy 2011	2011	Ministry of Higher Education Malaysia	105	English	Yes
The Netherlands	Into the world: Letter on the government's vision on the international dimension of higher education and VET	2014	Minister of Education, Culture and Science	19	English	Yes
	Internationalisation Agenda – The Boundless Good	2010	Minister of Education, Culture and Science	16	English	Yes
New Zealand	International Education Strategy 2018-2030	2018	New Zealand Government	28	English	Yes
Norway	North America Strategy for Higher Education Cooperation 2012-2015	2011	Ministry of Education and Research	8	English	Yes
Poland	Higher Education Internationalization Programme	2015	Ministry of Science and Higher Education	18	English	Yes
Singapore	Global Schoolhouse	2002	Economic Development Board	5	English	Yes
Spain	Strategy for the Internationalisation of Spanish Universities 2015-2020	2014	Ministry of Education, Culture and Sport	48	English	Yes
Sweden	Internationalisation of Swedish Higher Education and Research: A Strategic Agenda	2018	Swedish Government	26	English	Yes
Switzerland	Switzerland's International Strategy for education, research and innovation	2010	Federal Council	34	English	Yes
UK	International Education: Global Growth and Prosperity	2013	Her Majesty's (HM) Government	62	English	Yes

Source: developed by author

APPENDIX 3.4

PYTHON CODE FOR TEXT PREPROCESSING

The picture below shows a print screen of the Python code that was developed and used for carrying out the pre-processing tasks of:

(1) applying UNIX readable encoding;

(2) tokenization;

(3) removing stop words; and

(4) word stemming.

Picture Python code for text preprocessing[126]

After acquiring the policy documents, they have to be preprocessed. This is a very important step to ensure the validity of the results and avoid the problem of "garbage in, garbage out" because the text analysis algorithm will unquestionably process flowed and nonsensical data.

To preprocess the texts we need to import a few libraries:

```
# useful for filnames matching a pattern, functions like wildcards
from glob import glob
# transforms string into a numerical representation for each character
from unidecode import unidecode
# splits a string into substrings, transforms text into bag of words
from nltk.tokenize import RegexpTokenizer
# gets a list of common stop words in various languages, i.e. English
from nltk.corpus import stopwords
# gets Porter stemming algorithm
from nltk.stem.porter import PorterStemmer
```

[126] The code was written in Jupyter Notebook which is an execution environment that supports Python programming language. Jupyter Notebook is a useful software because it allows researchers to integrate comments and code in a seamless easy-to-read way. Moreover, Jupyter Notebook files can be easily saved as HTML pages and shared online with other researchers who want to replicate studies or apply the code to their own corpus of texts.

Next, we want to prepare the set of documents so we can apply the different preprocessing techniques on them (teockenizing, removing stop words and stemming). For this we have to transform the text files into 'bags of words', discarding the order of words in sentences (this is the assumption on which computer assissted content analysis works).

```
doc_set = [] # initializes text corpora

'''Transforms texts in bag of words, unicodes the words,
and adds the document into the document set to make a corpus of texts.'''
for file in glob('texts/*'):
    text_file_string = ''
    with open(file, 'rb') as text_file:
        for line in text_file:
            text_file_string += str(line)
    doc_set.append(text_file_string)
```

Now let's initialize out tokenizer, stop words, and stammer:

```
# create tokenizer and transfer tokenizing information from library
tokenizer = RegexpTokenizer(r'\w+')
# create list of stop words and transfer English stop words from library
en_stop = set(stopwords.words('english'))
# create stemmer and transfer Porter stemming algorithm from library
p_stemmer = PorterStemmer()
```

Now we want to apply these to each document in the document set:

```
texts = []
random = ['r', 'n', 'b']
# for some reasons this letters appeared a lot and repeted themselves

for doc in doc_set:
    tokens = tokenizer.tokenize(doc.lower())
    # tokenize text
    stopped_tokens = [word for word in tokens if not word in en_stop and word not in random]
    # remove stop words from from tokens
    remove_numbers = [word for word in stopped_tokens if word.isalpha()]
    # remove numbers from stopped_tokens
    texts.append([p_stemmer.stem(word) for word in remove_numbers])
    # stem words from remove_numbers
```

Source: developed by author

APPENDIX 3.5

LATENT DIRICHLET ALLOCATION PYTHON CODE

The picture below shows a print screen of the Python code that was developed and used for analyzing the corpus of documents using the Latent Dirichlet Allocation algorithm.

Picture Python code for LDA algorithm[127]

```
from gensim import corpora, models
#The gensim library has a package with models for
#analysing text corpora (including the LDA model)
```

Now let's apply the LDA model to the text corpora:

```
dictionary = corpora.Dictionary(texts)
corpus = [dictionary.doc2bow(text) for text in texts]
ldamodel = models.ldamodel.LdaModel(corpus, num_topics = 4,
                        id2word = dictionary, passes = 20)
```

```
print(ldamodel.print_topics(num_topics=4, num_words=4))
```

Source: developed by author

[127] The code was written in Jupyter Notebook which is an execution environment that supports Python programming language. Jupyter Notebook is a useful software because it allows researchers to integrate comments and code in a seamless easy-to-read way. Moreover, Jupyter Notebook files can be easily saved as HTML pages and shared online with other researchers who want to replicate studies or apply the code to their own corpus of texts.

The Python code presented above finds 4 topics and 4 words related to each topic in the text corpus, but this can be adjusted by simply assigning the variables "num_topics" and "num_words" another number according to the needs of the research. As mentioned before, the process of finding the right number of topics is based on a trial and error process informed by the knowledge and judgement of the researcher. The above presented code passes through the LDA algorithm 20 times and updates the assignment of words to topics. The number of times the LDA algorithm is applied can be changed by simply assigning the variable "passes" another number. Generally, more iterations of the algorithm will improve the precision of the algorithm but will be more computationally expansive.

APPENDIX 4.1

NATIONAL HIGHER EDUCATION INTERNATIONALIZATION STRATEGIES AROUND THE WORLD

The table below provides a list of countries according to whether they have a formal national internationalization strategy, have a section on internationalization in their general higher education strategy, or do not have a formal national internationalization strategy. It also shows the total number of countries that fall under each category. The table is meant to support the interpretation of **Figure 4.1** Global Map of National Higher Education Internationalization Strategies.

Table National higher education internationalization strategies around the world

Category	Country list
Have a formal national internationalization strategy (total=22)	Australia, Belgium, Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Kazakhstan, Lithuania, Malaysia, New Zealand, Norway, Poland, Singapore, South Korea, Spain, Sweden, Switzerland, The Netherlands, United Kingdom
Have a section on internationalization in their general higher education strategy (total=18)	Columbia, Comoros, Croatia, Czech Republic, France, Greece, India, Latvia, Macedonia, Mauritius, Montenegro, Mozambique, Russia, Slovakia, South Africa, Thailand, Turkey, Vatican

Do not have a formal national internationalization strategy (total=158)	Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cote d'Ivoire, Cape Verde, Cambodia, Cameroon, Cayman Islands, Central African Republic, Chad, Chile, China, Democratic Republic of Congo, Congo, Costa Rica, Cuba, Curacao, Cyprus, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, Iceland, Indonesia, Iran, Iraq, Israel, Italy, Jamaica, Jordan, Kenya, Kiribati, North Korea, Kuwait, Kyrgyzstan, Lao, Lebanon, Lesotho, Liberia, Libya, Liechtenstein, Luxembourg, Madagascar, Malawi, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mexico, Micronesia, Moldova, Monaco, Mongolia, Morocco, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Palau, Palestine, Panama, Papua New Guinea, Philippines, Portugal, Qatar, Romania, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, San Marino, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Slovenia, Solomon Islands, Somalia, South Sudan, Sri Lanka, Sudan, Suriname, Swaziland, Syria, Paraguay, Peru, Tajikistan, Tanzania, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe

Source: developed by author

APPENDIX 4.2

CHARACTERISTICS OF COUNTRIES WITH NATIONAL HIGHER EDUCATION INTERNATIONALIZATION STRATEGIES

Table Characteristics of countries with national higher education internationalization strategies

Country	Region[128]	OECD Member[129]	Language(s) of instruction[130]	Incoming int. students[131]	Outgoing int. students	Top 100 HEI[132]	Top 500 HEI	Top 100 HEI reputation[133]	Top 100 int. HEI[134]
Australia	Oceania	Yes	English	335.512 (7.3%)	12,330 (0.3%)	6	23	3	6

[128] The categorization of countries according to regions is based on United Nations country groupings which divides the world geographic regions into Africa, Americas, Asia, Europe, and Oceania (UN Statistics Division, 1999). These groupings are based on continental regions and used by the UN Statistics Divisions for their publications since 1999.

[129] Based on whether the country has ratified the Convention on the Organisation for Economic Cooperation and Development (OECD, 2019).

[130] The language(s) of instruction used in higher education teaching listed for each country are based on data webscraped from the WHED (International Association of Universities, 2015).

[131] The numbers of incoming and outgoing international students for each country are based on global data gathered by UNESCO for the year 2015 (UNESCO, 2017). The proportions of incoming and outgoing international students were calculated by the author based on the total number of international students for the year 2015 (OECD, 2018).

[132] The number of higher education institutions (HEI) from each country that are in the top 100 and top 500 higher education institutions of the world was taken from the Academic Ranking of World Universities also known as the Shanghai Ranking (Academic Ranking of World Universities, 2017).

[133] The number of higher education institutions (HEI) from each country that are in the top 100 most reputable universities in the world was taken from the Times Higher Education World Reputation Ranking (Times Higher Education, 2018b).

[134] The number of higher education institutions (HEI) for each country that are in the top 100 most international universities in the world was taken from the Times Higher Education ranking (Times Higher Education, 2018a)

Country	Region[128]	OECD Member[129]	Language(s) of instruction[130]	Incoming int. students[131]	Outgoing int. students	Top 100 HEI[132]	Top 500 HEI	Top 100 HEI reputation [133]	Top 100 int. HEI[134]
Belgium	Europe (EU)	Yes	Dutch French English	56,453 (1.2%)	13,588 (0.3%)	2	7	1	3
Canada	Americas	Yes	English French	189,573 (4.1%)	50,506 (1.1%)	4	19	3	7
Denmark	Europe (EU)	Yes	Danish English	34,034 (0.7%)	5,205 (0.1%)	2	5	1	4
Estonia	Europe (EU)	Yes	Estonian Russian English	2,859 (0.1%)	4,121 (0.1%)	0	1	0	0
Finland	Europe (EU)	Yes	Finnish Swedish	23,197 (0.5%)	9,616 (0.2%)	1	5	1	2
Germany	Europe (EU)	Yes	German	228,756 (5.0%)	117,921 (2.6%)	4	37	6	7
Ireland	Europe (EU)	Yes	Irish English	17,900 (0.4%)	15,200 (0.3%)	0	3	0	1
Japan	Asia	Yes	Japanese	131,980 (2.9%)	30,850 (0.7%)	3	17	5	0
Kazakhstan	Asia	No	Kazakh Russian	13,850 (0.3%)	89,660 (1.9%)	0	0	0	0
South Korea	Asia	Yes	Korean English	54,540 (1.2%)	108,608 (2.4%)	0	12	3	0

Country	Region[128]	OECD Member[129]	Language(s) of instruction[130]	Incoming int. students[131]	Outgoing int. students	Top 100 HEI[132]	Top 500 HEI	Top 100 HEI reputation [133]	Top 100 int. HEI[134]
Lithuania	Europe (EU)	Yes	Lithuanian English German Russian	5,499 (0.1%)	11,126 (0.2%)	0	0	0	0
Malaysia	Asia	No	Malay English	124,133 (2.7%)	64,655 (1.4%)	0	2	0	o
The Netherlands	Europe (EU)	Yes	Dutch English	89,920 (2.0%)	15,538 (0.3%)	4	12	5	6
New Zealand	Oceania	Yes	English Maori	53,854 (1.2%)	5,397 (0.1%)	0	4	0	1
Norway	Europe	Yes	Norwegian English	10,880 (0.2%)	19,035 (0.4%)	1	3	0	1
Poland	Europe (EU)	Yes	Polish	54,734 (1.2%)	24,135 (0.5%)	0	2	0	0
Singapore	Asia	No	English	NA	25,057 (0.5%)	0	0	2	2
Spain	Europe (EU)	Yes	Spanish Basque Galician Catalan	53,409 (1.2%)	35,348 (0.8%)	0	11	0	2
Sweden	Europe (EU)	Yes	Swedish English	28,029 (0.8%)	17281 (0.4%)	3	11	2	5

Country	Region[128]	OECD Member[129]	Language(s) of instruction[130]	Incoming int. students[131]	Outgoing int. students	Top 100 HEI[132]	Top 500 HEI	Top 100 HEI reputation[133]	Top 100 int. HEI[134]
Switzerland	Europe	Yes	French German Italian English	51,911 (1.1%)	12,951 (0.3%)	5	8	3	4
UK	Europe (EU)	Yes	English	430,687 (9.4%)	33,109 (0.7%)	9	38	9	17

Source: developed by author

APPENDIX 4.3

CHARACTERISTICS OF COUNTRIES WITH A SECTION ON INTERNATIONALIZATION IN THEIR GENERAL NATIONAL HIGHER EDUCATION STRATEGIES

Table Characteristics of countries with a section on internationalization in their general national higher education strategies

Country	Region[135]	OECD Member[136]	Language(s) of instruction[137]	Incoming int. students[138]	Outgoing int. students	Top 100 HEI[139]	Top 500 HEI	Top 100 HEI reputation[140]	Top 100 int. HEI[141]
Columbia	Americas	No	Spanish	4,550 (0.1%)	36,626 (0.8%)	0	0	0	0

[135] The categorization of countries according to regions is based on United Nations country groupings which divides the world geographic regions into Africa, Americas, Asia, Europe, and Oceania (UN Statistics Division, 1999). These groupings are based on continental regions and used by the UN Statistics Divisions for their publications since 1999.

[136] Based on whether the country has ratified the Convention on the Organisation for Economic Cooperation and Development (OECD, 2019).

[137] The language(s) of instruction used in higher education teaching listed for each country are based on data webscraped from the WHED (International Association of Universities, 2015).

[138] The numbers of incoming and outgoing international students for each country are based on global data gathered by UNESCO for the year 2015 (UNESCO, 2017). The proportions of incoming and outgoing international students were calculated by the author based on the total number of international students for the year 2015 (OECD, 2018).

[139] The number of higher education institutions (HEI) from each country that are in the top 100 and top 500 higher education institutions of the world was taken from the Academic Ranking of World Universities also known as the Shanghai Ranking (Academic Ranking of World Universities, 2017).

[140] The number of higher education institutions (HEI) from each country that are in the top 100 most reputable universities in the world was taken from the Times Higher Education World Reputation Ranking (Times Higher Education, 2018b).

[141] The number of higher education institutions (HEI) for each country that are in the top 100 most international universities in the world was taken from the Times Higher Education ranking (Times Higher Education, 2018a)

Country	Region[135]	OECD Member[136]	Language(s) of instruction[137]	Incoming int. students[138]	Outgoing int. students	Top 100 HEI[139]	Top 500 HEI	Top 100 HEI reputation[140]	Top 100 int. HEI[141]
Comoros	Africa	No	Arabic French	NA	6,071 (0.1%)	0	0	0	0
Croatia	Europe (EU)	No	Croatian English	693 (0.0%)	9,045 (0.2%)	0	0	0	0
Czech Republic	Europe (EU)	Yes	Czech English German French Russian	42,812 (0.9%)	12,832 (0.3%)	0	1	0	0
France	Europe (EU)	Yes	French	245,349 (5.3%)	90,717 (2.0%)	3	20	3	4
Greece	Europe (EU)	Yes	Modern Greek English	23,734 (0.5%)	35,505 (0.8%)	0	3	0	0
India	Asia	No	English Urdu Tamil Panjabi Hindi Bengali Gujarati	44,766 (1%)	305,970 (6.7%)	0	1	1	0
Latvia	Europe (EU)	Yes	Russian Latvian English	6,465 (0.1%)	5,559 (0.1%)	0	0	0	0
Macedonia	Europe	No	Macedonian	2,220 (0.0%)	5,071 (0.1%)	0	0	0	0
Mauritius	Africa	No	English French	1,736 (0.0%)	7,165 (0.1%)	0	0	0	0

Country	Region[135]	OECD Member[136]	Language(s) of instruction[137]	Incoming int. students[138]	Outgoing int. students	Top 100 HEI[139]	Top 500 HEI	Top 100 HEI reputation[140]	Top 100 int. HEI[141]
Montenegro	Europe	No	Montenegrin	NA	4,965 (0.1%)	0	0	0	0
Mozambique	Africa	No	Portuguese	590 (0.0%)	2,655 (0.1%)	0	0	0	0
Russia	Europe	No	Russian	243,752 (5.3%)	56,837 (1.2%)	1	3	2	0
Slovakia	Europe (EU)	Yes	Slovak English	10,072 (0.2%)	32,010 (0.7%)	0	0	0	0
South Africa	Africa	No	Afrikaans English	45,142 (1.0%)	7,802 (0.2%)	0	5	0	1
Thailand	Asia	No	Thai English	31,571 (0.7%)	29,884 (0.6%)	0	1	0	0
Turkey	Asia	Yes	Turkish English French German	87,903 (1.9%)	44,471 (1.0%)	0	1	0	0
Vatican	Europe	No	NA	NA	16 (0.0%)	0	0	0	0

APPENDIX 5.1

GOALS OF NATIONAL HIGHER EDUCATION INTERNATIONALIZATION STRATEGIES

Table Main goals of national higher education internationalization strategies by country

COUNTRY	MAIN INTERNATIONALIZATION GOAL	CATEGORY
Australia	"ensure Australian international education helps students, communities and industry around the world, meeting their expectations" (p.10)	Derive economic benefits
Belgium	"allow students to acquire international and intercultural competences" (p.8)	Prepare students for the global world
Canada	"maximize economic opportunities for Canada in international education" (p.5)	Derive economic benefits
Denmark	"strengthen the international competences of Danish students and the international learning environments that Danish institutions are involved in" (p.2) "attract and retain talent from abroad" (p.1)	Prepare students for the global world Derive economic benefits
Estonia	"making our higher education system more open and visible" (p.1)	Build national reputation/ competitiveness
Finland	"an internationally strong and attractive higher education institution and research community that promotes society's ability to function in an open international environment, supports the balanced development of a multicultural society and participates actively in solving global problems" (p.10)	Build national reputation/ competitiveness Addressing global problems
Germany	"higher education institutions that are so good and attractive that they can compete with the best institutions in other countries and contribute to mastering the global challenges of our times" (p.1)	Build national reputation/ competitiveness Addressing global problems

Ireland	"become internationally recognized and ranked as a world leader in the delivery of high-quality international education" (p.12)	Build national reputation/ competitiveness
Japan	"open up Japan to the whole world and expand flows of people, goods, money and information" (p.3)	Derive economic benefits
Kazakhstan	"increase the attractiveness of Kazakhstan higher education by providing quality of education and research" (p.5)	Improve the quality of education
Malaysia	"increase Malaysian higher education institutions' quality and capacity in admission, provision of education as well as retention of international students upon completion of their studies" (p.7)	Improve the quality of education
Netherlands	"train 'competent rebels': pioneering thinkers and doers who are able to promote change through a combination of creativity, courage and ambition" (p.1) "strengthen the quality of tertiary education and scientific research in the Netherlands, so that our universities and research institutions rank among the best in the world" (p.2)	Prepare students for the global world Build national reputation/ competitiveness
New Zealand	"create an environment where international education can thrive and provide economic, social and cultural benefits for all New Zealand" (p.5)	Derive economic benefits
Norway	"support high quality cooperation in all fields, in order to develop and strengthen strong and long-term cooperation structures" (p.1)	Strengthen research and knowledge production / cooperation
Poland	"increase of competitiveness of Polish institutions of higher education on the international market (…) strengthening the position of Poland on the international area" (p.1)	Build national reputation/ competitiveness
Singapore	"capture bigger slice of (…) world education market" (p.1)	Derive economic benefits
South Korea	increase the number of international students and decrease the number of outbound Korean Students	Derive economic benefits
Spain	"improvement of the international attractiveness and competitiveness of Spain as well as the socio-economic development of its immediate knowledge-based environment" (p.23)	Build national reputation/ competitiveness

Sweden	"be one of the most attractive, international knowledge nations with world leading quality of education and research" (p.14)	Build national reputation/ competitiveness
Switzerland	"further develop an internationally competitive education, research and innovation system (…) to remain one of the most innovative countries" (p.3)	Build national reputation/ competitiveness
UK	"take advantage of this powerful reputation, and to seize the opportunities that stem from it" (p.3)	Derive economic benefits

Source: developed by author from analysis of national higher education internationalization strategies (see **Appendix 3.3**)

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