

Rationales Shaping International Linkages in Higher Education: A Qualitative  
Case Study of the ASU-ITESM Strategic Alliance

by

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## ABSTRACT

This qualitative case study examines the rationales of the relationship between Arizona State University (ASU)—an American public research university—and Tecnológico de Monterrey (ITESM), a Mexican private not for profit research university. The focus of the study is to document the different meanings participants attached to the rationales of this international inter-university relationship.

The conceptual framework draws from internationalization of higher education and interpretive policy analysis literature. Qualitative methodologies were utilized in both data collection and analysis. Data consisted of institutional policy documents, a ranking survey, and semi-structured interviews with faculty, administrators, and senior leadership from both universities.

This study demonstrates that the rationales of the ASU-ITESM relationship are complex and dynamic. They have a function (e.g., declared, interpreted, enacted) and meanings attached (e.g., type, scope, and priority). Declared rationales were expressed in an ideal state in institutional policy. Those were interpreted by the participants according to their individual sense-making framework, thus becoming the interpreted rationales. Participants acted upon such understandings; these enacted rationales refer to the real rationales shaping the inter-university relationship.

Findings also show there were three different categories of meanings participants attached to rationales, based on their type, scope and priority. In terms of type, rationales took the form of values, interests and needs, or expected

benefits; they can also be academic, economic, political, or social/cultural. In scope, rationales are broad or specific addressing the relationship overall or specific initiatives within; they target individual, organizational, or societal levels. As for priority, participants interpreted and acted upon rationales with high, moderate or low importance influenced by their job position (e.g., faculty, administrators, senior leadership).

In addition, findings reveal the key characteristics and contextual factors of the ASU-ITESM relationship. Participants recurrently refer to it as a strategic alliance or partnership, stressing atypical aspects of its formation, approaches, and comprehensiveness. Emerging evidence suggested factors of both regional macro-context and organizational mezzo-context that may facilitate or hinder the advancement of the relationship. The study concludes with a discussion on the contributions of this investigation to the field of international education and remaining future research implications.

To my family: Jose Luis, Irene, Dulce, Marcela, Jose Luis Jr.,  
Renee, and Jose Angel: Your love and support keep me going.

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	xiv
LIST OF FIGURES .....	xvi
CHAPTER	
1 INTRODUCTION .....	1
Background of the Study .....	2
Globalization, Internationalization, and Higher Education .....	2
A Bi-national Context for Cooperative Arrangements in Higher Education .....	3
Problem Statement and Purpose of the Study .....	4
Research Question and Conceptual Framework .....	5
Potential Contributions .....	6
Limitations of the Study .....	7
The Researcher .....	8
Relationship of the Researcher and Case-of-study .....	8
Relationship of the Researcher and Participants .....	8
2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK .....	9
Globalization: Tensions and Contradictions .....	9
A Changing Environment for Higher Education .....	12
Effects at the Nation-State Level: Education and Higher Education Systems .....	12
Declining State Funds .....	14



CHAPTER	Page
Changing Perceptions .....	15
Educational Reforms.....	16
Stratification and Inequality.....	16
Effects at the Institutional Level: The Functions and the	
Structure of the University.....	17
Effects on the Functions of the University .....	18
Effects on the Structure of the University.....	20
Internationalization of Higher Education.....	23
Current Developments on Internationalization of Higher Education:	
An Integrated Approach.....	25
Internationalization: Definitions .....	26
Rationales for Internationalization.....	31
Rationales in Latin America .....	36
Organizational Models.....	37
Strategies, Policies, and Programs .....	42
International Linkages, Partnerships, and Strategic Alliances.....	44
Terminology.....	44
Purpose.....	45
Typology .....	46
Organizational Implication .....	49
Conceptual Framework.....	51
3 METHODOLOGY .....	55

CHAPTER	Page
Methods: A Conceptual Discussion.....	55
Philosophical Paradigms: Pragmatism and Social Constructivism .....	55
A Qualitative Approach to Social Inquiry .....	56
Interpretive Community: Case Study.....	57
Justification.....	58
Theories and Disciplinary Perspectives .....	60
Researcher’s Experiences, Values, and Ways of Knowing.....	60
Methods .....	62
Unit of Analysis: ASU-ITESM Relationship, a Process between Two Universities.....	63
Participants: Universities and Individuals .....	64
Arizona State University.....	64
Tecnológico de Monterrey .....	65
Individuals.....	66
Process: The ASU-ITESM Relationship, a Brief Chronology .....	69
Data Collection .....	73
Document Analysis.....	74
Semi-structured Interviews .....	75
Interview Design.....	75

CHAPTER	Page
Participant Information Form .....	77
Rationales Ranking Survey.....	78
Access to the Participants .....	79
Interview Implementation.....	79
Data Analysis .....	80
Document Examination .....	81
Participant Information Form and Rationales Ranking	
Survey .....	82
Interviews.....	84
Validity .....	86
<b>4 FINDINGS: DECLARED, INTERPRETED, AND ENACTED</b>	
<b>RATIONALES .....</b>	<b>87</b>
Document Examination: Declared Rationales .....	87
Findings: Rationales per Category, de Wit (2002) Typology.....	88
High Priority: Academic Rationales .....	89
Moderate Priority: Economic Rationales.....	89
Low Priority: Political and Social/Cultural Rationales.....	93
Findings: Rationales and Disaggregated Categories, de Wit	
(2002) Typology .....	95
High Priority: Academic Rationales .....	96
Moderate Priority: Economic Rationales.....	97
Low Priority: Political and Social/Cultural Rationales.....	98

CHAPTER	Page
Findings: Rationales, Knight (2004) Typology .....	99
High Priority: Strategic Alliance .....	101
Moderate Priority: Student and Staff Development, Income Generation, and Knowledge Production .....	101
Low Priority: Institutional Branding and Profile .....	102
Summary of Document Examination Findings: Declared Rationales .....	102
Rationales Ranking Form: Interpreted Rationales .....	103
Findings: Rationales Ranked, de Wit (2002) Typology .....	103
High Priority: Academic Rationales .....	106
Moderate Priority: Economic and Social/Cultural Rationales.....	107
Low Priority: Political Rationales.....	109
Other Rationales: First Section of the Ranking Survey .....	110
Findings: Rationales Ranked, Knight (2004) Typology .....	111
High Priority: Strategic Alliance .....	113
Moderate Priority: Institutional Branding and Profile, Student and Staff Development, and Knowledge Production .....	113
Low Priority: Income Generation .....	115
Other Rationales: Second Section of the Ranking Survey .....	116

CHAPTER	Page
Summary of Ranking Survey Findings: Interpreted Rationales .....	116
Semi-structured Interviews: Enacted Rationales .....	118
Faculty with Administrative Functions.....	119
Administrators.....	123
Senior Leadership .....	132
Summary of Semi-structured Interviews: Enacted Rationales .....	141
Type and Scope of Rationales.....	141
Priorities of Rationales.....	144
Key Characteristics and Influential Factors .....	149
<b>5 CONCLUSION AND RESARCH IMPLICATIONS .....</b>	<b>154</b>
Summary of Findings.....	154
Limitations of the Study.....	163
Contributions of the Study .....	165
Conclusion .....	168
Transitioning Rationales .....	169
Implications for Future Research.....	172
Participants' Interpretations of Rationales' Priorities.....	172
Contradictions on Economic Motivations .....	173
Compulsory versus Purposeful Model.....	174
Sustainability of International Univeristy and Strategic	
Alliances .....	174
<b>EPILOGUE.....</b>	<b>176</b>

	Page
REFERENCES .....	178
APPENDIX	
A DESCRIPTION OF ARIZONA STATE UNIVERSITY .....	192
B DESCRIPTION OF TECNOLÓGICO DE MONTERREY .....	201
C CHRONOLOGY OF THE ASU-ITESM RELATIONSHIP .....	209
D GUIDE FOR THE SEMI-STRUCTURED INTERVIEW (ENGLISH) .....	219
E GUIDE FOR THE SEMI-STRUCTURED INTERVIEW (SPANISH).....	221
F PARTICIPANT INFORMATION FORM (ENGLISH) .....	223
G RATIONALES RANKING SURVEY (ENGLISH) .....	225
H RATIONALES RANKING SURVEY (SPANISH).....	227
I PROFILE OF ARIZONA STATE UNIVERSITY PARTICIPANTS .....	229
J PROFILE OF TECNOLÓGICO DE MONTERREY PARTICIPANTS .....	231
K RATIONALES (DE WIT, 2002): EVIDENCE FROM DOCUMENTS EXAMINED.....	233
L RATIONALES (KNIGHT, 2004): EVIDENCE FROM DOCUMENTS EXAMINED.....	236
M SUMMARY OF DECLARED, INTERPRETED, AND ENACTED RATIONALES .....	239

## LIST OF TABLES

Table	Page
1. Selected Definitions on the Internationalization of Higher Education: de Wit (2002) Expanded .....	27
2. Terms and Concepts of Knight’s (2004) Definition on Internationalization .....	30
3. Representative Classifications of Rationales Driving Internationalization .....	33
4. Rationales Driving Internationalization (Knight, 2004) .....	35
5. Conceptual Framework: Theoretical and/or Interpretive Informed Assumptions.....	53
6. Reasons to Investigate the ASU-ITESM Relationship as a Qualitative Case Study .....	59
7. Purposes of Collecting Data, Data Collected, and Sources of Data (Based on LeCompte & Schensul, 1999).....	74
8. Rationales Found in Document Examination, Analysis per Category (de Wit, 2002) .....	88
9. Summary: Rationales Found in Document Examination: Analysis per Category (de Wit, 2002) .....	89
10. Rationales Found in Document Examination: Disaggregated Categories (de Wit, 2002) .....	96
11. Rationales Found in Document Examination: Knight (2004) Typology.....	100

Table	Page
12. Summary: Rationales Found in Document Examination; Knight (2004) Typology .....	100
13. Rationales Ranked by ASU and ITESM Participants; de Wit (2002) Typology .....	104
14. Summary: Rationales Ranked by ASU and ITESM Participants; de Wit (2002).....	106
15. Rationales Ranked by ASU and ITESM Participants; Knight (2004) Typology.....	111
16. Summary: Rationales Interpreted by ASU and ITESM Participants; Knight (2004).....	112
17. Rationales Reported in Semi-structured Interviews by Faculty with Administrative Functions.....	120
18. Rationales Reported in Semi-structured Interviews by Administrators.....	124
19. Rationales Reported in Semi-structured Interviews by Senior Leadership.....	133
20. Types and Scope of Rationales for the ASU-ITESM Relationship.....	143
21. Priorities of Rationales across Participants' Groups.....	145
22. Key Characteristics of the ASU-ITESM Relationship Reported by Participants.....	151
23. Influential Factors: Macro and Organizational Context .....	153



## LIST OF FIGURES

Figure	Page
1. Knight's (1994) Internationalization Cycle .....	40
2. de Wit's (2002) Modified Internationalization Cycle.....	41

# CHAPTER 1

## Introduction

Global interaction and interconnectedness is one of several key trends currently emerging in higher education throughout the world (Altbach, 2006). This increasingly globalized context fosters new patterns of sociocultural and economic-political arrangements at the national and institutional level, making the international dimension of postsecondary education changing and complex. This qualitative case study investigates international linkages in higher education. It examines the rationales—their functions and meanings—shaping the relationship between ASU, an American, public research university; and ITESM, a Mexican, private, not-for-profit research university.

The conceptual framework guiding this dissertation draws from literature on globalization, internationalization of higher education, and interpretive policy analysis. Qualitative methodologies were utilized in both data collection and analysis. Data was collected from institutional policy-documents, a ranking survey, and semi-structured interviews with faculty, administrators, and senior leadership from both universities. The findings of the study are supported by evidence resulting from both deductive and inductive analysis.

This chapter introduces the investigation by describing the background of the study, problem statement and purpose. It also presents the research question and conceptual framework guiding the study. This chapter addresses the potential contributions of the study and its limitations. Last, the author of this investigation discloses her position as researcher-participant.

## **Background of the Study**

### **Globalization, Internationalization, and Higher Education**

Globalization and internationalization are concepts frequently interchanged; although, they account for different but linked phenomena. Scholars stress that clarification of the two concepts is needed and regard globalization as part of the environment or context in which international, higher education takes place (Scott, 1998; de Wit, 2002; Knight, 2004). More importantly researchers believe that globalization and internationalization have a dialectical relationship. The role of education is as both agent and reactor to globalization (Scott, 1998; Knight, 2006).

Effects of globalization on higher education are widely documented in the literature (Altbach, 2006; de Wit, 2002; Knight, 2006; Slaughter & Leslie, 1997). It affects higher education at both national and institutional levels in several ways. At the national level, higher education systems (HES) face challenges of global convergence, autonomy, commercialization and privatization, changing reforms, shifting perceptions, and issues of stratification and inequality (Altbach, 2006; Burbules & Torres, 2000; Carnoy, 2000; Stromquist & Leslie, 2000; Stromquist & Monkman, 2000; Morrow, 2006; Rhoades & Slaughter, 2006; Santos, 2006; Schugurensky, 2006, 2007; Torres & Rhoads, 2006; Kehm, 2007).

At the institutional level, globalization affects both the functions and the structure of the university itself. As for its functions, traditionally higher education has focused on teaching and research. The contemporary role of the university includes conducting entrepreneurial activities and acting as a promoter

of economic development (Newson & Buchbinder, 1988; Slaughter & Leslie, 1997; Etzkowitz, Webster, Gebhardt, & Cantisano Terra, 2000; Etzkowitz, 2004; Gunasekara, 2006; Mowery & Sampat, 2006; Schugurensky, 2006). As for university structure, globalization effects can be summarized in two areas: governance and administration, and curriculum and instruction (Peters, Marshall, & Fitzsimmons, 2000; Stromquist & Monkman, 2000; Enders, 2006; Keller, 2006; Schugurensky, 2006, 2007; Sporn, 2006).

At the same time that scholars minimize the influence of globalization—by claiming universities around the globe have been able to adapt to a changing environment throughout history (Perkin, 2006; Sporn, 2006)—for other scholars, the model and role of the university is not only expected to change. They believe that change is necessary for universities to remain relevant in contemporary societies (Altbach, 2006; Etzkowitz, 2004; Etzkowitz et al., 2000; Gunasekara, 2006; Trow, 2006).

### **A Bi-national Context for Cooperative Arrangements in Higher Education**

Contemporary borders pose an intriguing paradox (Ganster & Lorey, 2005). While globalization merges economies and cultures, “political borders between nations and ethnicities appear to be as strong as ever” (p. xi). Borders are regions that simultaneously facilitate cooperation and create tensions. Their complexities—immigration and trade flows to mention a few—demand responses from different levels of authority.

Mexico and the United States share not only territorial borders, but as countries they also have historical and socioeconomic ties bounded by bilateral

agreements (e.g., the Guadalupe Hidalgo Treaty of 1848; the North American Free Trade Agreement [NAFTA] of 1994). In the 21st century, diverse forms of cooperation (e.g., economic, politic, cultural) are taking place alongside the United States-Mexico border, and higher education has not escaped from such interaction. A study conducted on a partnership between an American and a Mexican university suggested that bi-national partnerships share a unique characteristic; they are simultaneously regional, international, and cross-border partnerships (Oviedo, 2005; Ganster, 2004). Other studies have stressed that a key motivation in cross-border partnerships is to generate mutual benefits for the participants involved (Tedrow & Mabokela, 2007). What other potential motivations shape cross-border and international partnerships in higher education today? The importance of understanding the motivations of such bilateral linkages in higher education is addressed next.

### **Problem Statement and Purpose of the Study**

A scholarly interest in the internationalization of higher education has grown consistently during the last three decades. Studies have varied in approach (e.g., policy, managerial, and curriculum issues), and focus (e.g., supranational, national, and institutional levels). Scholars in the field of international education stress several current issues. They emphasize conducting research at the institutional level (e.g., higher education institutions), because “it is usually at the individual, institutional level that the real process of internationalization is taking place” (Knight, 2004, p. 5). On the other hand, scholars also underline the importance of cooperative arrangements between universities by pointing out that

“global links among academic institutions are becoming increasingly important” (Altbach & Forest, 2006, p. 1). However, research on cooperative arrangements (e.g., alliances, partnerships, networks, and consortia) at the institutional level are not only recent but scarce. More importantly, there have been few efforts that study the rationales and processes of international educational cooperation.

The purpose of this dissertation is to explore the current motivations of internationalization of higher education; specifically, those shaping university cooperation in a bi-national context. This investigation aims to discover the functions and meanings of the *rationales* of the ASU-ITESM relationship. Understanding the rationales at the institutional level is important for several reasons. First, they represent the meanings attached to international education and scientific cooperation between universities (Ollikainen, 1996). Second, they lay the foundation for why institutions may develop internationalization plans (Childress, 2009). Last, rationales are reflected in the policies and programs that are developed and eventually implemented and “they dictate the kind of benefits or expected outcomes one would expect from internationalization efforts” (Knight, 2005, pp. 14–15).

### **Research Question and Conceptual Framework**

This qualitative case study will be guided by the following research question: "at the institutional-level, what rationales shaped the ASU-ITESM relationship?" The conceptual framework of this dissertation is introduced next, followed by a brief description of the research design.

The conceptual framework guiding this study draws from several bodies of literature; globalization, internationalization of higher education, and interpretive policy analysis. It integrates Held et al.'s (1999) transformationalist perspective on globalization, Knight's (2004) definition of internationalization and typology of emerging rationales, and de Wit's (2002) typology of existing rationales. From literature on policy analysis, it incorporates Yanow's (2000) interpretive approach (e.g., policies as "authored" and "constructed" texts, p. 9). It is worth mentioning that internationalization of higher education is an emerging field of research that advanced from professional practice (de Wit 2002, Dolby & Rahman, 2008). It is also considered to be in a "pre-paradigmatic" phase of evolution" according to Kuhn's ideas on scientific paradigms (Maasen & Weingart, 2000, p. 71). Thus, scholars guide their research using models and frameworks rather than theories. Each of the concepts integrating the conceptual framework and the relationship among them will be revisited in chapter 2.

### **Potential Contributions**

This qualitative case study intends to make conceptual, methodological, and practical contributions to the field of internationalization of higher education. Expanding current understandings on the rationales shaping international alliances in higher education will contribute the field. Specifically, this will be done by "unpacking" the meanings attached to such rationales and by documenting any potential relationship to either of the typologies utilized in this study. Another conceptual contribution may result from incorporating an interpretive approach to

policy analysis, which focuses on meanings and allows for multiple interpretations.

Further, the study provides the opportunity for methodological contributions as well. For instance, by testing two typologies of rationales (de Wit, 2002; Knight, 2004), it may be possible to account for real phenomena. Last, practice contributions may result from this investigation; understanding the rationales shaping international, university linkages may help to create better institutional policy and to inform better decision making for university officials as they strive implementing such internationalization endeavors.

### **Limitations of the Study**

As mentioned earlier in this section this dissertation focuses on the ASU-ITESM relationship because of its unique characteristics. A relationship like this one, between an American public research university and a Mexican private not-for-profit research university, reflects the complexities and challenges of international higher education in a globalized context.

The purpose of this investigation does not lie with generalizations but, as Maxwell (1996) put it, “with developing an adequate description, interpretation, and theory of this case” (Maxwell, 1996, p. 55). Nevertheless, another caveat should be regarded. For the deductive analysis, typologies of rationales for internationalization are applied to international university cooperation. The conceptual and methodological implications of such an exploratory approach will be revisited in chapter 5.



## **The Researcher**

### **Relationship of the Researcher and Case-of-study**

The researcher conducting this investigation holds a position as ITESM liaison at ASU. As a result, she has been a close participant and observer of most of the initiatives created in the ASU-ITESM relationship since fall 2005. As a liaison, her responsibilities have included serving as a facilitator to academics and administrators from both universities. No research is value-free; thus, the researcher of this study acknowledges that there is potential for bias in it because her position as liaison. To overcome this challenge, she relies on reflexivity and triangulation embedded along the study. In chapter 3, expanded information on the researcher's role as the ITESM liaison is provided.

### **Relationship of the Researcher and the Participants**

As a result of the role the researcher of this study has had as the ITESM liaison, she has closely collaborated with many of the participants of this study. To ensure their voices are well represented is of utmost importance for several reasons; because of the interpretive approach to the investigation but also to honor the trust relationship held with participants/colleagues. To accomplish this, they were provided with findings of the study for member-checks before further disclosure. In addition, as previously agreed upon with each participant, their real names were not used in the written report of this investigation; alphanumerical codes were utilized instead.

## CHAPTER 2

### **Literature Review and Conceptual Framework**

This chapter reviews theoretical perspectives on globalization, internationalization of higher education, and interpretive policy analysis. In doing so, the study is placed into the context of previous research and the theoretical perspectives that inform its conceptual framework.

The chapter is organized in several sections. First, leading perspectives on globalization are introduced and discussed in terms of their effects on higher education at the national and institutional levels. Second, the study is placed into the context of international higher education as an area of research. Selected definitions on internationalization and key related concepts are then introduced and models for the management and organization of internationalization are reviewed. Interorganizational cooperation arrangements as part of internationalization strategies are also analyzed in detail.

Last, the conceptual framework proposed for the study of the rationales shaping the ASU-ITESM relationship is proposed and explained. Assumptions regarding the conceptual framework and their theoretical and interpretive foundations are discussed as well.

### **Globalization: Tensions and Contradictions**

*“Globalization is a hotly disputed concept” (Carnoy, 1999, p. 18).*

The variety of changes that globalization accounts for—e.g., market relations, cultural integration and disintegration, and environmental degradation—makes it difficult to define. Globalization’s polysemy and ambiguity as a concept

(Buenfil-Burgos, 2000) result from several factors. For instance, current definitions vary and depend on the theoretical framework utilized. On one hand, scholars argue that globalization lacks a precise definition entirely (Held et al., 1999; Higgot, 2004). Others claim that a unified account on globalization would represent a reductionist effort (Mittelman, 2000); and for some, “multiple globalizations” exist (Torres & Rhoads, 2006, p. 8). However, it is multidimensional definitions of globalization (Knight & de Wit, 1997; Perraton, 1997) that provide several levels of analysis for its “multiple overlapping and interrelated aspects, including cultural, economic, environmental, geographical, historical, legal, literary, political, psychological, and social dimensions” (Robertson & Scholte, 2007, p. 4).

Globalization is also a controversial concept. Arguments in favor and against globalization have gained visibility and mobilized individuals both within and outside of academia. Proponents of the pros and cons are found in the literature. Each group claims globalization effects in economic, political, and cultural terms. For supporters, globalization fosters a liberal democratization and the promotion and protection of human rights. They claim other positive effects that include a richer cultural production generated by diasporic communities across the globe. Detractors of globalization highlight its negative effects. For instance, economic integration is a detriment to the welfare provided by a state and diminishes its sovereignty. A globalized economy, they add, fosters inequality, marginalization, and poverty.

Last, globalization is contradictory. Its essence is one of dynamics in tension; dualities prevail and power is a fundamental attribute (Held et al., 1999). Homogenization and heterogeneity exist in mutually implicative tensions (Robertson, 1995). Globalization is both cause and reactor to multiple spheres of social interactions, such as politics, economy, and culture.

A transformationalist's perspective on globalization is adopted in this study. It consists of an understanding of globalization as the “central driving force behind the rapid social, political and economic changes that are reshaping modern societies and world order” (Held et al. 1999, p. 7).<sup>1</sup> Transformationalists perceive globalization as a powerful transformative force but do not make claims on its future direction; rather, it is seen as a historical process, full of contradictions. Globalization is “a process of uneven development that fragments as it coordinates” (Giddens, 1990, p. 175). The transformationalist's account is not an uncompromising one; it holds that as a result of globalization, new patterns of stratification (e.g., economic, political, and social) surge, including those of marginalization and inequity.

In sum, globalization creates interconnectivity, integration, and transformation but also structuration and stratification. Globalization challenges traditional notions of space, time, and power affecting multiple areas of social

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<sup>1</sup> On a transformationalist perspective on globalization, see also Castells (1996); Giddens (1990); Scholte (1993, 2000).

interaction. The next section explores the effects of globalization on education, particularly, higher education.

### **A Changing Environment for Higher Education**

There are claims that globalization's effects are "sometimes exaggerated" (Burbules & Torres, 2000, p. 11). Conversely, there is consensus that the effects of globalization are real and manifest in several ways. Regardless of the perspective, globalization is a multifaceted process that affects each country differently because of its "individual history, traditions, culture and priorities" (Knight, 1999, pp. 13–14). Indeed, it challenges countries to respond to diverse changes at multiple levels.

In this study, globalization is proposed as the macro context of multidimensional influence on higher education. In this globalized context, higher education—at the national and institutional levels—faces emerging patterns of sociocultural and economic and political arrangements. Higher education institutions (HEIs) generate and react to such arrangements, while seeking to fulfill their core functions of teaching, research, and service. Because HEIs are embedded in nation-states, globalization's effects at the national level are addressed first.

### **Effects at the Nation-State Level: Education and Higher Education Systems**

Literature documenting the effects of globalization on education focuses on economic and ideological repercussions. Integration with the global economy requires countries to undergo structural adjustments that result in a reduction of public expenditures, including those in education. Globalization reshapes the

welfare state into a corporate one. The provision of education by the state is affected in several ways. The decline of public funds for education affects access and educational quality. At the same time, procapitalist values driving educational policy and reform have become more evident. Combined, those trends affect the governance of education systems, the delivery of education, and curriculum assessment. As a result, an increasing decentralization, privatization of schools, and standardized tests practices become evident. For Carnoy (2000), globalization affects education in financial and labor market terms. Similar concerns about market-like behaviors extended to schooling are shared by Burbules and Torres (2000) and Stromquist and Monkman (2000).

Two of the main bases of globalization, information and innovation, are highly knowledge-intensive (Carnoy, 1999). Higher education systems (HES) are a key generator of knowledge and innovation. HES consist of an aggregation of institutions that conduct—at different degrees—the core activities of teaching, research, and service. In his typology of higher education institutions, Scott (2007) explained the term ‘system’; “it implies some degree of connection” between the several institutions (p. 21). Higher education institutions provide what is called tertiary education, postsecondary education, or higher education which usually takes place after secondary education. Higher education can be scientific or vocational in orientation, a distinction that becomes more and more diffuse (Scott, 2007.) Other characteristics of higher education include,

a relative open set of multiple goals; loose mechanisms of coercion, control and steering from above; a high degree of

fragmentation; and a strong influence of the principal workers—the academic professionals—on the determination of goals, on the management and administration of institutions, and on the daily routines of work. (Enders, 2006, p. 5)

Effects of globalization on higher education mirror those affecting education overall: economic and ideological. Although globalization subjects HES to “similar pressures, constrains, procedures, and organizational patterns” (Schugurensky, 2007, p. 261), its effects manifest differently across countries. For instance, the structural conditions (e.g., political-economy regime, policies on education) and the cultural-historical traditions where HES is embedded will increase their vulnerability to globalization. In this regard, developing countries are more vulnerable to globalization’s dynamics, such as influence of multilateral organizations (e.g., structural economic adjustments); and changes in educational policy, including an increasing privatization of education.

Literature documenting globalization’s effects on higher education is ample and can be summarized around four topics; declining state funds, changing perceptions, educational reforms, and stratification and inequality.

**Declining state funds.** Globalization pressures the welfare state to reduce funds for public education, which has several implications for higher education. For example, pressed to guarantee basic education, the state extracts funds from higher levels of public education (Stromquist & Monkman, 2000). At the same time, the reduction of state funds also causes an increased commercialization and privatization in higher education (Burbules & Torres,

2000). An increasing privatization permeates not only teaching but also research activities. Universities face increasing pressures to generate revenue through various partnerships with the private sector; mainly by means of research and technology transfers (Rhoades & Slaughter, 2006). This topic will be revisited for discussion later in this text (e.g., economically driven explanations for the changing functions of the university).

Overall, globalization has four economic implications on higher education according to Slaughter and Leslie (1997),

First is the constriction of moneys available for discretionary activities such as postsecondary education. Second is the growing centrality of technoscience and fields involved with markets, particularly international markets. Third is the tightening relationships between multinational corporation and state agencies concerned with product development and innovation. Fourth is the increased focus of multinationals and established industrial countries on global intellectual property strategies. (pp. 36–37)

**Changing perceptions.** Currently, HES faces a switching perception about higher education—knowledge creation, diffusion, and application—from a cultural legacy to a utilitarian good. “In the neoliberal model, higher education is ideally integrated into the system of production and accumulation in which knowledge is reduced to its economic functions and contributes to the realization of individual economic utilities” (Morrow, 2006, p. xxxi). Thus, higher education is considered more as a private consumption or investment rather than an inalienable right or a



search for knowledge for its own sake (Schugurensky, 2007). Critical studies emphasize both the commodification and commercialization of knowledge in an “academic capitalist knowledge/learning/consumption regime” (Rhoades & Slaughter, 2006, p. 104); this forces HES and institutions to become more market-oriented (Kehm, 2007).

**Educational reforms.** Additionally, HES faces educational reforms enacted by educational policies designed at the international or at the national level. Torres and Rhoads (2006) suggested that four primary reforms for higher education take place under neoliberal globalization; efficiency and accountability, accreditation and universalization, international competitiveness, and privatization. Such reforms influence curriculum and pedagogical aspects of education. On the other hand, an increased vocationalization of higher education occurs where academic fields connected to the industry are privileged (e.g., economic resources, enrollments) over others less connected (e.g. engineering and business versus arts and humanities), and a sectorization of professionals according their skills occurs (e.g., cadre of professionals versus labor intensive jobs) (Stromquist & Monkman, 2000).

**Stratification and inequality.** “The world of globalized higher education is highly unequal” (Altbach, 2006, p. 124). While globalization opens access, it reinforces existing inequalities and creates new ones between

institutions as centers or peripheries.<sup>2</sup> Due to intensified competition, stratification of HES occurs not only between countries but also within countries. For example, Stromquist and Monkman (2000) found “a small system of elite universities with highly competitive admissions on one side, compensated by an expanding range of other, more accessible, types of secondary education” (p. 15). Other issues of inequality emphasize the composition of enrollment in higher education.

Although an increased participation of female and minority students is registered as a result of affirmative action policies, these groups are still underrepresented in high-status and high-paid fields (Schugurensky, 2006).

### **Effects at the Institutional Level: The Functions and the Structure of the University**

Globalization compels the university into a process of transformation. Arguments divide on such a process. On one hand, the transformation of the university is regarded necessary to continue being relevant in contemporary societies. “History shows that when universities shut themselves off from economic and social trends, they become moribund and irrelevant” (Altbach, 2006, p. 124). Moreover, it is expected that the university will continue to change

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<sup>2</sup> For Altbach (2006), *centers* are universities and academic systems that dominate the production and distribution of knowledge. Providing leadership in science and scholarship in research and teaching, centers are usually located in larger and wealthier countries. Peripheries are “smaller and weaker institutions and systems with fewer resources and often lower academic standards” (Altbach, 2006, p. 124).

in the years to come (Trow, 2006). Conversely, perspectives hold the university is departing from its original functions of teaching and scholarship (Readings, 1966; Barzun 1993; Nisbet, 1997). Scholars claim this is a nostalgic vision of the medieval university (e.g., the “traditionalist critique,” Bok, 1982) and the return to the ivory tower paradigm is hardly practical (Perkin, 2006; Trow, 2006). The ivory tower is a metaphor that depicts the university in search of knowledge for its own sake, functioning in isolation or disconnected from societal needs for the benefit of the elites. Literature documenting how globalization affects the university focuses on its effects on the functions (e.g., teaching, research, and service) and structure (e.g., finance, governance and administration, and curriculum) of the university.

**Effects on the functions of the university.** Explanations of economic rationality prevail in the literature on the shifting functions of the university. Examples are Schumpeter’s (1943) notion of entrepreneurial innovation, Pfeffer and Salancik’s (1978) resource dependence theory, and Slaughter and Leslie’s (1997) academic capitalism. Explanations of entrepreneurial innovation emphasize the role of the university as a promoter of economic or social development within systems of national innovation (Mowery & Sampat, 2006) or as “regional animators” (Chatterton & Goddard, 2000, p. 481). Gunasekara (2006) explained that the university transitions from pursuing academic rationales to economic ones; “The role of universities has evolved over the last 20 years. Where once largely focused on teaching and research within a universal

community of knowledge, universities are now adopting a third role based on regional, economic development” (p. 111).

Resource dependence theory explains that when organizations become deprived of critical resources, they are forced to change their fund-raising patterns in order to compete for resources. A globalized economy and decreasing public funds for higher education result in universities engaging in market oriented activities for economic survival (e.g., the commercialization of knowledge generated via research). Academic capitalism accounts for such a trend.<sup>3</sup>

Academic capitalism is the set of “institutional and professorial market or market-like efforts to secure external funds” (Slaughter & Leslie, 1997, p. 209). Market-like behaviors imply institutional and faculty competition for external resources. Market behaviors depict a for-profit institutional orientation; for instance, activities such as patenting and licensing agreements, spin-off companies, and university-industry partnerships (Slaughter & Leslie, 1997).

It is a contested argument, whether the motivations for the shifting university functions are merely economic or not. For Etzkowitz (2004), the university is evolving from its medieval conceptualization—an institution to conserve and transmit knowledge—to one that creates and puts knowledge to use. On the contrary, for Schugurensky (2006) “the university as an enterprise, academics as entrepreneurs, and knowledge as a commodity” (p. 304) makes the

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<sup>3</sup> For concepts accounting for similar trends see also “entrepreneurial university” (Etzkowitz, 2004) and “service university” (Newson & Buchbinder, 1988).

university depart from its community orientation to follow a corporate one, aligned to market and state demands.

Globalization also affects universities' curriculum and instruction activities in several ways. As mentioned earlier in this context, an increased vocationalization of higher education occurs. Academic fields connected to the industry (e.g., engineering and business) are privileged in terms of funding and recruitment opportunities over others less connected (e.g., arts and humanities). Another example is the responsiveness of higher education to the needs of the workplace as seen in "the introduction of short cycles closely connected with labor-market requirements that sometimes leads to an excessive utilitarianism" (Schugurensky, 2007, pp. 260-270). Other examples of globalization's effects on the teaching and learning functions in the university include: standardization of academic credentials and curricular experiences; use of English as the primary language of scientific communication; dependency on technology as a cost-efficiency strategy (e.g., emergence of virtual universities offering online programs); and larger accountability pressures on the academic workforce (e.g., to make universities more cost-efficient and accountable).

**Effects on the structure of the university.** Literature on globalization's effects on the structure of the university focus on two areas: finance and governance and administration. Facing the challenge of constrained finances, universities not only engage in market oriented activities; they also raise tuition fees and charge for services delivered in the past at no cost (e.g., extra-curricular activities, infrastructure-related fees). Universities need critical resources

including “physical plant, faculty, students, utilities, and so forth, but in the end the issue is invariably money” (Slaughter & Leslie, 1997, p. 69) to provide its most basic functions of teaching, research, and service.

According to the principle that “financial behavior defines organizational behavior” (Slaughter & Leslie, 1997, p. 66), changing patterns of funding and expenditures will bring changes to the university’s governance and administration. Governance is “the structure and process by which decisions are made in institutions of higher education. This includes the role of certain groups within the institutions as well as the specific decision-making style being practiced” (Sporn, 2006, p. 143). Examples of such groups are the university leadership, the faculty, and administrators. Administration refers to the “structure and processes by which the institution is led and managed” (Sporn, 2006, p. 143).

Competitive forces of globalization stimulate responses such as strategic management, new mechanisms of decision-making, and the professionalization of the administration within the university (Sporn, 2006). Keller (2006) summarized: “As external conditions change, strategic decision making becomes imperative” (p. 236). However, some perspectives criticize an excessive managerialism at the individual, the classroom, and the academic program levels that is detrimental to the collegial governance.<sup>4</sup> As a result of globalization pressures, universities face

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<sup>4</sup> Peters, Marshall and Fitzsimmons (2000) claimed that managerialism – “an increasingly rationalized and complex neoliberal technology of governance” (p. 110).

the loss of institutional autonomy and transition toward a heteronomous model (Schugurensky; 2006, 2007).<sup>5</sup>

Another explanation for new patterns in the university administration is the increasing public demands for accountability and efficiency. As Trow (2006) illustrated,

the rationalization of university administration—based on the systematic collection and analysis of quantitative data on the cost of discrete activities, and on measures of the "outputs" or "benefits" of these activities— is a response to the growth in the size and cost of higher education, and to growing demands for public accountability regarding its efficiency. (p. 260)

The academic profession faces important challenges under globalization. Examples of governance and administrative pressures on the academic workforce, mainly faculty, include the flexibilization (e.g., “flexible” sessional and adjunct faculty) of the academic labor, segmentation of academic workers, pressures for the elimination of tenure, and an increased evaluation of the quality of HEIs.

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<sup>5</sup> “A heteronomous university is one increasingly unable to proactively design its itinerary, and whose success derives from its effective and rapid response to external demands. Whereas autonomy implies self-government and refers to the quality or state of being independent, free, and self-directed, heteronomy by contrast, implies a subordination to the law or domination of another” (Schugurensky, 2007, p. 269).

Thus, norms that have traditionally been part of university life are now being questioned, for instance tenure; and whereas administrators now assume a dominant role in decision-making processes displacing the authoritative position—based in knowledge acquisition and production—of college professors. Furthermore, “deprofessionalization, bureaucratization, and marginalization are frequently used terms to analyze the negative consequences of these ongoing changes in the external conditions of the academic profession” (Enders, 2006, p. 18). Up to this point, globalization as a macro context to internationalization and globalization’s effects on higher education at the national and at the institutional levels has been discussed. In the next section, a theoretical discussion on internationalization of higher education is presented.

### **Internationalization of Higher Education**

Internationalization of higher education is an emerging field of research that advanced mainly from professional practice (de Wit, 2002; Dolby & Rahman, 2008). As a research area, it is one of six distinct approaches<sup>6</sup> in international education.<sup>7</sup> Scholars propose to differentiate internationalists from comparativists

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<sup>6</sup> Dolby & Rahman (2008) utilize “approaches” is as in Creswell (2007) to indicate a body of literature with an identifiable core of scholarship or multiple cores that developed simultaneously and are connected at a metalevel.

<sup>7</sup> “Comparative and international education, internationalization of higher education, international schools, international research on teaching and teacher



(Crossley & Watson, 2003; de Wit, 2002; Dolby & Rahman, 2008). According to de Wit (2002), comparative education research focuses on “comparative study between systems, regions, countries, institutions’ programs, curricula and so on” (p. 209), whereas research on international or internationalization of higher education is concerned with the internationalization of such elements.

Internationalists are more concerned with the specific context, location, and application of their research, whereas comparativists’ main interest is to study academic policy, but are less concerned with context and application (Crossley & Watson, 2003). Nonetheless, both subfields have cooperated with each other and developed as areas of academic research.

A review of the literature showed a growing interest in the study of the internationalization of higher education. Over a period of almost three decades, academic work on internationalization of higher education has covered diverse aspects.<sup>8</sup> It has been investigated as an educational policy, a curriculum innovation, or a functional process (Altbach, 1980, 1987, 1998, 2006; Arum & Van de Water, 1992; Callan, 1993, 1998, 2000; de Wit, 2002; de Wit & Callan, 1995; Ebuchi, 1990; Harari, 1989; Knight, 1993, 1994, 1997, 1999, 2001, 2003,

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education, internationalization of K–12 education, and globalization of education” (p. 676).

<sup>8</sup> Sporadic but significant research was produced prior to this time, such as Ashby and Anderson (1966) and Brown (1950), which set the foundations for a latter growing interest.

2004, 2005, 2006; Teichler, 1996, 1999, 2004; van der Wende, 1996, 1997, 2001; van Dijk & Meijer, 1997).

The study of the internationalization of higher education is multi and interdisciplinary focusing on different levels of analysis. Themes covered by this interdisciplinary research include

the historical development of the international dimension in higher education (history); political rationales for the internationalization of higher education, globalization and internationalization, and regionalization (political sciences, international relations); economic rationales for internationalization, such as competitiveness and labor markets (economics); social and cultural rationales (social sciences, psychology); and, academic rationales and quality assessment. (de Wit, 2002, p. 212)

Levels of analysis in the research include supranational (e.g., regions), domestic (e.g., national education systems), and institutional or organizational (e.g., higher education institution or organization) frameworks. In addition, these studies can be comparative, historical, or in-depth accounts.

In the next section, an analysis of current perspectives on internationalization of higher education is presented.

### **Current Developments on Internationalization of Higher Education: An Integrated Approach**

Recent studies on internationalization of higher education suggest an integrated approach—theory and practice—is needed despite globalization (de

Wit, 2002; Teichler, 1999). As an external influence, globalization challenges the nation-state in multiple dimensions, including higher education institutions within. History shows that universities around the globe have adapted to the changing environment brought by world wars, revolutions, economic depressions, and epochs of social change (Perkin, 2006; Sporn, 2006). With the challenges posed by globalization, the model of the research university expected to continue evolving (Etzkowitz, 2004; Etzkowitz et al., 2000; Gunasekara, 2006; Trow, 2006). In this study, internationalization is proposed as one of the possible responses that universities generate to perform its teaching, research, and service functions in a globalized context. A discussion on current developments in internationalization of higher education begins below with a review of definitions.

### **Internationalization: Definitions**

Similar to globalization's polysemy and ambiguity as a concept (Buenfil-Burgos, 2000), there is not a unified definition for internationalization (AUCC, 1993; Groenings, 1987). As Knight (2004) put it, "For more than 20 years now, there has been much discourse and debate about defining internationalization . . . . There will likely never be a true universal definition" (pp. 8–9). However, it is necessary to develop a definition that advances a common understanding because it means different things to different countries or cultures (de Wit, 2002; Knight, 2004). Table 1 displays definitions of internationalization compiled in de Wit's (2002), which illustrates how the concept evolved over time. Definitions by Callan (1998), Soderqvist (2001a, 2001b), and Altbach (2006) have been added in the present context.

Table 1

*Selected Definitions on the Internationalization of Higher Education: de Wit**(2002) Expanded*

<i>Author</i>	<i>Definition of internationalization</i>	<i>Focus</i>
Ebuchi (1990) de Wit, (p. 113)	...is a process by which the teaching, research and service functions of a higher education system become internationally and cross-culturally compatible.	National level. Process approach
Arum & Van de Water (1992) de Wit, (p. 112)	The multiple activities, programs and services that fall within international studies, international educational exchange and technical co-operation.	Institutional/national level. Activities approach; educational exchange; and cooperation
European Association for International Education (1992) de Wit, (p. 113)	...the whole range of processes by which higher education becomes less national and more internationally oriented.	Transnational level; process approach
British Columbia Centre for International Education (BCCIE) Task Force (1993) de Wit, (p. 113)	...is a process that prepares the community for successful participation in an increasingly interdependent world [...] The process should infuse all facets of the post-secondary education system, fostering global understanding and developing skills for effective living and working in a diverse world.	Institutional/national level. Process approach; holistic perspective
Knight (1993) de Wit, (p. 113)	An international dimension is described as “a perspective, activity or program, which introduces or integrates an international/ intercultural/global outlook in to the major functions of a university or college.	Institutional level. Activities approach; holistic perspective
Kerr (1994) de Wit, (p. 112)	Internationalization of learning is divided into four components: the flow of new knowledge, the flow of scholars, the flow of students, and the content of curriculum.	Institutional level. Curriculum approach; elements as flows
Programme on Institutional Management in Higher Education (IMHE), OECD (1994) de Wit, (p. 113)	The complex of processes whose combined effect, whether planned or not, is to enhance the international dimension of the experience of higher education in universities and similar educational institutions.	Institutional level. Process approach
van der Wende (1996) de Wit, (p. 115)	The process of curriculum development or curriculum change which is aimed at integrating an international dimension into the content of the curriculum, and, if relevant, also	Institutional/national level. Process perspective; emphasis in curriculum

into the method of instruction.

van der Wande (1997) de Wit, (p. 115)	Any systematic effort aimed at making higher education (more) responsive to the requirements and challenges related to the globalisation of societies, economy and labour markets. (pp. 18–19 original work; de Wit, 2002, p. 115)	National level; national policies; globalization; higher education and markets
Callan (1998) (Callan, 2000, p. 18)	...is itself a portmanteau concept, must be understood as functioning in several distinct domains with their accompanying discourses: the examples given were the spheres of policy, of process, of expressions of educational value, and of social and occupational organization.	Multi-level, multi-domain/discourses: policy; process; values; social structure
Rudzki (1998) de Wit, (p. 113)	...a process of organizational change, curriculum innovation, staff development and student mobility for the purpose of attaining excellence in teaching, research and the other activities which universities undertake as part of their function.	Institutional level. Process of change and innovation approach
Schoorman (1999) de Wit, (p. 112)	...an ongoing, counter-hegemonic educational process that occurs in an international context of knowledge and practice where societies are viewed as subsystems of a larger, inclusive world. The process of internationalization at an educational institution entails a comprehensive, multifaceted program of action that is integrated into all aspects of education.	Transnational level. Process approach; global interconnectedness; integration
Soderqvist (2001a, p. 29)	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.	Institutional level. Change process perspective; holistic management; quality
Knight (2003, p. 2)	...is the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education.	Institutional/national level. Process approach; holistic perspective
Altbach (2006, p. 123)	...refers to specific policies and programs undertaken by governments, academic systems and institutions, and even individual departments to support student of faculty exchanges, encourage collaborative research overseas, set up joint teaching programs in other countries or a myriad of other initiatives.	Institutional/national level. Process approach; holistic perspective: mobility, research, and teaching

de Wit's (2002) compilation of definitions on internationalization—plus the three added—illustrates how the concept evolved over time from notions of fragmented activities (e.g., student mobility) to a holistic/strategic orientation (e.g., process, policies, and programs). It shows that authors emphasize diverse aspects of internationalization (e.g., competencies, rationales) and provide different focal points (e.g., the level of analysis: transnational, national, or institutional). The summary above is representative of the dominant views in the literature.

For the purpose of this study, Knight's (2003) definition is selected over other definitions because of its applicability and clarity. It provides a holistic approach by conceptualizing internationalization as a process, making it suitable for an institutional level analysis. It provides clarity because each of the concepts and terms she uses, as explained in Table 2.

Table 2

*Terms and Concepts of Knight's (2004) Definition on Internationalization*

Concept or Term	Explanation (Knight, 2004, pp. 11-12)
Process	...is deliberately used to convey that internationalization is an ongoing and continuing effort. ...it denotes an evolutionary or developmental quality to the concept.
International, intercultural, and global dimension	...are intentionally used as a triad, as together they reflect the breadth of internationalization.” [...] “These three concepts complement each other and together give richness both in breadth and depth to the process of internationalization.
International	...is used in the sense of relationships between and among nations, cultures, or countries... is also about relating to the diversity of cultures that exists within countries, communities, and institutions.
Intercultural	...is used to address the aspects of internationalization at home.
Global	... is included to provide the sense of worldview scope.
Integrating	...used to denote the process of infusing or embedding the international and intercultural dimension into policies and programs to ensure the international dimension remains central, not marginal, and is sustainable.
Purpose, function, and delivery	These three concepts have been chosen carefully and are meant to be used together.
Purpose	...refers to the overall role and objectives that postsecondary education has for a country/region or, more specifically, the mission or mandate of an individual institution.
Function	...refers to the primary elements or tasks that characterize a national postsecondary system and also an individual institution. Usually these include teaching/training, research and scholarly activities, and service to the society at large.
Delivery	...is a narrower concept. It refers to the offering of education courses and programs either domestically or in other countries. This includes delivery by traditional higher education institution but also includes new providers.

The process approach<sup>9</sup>—stressed by van der Wende (1996), Knight (2003)—became widely accepted in the field (e.g., compared to a policy or activity approaches) because it enables a more integrated understanding of internationalization; and also because its connotations of an ongoing effort. A process approach to internationalization resulted in both, practice and research implications. In practice, it demanded that the university investigate its own motivations to engage in internationalization; and to conduct internationalization as an integrated and sustained effort. In research, it resulted in frameworks explaining the potential rationales for internationalization, and models for studying internationalization as an issue to be managed or organized.

Following up on such implications, the potential rationales leading the internationalization process will be explained next.

**Rationales for internationalization.** Rationales are the “motivations for integrating an international dimension into higher education” (de Wit, 2002, p. 84). They guide the process of internationalization that a government, a sector, an

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<sup>9</sup> An approach to internationalization explains how individual countries, education systems, or higher education institutions face the challenges and opportunities of the internationalization of higher education (Knight, 2004). Other approaches to internationalization are: the activity approach, the competency approach, the ethos approach, and the process approach (Knight, 1994, 1999); the rationale approach (de Wit, 2002, Knight, 2004); the cross-border approach, and the At-home internationalization approach (Knight, 2004).



organization, or a higher education institution engages in (Knight, 2004). A clear understanding on rationales is crucial, because “rationales are reflected in the policies and programs that are developed and eventually implemented .... They dictate the kind of benefits or expected outcomes one would expect from internationalization efforts” (Knight, 2005, pp. 14–15). Ideally, rationales would be followed by “a set of objectives or policy statements, a plan or set of strategies, and a monitoring and evaluation system” (Knight, 2005, p. 15). Several classifications have resulted from the study of rationales. These include academic, economic, political, and social categories frequently found in the literature. Representative classifications of rationales are shown in Table 3.

Table 3

*Representative Classifications of Rationales Driving Internationalization*

Author (s)	Types of rationales
Knight & de Wit (1995)	Economic and political, and cultural and educational.
Blumental et al. (1996)	Economic; political; sociocultural; and academic, scientific, and technological
de Wit (2002)	<p>Political: Foreign policy, national security, technical assistance, peace and mutual understanding, national identity, and regional identity.</p> <p>Economic: Economic growth and competitiveness, the labor market, national educational demand, and financial incentives for institutions and governments.</p> <p>Socio-cultural: National/cultural identity; cultural understanding; citizenship development</p> <p>Academic: International dimension to research and teaching, extension of the academic horizon, institution-building, profile-status, enhancement of quality, and international academic standards.</p>
Knight (2004)	Political, economic, social-cultural, academic and branding; international branding and profile, income generation, student and staff development, strategic alliances, and knowledge production.
Altbach & Knight (2006)	Profits; access provision and demand absorption; traditional internationalization; European internationalism; developing-country internationalization; individual internationalization; cross-border higher education. <sup>10</sup>

Although typologies on rationales are available, rationales are not mutually exclusive; rather, they overlap for instance, economic and political rationales (Knight, 2004). Any study on rationales should also be mindful that they differ among countries or regions and also among stakeholders of the same

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<sup>10</sup> Altbach and Knight (2006) presented them not as rationales but as *motivations and sources for internationalization* in “The internationalization of higher education: Motivations and realities” (pp. 2-4).

country or group. Moreover, rationales are not fixed; they change over time (de Wit, 2002; Knight, 2004).

Of the classifications of rationales presented above, two are relevant for the study of the ASU-ITESM relationship; both de Wit's (2002) and Knight's (2004) typologies provide with appropriate focus and level of analysis on rationales for several reasons. First, de Wit's (2002) typology provides a breakdown for each group of rationales (e.g., political, economic, social-cultural, and academic). Second, Knight's (2004) classification of rationales illustrates the "significant changes in nature and priority within each category" that need to be highlighted" (p. 21). For instance, there is a strong emphasis on competition at the international level. Increasingly, higher education institutions aim to brand or develop an international reputation. Table 4, presents Knight's (2004) typology of existing and emerging rationales.

Table 4

*Rationales Driving Internationalization (Knight, 2004)*

Rationales	Existing – at the national and institutional levels combined
Social/cultural	National cultural identity; intercultural understanding; citizenship development; social and community development.
Political	Foreign policy; national security; technical assistance; peace and mutual understanding; national identity; regional identity.
Economic	Economic growth and competitiveness; labor market; financial incentives.
Academic	International dimension to research and teaching; extension of academic horizon; institution building; profile and status; enhancement of quality; international academic standards.
Level	Of emerging importance—national and institutional levels separated
National	Human resources development; strategic alliances; commercial trade; nation building; social/cultural development.
Institutional	International branding and profile; income generation; student and staff development; strategic alliances; knowledge production.

Source: Knight, 2004, p. 23.

Few notes of caution, echoing Knight's (2004, 2005) concerns, on the classification of rationales. First, a link between national and institutional rationales will depend on factors such as the approach (i.e., top-down or bottom-up) and priorities a country has to internationalization. Second, there are factors influencing rationales at the institutional level. These include: universities' missions; student populations; faculty profiles; geographic locations; funding sources; level of resources; and orientation to local, national, and international interests. Last, as mentioned earlier, rationales are not mutually exclusive. Knight (2004) suggested a blurring divide between groups may occur, as is the case between the economic and the political categories.

**Rationales in Latin America.** It is a challenge to summarize the status of the internationalization of higher education in Latin America because of the level of generalization needed to do so. In addition, the structural conditions and the cultural traditions of each country shape the values behind policies and programs of internationalization. In analyzing key rationales for internationalization in Latin America, at both national and institutional levels,<sup>11</sup> Gacel-Ávila et al. (2005) found that

the main rationales at the national level are nation-building and positioning of the country in the global knowledge economy. At the institutional level they are institution-building, moving up to international standards, and quality enhancement. At both levels, human resource development and strategic alliances appear to be a means and an end in connection to these rationales. In general, trade and income generation—other than by way of technical assistance and grants—are not yet important driving forces for internationalization at the institutional level (p. 354).

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<sup>11</sup> Gacel-Ávila et al. (2005) analyzed the internationalization of higher education—at both the national and institutional levels—in Latin America. By focusing their study on Argentina, Brazil, Chile, Colombia, Cuba, Mexico, and Peru, the authors considered the composition representative of the region, because those countries hold “about 90% of the region’s population” (p. 341).

Gacel-Ávila et al. (2005) did not provide a possible explanation for this “not-yet-important” interest pursuing economic rationales at the institutional level in Latin America. The view in this research takes a perspective that is consistent with the cultural traditions and views most Latin American countries hold, which is that education is a public good (Rhoads, Torres, & Brewster, 2006; Stromquist & Monkman, 2000; Torres & Rhoads, 2006).

A process approach to internationalization at the institutional level demands the management and organization of its strategies, policies, and programs. To illustrate the broader context where rationales fit in that process, a cursory review on organizational models is provided next.

**Organizational models.** de Wit (2002) provided a review of relevant organizational models for internationalization. Davies’s (1992, 1995) model emphasized organizational strategies based on two sets of factors: external and internal plus three elements related to each set. Based on Davies’ (1995) model, an institution can have (a) a central-systematic strategy; (b) an ad hoc-central strategy; (c) a systematic-marginal strategy; or a (d) an ad hoc-marginal strategy to internationalization. Neave’s (1992) proposition consisted of a matrix with two axes. The horizontal axis is a continuum between a reactive and a proactive approach to internationalization; whereas, the vertical axis ranges from an administratively driven to a base–unit, driven leadership. In addition to a centralized-decentralized approach, Neave (1992) added a dimension of change to his matrix; this is an institutional strategy that can be definitional or elaborative based upon the type of administrative orientation.

Rudzki's (1995a, 1995b, 1998) model identifies four key dimensions of internationalization: (a) student mobility; (b) staff development; (c) curriculum innovation; and (d) organizational change. Originally, Rudzki (1995b) developed a model of reactive/proactive internationalization, which he later redefined into the fractal process model of internationalization (1998, 2000). Rudzki's (2000) fractal process model<sup>12</sup> consists of six stages: (a) context is the external environment; (b) approach is the internal factors such as history and culture of the institution; (c) in rationale, he integrates Knight and de Wit's (1995) types of rationales. Under (d) actions/dimensions/activities, Rudzki (2000) proposes that the process of internationalization consists of four actions together; organizational change, curriculum innovation, staff development, and student mobility. The two last stages of his model are self-explanatory: (e) monitoring and periodical review, and (f) readjustment and reconceptualization.

van der Wende's (1996) model is based on a process approach to internationalization. She identified three factors to internationalization: (a) goals and strategies, both defined by the institution based on national/international

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<sup>12</sup> "A fractal process is one in which increasing levels of complexity are identical to the first level. [...] The beauty of fractal processes in the human context is that they allow each level of complexity to be understood by the previous level; they also allow integration of levels vertically without difficulty because the constituent or fundamental components are identical in structure (although not in size)" (Rudzki, 2000, p. 82).

policies; (b) implementation of such goals categorized in (i) student mobility, (ii) staff mobility, and (iii) curriculum development; and last, (c) the effects of goals' implementation in the short and long-term. Effects of implementation on the short-term include those on students, staff, and education; whereas effects in the long-term include those on the quality of education, output, and the position of the institution. An evaluation of such effects, both short- and long-term, van der Wende (1996) claimed guides the institution to redefine goals and strategies.

van Dijk and Meijer (1997) expanded Davies's model (1992, 1995), introducing three additional dimensions: policy; support; and implementation. According to van Dijk and Meijer's policy oriented model, the importance assigned to internationalization goals, can be marginal or priority. The type of support for activities can be one-sided or interactive, and the method of implementation can be ad hoc or systematic. Also known as the *internationalization cube*, this model facilitates the identification of possible ways in which institutions can achieve internationalization.

Using a process approach, Knight (1993, 1994) proposed the internationalization cycle to explain the integration of an international dimension into the institution's functions. According to Knight (1993, 1994), there are six phases an institution engages during this process; (a) awareness, (b) commitment, (c) planning, (d) operationalization, (e) review, and (f) reinforcement. In her model, Knight made several assumptions; first, each institution progresses through the cycle at its own pace. Second, all six phases occur within a supportive culture to integrate the international dimension to higher education. Last, a two-



way flow between steps may take place. Knight's key contribution is a conceptualization of internationalization as a recursive circle rather than a linear sequence; which inspired further scholarly work (Manning, 1998; Poole, 2000, 2001; de Wit, 2000; Rumbley, 2007). Figure 1 shows Knight's (1994) internationalization circle.

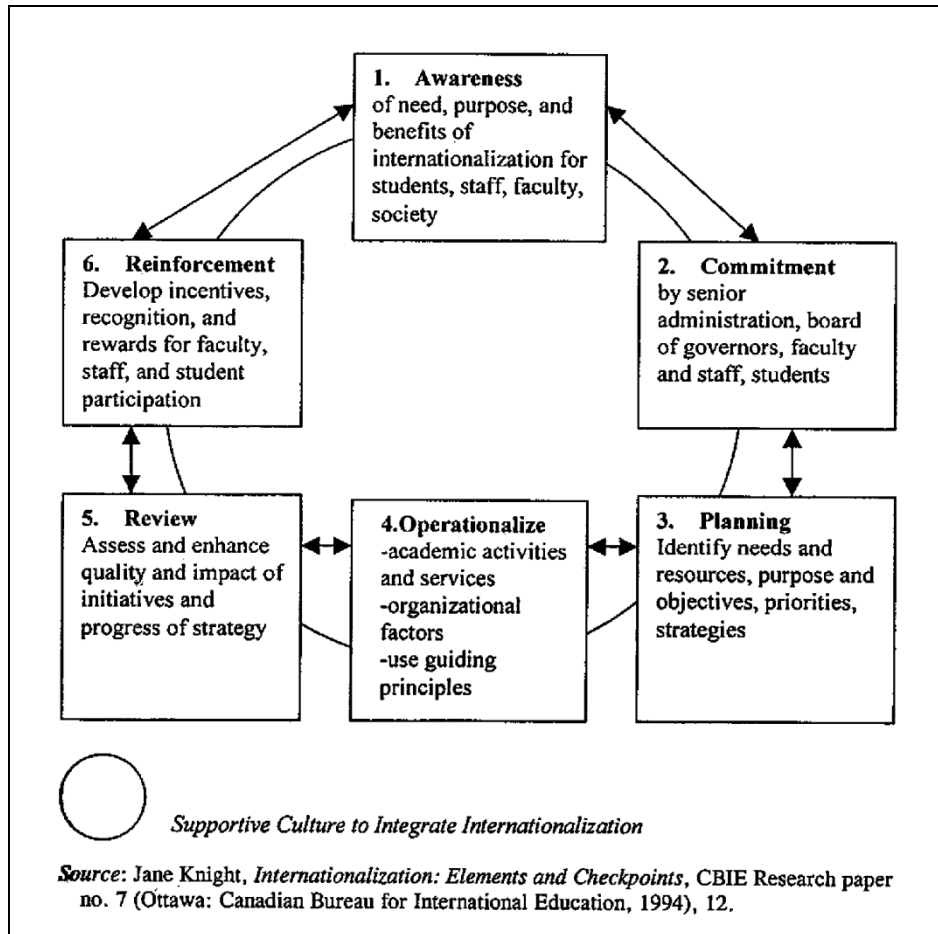


Figure 1. Knight's (1994) internationalization cycle.

de Wit (2002) provided a modified version of the internationalization cycle by combining Knight's internationalization cycle and van der Wende's (1996) elements (e.g., analysis of context, implementation, and long-term effects).

de Wit (2002) justified it by stating that it incorporates the institutional-departmental link and the influence of the external and internal environment into the same model. A key contribution of de Wit's (2002) proposal is making explicit an integration drive among the different phases of the cycle. Figure 2 shows de Wit's (2002) modified version of the internationalization cycle.

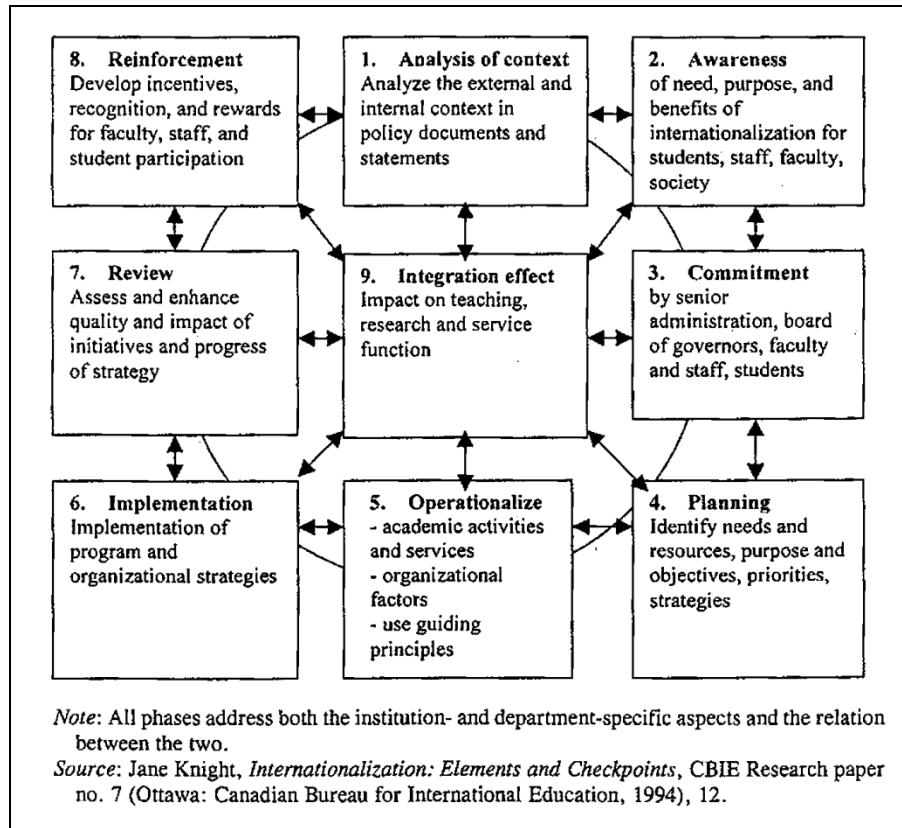


Figure 2. de Wit's (2002) modified internationalization cycle.

The organizational models discussed above document the various elements at play in the internationalization process; for instance internal/external factors, linear /cyclical sequence of phases, reactive/proactive and/or top-down/bottom-up approaches, institutional dimensions of activity (e.g., student

mobility, staff development, curriculum innovation, etc.), and ad hoc/systematic/ or centralized/decentralized strategies.

These organizational models demonstrate the importance of the rationales in the internationalization process. For instance, as goals, benefits or expected outcomes they can be found in Rudzki's (2000) fractal process model (e.g., in the stage rationale); in van der Wende's (1996) process model (e.g., in goals and strategies); in van Dijk and Meijer (1997) policy model (e.g., as marginal or priority internationalization goals); in Knight's (1993, 1994) internationalization cycle (e.g., awareness, commitment, and planning phases); in de Wit's (2002) modified internationalization circle (e.g., analysis of context, awareness, commitment, and planning phases).

For the purpose of this investigation, the concept of strategies and related concepts such as policies and programs demand further discussion. Particularly, if it is assumed (as in Knight, 2005) that internationalization rationales will be reflected as objectives or policy statements, in a plan or set of strategies and programs.

**Strategies, policies, and programs.** For Knight and de Wit (1995) strategies are “those initiatives that are taken by an institutions of higher learning to integrate an international dimension into research, teaching, and service functions as well as management policies and systems” (de Wit, 2002, p. 121). Later, Knight (2004) expanded on the term internationalization strategies. The concept, she said, explains beyond the idea of international activities by suggesting a more planned, integrated, and strategic approach. de Wit (2002)

proposed two types of strategies. Program strategies are “those academic activities and services of an institution of higher education that integrate an international dimension into its main functions” (p. 121). Organizational strategies are those initiatives that “help to ensure that an international dimension [program strategies that is] is institutionalized through developing the appropriate policies and administrative systems” (p. 122).

For Knight (2004), programs are “one of the ways policy is actually translated into action” (p. 16). In her conceptual framework, two interpretations are possible for institutional-level policy. A narrow interpretation refers to “priorities and plans related to the international dimension of the institution’s mission, purpose, values, and functions” (p. 16).<sup>13</sup> A broader interpretation includes “those statements, directives, or planning documents that address implications for or from internationalization” (p. 16).<sup>14</sup>

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<sup>13</sup> “This could include the institutional mission statement or policies on study abroad, student recruitment, international linkages and partnerships, cross-border delivery, international sabbaticals, and so forth” (Knight, 2004, p. 16).

<sup>14</sup> “If the institution has taken an integrative and sustainable approach to internationalization, then a very broad range of policy and procedure statements would be implicated ranging from quality assurance, planning, finances, staffing, faculty development, admission, research, curriculum, student support, contract and project work, and so forth” (p. 16).

The literature discussed in this section showed the progression of research on internationalization of higher education. Initially, it was framed as a policy issue or as a series of isolated activities (e.g., student and faculty mobility). Later on, internationalization was conceptualized as a process and with it, typologies of rationales and the organizational models to explain internationalization strategies, policies, and programs emerged. Such frameworks provided scholars with an integrated understanding on internationalization of higher education. Studies at the institutional level, specifically universities, proliferated (Callan, 2000; Chan, 2004; Jiang, 2007; Kehm, 1999; Manning, 1998; McBurnie, 2000; Poole, 2000, 2001; Rudzki, 1995a, 1995b, 1998, 2000; Rumbley, 2007; Soderqvist, 2001a, 2001b, 2007; Soderqvist & Parsons, 2005; Teichler, 1999, 2004; Yang, 2002).

The review of the literature would be incomplete without addressing interorganizational arrangements (e.g., international linkages, partnerships or strategic alliances) and their relation to internationalization of higher education.

### **International Linkages, Partnerships, and Strategic Alliances**

In this section, terminology, purpose, typology, and organizational implications of interuniversity relationships as a framework for the study of the ASU-ITESM relationship will be discussed.

**Terminology.** Language to describe formal linkages or connections among higher education institutions abounds and is highly influenced by business and politics (e.g., partnerships, joint ventures, alliances, collaborations). On language choices to describe such connections, Eddy (2010) explained, “Nuances in the definition of partnership or collaboration are apparent in how the

overarching objectives of the partnership frame and define the language used to describe the group process” (p. 4). For Beerkens (2002) the terms international and *interorganizational* indicate the crossing of national and organizational boundaries respectively. *Partnerships* are defined as “a collaborative between two or more institutions of higher education, business, or social agencies, with the goal of obtaining a shared objective” (Eddy, 2010, p. 10). Partners include other academic institutions, government agencies, private sector enterprises, and/or not-for-profit organizations (e.g., NGOs); whereas, individual faculty working together are referred to as *collaborators* rather than partners” (Eddy, 2010, p. 3).

An *international partnership* indicates a counterpart located or operating abroad. On the other hand, a *strategic alliance* is defined as a cooperative agreement between actual potential competitors. Its advantages include the facilitating entry into foreign markets, the sharing of fixed costs and risks, facilitating the transfer of complementary skills between companies, and helping companies to establish standards (Hill & Jones, 1998, p. 275).

An alternative explanation on terminology is provided by Beerkens (2002). “We shall use the terms partnership and networks as respectively bilateral and multilateral cooperative arrangements, irrespective of their nature or level of integration. *Joint ventures*, in our typology, imply a shift in ownership from the parent organizations to the new organization.” (pp. 312–313). Alliances represent a mode of horizontal or vertical interorganizational coordination. (Beerkens, 2002).

**Purpose.** Universities engage in interorganizational arrangements, both at home and abroad for different reasons. For instance, reasons may include the

desire to maximize or to access resources—human, economic, information—otherwise inaccessible to a single university itself (Oviedo, 2005; Brinkerhoff, 2002). Other reasons may involve the need to increase capacity, quality, and to face competition. Traditionally, student mobility and faculty collaborations with scholars abroad were at the core of internationalization efforts. Recently, motivation for universities to engage in cross-border initiatives also include, “the need for creating new educational markets to supplement college resources, provide students with educational opportunities to acquire global competencies, and reliance on the knowledge industry” (Eddy, 2010, p. 9). In addition to internal demands from groups within the university (e.g., students, faculty), other potential reasons include the shifting perceptions of status and quality of education (e.g., prestige of participating in international projects of activities); external utilitarian pressures (e.g., demands from future employers); and technological developments (e.g., emergence of the Internet) (Beerkens, 2002). Specifically, strategic alliances can have different purposes such as academic mobility, benchmarking, joint curriculum or program development, seminars and conferences, and joint research initiatives (Knight, 2004). Knight (2004) stressed that developing strategic, international, education alliances is “not so much an end unto itself but a means to achieving academic, scientific, economic, technological, or cultural objectives” (p. 27).

**Typology.** International arrangements in higher education vary in focus and organization. Many academic partnerships start from a traditional exchange program and then evolve into new models, such as dual degrees programs. Other

models include a significant research or entrepreneurial component into the partnership; still others are academically focused on a single-discipline program. Accordingly, the agreements to make such arrangements operational vary in scope and complexity (Van de Water et al., 2008).

Integrating previous classifications (Harman 1988; Neave 1992; Van Ginkel, 1996; Wächter 2000; de Wit 2001), Beerkens (2002) suggested a typology based on interorganizational arrangements such as size (and interests represented), scope, nature of integration, and intensity of the linkages. In this typology, there are three basic types based on size and interests represented: associations with numerous members; bilateral partnerships with two members; and multilateral networks with a limited amount of members. These types can be subdivided based on their scope (in time and in activities). According to their scope in time they can be indefinite or short term. Regarding their scope, they can be thematic/disciplinary or institutional. The nature of integration between interorganizational arrangements can be either horizontal (e.g., between organizations that produce the same products or services) or vertical (e.g., between organizations that are originally situated in different sectors). Thus, they will be referred to as *higher education arrangements* or *cross-sectoral arrangements*. Last, for intensity, linkages, using Harman's (1988) classification, Beerkens designated cooperation-coordination-amalgamation as a continuum. Features to place an interorganizational arrangement in the continuum include structures, membership and autonomy, interaction and organization, and ownership or authority.



Particularly for international partnerships, Van de Water et al. (2008) proposed three broad categories of agreements;<sup>15</sup> friendship and cooperation, broad institutional agreements, and program agreements; on friendship and cooperation agreements, they explained

[these] agreements intended to encourage cooperation and express good intentions. Sometimes used as the first step in a partnership process, intending to augment them by substantial plans for the implementation of specific activities at a subsequent stage. [...] They are often institution-wide and serve as an “umbrella” for initiatives undertaken by one or more schools or programs. (p. 18)

Broad institutional partnerships and agreements set the terms for cooperation and involve multiples activities or departments; “they also symbolize a special relationship between the partners involving a long-term commitment to cooperation and mutual support” (p. 19). On program-specific partnerships and agreements Van de Water et al. (2008) explained “[These] are more specific types of partnerships than broad institutional partnerships [...] The partnership may be accomplished through traditional exchanges, collaborative courses, dual or joint degrees, or a network for institutions collaborating on a particular program” (pp. 19–20). Areas of focus for broad institutional partnerships or program-specific

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<sup>15</sup> Van de Water et al. (2008) provided a comprehensive list of potential activities for international partnerships (pp. 15–16).

partnerships are teaching, research, internships and service learning, development cooperation, training, libraries (Van de Water et al., 2008).

**Organizational implications.** Connections between institutions and organizations among nations are “at the heart of internationalization” (American Council on Education, 2010).<sup>16</sup> International partnerships should be a part of a larger institutional internationalization strategy, because it will help ensure alignment to core, institutional activities and priorities. (Van de Water et al., 2008). For instance within the overall internationalization strategy, Knight (2004) placed “international linkages, partnerships, and networks” as an external relations cross-border program strategy (p. 15); whereas she placed “strategic alliances” as an emerging rationale at the institutional level (p. 27).

However, the organizational implications of international, interorganizational arrangements cannot be dismissed. Partnerships have an impact on an organizational level, “requiring layers of administrative oversight, creation of policies for the new partnership, and a commitment of resources” (Eddy, 2010, p. 2). Initiating and maintaining successful partnerships, van de Water et al. (2008) explained, requires an appropriate administrative structure led by the chief international officer and the chief academic officer, supported by representative leadership (e.g., senior administrators and faculty). Ideally, such

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<sup>16</sup> Retrieved 1/13/2010 from

<http://www.acenet.edu/Content/NavigationMenu/ProgramsServices/cii/global/partner/index.htm>

administrative structure will oversee the operation of budget issues and the long-term potential of the partnership.

Initiation and implementation aspects are crucial for the sustainability of a partnership. Describing international partnerships for development, Brinkerhoff (2002) explained that long-term partnerships evoke positive feelings and values, but the process “often breaks down during initiation and implementation” (p. x). Knight (2004) pointed out the risks of international linkages becoming idle or paper-based. Institutions in early stages of internationalization face pressures responding to multiple opportunities of agreements that cannot be supported. “As institutions mature in their approach to internationalization, there is more effort put into developing strategic alliances with clear purposes and outcomes articulated” (p. 27).

Each of the international partnerships proposed by van der Water et al. (2008) has organizational implications. The most benevolent of the three agreements, friendship and cooperation, generally does not involve a financial commitment. They provide an open door for further collaboration without promises being made. However, it should be noted that they could raise unrealistic expectations when parties are “unwilling or unable to make the necessary commitments for a real operational partnership” (p. 18). In comparison, broad institutional partnerships and agreements outline “a range of conditions, expectations, and obligations for faculty, undergraduates, and graduate students” (p. 19). Organizational implications for the operation of the partnership should be closely considered, including provisions for designating special advisers,

implementing summer and orientation programs, office space for administrators, and housing for participants.

Last, according to van der Water et al., (2008), program-specific partnerships and agreements “vary widely in their resource implications” (p.20). Whereas some involve staffing commitments, others might require intensive support and bookkeeping depending on the delivery mechanisms of the partnership. These include: “student and faculty mobility; dual, double, and joint degrees; teaching collaborations through technology; branch campuses; or degree programs offered abroad” (p. 22–23). For this type of agreement, van der Water et al., (2008) advocate that the resources committed (e.g., equipment, materials, tuition-fees structure), obligations, and responsibilities between the parties are clearly and precisely outlined.

This section reviewed the terminology, purpose, typology, and organizational implications of international inter-university relationships. The conceptual framework guiding this study is presented next.

### **Conceptual Framework**

“A conceptual framework explains, either graphically or in narrative form, the main things to be studied—the key factors, constructs, or variables—and the presumed relationships among them” (Miles & Huberman, 1994, p. 18). The conceptual framework guiding this investigation of the ASU-ITESM relationship is informed by literature on internationalization of higher education. As previously noted, the internationalization of higher education is a complex phenomenon that demands multiple levels of analysis

Important to mention is the preparadigmatic stage of the field of internationalization of higher education (Maasen & Weingart, 2000). Theory on internationalization of higher education is in the developmental stage. The rationales categories and internationalization organizational models reviewed here, have gained significant visibility among scholars and practitioners as well.

Several assumptions support the conceptual framework, which is theoretically-driven and follows a systemic approach. First, internationalization is understood as a recursive process of rationales, implementation, and outcomes. Second, the process overall is affected by internal (e.g., institutional) and external (e.g., globalization) factors. Third, data collection and analysis are dealt with in an interpretive approach to incorporate the multiple participants' meanings (Yanow, 2000). Table 5 displays the assumptions integrating the conceptual framework and how they are theoretically and/or interpretively informed. A visual representation of the concepts and the relationships between them is shown in Figure 3.

Table 5

*Conceptual Framework: Theoretical and/or Interpretive Informed Assumptions*

Concept	Assumption	Theory/interpretive informed
Globalization	An external factor with multidimensional effects on higher education	Transformationalist perspective (Held et al., 1999)
Internationalization	Recursive process of rationales-implementation strategies-outcomes; an institutional response to globalization	Knight's (2003) definition of internationalization; process approach
Rationales	Guide the process and dictate the benefits or outcomes expected; ideally reflected in policies and programs	de Wit's (2002) definitions of rationales; Knight's (2004) typology of existing and emergent rationales; participants' perspectives on the ASU-ITESM relationship; ASU-ITESM institutional agreement
International partnerships or strategic alliances	A strategy, program, or policy to fulfill internationalization rationales; 'a means to an end'	Eddy (2010) definition on strategic partnership; Knight's (2004) concept of strategic alliance; participants' perspectives on the ASU-ITESM relationship
Interpretive policy analysis	Policy documents as expressive of meanings, including individual and collective identity; multiple interpretations are possible	Yanow (2000) interpretive approach to policy analysis; contrast between "authored" and "constructed" texts

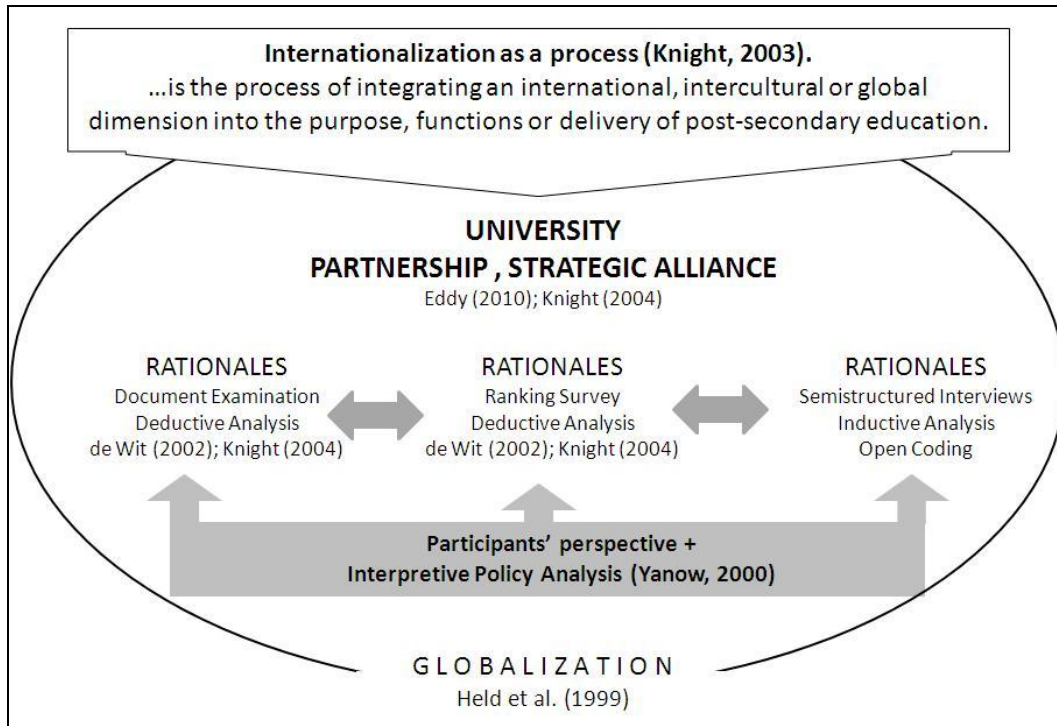


Figure 3. Conceptual framework for the study of the ASU-ITESM relationship.

## **CHAPTER 3**

### **Methodology**

This chapter describes the methodology and analytical considerations used to explore the rationales shaping the ASU-ITESM relationship. The first section of this chapter presents a conceptual discussion on qualitative methods and provides a justification for the research approach. The second explains the actual methods—data collection and analytical tools—supporting this investigation.

#### **Methods: A Conceptual Discussion**

Mental models “are present even before any theories or models have been constructed” (Phillips, 2000, pp. 1008–09). A mental model consists of philosophical paradigms, substantive theories, disciplinary perspectives, personalized experiences, values, and ways of knowing (Greene, 2007). Identifying a researcher’s mental model is important because it frames and guides his/her way of inquiry (Smith, 2006; Greene, 2007). By providing a conceptual discussion on methods, the mental model used in this research will be explicit to the reader.

#### **Philosophical Paradigms: Pragmatism and Social Constructivism**

This study framed by two philosophical paradigms—pragmatism and social constructivism—both linking theory and praxis. “A pragmatic paradigm signals attention to transactions and interactions; to the consequential, contextual, and dynamic nature of character of knowledge” (Greene, 2007, p. 85). In pragmatism, experience results from constant interaction between people and their environment. Similarly, in social constructivism knowledge is the “production of



reconstructed understandings of the social world” (Denzin & Lincoln, 2005, p. 184); thus, knowledge is transactional. Constructivism refuses to adopt any standards of a universal truth (Denzin & Lincoln, 2005).

Framed by philosophical paradigms of pragmatism and social constructivism, the study of ASU-ITESM relationship is conducted with a qualitative approach, which is discussed next.

### **A Qualitative Approach to Social Inquiry**

Definitions on qualitative research abound in the literature (Taylor & Bodgan, 1984; Lincoln & Guba, 1985; Strauss & Corbin, 1990; Eisner, 1991; Bodgan & Biklen, 2003; Rossman & Rallis, 2003; Denzin & Lincoln, 2005; Silverman, 2005). Definitions include qualitative study as a field of practice; a family of terms; concepts and assumptions; an umbrella concept; a set of interpretive practices; and a site for discussion. For the purpose of this study, qualitative research is understood as in Creswell (2007),

Qualitative research begins with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes. The final written report or presentation includes the voices of the participants, the reflexivity

of the researcher, and a complex description and interpretation of the problem and it extends the literature or signals a call for action.

(p. 37)

In addition, Creswell (2007) provided several reasons to conduct qualitative research. For instance, he recommends using qualitative research when a problem or issue needs to be explored; when contextual understanding of the issue is needed by talking directly with people; when understanding the context of participants or setting of the problem; when theories—partial or inadequate—do not capture the complexity of the problem examined; or when quantitative measures and statistical analyses do not fit the issue to be studied. All these reasons are pertinent for the study of the ASU-ITESM, as discussed next in the justification section.

**Interpretive community: Case study.** There are several interpretive communities or genres in qualitative research (e.g., case study, grounded theory, and historical method), each of them with underlying assumptions, interpretive stances, and meaning making views. (Marshall & Rossman, 2006). Case study provides “an intensive, holistic description and analysis of a single instance, phenomenon or social unit” (Merriam, 1998, p. 21).

Additionally, a qualitative case study is also defined as an object of study, methodology, and a product of the inquiry.<sup>17</sup> Case study has “a distinct advantage

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<sup>17</sup> See also, case study as a type of research (Yin, 1994); unit of study (Stake, 1994); end-product (Wolcott, 1992); and as a process (Wilson, 1979).

for 'how' and 'why' questions" (Yin, 1994, p. 9). Other advantages provided by case study research include, its ability to delimitate the study as a bounded system (Smith, 1978; Maxwell, 2007) and to focus specifically on a process. "Process as a focus for case study research can be viewed in two ways: [...] monitoring and causal explanation" (Merriam, 1998, p. 3). Last, case study is particularly advantageous to situations in which it is difficult to separate what the participants say on the phenomenon from their actual context.

There are different typologies of qualitative case studies. For instance Merriam (1998) explained that classification depends on disciplinary orientation (e.g., ethnographic, historical, psychological, sociological); overall intent (e.g., descriptive, interpretive, analytical, evaluative); or a combination of the two. Stake (1995, 2005) proposed three types: intrinsic; instrumental; and collective. Similarly, Creswell (2007) suggested identifying case studies by the size of the bounded case or by intent, resulting in three types; the single instrumental case study, the collective or multiple case study, and the intrinsic case study. For Yin (2006) case studies can be single or multiple case studies. Case study designs are holistic or have embedded subcases within an overall holistic case.

**Justification.** The purpose of this study is to expand understanding of the relationships between universities as a key component of their internationalization efforts; specifically, it examines the rationales shaping such interorganizational arrangements. Qualitative inquiry provides support and value to this study in several ways; it allows research to: (a) investigate the phenomenon of inter-university alliances in a particular setting, this is the ASU-ITESM relationship;

(b) utilize a theory driven and an interpretive approach to examine the rationales of the ASU-ITESM relationship on several sets of data; (c) and to elicit meanings and interpretations participants have on the ASU-ITESM relationship.

Of the several interpretive types of qualitative research, a holistic and descriptive-interpretive case study is the best way to investigate the ASU-ITESM relationship. Table 6 outlines the specific reasons for choosing this type of study.

Table 6

*Reasons to Investigate the ASU-ITESM Relationship as a Qualitative Case Study*

Qualitative case study	ASU-ITESM relationship study
<p>Purpose (Merriam, 1998)</p> <p>A case-study design is employed to gain an in-depth understanding of the situation and meaning for those involved.</p> <p>Focus is on process rather than outcomes</p> <p>Focus is on context rather than a specific variable; in discovery rather than confirmation.</p>	<p>In-depth single case. By means of an interpretive approach that looks for participants’ meanings in context</p> <p>Focuses on the interuniversity relationship as a process. Outcomes of the process are not evaluated.</p> <p>Seeks participants’ meanings in context. The study is descriptive; the research design, emergent.</p>
<p>Characteristics</p> <p>Delimitates the case as a bounded system (Smith, 1978; Maxwell, 2007).</p> <p>Distinct advantage for “how” and “why” questions” (Yin, 1994).</p> <p>It is advantageous to situations in which it is difficult to separate what the participants say about the phenomenon from their context.</p>	<p>The interorganizational relationship between universities is the bounding system of study.</p> <p>Investigates the rationales or motivations (why) of the interorganizational relationship.</p> <p>Seeks to elicit participants’ meanings on this specific interorganizational relationship (ASU-ITESM) situated in this particular context (e.g., American public university-Mexican private not-for-profit university).</p>

This section addressed the philosophical paradigms, research approach, and interpretive community framing this investigation. Next, a cursory review—

since such content has been mostly covered in chapters 1 and 2—of the two remaining components of the mental model are introduced: theories and disciplinary perspectives; and this researcher's experiences, values, and ways of knowing.

**Theories and disciplinary perspectives.** International interorganizational arrangements are a complex phenomenon that demands multiple levels of analysis that integrates several perspectives. As discussed in chapter 2, different bodies of literature inform the current investigation on the ASU-ITESM relationship; these include: scholarship on globalization; internationalization of higher education; and inter-organizational arrangements.

The theoretical constructs guiding this study are Yanow's (2000) interpretive approach to policy analysis; Held et al.'s (1999) transformationalist perspective on globalization; Knight's definitions on globalization (1999) and on internationalization (2004); de Wit's (2002) definitions of existing rationales; Knight's (2004) typology of emergent rationales; Eddy (2010) definition on strategic partnership; Knight (2004) definition of strategic alliance.

**Researcher's experiences, values, and ways of knowing.** The last component of the researcher's mental model consists of her experiences, values, and ways of knowing. The researcher's experiences relevant to this study result from both her professional practice and scholarship. Her professional practice consists fifteen years of service holding several administrative and academic positions at Tecnológico de Monterrey (ITESM); the largest private not-for-profit university in Mexico with 31 Campuses. Since 2005, she was designated

ITESM's Liaison to ASU, a service position to provide support and facilitation to the ASU-ITESM relationship. Previous research experience consists of conducting several qualitative studies including a pilot study on the ASU-ITESM relationship, focused in the creation of a dual Master's degree program. The pilot study allowed the researcher to identify key participants, roles, processes, and contextual factors to the ASU-ITESM relationship, which ultimately informed the current investigation.

The values and ways of knowing that the researcher holds while conducting this study derive from her philosophical paradigm (e.g., constructivism and pragmatism) and research approach (e.g., qualitative case study) discussed earlier. The values held are summarized next. Qualitative research is an act of craftsmanship that is cocreated with the participants. It is an interpretive approach, and it is the best *way of knowing* about the social phenomenon of interest, the ASU-ITESM relationship. Additionally, the researcher is the "human instrument" that gathers and analyzes data to interpret such phenomenon from the participants' perspective. The researcher is responsible making the best theoretical, methodological, and ethical decisions to fulfill the purpose of the investigation. The researcher of this investigation sees theory as important; it helps to understand reality and guides decision making processes (Hoy & Miskel, 1996). She also favours utilizing a variety of data collection methods (e.g., document examination, participants' interviews) as the best approach to study the phenomenon. For procedures and analysis, the researcher finds the use of technology as convenient, but conducts initial analysis

and coding by hand. The immediate and local meanings of actions defined by the participants are the basic validity criteria for the study.

Last, congruent with a constructivist paradigm and an interpretive approach, the researcher holds the participant-researcher relationship in high esteem. As a result, she conducted herself in an ethical manner, maintaining an open communication with the participants at all times—including clarification sessions—and provided them with the provisions of confidentiality and anonymity agreed upon for this study.

Once the mental model guiding this investigation has been discussed, the research design—data collection and analytic tool—for this study will be presented.

### **Methods**

Qualitative research is “inherently multi-methods in focus” (Flick, 2002, p. 226–227). Different methods were used in the study of the ASU-ITESM relationship. Selection of methods for data collection, analysis, and validity were guided by both the conceptual framework and the research question. Methods of data collection consisted of document examination, semi-structured interviews, and a ranking survey. The researcher engaged in deductive and inductive forms of analysis. Both data reduction and data display supported the researcher’s interpretations and conclusions. Analytic techniques include content analysis (Merriam, 1998; Patton, 2002); memoing (Glaser, 1978); coding (Strauss & Corbin, 1990; Taylor & Bodgan, 1998); and several tools of data display (Miles and Huberman, 1994). Validity strategies were purposely embedded within the

research process to look for plausibility of claims and verification of conclusions (Miles and Huberman, 1994). These included triangulation (Denzin 1978; Patton, 1990) and member check (Taylor & Bodgan, 1998; Merriam, 1998).

As mentioned earlier in this text, a qualitative case study is not only an interpretive paradigm, but it is also “a research process, a unit of study” (Merriam, 1998, p. 27), a methodology, and a product of the inquiry process (Maxwell, 2007). Before explaining the methods for data collection, analysis, and validity, a discussion on the ASU-ITESM relationship as a case of study and unit of analysis is next.

### **Unit of Analysis: ASU-ITESM Relationship, a Process between Two Universities**

The relationship between ASU and ITESM fits several characteristics to be studied as a qualitative case study. For instance, the international relationship between those universities works as “an integrated system [...] a specific, complex, functioning thing” (Stake, 1995, p. 2.). The ASU-ITESM relationship was chosen, as Merriam (1998) suggested on case study selection, because it is “intrinsically interesting” and offers the potential “to achieve as full an understanding of the phenomenon as possible” (p. 28). Indeed, the ASU-ITESM relationship was selected because of its uniqueness. It is an interorganizational arrangement between ASU, an American public university and ITESM a Mexican private, not-for-profit university. The main concern is to gain in-depth understanding on the rationales shaping the ASU-ITESM relationship and not the generalization of findings to other settings.



The unit of analysis is the relationship between ASU and ITESM as a process. Thus, the level of analysis is conducted at the institutional level. A brief description of the participants, both the institutions and individuals, as well as the process (ASU-ITESM relationship) is provided next. An extensive description for each of them is provided in the correspondent appendices.

### **Participants: Universities and Individuals**

**Arizona State University.** Founded in 1885, ASU is a multicampus, research university located in the Phoenix metropolitan area. As of fall 2010, ASU reported a student enrollment of 70,440; the largest in the Arizona University System.<sup>18</sup> ASU provides education programs at the undergraduate and graduate levels—master’s and doctoral degrees—in most academic disciplines, except that of medicine. Instruction is provided at its four Campuses, Tempe, West, Polytechnic and Downtown. Online courses, known as the university's "fifth campus," provide undergraduate and graduate degrees online. Tuition at ASU for the academic year 2010–2011 was \$8,134 U.S. dollars for resident undergraduate students and \$20,598 for undergraduate nonresident students. For the same semester, tuition for graduate programs is \$8,850 resident (7 credit hours and over) and \$22,398 nonresident (12 credit hours and over).

President Michael M. Crow took office in 2002 introducing his vision of the *New American University*, after which ASU would be modeled. Following

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<sup>18</sup> The other two universities are University of Arizona in Tucson, AZ; and Northern Arizona University in Flagstaff, AZ.

this model, ASU seeks to be a comprehensive research university while providing student access to excellent teaching and making a favorable impact on local and global communities. As part of its global engagement strategy, ASU has launched international partnerships and programs in research and teaching with counterparts around the globe at universities, development agencies, and foundations. As of Spring 2011, ASU reported 94 international partnerships. Six of them are with counterparts in Mexico, including ITESM.

**Tecnológico de Monterrey.** Founded in 1943, ITESM reported an overall enrollment of 98,622 students in fall 2010. With 31 campuses distributed in 21 Mexican states, ITESM provides high school, undergraduate, and graduate programs—master’s and doctoral degrees— in diverse fields of science (including medicine), business, the arts, and humanities. ITESM also provides undergraduate courses and full graduate degrees online delivered through its Virtual University. Tuition at ITESM for the academic year 2010–2011 ranges from \$6,300 to \$7,000 U.S. dollars for undergraduate programs.<sup>19</sup> For in-classroom, graduate programs tuition is \$7,000; for online, graduate programs tuition ranges from \$4,000 to \$7,000.

President Rafael Rangel Sostmann became Chancellor in 1985 and introduced *Mission 1995* that led ITESM for ten years. At that time ITESM consisted of fourteen campuses—thirty one today—and the Virtual University.

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<sup>19</sup> In all cases (a) Tuition per semester; and (b) Currency exchange utilized is 11.99 pesos per dollar, as of April 7<sup>th</sup>, 2011.

Since then President Rangel and the Board of Trustees started a consultative process to revise and redefine the institutional mission every ten years. The most recent version of the institutional mission—*Mission 2015*—set the guidelines for an educational model forming ethical standards, a humanistic outlook, and a committed citizenship (e.g., with emphasis in economic, political, social and cultural development, and environment sustainability) in the students.

Over the years, the internationalization strategy of ITESM has resulted in curricular programs (e.g. international modality; joint/dual graduate degrees, etc.), liaison offices abroad, and international partnerships that support research and teaching programs for both students and faculty. In fall, 2010, ITESM reported 450 international agreements; 305 are held with counterparts in the U.S., including the ASU.

**Individuals.** Selection of participants is one of the many choices a researcher makes when conducting a qualitative study. Sampling places “limits on the conclusions you can draw and on how confident you and others feel about them” (Miles & Huberman, 1994, p. 27). The selection of participants for this study was guided by the research question and by a pilot study previously conducted by the researcher. The participants were selected based on three sampling strategies that complement each other; stratified purposeful, criterion, and convenience (Kuzel, 1992; Patton, 1990).

Stratified purposeful sampling illustrates subgroups and facilitates comparisons. Thus, participants from three groups were selected for the current study; senior leadership, faculty, and administrators. In the criterion strategy, all

cases meet at least one main criterion: they were to have direct involvement in the partnership or the internationalization strategy of their university (e.g., according to the pilot study and to documents examined).

Convenience sampling is based on time, money, location, and availability of sites and respondents. Participants from each university were selected considering the time, money, and access constraints for the study. Ten participants from each university were interviewed. They hold or held positions as top leaders, faculty, or administrations. Some participants performed functions across subgroups, which made it difficult to identify them as belonging to one category; such cases were present at both universities. Examples are a senior leader who is also a faculty or a faculty who holds administrative functions but who also conducts research. The following identification and subgroup affiliation conventions are consistent for both ASU and ITESM participants:

- (a) Each participant was assigned an alphanumeric code, indicating institutional affiliation followed by a number from 1 to 10 (e.g., ASU1 or ITESM1... to ASU10 or ITESM10).
- (b) Group affiliation—as senior leader, faculty, administrator, or a combination—was determined upon the self-representation statement they provided.

For anonymity reasons, each participant is referred to by their identifier in the study. For participants who did not provide an affiliation, it was established based on the information they provided in the Participant Information Form.

Interviewees from ASU include two senior leaders, three faculty members, and five administrators; a total of ten participants, five male and five female. All faculty members identified themselves as also holding administrative functions; two of them are also conducting research in her/his fields. At the time of the interview, the number of years participants worked at ASU ranged from two (the shortest) to twenty-three years. As for academic background, seven participants hold a master's degree. Two other participants held two master's degrees each; in total, four participants hold a Ph.D. degree. All ASU participants earned their academic credentials in the United States. A summary of this information for each ASU participant is presented in Appendix I.

Interviewees from ITESM include two senior leaders, four faculty members, and four administrators. All faculty members identified themselves as also holding administrative functions and conducting research in her/his fields. One administrator identifies herself/himself also as faculty. The number of years participants reported working in ITESM at the time of the interview range from 14 to 34. As for academic background, all ITESM participants earned a master's degree. Four participants hold two or more master's degrees each. Eight participants in total hold a doctoral degree. As for experiences studying abroad, all ITESM participants—except one—earned at least one of their graduate degrees abroad (e.g., U.S., Canada, U.K., Spain). One participant did not earn his PhD abroad but spent two years in an American university as part of the program's requirements. Detailed descriptions of each ITESM participant are presented in Appendix J.

**Process: The ASU-ITESM relationship, a brief chronology.** Prior to 2003, the relationship between the universities was mostly based on student exchange and sporadic faculty interactions. In 2003, interactions developed at the dean's level, and by 2004, interaction escalated to the universities' top leadership. Also during 2004, a series of high profile events—described in Appendix C— took place involving top leaders from both universities and state governments. As a result, institutional ties were strengthened, and it provided a foundation for further growth in the relationship. In 2005, visits, meetings, and participation in each other's events helped create new links between ASU and ITESM that expanded to organizations affiliated with each university (e.g., industry advisory councils, spin-offs). At the same time, links between faculty and researchers of both universities generated the first projects under the institutional relationship: a Six Sigma Certification delivered online; and the conceptual design of a dual master's degree. This year, both universities launched their first Joint Request for Proposals (JRFP) as a partnership. With focus in the area of biotechnology, the JRFP aimed to jumpstart collaborative research between ASU and ITESM researchers.

In 2006, more initiatives were created under the ASU-ITESM relationship, including a Community Learning Center (CLC), dual degrees, research JRFPs, and initiatives in entrepreneurship. Those projects and other growing interactions at different levels at both universities materialized in the signing of the ASU-ITESM overarching agreement. Such institutional policy set the priorities and

staffing for institutional collaboration in four areas: on-campus programs; online initiatives; entrepreneurship; and research.

In 2007, new initiatives were created across the four areas established in the overarching agreement. For instance, groups worked in the initial development of joint curriculum and lectures to be delivered online. On the other hand, faculty-centered activities increased, which included short-term visits of faculty or Deans with the specific purpose of developing collaborations in entrepreneurship and several academic fields. As for research, the second JRFP was launched, this time with focus on renewable/alternative energy sources. Two proposals were selected, and the winners of the previous JRFP submitted their partial progress reports.

In 2008, initiatives such as the Community Learning Center at ASU's downtown campus and the Black Belt and Green Belt Six Sigma certifications continued. New initiatives were also developed that included a task force for the Distance Learning Network to design curriculum for a dual master's degree in engineering and a course for senior students in mechanical and aerospace engineering. Initiatives implemented by the On-Campus Network focused on both student and faculty mobility that included a study-abroad program for ASU students in Monterrey and a faculty-exchange program that hosts visiting lecturers. In addition, curriculum for an EdD. degree in global leadership and higher education was created.

The task force for entrepreneurship organized Invest Mexico, a national, capital formation event in Monterrey, Mexico. The event gathered investors and

entrepreneurs affiliated with both universities. Arizona State University provided know-how, which was based on their experience as co-organizer of the Invest Southwest conference in Arizona. For research initiatives, both universities released the last JRFP of three planned. The topic chose for the third JRFP was information technologies; as in the previous years, two proposals were awarded USD\$100,000 each.

By 2009, the level of activity of the ASU-ITESM relationship was affected by both the economic crisis of the year before, then the AH1N1 influenza crisis. As the former had negative effects on Mexico's economy, ITESM initiated an austerity plan limiting expenses (e.g., travel, infrastructure investments) and put new initiatives—domestic and international—on hold. The outburst of AH1N1 influenza in April, 2009 brought Mexico to a sanitation emergency and put a halt on all sectors of activity, including education. Classes at all levels—from preK–12 to higher education—were suspended for weeks. The U.S. Government—among others—issued warnings discouraging citizens from travelling to Mexico. Of the five ASU students who were at ITESM during the spring semester, three decided to stay, whereas two returned to the United States. After this crisis, ASU suspended student exchange programs at ITESM campuses in Mexico City metropolitan area and in states of Estado de Mexico, and Morelos.

Nevertheless, two key events for the ASU-ITESM relationship took place. The President of ASU, Michael Crow, ASU senior leadership (e.g. CFO, General Counsel), and Arizona Board of Regents President, Ernest Calderon, travelled to Monterrey to learn about the university Model 2015 and its programs. The visit



was hosted by ITESM's President, Rafael Rangel, and senior leadership.

Additionally, the universities created the Water Innovation Consortium (WIC), integrates researchers from different disciplines (e.g., engineering science and technology; public policy) to tackle water and sanitation issues on a local, regional and global scale by creating innovative models and solutions and by engaging core stakeholders. To attract potential funding, WIC researchers submitted a proposal to the InterAmerican Bank of Development and to Femsa Foundation on these topics.

Also in 2010, macrolevel events continued to affect the development of initiatives under the ASU-ITESM relationship. The economic crisis of 2008 resulted in less state-funded appropriations for ASU. A drastic, structural reorganization took place at ASU setting many projects abroad on hold. a random act of violence at the gates of the Monterrey Campus resulted in the unfortunate death of two of its honor students. New travel warnings were issued by the U.S. government, resulting in ASU blocking additional ITESM's campuses from participating in the student-exchange program. These events were in addition to the existing block after the AH1N1 sanitation crisis. At the end of 2010, the number of students exchanged between ASU and ITESM decreased 50% from previous years.

As for the initiatives under the ASU-ITESM agreement, two programs were cancelled. An increased disparity in currency exchange, ASU's growing tuition, and organizational restructuring resulted in shutting down the Dual Master's of Science in Engineering and the EdD. in Global Leadership in Higher

Education. Regarding entrepreneurship, a group of graduate students from ITESM worked in a consultancy project for a company housed at ASU–Skysong.

Coordinated by ITESM faculty, the students provided the company with policy and marketing research as part of their capstone course project. As for research initiatives, the WIC held a summer session to plan a pilot project approved the year before. A detailed chronology of the ASU-ITESM relationship is presented in Appendix C.

### **Data Collection**

In attempting to respond to the research question of this study, data was collected from institutional documents, a ranking survey, and semi-structured interviews. Followed by an explanation on data collection methods, Table 7 shows the purposes of collecting each subset of data, collection methods, and sources of data (based in LeCompte and Schensul, 1999).

Table 7

*Purposes of Collecting Data, Data Collected, and Sources of Data (Based on LeCompte & Schensul, 1999)*

Purpose	Data collected	Source of data
Responding to the research question; "at the institutional level, what rationales shaped the ASU-ITESM relationship?"	Institutional policy	ASU-ITESM agreement & addendum
	Semi-structured interviews	Participants' semi-structured interviews
	Survey	Rationales Ranking Survey
Creating a chronology of the ASU-ITESM relationship	Institutional policy Archival documents; publicly available documents	(a) ASU-ITESM agreement & addendum; (b) Annual reports, websites, newsletters, institutional newspapers, presentations, and ASU-ITESM reports.
Creating a profile of the ASU-ITESM relationship; creating participants' tiers	Participant contact information sheet	Participant Information Form with academic and professional background

**Document analysis.** According to Yanow (2000), artifacts—language, objects, acts—are “the concrete manifestation or expression of a more abstract value, belief, feeling, or meaning” (p. 15). Two sets of documents were collected each for a specific purpose. First, a set of documents from both ASU and ITESM were examined to craft a chronological narrative on the ASU-ITESM relationship (presented in Appendix C). Documents collected include annual reports, websites, newsletters, institutional newspapers, power point presentations, and reports on the ASU-ITESM relationship. A second set of documents, the ASU-ITESM overarching agreement and its addendum, was collected to investigate intended rationales of the institutional relationship. The analytic procedures conducted on both sets of documents are explained in the Data analysis section.

**Semi-structured interviews.** As a method, an art, or a way of knowing, interviews are widely covered—their use or purpose, types, design, implementation, analysis—in the qualitative research literature (Kvale, 1996; Merriam, 1998; Rubin & Rubin, 2005; Seidman, 2006; Wengraf, 2001). Qualitative interviews help the researcher understand experiences s/he did not participate in and reconstruct past events or those that cannot be observed. Qualitative interviewing is particularly useful at “describing social and political processes, that is, how and why things change” (Rubin & Rubin, 2005, p. 3), which is the case of this investigation. The design of qualitative interviews depends on the type of information the researcher tries eliciting from the participants. Interviews can be highly structured, semi-structured, or unstructured (Merriam, 1998). Because of its characteristics—discussed next in the interview, design section—a semi-structured interview was designed for the study on the ASU-ITESM relationship.

**Interview design.** Semi-structured interviews include a mix of narrow and broad questions flexibly worded. Rather than a specific script-like order, the sequence is guided by a list of issues or questions to be explored (Merriam, 1998). A guide for semi-structured interviews was designed for the present study. The outline included open-ended questions on the formation, descriptors, and contextual factors of the ASU-ITESM relationship. Those topics were addressed as *probing*, *devil’s advocate*, *ideal position*, and *interpretive* types of questions. Following Wengraf’s (2001) model, the creative process to generate the interview questions unfolded from the study’s research design summarized as follows,

- First, a list of several themes was created, framing the ASU-ITESM relationship as a process (e.g., succession of phases); formation (e.g., theme 1 or T1), characteristics or descriptors (e.g., theme 2 or T2), development (e.g., theme 3 or T3), and outcomes (e.g., theme 1 or T1), of the relationship. According to Wengraf (2001), these themes are the interview topics.
- Second, a card was generated with key concepts identified in the research purpose, research question, and conceptual framework. According to Wengraf (2001), the concepts extracted from the conceptual framework represented the *theory research questions* (TRC).
- Third, utilizing the concepts in the cards, the interview questions were generated. According to Wengraf (2001), these are the *interview interventions* (II).
- Fourth, a table with the interview topics (IT) themes was generated incorporating the TRC concepts and the II questions. A column describing what each question aimed to probe or find was added to the table. Finally, the best interview questions were ranked and selected.

Although the process above suggests a linear progression, the process took several back-and-forth rounds between the steps, resulting in several versions of the table with potential interview questions. Two Ph.D. colleagues assisted in the ranking process of the questions best fitting the study's research design. They also

made suggestions to the wording of some questions. The guide for the semi-structured interview including the last iteration of interview questions in English is presented in Appendix D; whereas the version in Spanish is provided in Appendix E.

In addition to the semi-structured, interview guide, two other instruments were created for the interviewing process—the Participant Information Form and the Rationales Ranking Survey.

**Participant Information Form.** There were two purposes for this form; one was to collect basic information about the interviewee and draft a basic profile on each of them. The second was to create participants' tiers and facilitate comparisons during data analysis. The design consisted of three sections, each with subitems to be filled out in blank lines and by checking boxes. The section on professional background collected information such as type of position held (e.g., faculty, administrator, both, or other) and the number of years the participant had worked at either ASU or ITESM.

In the second section, the participant was asked to write a sentence for self representation in the study. The purpose of this section was so the researcher could avoid misrepresenting the participants. For instance, without this information the researcher present a participant as an administrator, when the participant sees him/herself as a faculty with administrative or research functions. The following sentence was provided as an example in the form: “Participant #1 is a faculty member with administrative functions and who also conducts research in her/his field.” The last section inquired about the participant's academic

background such as degree(s) obtained, granting university, and year of completion. The purpose of this section was to inform the participant's profile.

The participant information form is provided as Appendix F.

**Rationales Ranking Survey.** The other instrument is a one-page survey for the participants to rank rationales shaping the ASU-ITESM relationship. The design of the ranking form is theoretically informed by literature on rationales for internationalization (de Wit, 2002; Knight, 2004). The rationales ranking form was provided in English or Spanish to the participants depending on their dominant language. The form started by providing de Wit's (2002) definition of rationales, and Knight's (2004) views on their function in the internationalization process. The first section introduced de Wit's (2002) categories of rationales in the following order: social/cultural; political; economic; and academic.

Participants were asked to rank their perceived priority of the rationales with an ordinal scale of 1–4, where, 1 is the highest and 4 the lowest priority. In addition, a blank line along with the sentence "Other not included above" was provided for the participants to write in their own rationales that were different from de Wit's. Similarly, the second section asked the participants to rank Knight's (2004) classification of rationales, where 1 was the highest and 5 the lowest priority. Those were listed as follows: International branding and profile; income generation; student and staff development; strategic alliances; and knowledge production. Also, a blank line along the sentence "Other not included above" was provided for the participants to write their own rationales different

from Knight's. The Rationales Ranking Form, in both English and Spanish, is provided in Appendices G and H respectively.

**Access to the participants.** The original list of participants consisted of 16 potential interviewees, eight from each university. Two participants were replaced within the initial pool after they declined to participate. Because of staff and faculty mobility, four more participants were added (e.g., those holding responsibilities of a unit before and after) making a total of 20. In compliance with the Institutional Review Board (IRB) process, each participant received an invitation message explaining the purposes of the study as well as methodological and confidentiality aspects. Participants were informed that their names would not be used in the study and that an alphanumeric code would be used instead. The invitation was sent by e-mail during the second week of October, 2010, requesting an hour-long interview. A log in Microsoft Excel was created to track each interview's status, date, and location. Unanswered e-mail invitations were periodically followed-up on by telephone until a response was obtained.

**Interview implementation.** Twenty semi-structured interviews, one per participant, were conducted between November, 2009, and June, 2010. At least one question on the different topics included in the interview guide was asked to each participant. However, depending on the profile and role of the participant, the interview covered some topics more in-depth. For instance, if the participant was responsible for launching initiatives in an area of research, more time and questions would be spent on such a topic than in entrepreneurship or online initiatives. Two interviews were conducted via telephone, and the rest were



conducted face-to-face. The latter took place in both Tempe, Arizona, and Monterrey, Mexico, and were conducted in English or Spanish depending on the dominant-language of the participant. The average interview duration was 50 minutes for ASU participants and 44 minutes for ITESM participants. In face-to-face interviews, the Participant Information Form was filled out by the researcher at the beginning of the interview; whereas the Rationales Ranking Survey was filled out by the interviewee at the beginning or at the end of the interview. As for interviews by phone, the participants received both formats before-hand via e-mail and dictated the responses to the researcher. Interviews were recorded in a digital format (e.g., mp3 file) and labeled with an alphanumeric code for each participant. As a backup, the researcher jotted notes during the interview.

### **Data Analysis**

“In qualitative research, data collection and analysis go hand in hand” (Taylor & Bodgan, 1998, p. 141). In the present study, early analysis was conducted during the data collection process, whereas deeper levels of analysis were performed after data was collected. Early analysis consisted of personal memos documenting theoretical reflections and methodological decisions as the research process unfolded. Thirty-one memos were dated and numbered to facilitate cross-referencing among them and computer retrieval. Initially, memos covered topics such as literature related to the study and the different elements of research design (e.g., research questions, interview design, document examination analytic procedures, etc.). As the data collection progressed, memos documented methodological decisions and also conceptual discussions. Topics included: initial

coding lists; emerging patterns in the data; limitations of theoretical concepts utilized' and unexpected events. In this study, personal memos were “a useful and powerful sense-making tool” as put by Miles and Huberman (1994, p. 72).

Deductive analysis was conducted at first—guided by de Wit’s (2002) and Knight’s (2004) typologies. It was followed by an inductive analysis emerging from the data itself; it consisted of identifying concepts, categories, patterns, and relationships (or absence of). Evidence from both deductive and inductive analysis warranted preliminary claims. Specific analytical procedures for each set of data are described next.

**Document examination.** As described above documents that were analyzed included annual reports, websites, newsletters, institutional newspapers, power point presentations, and reports on the ASU-ITESM relationship. For the chronological narrative, documents were tallied, annotating salient events for the institutional partnership and then grouped by year of occurrence. The chronology helped the researcher specifically understand the ASU-ITESM relationship as a process and its progression by identifying the key events, actors, elements, and contexts. As Miles and Huberman (1994) explained, “usually it is hard to explain something satisfactorily until you understand what the something is” (p. 91). The pilot study previously conducted did not provide such an understanding, because it focused in the creation and implementation of a single program within the institutional partnership.

A second set of documents was analyzed at the institutional level. A form of deductive analysis, a theoretical comparison (Taylor and Bodgan, 1998) was

conducted to analyze the ASU-ITESM overarching agreement and its addendum under Wit's (2002) and Knight's (2004) typologies of rationales. Each document was read in several rounds, testing each paragraph first against Wit's (2002) categories of rationales (e.g., economic, social/cultural, political, and academic); then against Knight's (2004) types of rationales (e.g., international branding and profile; income generation; student and staff development; strategic alliances; and knowledge production).

In each round, notes were made in the margins of the documents annotating the type of rationale best represented by the text. A "best case" was determined on language, especially when the actions (e.g., verbs and/or nouns) found in the text best fitted the rationales theoretical definitions. The process took place until no further annotations were produced. An additional round of readings was conducted on each document seeking alternative rationales different from de Wit's or Knight's definitions; but none were found. In a separate document, a table was generated associating the fragments of text found with the theoretical definitions. Last, text fragments were counted for each type or rationale under de Wit's or Knight's definitions. As discussed later in this text, the interpreted and enacted rationales—according to the participants—were investigated in the ranking survey and in the interviews, respectively.

**Participant information form and Rationales Ranking Survey.** As explained earlier in this text, those instruments were administered during the semi-structured interview. Analysis on form and survey consisted of data condensing and data display. For the participant information form, a table in

Microsoft Excel was generated per institution (e.g., ASU; ITESM). The table had partitioned columns according to the sections of the form (e.g., professional background, self-representation statement, and academic background). Responses from each interviewee (e.g., PASU1 to PASU10; or PITESM1 to PITESM10) were transcribed in a different row under the corresponding column to form a matrix for either ASU or ITESM participants.

Evidence from the Rationales Ranking Survey became the interpreted rationales; this is “a picture in time” of their interpretation of the motivations shaping the ASU-ITESM relationship. The analysis of this survey also consisted of generating a table in Microsoft Excel that organized data separately based on the source institution (e.g., ASU; ITESM). Columns in the table were distributed for de Wit’s existing rationales (e.g., social/cultural; political; economic; academic; other) and for Knight’s emerging rationales (e.g., international branding and profile; income generation; student and staff development; strategic alliances; knowledge production; other). Interviewees’ responses were transcribed in rows according to the corresponding column. Two rows at the end of the table summarized additional information. One row registered the numeric value of the total of responses assigned to a category—or individual type—of rationales. Once again an ordinal scale was used in which the lowest number reflected the highest priority. Another row reported a breakdown of the responses a particular rationale obtained (e.g., number of 1s, 2s, and so on). Some participants provided hand-written rationales in the blank line of the form. Those were transcribed in the table under the column “other” as these types of responses do not have a

numeric value. Such qualitative responses were documented for further study during the interviews' analysis.

**Interviews.** The purpose of conducting semi-structured interviews was to elicit the meanings participants attached to the rationales driving the ASU-ITESM relationship. The enacted rationales are the actual rationales that the participants acted upon. In addition, the interview analysis allowed for the investigation of potential differences among participants' groups (e.g., faculty, administrators, senior leadership) and the comparison of overall findings between enacted, interpreted, and declared rationales.

The researcher transcribed the 12 interviews conducted in Spanish (e.g., ten from ITESM and two from ASU). The remaining interviews were conducted in English. All but one, which was transcribed by the researcher, was transcribed by a professional service-provider. A master code was created beforehand to guide the coding process and assure consistency throughout the project. Initially, the coding list included rationales definitions from the typologies selected and was updated with concepts emerging during rounds of readings. Interviews' transcriptions were read several rounds, annotating recurring concepts and themes in the margins of the documents. The coding list was reorganized creating new categories and merging others suggesting duplication.

To facilitate data management, particularly in articulating patterns and comparisons, subsequent analysis was conducted in Weft QDA, an open-source computer-assisted, qualitative data, software program (CAQDS) (Rubyforge, 2005). All transcriptions were imported as text files to Weft QDA, and the coding

categories were organized in a tree-like structure. Additional rounds of coding were conducted generating an updated structure of the categories (e.g., based on emerging patterns and links among them). This structure was modified after several rounds of back-and-forth revisions against the data. Personal memos documented this process, that Marshall & Rossman (2006) called interpretation, which “brings meaning and coherence to the themes, patterns, categories, developing linkages and a story line that makes sense and is engaging to read” (p. 161). Supported with evidence from this interpretative process, the researcher drew preliminary claims responding to the research question and an explanatory framework of the rationales shaping the ASU-ITESM relationship.

In such “interaction between display and analytic text” (Miles and Huberman, 1994, p. 101), several data display tools were generated. For example, for quantification and verifying purposes several tables were generated in the Weft QDA software. The tables show the number of examples (e.g., interview passages) assigned to a category or set of categories and identify salient themes common across participants allowing the researcher to look for disconfirming evidence. As for data condensing, separate tables in Microsoft Word were generated per participant with salient interview passages supporting specific themes. Subsequently, several theme matrices were condensed in metamatrices grouping participants per institution; special attention was placed to not oversimplify data by keeping original quotes and context. Those displays evolved into conceptually ordered matrices, each organized by concepts responding to the research question. Last, a final version of claims responding to the research

question and an explanatory framework on the rationales shaping the ASU-ITESM relationship were proposed

### **Validity**

Validity strategies were embedded along the research process consisting of plausibility of research claims, verification of conclusions, and member checks. Initial plausibility of research claims was supplemented with verification tactics, such as representativeness of the data, triangulation, and member checks. For emerging patterns whether appearing as strong or weak, the researcher searched for dis/confirming evidence to support or modify the assertion made.

Triangulation—“the use of multiple methods” (Denzin & Lincoln, 2005, p. 5)—allowed the researcher to gain an in-depth understanding of the rationales shaping the ASU-ITESM relationship and the participants’ views on it. By utilizing different sources of data and analytical practices, the researcher was able to compare the intended and interpreted motivations to the enacted rationales in the institutional relationship. The researcher obtained member checks (Taylor & Bodgan, 1998) by taking the preliminary conclusions back to the participants.

In addition to the validity strategies described above, the researcher aimed to create an audit trail by disclosing the mental model framing this study and her relationship with the participants and by describing in detail how data was collected and analyzed to support the findings of this investigation. Finally, as discussed in the conclusions’ chapter, conceptual and theoretical coherence (Miles & Huberman, 1994) is attempted by connecting the findings of the study to both the data and the literature.

## CHAPTER 4

### **Findings: Declared, Interpreted, and Enacted Rationales**

This chapter presents and discusses the results of the research question that guided this study: at the institutional level, what rationales shaped the ASU-ITESM relationship? Evidence resulting from the examination of documents, the ranking survey, and the analysis of the participants' interviews is presented next.

#### **Document Examination: Declared Rationales**

A content analysis was conducted on the ASU-ITESM overarching agreement and its addendum. The analysis consisted of selecting passages of text that best represented de Wit's (2002) and Knight's (2004) definitions of internationalization rationales. Three analytic procedures were conducted as follows. First, de Wit's (2002) categories of existing rationales were applied to the institutional policy documents; second, de Wit's (2002) categories of existing rationales were disaggregated and applied; and third, Knight's (2004) rationales were applied to the institutional policy documents as well. In every analysis, text passages were counted and tallied as an indication of their priority. A high number of text passages matching a category of rationales was interpreted as a high priority. Similarly, a low number of text passages for a category was interpreted as low priority. Results that did not fit either a high or low priority rank were considered a moderate priority. The findings from each procedure are explained next.



## Findings: Rationales per Category, de Wit (2002) Typology

The overarching agreement and its addendum were analyzed using de Wit's (2002) typology of existing rationales (e.g., academic, economic, political, and social/cultural rationales). A systematic content analysis was conducted looking for text passages illustrating the categories for each of the rationales; such findings are shown in Table 8. A summary of the evidence found for each category is displayed in Table 9, followed by a discussion of the findings.

Table 8

*Rationales Found in Document Examination, Analysis per Category (de Wit, 2002)*

Section in which the passage is found	Rationales (de Wit, 2002)			
	Economic <sup>1</sup>	Academic <sup>2</sup>	Political <sup>3</sup>	Social/Cultural <sup>4</sup>
General purpose of the agreement	--	a, b	--	--
Bi-national Workforce Development clauses				
Purpose	a, b	a, b	--	--
Items 1 & 5	--	a, b	--	--
Academic programs	a, c	a	--	--
Bi-national Online Network clauses				
Purpose	a	a, c	--	--
Items 1 to 4 & 6	a	a, b, c, d	c	--
Bi-national Research Initiative clauses				
Purpose	a	a, b, c	--	--
Items 1 to 4 & 6	a, c	a, c, f	--	--
Bi-national Entrepreneurial Network clauses				
Purpose	a, c	a, b	--	--
Items 1 to 3	a, b, c	a, c, d	c	--
Other Academic Collaborations clause	c	a, b, c, f	--	--

<sup>1</sup>Economic: (a) economic growth and competitiveness; (b) labor market; (c) financial incentives; (d) national education demand.

<sup>2</sup>Academic: (a) international dimension to research and teaching; (b) extension of academic horizon; (c) institution building; (d) profile and status; and (e) enhancement of quality; (f) international academic standards.

<sup>3</sup>Political: (a) foreign policy; (b) national security; (c) technical assistance; (d) peace and mutual understanding; (e) national/regional identity.

<sup>4</sup>Cultural/social: (a) national/cultural identity and cultural understanding; (b) social learning and personal development.

Table 9

*Summary: Rationales Found in Document Examination: Analysis per*

*Category (de Wit, 2002)*

Types of rationales (*)	
Category	Rationales within
Academic (28)	International dimension to research and teaching (11) Extension of academic horizon (7) Institution building (6) Profile and status (2) International academic standards (2) Enhancement of quality (0)
Economic (13)	Economic growth and competitiveness (6) Financial incentives (5) Labor market (2) National education demand (0)
Political (2)	Technical assistance (2) Foreign policy (0) National security (0) Peace and mutual understanding (0) National/ regional identity (0)
Social/cultural (0)	Social learning and personal development (0) National/cultural identity and cultural understanding (0)

\* Number of examples found is indicated in parenthesis.

**High priority: Academic rationales.** With a total of 28 text passages supporting this category, it is plausible to claim that academic rationales have a high priority in the ASU-ITESM relationship. Evidence for rationales in this category consists of eleven passages identified for international dimension to research and teaching; seven and six text passages respectively for extension of academic horizon and institution building. For other academic rationales such as profile and status and international academic standards, only two text passages were found for each. Text excerpts from the documents examined supporting each of these academic rationales are provided in Appendix K.

A possible interpretation of these findings, framed by de Wit's (2002) typology, follows. The academic rationale, international dimension to research and teaching, implies expectations that the ASU-ITESM relationship will promote "activities to increase awareness and understanding of the new and changing phenomena that affect the political, economic, and multi-cultural developments among nations" (de Wit, 2002, p. 96). Examples of such activities are found in the documents examined and include joint curriculum, faculty and student exchanges, development of area studies and centers, joint international research activities, and cross-cultural training.

The rationales, extension of academic horizon, and institution building, cover a wide range of goals and expectations. The former indicates expectations of student and faculty exchanges and cooperation in research and education to be key components of the international relationship between ASU and ITESM. At the same time, the institution-building rationale suggests that the international relationship itself is viewed as a means "to strengthen the core structures and activities" of each university and that it "may enable initiatives that otherwise would not be possible on local resources and/or expertise" (de Wit, 2002, p. 97). Evidence from the documents examined indicates that there the university have started to develop a synergy.

As mentioned earlier, evidence for the academic rationales, profile and status and international academic standards, was minimal. On profile and status, de Wit (2002) explained that "international ranking is becoming more important than competition with domestic neighbor institutions" (p. 97). He added that as

part of those efforts universities should participate in networks. Passages of text found in the documents indicate that both ASU and ITESM intended to participate jointly in networks to advance the initiatives resulting from the relationship.

For the rationale, international academic standards, de Wit (2002) indicated that those are pursued by a university “as a way to match others and receive recognition in the international arena” (p. 99). Passages of text found stressed that international academic standards should be met while conducting research activities in the relationship (e.g., observing metrics, arbitration, and peer-reviewed procedures).

In de Wit’s (2002) typology, the rationale, enhancement of quality, aims at internationalization initiatives of high quality. Findings from the analysis did not support this academic rationale. Nevertheless, further evidence for it will be sought in the ranking survey and participants’ interview data.

**Moderate priority: Economic rationales.** With a total of fifteen passages supporting this category, it is plausible to assume that economic rationales have moderate priority in relation to high and low ranking rationales and that these rationales shape the ASU-ITESM relationship. Evidence for rationales in this category consists of eight passages illustrating economic growth and competitiveness, five examples for financial incentives; and only two examples for labor market. Text passages from the documents supporting each of these economic rationales are provided in Appendix K.

A possible interpretation of these findings, framed by de Wit’s (2002) typology, follows. The argument behind the rationale, economic growth and

competitiveness is that international education will have a positive impact on technological development and on economic growth. The analysis documented expectations that the ASU-ITESM relationship would contribute to the economic development of the Arizona (U.S.) and Nuevo Leon (Mexico) regions by preparing an internationally competitive workforce (e.g., future graduates). Findings also indicate it was anticipated that graduates' preparation would be provided by means of face-to-face or online educational programs and by engaging in entrepreneurial or research collaborations.

The rationales, financial incentives and labor market, are self-explanatory. The first indicates that internationalization activities might have been initiated to generate income; for instance, "contract education, recruitment of foreign students, and international education advisory services" (de Wit, 2002, p. 91). Additionally, de Wit (2002) contested such interest is motivated by profit or cost-recovery. However, the documents show that the purpose of the ASU-ITESM relationship was to attract external funding from international organizations and to commercialize joint online programs. The basic argument for the rationale, labor market, is that because of a globalized economy, future graduates will work in an international environment and face greater competition in the job market. Examination of the documents also revealed that there is a motivation to increase the competitiveness of the skilled workforce for an international labor market. Particularly, the ASU-ITESM relationship aims to provide preparation to future graduates through inter-disciplinary curriculum including academic programs

(face-to-face and online), student exchange programs, internships, and entrepreneurial and research activities.

According to de Wit (2002), the rationale, national education demand, explains the motivation for stimulating the mobility of students and faculty when a country lacks the sufficient infrastructure to provide higher education or to absorb the demand. This economic rationale was not supported by the evidence. Further signs of it will be sought in the ranking survey and participants' interview data.

**Low priority: Political and social/cultural rationales.** Only two text passages supported the political rationales category—specifically, the technical assistance, type. Evidence from the documents is provided in Appendix K.

According to de Wit (2002), a the motive for technical assistance is aimed toward institution-building projects, the provision of experts, training programs, and scholarships funded by national governments, international organizations, and private foundations. Examples found in the documents indicate that both universities are expected to attract funds by jointly submitting projects to external funding agencies. However, no evidence was found supporting the rest of the political rationales such as foreign policy, national security, peace and mutual understanding, or national/ regional identity.

According to de Wit's (2002) typology, social/cultural rationales seek either social learning and personal development or national/cultural identity and cultural understanding. The first rationale emphasizes the importance of internationalization and academic development of the student through interaction

with other cultures as well as with the home culture. On the other hand, the motivation of a national/cultural identity and cultural understanding highlights internationalization having a cultural function. In some countries, internationalization policy articulates a nationalist argument; “one which emphasizes the export of national and cultural and moral values” (p. 93).

Identifying evidence for social/cultural rationales according to de Wit (2002) posed a challenge. For example, findings supporting the rationale, extension of academic horizon, in the academic category indirectly relate to the rationale, social learning and personal development, in the social/cultural category. In the end, individual and academic development is a possible outcome for a student participating in a student exchange or study abroad program. Indeed, de Wit (2002) argued that the importance of international academic exchange frequently contributes to the personal, academic, or cultural development of the student.

Based on the discussion above, it is fair to say that findings do not support any of the social/ cultural rationales in de Wit’s (2002) typology. Despite the scarce evidence supporting the category of political rationales and the lack of evidence for the category of social/cultural categories of rationales, both categories are tentatively held as low priority until they are further investigated in the remaining analyses.

The findings presented in this section were subject to a slightly different analysis, which is discussed next.

### **Findings: Rationales, Disaggregated Categories; de Wit (2002) Typology**

With the purpose of providing a deeper understanding on the rationales driving the ASU-ITESM relationship, de Wit's (2002) categories (e.g., academic, economic, political, and social/cultural) were disaggregated. In other words, the categories were detached and their rationales were analyzed individually.

Evidence supporting specific rationales was documented and compared as in previous analysis; a high number of text passages matching a type of rationales was interpreted as a high priority. Consequently, a low number of text passages was interpreted as low priority. Results that did not fit either a high or low priority rank were considered a moderate priority. In this analysis, a difference of 3 or more examples drew the line between high, moderate, or low priority ranks.

Table 10 displays the number of text passages found for each type of rationales within de Wit's (2002) categories; a discussion of those findings follows next.



Table 10

*Rationales Found in Document Examination: Disaggregated Categories (de Wit, 2002)*

Rationales; disaggregated categories (de Wit, 2002)	Examples found	Type
International dimension to research and teaching	11	Academic
Extension of academic horizon;	7	Academic
Economic growth and competitiveness	6	Economic
Institution building	6	Academic
Financial incentives	5	Economic
International academic standards	2	Academic
Labor market	2	Economic
Profile and status;	2	Academic
Technical assistance	2	Political
Enhancement of quality	0	Academic
National education demand	0	Economic
Social learning and personal development	0	Social/ cultural
National/cultural identity and cultural understanding	0	Social/ cultural
Foreign policy	0	Political
National security	0	Political
Peace and mutual understanding	0	Political
National/ regional identity	0	Political

Analyzing rationales individually—not as categories—made it evident that both academic and economic rationales compete as motivators of the ASU-ITESM relationship. As shown above, both types mingle; moreover, passages of text found for certain types of economic rationales occasionally outnumber those for academic rationales.

**High priority: Academic rationales.** A total of eleven text passages were found for one academic rationale, international dimension to research and teaching. Based in this evidence—and according to de Wit (2002)—it is expected that the ASU-ITESM relationship will promote “activities to increase awareness and understanding of the new and changing phenomena that affect the political,

economic, and multicultural developments among nations” (de Wit, 2002, p. 96). This finding is consistent with the previous analysis of rationales per category; which showed that academic rationales have the greatest influence on the relationship between both universities.

**Moderate priority: Academic and economic rationales.** Evidence found supports different types of academic and economic rationales at this level of priority. For instance, extension of academic horizon (an academic rationale) accounted for seven passages. Economic growth and competitiveness (an economic rationale) and institution building (an academic rationale) followed next with six passages each. Last, financial incentives (an economic rationale) accounted for five passages.

Based on this evidence, and according to de Wit (2002), student and faculty mobility and cooperation in research and education were expected to be key components in the ASU-ITESM relationship. Similarly, there were expectations that the international inter-university relationship would contribute to the economic growth and competitiveness of the Arizona (U.S.) and Nuevo Leon (Mexico) regions; by preparing an internationally competitive workforce consisting of future graduates. Evidence found indicates it was also anticipated that graduates’ preparation would be provided by means of face-to-face or online educational programs; and also by engaging in joint entrepreneurial and/or joint research collaborations. Based in the evidence, the ASU-ITESM relationship itself was regarded as potentially contributing to strengthen each university by enabling joint initiatives that otherwise would not be possible independently. Last,

the analysis revealed that there was an economic motivation for the inter-institutional relationship to seek financial incentives for-profit or cost-recovery purposes (de Wit, 2002).

**Low priority: Political and social/cultural rationales.** Based on the evidence, it is reasonable to claim that a low priority is placed on the following rationales as motivations guiding the ASU-ITESM relationship: labor market (an economic rationale); profile and status and international academic standards (both academic rationales); and technical assistance (a political rationale).

The rationale, labor market, suggests it is expected that the programs created within the ASU-ITESM relationship will help to increase the competitiveness of a skilled workforce for an international labor market. A similar priority is placed on motivations for two interrelated rationales, profile and status and international academic standards. For instance, it is expected that both universities participate in networks to advance the initiatives resulting from the relationship and meet academic standards while conducting research activities (e.g., observing metrics, arbitration and peer-reviewed procedures). Last, evidence for rationales related to technical assistance suggested that ASU and ITESM aim to submit projects resulting from the relationship to external funding agencies to complement funds provided by both universities.

Rationales for which text passages were not found will be tentatively held as a low-priority driver of the ASU-ITESM relationship until they are further investigated in other sets of data. Most political rationales fall in this group.

Similarly, there was a lack of evidence supporting enhancement of quality (an academic rationale), and national education demand (an economic rationale).

### **Findings: Rationales, Knight (2004) Typology**

The overarching agreement and its addendum were analyzed under de Knight's (2004) rationales of emerging importance at the institutional level (e.g., student and staff development; income generation; strategic alliance; knowledge production; institutional branding and profile). A systematic content analysis was conducted that looks for text passages illustrating the categories of rationales.

Next, Table 11 displays evidence for the different types of rationales and also the sections of the overarching agreement and addendum in which it was found.

Table 12 summarizes the number of examples found for the different types of rationales according to Knight (2004). The number in parentheses indicates the number of passages found for each type. A discussion on these findings follows next.

Table 11

*Rationales Found in Document Examination: Knight (2004) Typology*

Section the passage is found	Rationales (Knight, 2004)				
	Student & staff development	Income generation	Strategic alliances	Knowledge production	Institutional branding & profile
General purpose of the agreement			X		
Bi-national Workforce Development clauses					
Purpose	X		X		
Items 1 & 5	X		X		
Academic programs	X	X			
Bi-national Online Network clauses					
Purpose			X		
Items 1-4, 6	X		X	X	X
Bi-national Research Initiative clauses					
Purpose				X	
Items 1-3, 4		X	X	X	
Bi-national Entrepreneurial Network clauses					
Purpose	X	X	X		
Items 1-3	X	X	X		
Other Academic Collaborations clause	X	X	X	X	

Table 12

*Summary: Rationales Found in Document Examination; Knight (2004) Typology*

Types of rationales and number of examples found
Strategic alliances (10)
Student & staff development (7)
Income generation (5)
Knowledge production (4)
Institutional branding & profile (1)

As previously, text passages were counted and tallied as an indication of their priority. A high number of text passages matching a category of rationales

was interpreted as a high priority. Similarly, a low number of text passages for a category was interpreted as low priority. Results that did not fit either a high or low priority rank were considered a moderate priority. A difference of at least 3 examples draws the line between high, moderate, or low priority clusters. Text passages from the documents examined supporting each of these academic rationales are provided in Appendix L.

**High priority: Strategic alliance.** This was the leading rationale—with ten text passages—found in the documents examined. The evidence suggests that according to Knight’s (2004) rationales definitions that both universities placed a high priority on the ASU-ITESM relationship to work as a strategic alliance. A strategic alliance is a bilateral or multilateral agreement with purposes such as, “academic mobility, benchmarking, joint curriculum or program development; seminars and conferences, and joint research initiatives” (p. 27).

**Moderate priority: Student and staff development; income generation; and knowledge production.** Seven text passages were identified illustrating the student and staff development rationale; whereas five and four text passages (respectively) illustrated income generation and knowledge production rationales.. The evidence above suggests that according to the definition of Knight’s (2004) rationales, both universities expect the relationship between them to contribute to the development of student and staff competencies—international and intercultural understanding and skills—through internationalization initiatives. Similarly, it is anticipated that the internationalization activities under the agreement would generate—for profit or for cost-recovery—some level of

income. On the other hand, it is expected that the ASU-ITESM relationship would promote knowledge production to solve regional or global problems (e.g., environmental, health, and crime issues), by means of an interdisciplinary collaboration.

**Low priority: Institutional branding and profile.** Only one example was found as evidence for this type of rationale. According to Knight's (2004) description of institutional branding and profile, international name recognition is pursued to attract the "brightest scholars and students, a substantial number of international students, and high-profile research and training projects" (p. 26). Because this type of rationale is supported by only one text passage, it is tentatively held as of low-priority driver of the ASU-ITESM relationship until further investigated.

#### **Summary of Document Examination Findings: Declared Rationales**

Policy artifacts are carriers of meaning (Yanow, 2000). The examination of the overarching agreement and its addendum showed the rationales for the ASU-ITESM relationship expressed as values, interests and needs, or expected benefits. These rationales have a function in the ASU-ITESM relationship; they communicate the intent or aspirations of the international relationship between both universities. Thus, for the purpose of this study such rationales are the *declared* rationales.

Findings from the documents examined are summarized next. First, an analysis per category with de Wit's (2002) typology showed that academic rationales are regarded as high priority; economic rationales as moderate priority;

and both political and social/cultural rationales as low priority. Second, a disaggregated analysis of de Wit's (2002) categories demonstrated that a type of academic rationales—'international dimension to research and teaching'—is regarded as high priority. This analysis also proved some types of academic and economic rationales having moderate priority. These include extension of academic horizon and institution building (both academic rationales) and economic growth and competitiveness and financial incentives (both economic rationales). The analysis also showed that political and social/cultural rationales are of low priority. Third, an analysis utilizing Knight's (2004) typology of rationales showed that a strategic alliance motivation is a high priority. The results indicate that several rationales are of moderate priority— student and staff development, income generation, and knowledge production. Last, an institutional branding and profile motivation had a low priority.

### **Rationales Ranking Form: Interpreted Rationales**

The purpose of the *Rationales Ranking Form* (Appendices G, H) was to question the participants about their rationales and their priorities driving the ASU-ITESM relationship. The survey was designed after de Wit (2002) and Knight's (2004) rationales' typologies. Participants from both universities, ASU and ITESM ranked the rationales with an ordinal scale. Findings are discussed next—first according to de Wit (2002), then according to Knight (2004).

### **Findings: Rationales Ranked, de Wit (2002) Typology**

The first section of the survey introduced de Wit's (2002) categories of rationales and a brief description for each of them. The participants ranked the



categories utilizing an ordinal scale from 1 to 4. Number 1 represented a high priority, whereas 4 a low priority driving the ASU-ITESM relationship; in between numbers (e.g., 2, 3) meant a moderate priority. The survey also included a blank line preceded by the word “Other” for the participants to write other rationales not considered in the survey. Participants’ responses, from both ASU and ITESM, are displayed next in Table 13.

Table 13

*Rationales Ranked by ASU and ITESM Participants; de Wit (2002) Typology*

Participant	Rationales (de Wit, 2002)				
	Academic <sup>a</sup>	Economic <sup>b</sup>	Social/cultural <sup>c</sup>	Political <sup>d</sup>	Other
P_ASU 1	1	4	3	2	--
P_ASU 2	1	2	3	4	--
P_ASU 3	2	1	3	4	--
P_ASU 4	1	2	3	4	--
P_ASU 5	1	2	3	4	--
P_ASU 6	1	2	3	3	--
P_ASU 7	1	2	3	5	--
P_ASU 8	1	4	2	3	--
P_ASU 9	1	2	3	4	--
P_ASU 10	1	3	2	4	--
P_TEC 1	1	3	2	4	--
P_TEC 2	1	3	2	4	--
P_TEC 3	1	2	3	4	--
P_TEC 4	1	3	2	4	--
P_TEC 5	1	4	2	3	--
P_TEC 6	1	2	3	4	--
P_TEC 7	1	4	2	3	*
P_TEC 8	1	4	2	3	**
P_TEC 9	1	2	3	4	--
P_TEC 10	1	2	4	3	--

*Note.* In the ordinal scale 1 stands for high priority and 4 for low priority.

\* “Strategic: Affinity between strategic objectives at both universities”.

\*\* “Because of the relationship between our presidents”.

<sup>a</sup> Academic rationales category consists of rationales such as international dimension to research and teaching; extension of academic horizon; institution building; institution profile and status; enhancement of quality; and, international academic standards.

<sup>b</sup> Economic rationales category consists of rationales such as economic growth and competitiveness; labor market; and, financial incentives.

<sup>c</sup> Social/ cultural rationales category consists of rationales such as national cultural identity; intercultural understanding; citizenship development; and, social and community development.

<sup>d</sup> Political rationales category consists of rationales such as foreign policy; national security; technical assistance; peace and mutual understanding; national identity; and, regional identity.

The analysis consisted of several steps. First, responses were sorted and counted in two groups, one for ASU and another for ITESM, to identify potential patterns. Second, each individual response assumed a numeric value matching the one in the ordinal scale the participants ranked it with. For instance, a rationale category ranked by the participants with 1, represented a numeric value of 1; a rationale category ranked with 4, represented a numeric value of 4. Last, the numeric value of all ASU or ITESM participants' individual responses given to a rationales category were added, resulting in the category priority. In the example, the numeric value of all individual responses provided by ASU participants to academic rationales represented the priority such rationales' category has driving the ASU-ITESM relationship; as interpreted by that group of participants. Responses provided in the survey as "other" (e.g., blank line in the survey) were not assigned a numeric value. However, they are documented to inform the interviews' analysis.

Contrary to the document analysis, in which a high number of text passages indicated a high priority for rationales, in the ranking survey analysis, a low number means a high priority for rationales. As explained above, it is because of the ordinal scale utilized for the ranking survey 'converted' to a numeric value. In sum, for this analysis (e.g., rationales ranking form) the total numeric value for a category of rationales means how the participants interpreted those rationales and their priority driving the ASU-ITESM relationship; a summary of such findings is presented in Table 14.

Table 14

*Summary: Rationales Ranked by ASU and ITESM Participants; de Wit (2002)*

	Rationales (de Wit, 2002)			
	Academic	Economic	Social/cultural	Political
ASU participants	11	24	28	37
ITESM participants <sup>1</sup>	10	29	25	36

<sup>1</sup>Rationales provided in the ranking survey as ‘Other’, therefore without numeric value are: “Strategic: Affinity between strategic objectives at both universities”; and “Because of the relationship between our presidents”.

**High priority: Academic rationales.** This category was ranked with the highest priority by both groups of participants (e.g., lowest numeric values of 11 by ASU and 10 by ITESM participants). All the participants but one ranked academic rationales as a high priority guiding the ASU-ITESM relationship; this is number 1 in the ordinal scale. Only one participant from ASU (P\_ASU2) ranked the academic rationales category with 2 from the ordinal scale, which is the second-top priority. Without exception, all ITESM participants ranked academic rationales as a high priority; this is 1 in the ordinal scale.

Based on the evidence from the ranking survey, both ASU and ITESM participants interpreted academic rationales a high priority. The results of the ranking survey under de Wit’s (2002) definitions indicate that the participants interpreted the inter-institutional relationship was motivated by academic or educational objectives such as the international dimension to research and teaching (e.g., internationalization activities to increase awareness and understanding of the changing environment and multidimensional developments among nations); extension of academic horizons for students and faculty (e.g., international mobility programs as instrument for cooperation in research and

education); institution building (e.g., activities that strengthen the core structures and activities of an institution); enhancement of institution profile and of quality (e.g., international visibility; participation in networks); and international academic standards (e.g., seeking recognition from other institutions).

**Moderate priority: Economic and social/cultural rationales.** These categories were ranked slightly different by ASU and ITESM participants. In either case, both categories clearly differentiate from the high-priority academic rationales and the low-priority political rationales.

For ASU participants, the economic rationales category was ranked second in order of importance (e.g., numeric value of 24); whereas the social/cultural group of rationales was third (e.g., numeric value of 28). There is only a four-point difference between economic and social/cultural rationales. For this reason, it is worth disaggregating such calculations. Responses from ASU participants provided in the ranking survey showed that six out of ten participants interpreted an economic rationale as the second top priority (e.g., 2 on the ordinal scale) guiding the ASU-ITESM relationship; only one participant considered it the top motivation (e.g., 1 on the ordinal scale); and three participants ranked it either 3 or 4 on the ordinal scale—the lowest priorities. Additionally, eight of ten ASU participants ranked social/cultural rationales with a 3 in the ranking survey. Only two participants ranked that category as a second—top priority (e.g., 2 on the ordinal scale).

On the other hand, ITESM participants ranked the social/cultural rationales category as second in order of importance (e.g., numeric value of 25);

whereas the economic rationales category was third (e.g., numeric value of 29). As in the responses provided by ASU participants, there is only a four point difference between those categories according to the ITESM participants as well. Thus, it is worth looking in detail at such rankings. Individual responses provided in the ranking survey showed that six out of ten ITESM participants ranked social/cultural rationales as the second top priority (e.g., with either 2 or 3 in the ordinal scale). Four ITESM participants ranked this category with either 3 or 4 in the ordinal scale; in other words, they were not seen as important. As for economic rationales, four out of ten ITESM participants ranked this category as second top priority (e.g., 2 on the ordinal scale). Six out of ten ITESM participants ranked this category either 3 or 4 on the ordinal scale.

Based on these findings, the ASU and ITESM participants saw economic and social/cultural rationales as a slightly different priority in the ASU-ITESM relationship. Further, economic rationales for the ASU participants were seen as the second-top priority and social/cultural rationales are one-before the least priority. In contrary, for ITESM participants social/cultural rationales are second in priority; economic rationales are the second to last priority. Thus, until the interview data is analyzed, both are considered of moderate priority.

According to de Wit (2002), the prevailing argument behind economic rationales is that “the internationalization of education will have a positive effect on technological development and thus on economic growth” (p. 89). Similar arguments stress that internationalization will increase the competitiveness of future graduates for an international labor market; and that it will generate

income, whether for profit or cost-recovery purposes. For de Wit (2002), social/cultural rationales promote national/cultural identity and cultural understanding, and advance social learning and personal development of the students “through a confrontation with other cultures, but also, with the home culture” (p. 94).

**Low priority: Political rationales.** Responses provided by ASU participants showed that six out of ten participants ranked political rationales as the lowest priority (e.g., 4 in the ordinal scale) guiding the ASU-ITESM relationship. Two other ASU participants ranked it with an ordinal value of 3. Two other ASU participants provided unusual rankings for this category, which shows opposing views. For instance, participant P\_ASU1, while submitting her/his responses in the ranking format, verbally explained that s/he considered a political rationale important because the formation of the ASU-ITESM relationship was highly influenced by the politics between Mexico and the U.S. for the Arizona-Sonora region at the time the relationship started. In contrary, participant P\_ASU7, ranked a political rationale with a 5, a number not even considered in the ordinal scale for that section of the survey. This participant explained her/his ranking choice by saying that a political rationale “was not even for consideration in the ASU-ITESM relationship”. To represent this participant’s view, the researcher considered number 5 for the aggregate numeric value of this rationales category.

All ITESM participants ranked a political rationale with either 3 or 4 from the ordinal scale. Six out of ten participants ranked it the lowest priority (e.g., 4 in

the ordinal scale); whereas four additional participants gave it a 3. The results of the ranking survey under de Wit's (2002) definitions indicate that, the participants interpreted the inter-institutional relationship was least motivated by political objectives related to foreign policy; national security; technical assistance; peace and mutual understanding; and national or regional identity.

**Other rationales: First section of the ranking survey.** Participants were allowed to write in rationales different from de Wit (2002) in the blank line of the first section of the survey. For instance, participant 'ITESM 7' suggested "Strategic: affinity between strategic objectives at both universities/ Estratégico: afinidad en objetivos estratégicos de ambas universidades". Participant 'ITESM 8' suggested "Because of the relationship between both our presidents/Por la relación que hay entre nuestros rectores". These responses have several implications. First, the participants did not rank (e.g., ordinal scale) the responses they provided; nor did they indicate which category their answers should fall in (e.g., academic, economic, political, or social/cultural). As a result, the total numeric value calculated for any category of rationales was not affected. Second, the explanation provided by participant ITESM 7 is more relevant to Knight's (2004) typology of emerging rationales at the institutional level; particularly to "Strategic Alliances". Third, the answer of participant 'ITESM 8' provided an interesting insight to the role of the top leadership in driving institutional relationships. Both responses will be further studied as part of the semi-structured interviews.

## Findings: Rationales Ranked, Knight (2004) Typology

The second section of the survey presented Knight's (2004) rationales to the participants. Again, participants ranked the rationales driving the ASU-ITESM relationship with an ordinal scale. In this section of the survey, the ordinal scale ran from 1 as high priority to 5 as low priority. At the end of the section, a blank line preceded by the word "Other" was provided for the participants to write other rationales not considered in the survey. Findings from the second section of the ranking survey are displayed next in Table 15.

Table 15

### *Rationales Ranked by ASU and ITESM Participants; Knight (2004) Typology*

Participant	Rationales (Knight, 2004)					
	Strategic alliances	Institutional branding and profile	Student and staff development	Knowledge production	Income generation	Other
P_ASU 1	1	3	4	2	5	--
P_ASU 2	2	3	1	4	5	--
P_ASU 3	2	1	4	3	5	--
P_ASU 4	1	5	2	4	4	--
P_ASU 5	1	3	4	5	2	--
P_ASU 6	1	2	3	4	5	--
P_ASU 7	1	4	2	5	3	--
P_ASU 8	1	3	2	4	5	--
P_ASU 9	1	3	5	2	4	--
P_ASU 10	1	2	5	3	4	--
P_TEC 1	3	4	1	2	5	--
P_TEC 2	1	3	2	4	5	--
P_TEC 3	2	4	1	3	5	*
P_TEC 4	1	2	4	3	5	--
P_TEC 5	2	3	1	4	5	--
P_TEC 6	3	2	1	4	5	--
P_TEC 7	1	4	2	3	5	**
P_TEC 8	1	3	4	2	5	--
P_TEC 9	1	4	2	3	5	--
P_TEC 10	1	2	3	4	5	--

\* "Common or similar vision".

\*\* "Mutual learning of innovative strategic experiences".



The analysis of Knight’s rationales typology consisted of the same steps as in the first section of the ranking survey (i.e., de Wit’s typology). First, responses were sorted and counted in two groups, one for ASU and one for ITESM, to identify potential patterns. Second, each individual response assumed a numeric value matching the one in the ordinal scale the participants ranked it with. Findings from the procedure explained above are displayed in Table 16.

Responses provided in the survey as “other” were not assigned a numeric value; those were documented for further investigation in the analysis of the interviews.

Table 16

*Summary: Rationales Interpreted by ASU and ITESM Participants; Knight (2004)*

	Rationales (Knight, 2004)				
	Strategic alliances	Institutional branding and profile	Student and staff development	Knowledge production	Income generation
ASU participants	12	29	32	36	42
ITESM participants	16	31	21	32	50

<sup>1</sup>Rationales provided in the ranking survey as ‘Other’, thus without numeric value: “Common or similar vision” and “Mutual learning of innovative strategic experiences”.

As explained earlier, a low number in the ranking survey represents a high priority. This is because the numeric value of 1 represents a high priority compared to number 4 that means a low priority. All participants’ individual responses were added as an indication of the priority of a type of rationales shaping the ASU-ITESM relationship, according to Knight (2004) typology.

**High priority: Strategic alliance.** This type of rationales was ranked with the highest priority by both groups of participants (e.g., lowest numeric values of 12 by ASU and of 16 by ITESM participants). All ASU participants but two ranked it high priority. Only two ASU participants, (i.e., P\_ASU2 and P\_ASU3) ranked this rationale as second top priority. Six out of ten ITESM participants ranked strategic alliances as the top priority. Two participants ranked it as second; whereas two other participants ranked it third, (second to last).

These results show that fourteen out of twenty participants—both ASU and ITESM—interpreted strategic alliance as a high-priority motivator driving the ASU-ITESM relationship. According to Knight’s (2004) explanation for this type of rationales, as institutions mature in their approach to internationalization, more effort is put into developing strategic alliances with clear purposes and outcomes articulated. Knight added that different purposes exist for these linkages including academic mobility, benchmarking, joint curriculum, program development, seminars and conferences, and joint research initiatives.

**Moderate priority rationales: Institutional branding and profile, student and staff development, and knowledge production.** These types of rationales were ranked slightly different by ASU and ITESM participants. All three of these categories clearly differentiate from the high-priority strategic alliances and from the low-priority income generation rationales.

ASU participants ranked institutional branding and profile as the second highest priority, with a total numeric value of 29. This was closely followed by student and staff development motivation with a total numeric value of 32.

Knowledge production received 36. There is a 14-point gap between the high-priority results and the lowest of the moderate scores. Knowledge production showed a difference of only six points from the least priority category, income generation, with a numeric value of 42.

In comparison, ITESM participants ranked student and staff development as the second-top priority with a total numeric value of 21; which is closely followed by two rationales, institutional branding and profile—with a total numeric value of 31—and knowledge production with a total numeric value of 32. Among ITESM participants, any of these three rationales is clearly differentiated from the least priority rationale of income generation which has a numeric value of 50. However, there is a difference of only five points' between the the second-top priority, student and staff development, (e.g., numeric value of 21) and the high-priority rationale of strategic alliances (e.g., numeric value of 16). There is only one point difference between institutional branding and profile and knowledge production rationales; thus, not clearly differentiated.

According to Knight (2004) in the rationale, student and staff development, internationalization is regarded “as a means to enhance the international and intercultural understanding and skills for students and staff” (p. 26). The goal is to develop student and staff competencies through internationalization initiatives. An institutional branding and profile rationale is a “quest for name recognition internationally in an attempt to attract the brightest of scholars/students, a substantial number of international students, and high-profile research and training projects. High academic standards are key for branding

purposes to compete domestically and internationally” (Knight, 2004, p. 26). In the rationale, knowledge production, Knight (2004) explained, “international and interdisciplinary collaboration is key to solving many global problems such as those related to environmental, health, and crime issues” p. 28.

Based on the evidence above, there are two plausible claims to be further investigated in the interview analysis. First, rationales such as institutional branding and profile, student and staff development, and knowledge production are a moderate priority that drives the ASU-ITESM relationship in comparison to both strategic alliance (high priority) and income generation (low priority). Second, the rationales, institutional branding and profile, student and staff development, and knowledge production, compete for priority among the two groups suggesting they are important in the interuniversity relationship.

**Low priority: Income generation.** This type of rationales was ranked as the lowest priority by both groups of participants (i.e., highest numeric values of 42 by ASU and 50 by ITESM participants). Eight out of ten ASU participants ranked it with 5 or 4. Only two participants (i.e., P\_ASU5 and P\_ASU7) ranked ‘income generation’ with 2 or 3 respectively. In comparison, all ITESM participants ranked income generation with 5.

Based on, both ASU and ITESM participants interpreted income generation as the lowest priority driving the ASU-ITESM relationship. On income generation, Knight (2004) explained that internationalization activities are regarded “as a way to generate alternative sources of income” (p. 27) whether there is a profit or cost recovery motivation. Additionally, there might be a shared

understanding among ITESM participants on what income generation activities are that is particular to ITESM's organizational culture; especially because this university is founded and operated as a non-profit institution. Such claim is speculative at this point and will be further investigated in the interview analysis.

**Other rationales: Second section of the ranking survey.** Rationales different from Knight (2004) were provided in the blank line of the second section of the survey. Participant ITESM 3 provided “common or similar vision/ visión común o similar,” whereas participant ITESM 7 provided “mutual learning of innovative strategic experiences/ aprendizaje mutuo de experiencias en estrategias innovadoras” as rationales. These responses, have several implications. First, the participants did not rank the responses they provided; nor did they indicate what category (e.g., academic, economic, political, social/cultural). As a result, the total numeric value calculated for any category of rationales is not affected.

Second, both responses provide important insight to potential dimensions of rationales not covered by the actual typologies. Should “common or similar vision” be an essential element to the rationale, strategic alliance? Is mutual learning of innovative strategic experiences key to the rationale, knowledge production? Should any of these be considered a rationale by itself? Do any of the responses provided by the participants represent rationales of the ASU-ITESM relationship? These issues will be further investigated in the interviews' analysis.

### **Summary of Ranking Survey Findings: Interpreted Rationales**

In this investigation, participants' responses provided in the ranking survey represent a perception situated in time—framed by the selected

typologies—of the motivations shaping the ASU-ITESM relationship. For the purpose of this study such perceptions become the interpreted rationales, which later will be compared to the findings of document and interview analysis.

The ranking survey consisted of two sections; one for de Wit (2002) and another for Knight (2004) rationales' typologies. Rationales were ranked with an ordinal scale as an indication of their priority shaping the ASU-ITESM relationship. In the first section, participants ranked de Wit's (2002) academic rationales as high priority. Economic and social/cultural rationales were scored as moderate priorities. Last, political rationales were ranked as low priority. In addition, two rationales different from de Wit's typology were provided by the participants and will be further investigated in the interview analysis; strategic: affinity between strategic objectives at both universities/estratégico: afinidad en objetivos estratégicos de ambas universidades and because of the relationship between our presidents/por la relación que hay entre nuestros presidentes.

In the second section, participants ranked Knight's (2004) strategic alliance as high priority. Three rationales scored as moderate priority; institutional branding and profile, student and staff development, and knowledge production. Last, income generation was ranked as low priority. In addition, two rationales different from Knight's classification were provided in the survey and will be probed in the interview's analysis; "common or similar vision" and "mutual learning of innovative strategic experiences".

### **Semi-structured Interviews: Enacted Rationales**

Conducting semi-structured interviews was intended to elicit the meanings that participants attached to the rationales driving the ASU-ITESM relationship. Additionally, the analysis sought evidence that supported or refuted the rationales provided by the participants in the ranking survey (e.g., rationales different from the selected typologies).

The analysis of the interviews focused in the participants' descriptions and explanations of beliefs, values, benefits, contextual factors, and actions guiding the international relationship. Participants' descriptions or explanations were organized into three groups (e.g., faculty, administrator, and senior leadership), for each institution (i.e., ASU or ITESM). Recurrent themes were ordered hierarchically, designating as high priority the rationales the participants frequently referred to. Subsequently, rationales mentioned once or twice by different participants were designated of moderate priority. Low priority rationales designated those expressly reported by the participants as 'not important' or 'not a priority' in the ASU-ITESM relationship.

A contribution from participant 'ITESM 1' was incorporated into the analysis. This participant stressed the difference between the rationales for the international relationship overall from the rationales for specific projects within. Asked about the goals for the relationship, s/he responded,

What happens is... you need to separate two things. One is the goals for the program, the deliverables... but invariably, underlying any process you're going to have the implications of

change, the impact a program will have in the university. [...] I mean, there are underlying goals; whether you're strengthening your doctoral program, enriching your research topics, write joint publications, I mean you're going to contrast yourself against and you're going to better yourself out of this process, then I think those are underlying goals.

That being said, the enacted rationales reported by each group of participants are presented next. The related issues category displays factors or actions that participants recurrently referred to when explaining the rationales guiding the international relationship.

#### **Faculty with Administrative Functions**

Rationales driving the ASU-ITESM relationship reported by ASU and ITESM faculty with administrative functions are reported in Table 17.



Table 17

*Rationales Reported in Semi-structured Interviews by Faculty with Administrative**Functions*

	Rationales for the relationship	Participant
High priority	Because of the relationship between the presidents; “presidents’ empathy”	TEC 1, TEC 6 TEC 9, TEC 10
	Institutions have a similar profile/philosophy; “a shared vision on what education and the university are all about”	ASU 6, ASU 9 TEC 9, TEC 10
	Academics; provide students with a global perspective education and with international experiences; adds academic value to the student	ASU 2, TEC 1
	Conduct research; knowledge production in selected areas; genuine interest in knowledge	ASU 6, TEC 9
	Generate revenue from research; attract external funding	ASU 6, ASU 9
Moderate priority	Mutual learning from exchanging experiences; strong drive for innovation transfer	TEC 10
	Develop initiatives for online education, face-to-face programs (e.g., student exchange, graduate level training), joint seed funding for research, and entrepreneurship	ASU 9
	Engage in community outreach with social programs	TEC 6
	Future employability of the student	ASU 2
	Internationalization is part of our university mission	TEC 1
	Strengthen graduate level research & programs; generate joint publications (*)	TEC 1
	Rankings for an undergraduate level program (*)	ASU 2
Low priority	Economic or financial gain; “economic motivation is not important, this is beyond that”	ASU 2, TEC 1
Characteristics and influential factors		
	Combination of approaches: bottom-up and top-down	ASU 6, TEC 1
	Macro-context, a favorable intersection of factors: the new economy (e.g., bio-info-nano technologies)	TEC 9
	Strategic relationships: Typical versus unique. “Typically is one project, and here a lot of things are going on”	TEC 10

(\*) *Rationales for specific programs.*

Both ASU and ITESM faculty identified academics as the primary motivation for the ASU-ITESM relationship. It helps to provide students with a global perspective of education and with international experiences; one participant said the latter “adds academic value to the student” (PTEC 1).

Participants saw the relationship contributing to knowledge production in selected areas (e.g., biotechnology); they stressed expectations of their research to generate revenue and to attract external funding. For both ASU and ITESM faculty, the international relationship is partly explained by the fact that both universities have a similar profile or philosophy; “a shared vision on what education and the university are all about” (PASU 9). However, was the ITESM faculty that regarded the international relationship as a result of the relationship between both presidents: “It [the ASU-ITESM relationship] was because “a very strong empathy between both presidents” (PTEC 10).

Rationales of moderate priority are those less frequently mentioned by the participants. Those mentioned by ITESM faculty include “mutual learning from exchanging experiences” (PTEC 10); “because internationalization is stated in the mission statement of the university” (PTEC 1); and “community outreach with social programs” (PTEC 6). ASU faculty pointed out an interest to develop different types of initiatives as part of the ASU-ITESM relationship; for example, noted "online and face-to-face programs, joint seed funding for research, and entrepreneurship" (P ASU9). A participant from ASU (PASU 2) conceded that while some of those initiatives may contribute to the “future employability of the student”, provides them with a global perspective, but “it’s bigger than that”. In addition to the overall rationales for the international relationship between ASU and ITESM, faculty emphasized rationales for specific programs. For instance, initiatives created at the graduate level aim to “strengthen graduate level research and programs and also to generate joint publications” (PTEC 1). On the other

hand, participating in this inter-institutional relationship meant obtaining “rankings for an undergraduate level program” (PASU 2).

Rationales regarded as a low priority for the ASU-ITESM relationship were those pertaining to economic or financial gain. Two participants (PASU 1, PTEC 2) expressly underscored that economic gain is not rationale; “economic motivation is not important, this is beyond that” participant TEC 1 explained. The rest of the faculty participants did not even mentioned it.

Three themes emerged in accounts of faculty explaining the overall rationales guiding the international relationship; a favorable macro-context, a combination of approaches to the relationship, and characteristics that make it unique or atypical. Regarding the favorable macro-context, participant PTEC 10 explained how launching joint research became important in the relationship, “funding a joint RFP [Spell out here] to generate knowledge, it happened because of the context of the new economy all that is bio-info-nano technologies”.

Although several participants acknowledged the relationship between presidents of both universities as highly influential, two participants emphasized a combination of bottom-up and top-down approaches; “it was a pre-existing one-on-one relationship at the faculty level that was reinforced by the presidents” (PTEC 1). Additionally, participant ASU 6 explained, “there were relations at the faculty level but was set as strategy for bi-national relationships by the president”. Last, explaining why this relationship was not typical—suggesting some relationships are typical and some are not—participant PTEC 10 explained,

how the relationship started makes it an atypical relationship. It's a more solid alliance... I'd categorize it as a strategic alliance. It's a university to university relationship, not only professor to professor or school to school. It's not limited to student and faculty exchange. Typically is one project, and here you have a lot of things going on.

### **Administrators**

Rationales driving the ASU-ITESM relationship reported by ASU and ITESM administrators are reported in Table 18. Among the rationales regarded as high priority by administrators at ASU and at ITESM, the one more frequently mentioned was the relationship between the presidents. Eight out of nine administrators said the ASU-ITESM relationship was motivated either because of the relationship between the presidents of each university; or because the role their own president had promoting the relationship. On the latter, views range from presidents as "rulers" to presidents as "brokers," two quotes from administrators illustrate this.

The relationship became very active and important because the momentum created by both presidents. Actually, it started like per decree, right? (PTEC 3).

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It [the relationship] was brokered or developed at the top, which I think is good because that sets an overarching foundation for all partnerships to fall under (PASU 5).

Table 18

*Rationales Reported in Semi-structured Interviews by Administrators*

	Rationales for the relationship	Participant
High priority	Because of the relationship between the presidents; presidents' role.	ASU 1, ASU 3, ASU 4 ASU 5, ASU 8, TEC 2, TEC 3, TEC 7
	Mutual learning from exchanging experiences; strong drive for innovation transfer	ASU 1, ASU 3 ASU 4, ASU 8 TEC 3, TEC 7
	Internationalization/global engagement is part of our university mission/principles	ASU 1, ASU 3 TEC 2, TEC 3
Moderate priority	Goals were multiple and changing, "a moving target"; multi-faceted objectives.	ASU 1, ASU 3 ASU 8
	Develop programs in entrepreneurship; for acquisition skills (e.g., students); institutional metrics (e.g., student employability) and wealth creation (e.g., community economic growth)	ASU 1, ASU 3
	Provide students with a representative view of the world; internationalization increases the student "price tag"	ASU 8, TEC 2
	Utilize synergies to create international opportunities for students & faculty	TEC 2, TEC 8
	Academics. Partnering contributes to our excellence; quality improvement; makes our institution stronger	ASU 8
	"Globalize" faculty; facilitate collaborations between our faculty and faculty abroad	ASU 5
	Contribute in an applied way to the development of the communities both universities serve; bring change about	TEC 8
	Engage in community outreach with social programs	ASU 1
	Develop school brand; attract PhD level students to our programs (*)	ASU 5
	Serve students with high quality experiences in both face-to-face and online programs (*)	ASU 8
Low priority	Economic motivation. "It's not what moves the relationship"; "this goes beyond financial gain"; economic motivation wasn't a priority	ASU 5 TEC 2, TEC 8
Characteristics and influential factors		
	Combination of approaches: bottom-up and top-down; hands-on versus theoretical solutions; quality versus quantity of projects; centralized versus departmental projects	ASU 4, ASU 5 TEC 3, TEC 7, TEC 8
	Macro-context, a favorable intersection of factors: political and geographic; regional priorities; timing and opportunity	ASU 1, TEC 7 TEC 8
	Strategic relationships: Typical versus unique	ASU 3, ASU 4 ASU 8, TEC 2

(\*) *Rationales for specific programs.*

As expressed by ASU and ITESM administrators, the relationship between both universities was also motivated by an interest in mutual learning that resulted from exchanging experiences and innovative practices (e.g., participants ASU 1,

ASU 3, ASU 4, ASU 8 TEC 3, TEC 7). Participants explained that, based on the initial knowledge each university had on the other, there were expectations about learning that were similar to a benchmark process. For example, ITESM expected to learn from ASU about their approach to research (e.g., policies, funding sources, infrastructure). On the other hand, ASU expected to learn about ITESM's approach to entrepreneurship across the curriculum (e.g., network of business incubators and accelerators, technology parks, services provided at each, students and faculty projects). The following quotes from participants illustrate this.

Participant ASU 8 explained about mutual learning

I mean, there are many facets to this partnership, but one of them is the experience and scope of TEC [ITESM] and the fact that ASU had something to learn from TEC and also something that we could give to TEC. I mean, we could share, and both of us had something that we could contribute to a partnership.

Participant ITESM 3 commented on initial expectations about learning, and then explained in retrospective about potential benefits from it.

To go and explore opportunities it was very enlightening... as a person, as an administrator I saw that I could learn a lot, to know a lot about them. I liked the vision of the university very much, the vision of its middle managers, the deans, researchers, faculty, department directors" [...] I think that because of ASU we refined our understanding, and I allowed myself to say we because I think we the administrators learned more than the faculty, [at ITESM]

we learned what it means to engage in high profile research, the funding it requires, and I'm not sure whether or not it was because of the relationship with ASU but it must have had an effect on the tremendous impulse we've given to research at ITESM these past years. I think we realized we had to invest more in research.

Also a motivation of high priority, several administrators considered that the ASU-ITESM relationship resulted because of the mission statement or the principles of each university (participants ASU 1, ASU 3, TEC 2, TEC 3). For ITESM, internationalization is addressed in the mission statement; whereas for ASU, it is in global engagement one of the design aspirations of New American University.

Rationales of moderate priority are those less frequently mentioned by the administrators. Regarding the motives driving the international relationship participants PASU 1 and PASU 3 stressed that, the creation of joint initiatives was expected from the very beginning; however, goals for the ASU-ITESM relationship were multiple and changed often. For instance, development of joint programs in entrepreneurship, community outreach, and research was expected. Entrepreneurship initiatives would focus on students (e.g., acquisition of skills and future employability) and institutional goals (e.g., community economic growth). Also, the relationship would provide further opportunities for community outreach and offer social programs (e.g., the Community Learning Center) (PASU 1). According to the administrators, it was expected that initiatives resulting from the ASU-ITESM relationship would contribute in an

applied way to the development of the communities both universities serve (PTEC 8). At the same time, goals for the ASU-ITESM relationship were multiple—“objectives were multi-faceted” (P ASU3)—and changed often; sometimes according to the presidents’ interests. Participant ASU 1 explained:

The goals changed depending on what they (presidents) liked. I mean, they wanted to do something and said 'well, this works' and then they wanted taking it to another level. Or they said 'we don't like this, and then we don't want to do it'. But they were always looking to work ideas together. I think there were many times they said 'let's launch these projects' and then some did but some did not. [...] There were many purposes and many goals in the relationship.

Also as rationales of moderate priority, administrators reported expected benefits from the ASU-ITESM relationship related to academic quality and institution building. For instance, participants stressed the importance of utilizing synergies resulting from the universities’ relationship to create international opportunities for faculty and students (PTEC 2, PTEC 8). For example, an ASU administrator explained that the relationship would help, “globalize our faculty... increase the touch-points between our faculty and faculty from outside of the States... to help facilitate more collaborations among our faculty” (PASU 5). Other participants felt the relationship would provide similar benefits for students by providing them with internationalization opportunities and with “a representative view of the world” (PASU 8). Another participant said “I always



ask them [the students], what your price tag will be in the labor market?

Participating in international activities increases your price tag” (PTEC 2).

Two administrators explained about goals for specific programs the ASU-ITESM relationship was expected to contribute to. Participant ASU 5 explained how participating in the relationship will help enhance branding issues for the school he was affiliated with and recruit students from TEC for doctoral programs at that school. On the other hand, aspects of academic quality and institution building were mentioned by participant ASU 8.

ASU was thinking about how are we going to serve these students, how are we going to provide experiences that are high quality, that are on par with what a face-to-face student would get? [...] And that we can only, you know, become better by partnering (PASU 8).

Rationales regarded by administrators that have a low priority are those pertaining to economic or financial gain. Similar to views held by the faculty group, several administrators considered the partnership did not pursue profit generation. The rest of the administrators did not even mention it. Of participants who did, the following quotes illustrate their views.

It is not the economic aspect that moves the relationship and the exchange: It's the will which does. When there's a will, there is a way. (PTEC 2).

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For ASU an economic motivation is not a priority in this relationship. It is that we conduct projects together, to be able to meet a vision, a certain potential (P TEC 8).

Like those shared with the faculty group, three themes emerged in the administrators' accounts explaining the overall rationales; a favorable macro-context, a combination of approaches to the relationship, and characteristics that make the relationship unique or atypical. Several participants (PASU 1, TEC 7, TEC 8) mentioned that the formation of the ASU-ITESM relationship was fostered by a favorable macro-context, consisting of the intersection of geographic and political factors. Participants described a sense of timing and opportunity because the convergence of priorities between federal and state governments across borders and those both universities had at the time. Administrator TEC 7 explained about the political context surrounding the first meeting between the presidents of ASU and ITESM presidents, an event also marked by a combination of intent and of "little luck."

The incident [making the presidents to meet for the first time] was, to some extent, planned... but what triggered it was certainly a little luck. Some luck. As it turns out, for some reason President Vicente Fox [Mexican President from 2000–2006] and his wife made an official visit to Phoenix, and the visit to Phoenix wanted to demonstrate that there was ongoing collaboration with Mexico... President of ASU was a host speaker at that event, and he would pitch in that was working with Mexico and was going to

mention us, Tec de Monterrey [ITESM], specifically one of our Community Learning Centers.

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Well, the visit of President Fox was a real argument to convince our university President [President of ITESM] to visit Phoenix. Obviously, he very interested having President Fox to know the efforts of our community centers ... it was like, to some degree, a little luck. Then I recall very clearly that with all intention we made President of ITESM to meet President of ASU and also to meet a high profile researcher leading ASU's Biodesign Center" (PTEC 7).<sup>20</sup>

Another emerging theme mentioned by administrators was a combination of approaches (e.g., bottom-up and top-down, centralized-decentralized, applied versus conceptual, quantity versus quality) taking place in the ASU-ITESM relationship (Participants ASU 4, ASU 5, TEC 3, TEC 7, TEC 8). For instance, two administrators (PASU 1, PTEC 7) explained that "the truth is, the relationship started at the faculty level and then went up to the presidents, they took it,

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<sup>20</sup> As explained by participants ASU 1 and TEC 7, Governor Janet Napolitano hosted the event attended by President Fox in 2003. Subsequently, Governor Napolitano visited ITESM at the Monterrey Campus in 2004, in a visit hosted by both the President of the Board of Trustees and by the university Chancellor at ITESM. These events are described in detailed in Appendix C.

tweaked it, and send it back to the faculty. You know what? Yes, it was bottom-up and then top-down” (PTEC 7). That description is similar to a centralized-decentralized approach on projects pointed out by administrator ASU 4; s/he said that the international relationship was initiated by the central administration but it was balanced with projects “very grounded at the department level”, for which faculty had plenty freedom implementing.

Several participants concurred in that the presidents inculcated from the very beginning that programs resulting from the relationship’s initiatives should be “applied” and provide “hands-on” solutions compared to theoretical or conceptual ones. Last, an administrator from ITESM highlighted that the orientation of the ASU-ITESM partnership was about quality and not quantity of projects. S/he explained;

Definitely, this relationship contributes in a different, very unique way. It’s not about massive numbers of students coming and going; neither amounts of academic activities but instead by providing certain strategic links (PTEC 7).

The last of the recurring themes emerging from administrators’ interviews was the uniqueness or atypicalness of the international relationship.

Administrators (ASU 3, ASU 4, ASU 8, TEC 2) stressed the ASU-ITESM relationship is strategic when compared to other institutional experiences. In their accounts, participants also described the features that make a university a fitting partner, and the extra efforts conducted attracted the counterpart university. The following quotes illustrate these concepts.

ITESM was in the picture from the very beginning; it really made sense because of the type of institution ITESM is; let's say, very similar to the type of institution that our leadership wanted ASU to transform after" (PASU 4).

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...so when our President was able to forge personal relations with both your President and with your President of the Board [of Trustees], I remember it was the biggest thing ever. It was like, let's show everything that we had! (PASU 3).

### **Senior Leadership**

Rationales driving the ASU-ITESM relationship reported by ASU and ITESM senior administrators are displayed in Table 19.

Table 19

*Rationales Reported in Semi-structured Interviews by Senior Leadership*

	Rationales for the relationship	Participant
High priority	Because of the relationship between the presidents; presidents' vision	TEC 4, TEC 5 ASU 7, ASU 10
	Internationalization/global engagement is part of our university mission/principles	ASU 7, ASU 9 ASU 10, TEC 4
	Institutions with an equivalent philosophy; a shared vision about "multidisciplinary education and deeply embedded in societal needs"	TEC 4, TEC 5 ASU 7, ASU 10
	Mutual learning; use each other as a partner we can model ourselves after	TEC 4, TEC 5, ASU 9, ASU 10
	Contribute to internationalize the university multi- dimensionally; a holistic approach to internationalization	TEC 4, ASU 7, ASU 10
	Geographical proximity. Arizona and Mexico historically, culturally, and geographically "intertwined"	ASU 7, ASU 9 ASU 10
Moderate priority	Develop initiatives in research (e.g., biotech), entrepreneurship, graduate level education, student mobility, and online education.	ASU 7, TEC 4 TEC 5
	Identify needs in both regions; make synergies to solve pressing issues; beneficial use of strengths put together	TEC 4
	Engage in community outreach with social programs	TEC 4
	Create larger projects that may demand state governments involvement	TEC 4
	Help our students to have a global perspective on what they do	ASU 10
	Entrepreneurship collaborations: business incubators, venture capital clubs, and technology parks (*)	TEC 5
Low priority	N.A.	N.A.
	Characteristics and influential factors	
	Combination of approaches: bottom-up and top-down; traditional and emerging-priorities' internationalization	ASU 7, ASU 10 TEC 4
	Strategic relationships: Typical versus unique	TEC 4, TEC 5 ASU 7, ASU 10
	Structural differences between public and private universities facilitate/hinder these relationships	TEC 5

(\*) *Rationales for specific programs.*

Rationales viewed as high priority among senior leaders at ASU and at ITESM is the relationship between the presidents. Four out of five participants in this group (TEC 4, TEC 5, ASU 7, ASU 10) said that the ASU-ITESM relationship was motivated either because of the relationship between the presidents; and/or because the vision each president had for this type of university relationships. A participant described the personal relationship between the presidents ‘a catalyst’ in making of this university connection ‘an alliance’,

Another factor, an important catalyst here was the personal relationship between both presidents. I think that has a lot weight, and in my experience because my job, the position that I hold overseeing internationalization for this university, I’ve seen many cases in which a relationship between two senior leaders, presidents, vice presidents, or deans, contributes a lot in making of a university relationship like this one, an alliance (PTEC 4).

Related to the relationship between the presidents, participants pointed out the vision both presidents had for this type of partnership and the salient personality traits they have. For instance, the capacity to innovate and to communicate their vision to others in and out of the university; or as participants put it, “to filter down” or “sell ideas” (PASU 7, PTEC 4).

Another high priority motivation that explained the ASU-ITESM relationship, according to the participants, is the university's mission statement that envisions internationalization (e.g., ITESM) or global engagement (e.g., ASU), thus resulting in international university relationships like the one under

study. Two other high priority rationales take the form of expected benefits; senior leaders explained it was expected the ASU-ITESM relationship will contribute to internationalizing the university “multi-dimensionally” (PTEC 4) or by taking “a holistic approach to internationalization” (PTEC 10). A similar benefit would result from the visibility the university obtains from being international; on that participant PASU 7 said, “...part of kind of growing up as a university involves being international as well”.

ASU and ITESM senior leaders recurrently mentioned that the relationship between both universities was also motivated by an interest in mutual learning. Whereas senior leaders’ focus on mutual learning was the whole institution, for administrators the focus was the exchange of innovative practices. The following quote from senior leader ASU 10 illustrates this, “...in many ways, the vision was a vision for ASU to find an international partner that we could model ourselves after, and so Tec [ITESM] was very much a model for us in that regard” (P ASU 10).

Several participants in this group viewed the ASU-ITESM relationship was motivated because both universities have a comparable philosophy or a shared vision on education and also on the role of the university in the society. For instance, principles shared by both ASU and ITESM include a view of education as multidisciplinary, embedded in societal needs, and as a way to procure community outreach for social programs (TEC 4, TEC 5, ASU 10). Other than vision or principles but “similar enough” is the size and scope of activity at ASU and ITESM and their strengths in business and engineering disciplines; it



resulted in a “kind of a natural fit” between both universities (P ASU 7). Another rationale mentioned by several senior leaders (ASU 7, ASU 9, ASU 10) is the geographical proximity shared by both universities and the pressing issues in that region. The following explanation by senior leaders ASU 9 4 illustrates that rationale,

...so, if you can't engage with our closest partner, Mexico is Arizona's closest partner, closest ally, strongest cultural signal, strongest immigration source, you know? We wanted to have a fantastic relationship with institutions in Mexico, so we picked the one most like us that aspired to the same things (PASU 9).

Rationales less frequently mentioned are considered of moderate priority. On the motives driving the international relationships, senior administrators stressed that the creation of research and teaching initiatives was expected from the very beginning. For example, conducting joint research in areas of interest (e.g., biotechnology, water, renewable energy); and developing programs at the graduate level (e.g., dual master's degrees); also online education, programs and those targeting student mobility (ASU 7, TEC 4, TEC 5).

Other rationales of moderate importance are the expected benefits it would bring at the individual and community levels. A senior leader from ASU explained that an expected benefit aimed at the individual level (e.g., students); “[the relationship] helps our students to have a global perspective on what they do” (ASU 10). In the other hand, senior leader TEC 4 provided a series of expected benefits for the community and the society. For example, this participant

emphasized the need to identify existing needs and pressing issues in both regions, making synergies—“put our strengths together” to solve them; engage in community outreach by means of social programs; and create larger projects that require state governments' involvement. The following interview extract exemplifies such rationales.

[The relationship occurred because several reasons] in part because that common knowledge of the universities and of the regions where the universities are, pressing issues of both regions that, if we make synergies and join forces of both universities, we can solve them. Then you have entrepreneurship, biotechnology, student mobility, then in despite of that need it was very clear the mutual benefit of become allies and join forces.

For me, those are the most important reasons on the formation and evolution of this relationship... in this case, it's something more, maybe more ambitious because, in my understanding and I'm maybe wrong, in this alliance between Arizona State University and Tecnológico de Monterrey is also expected to engage in community outreach, here [Mexico] and there [U.S.], and that may lead to other projects indeed, like the community colleges or something else that requires involvement from state level governments, and such. (PTEC 4)

On rationales for specific projects within the ASU-ITESM relationship, senior leader TEC 5 commented there was strong interest to initiate collaborations in entrepreneurship; for instance by linking ITESM's business incubators and technology parks with ASU's venture capital clubs.

Low priority rationales were not identified in data from interviews with senior leadership. References to income generation or financial gain as rationales of the university relationship were nonexistent among senior leadership. Noticeably, in this group there were fewer references to rationales for specific programs or to those with an impact at the individual's level (e.g., students).

Several themes emerged in the explanations provided by senior leaders explaining the overall rationales for the university relationship. Two themes are similar to those shared by the faculty and administrators groups; combination of approaches to the relationship and characteristics that make it unique or atypical. Four out of five senior leaders mentioned different approaches taking place in the ASU-ITESM relationship. Most participants in this group (ASU 10, TEC 4, TEC 5) stressed the relationship took off because a combination of approaches, bottom-up (e.g., started at the faculty level, pre-existing relationship between faculty) and top-down (e.g., started by the presidents, promoted by the central administration). However, for one participant it was a top-down approach; "it really filtered down to number of the other deans and senior leaders" (PASU 7). Already mentioned earlier, one participant indicated a holistic approach to the relationship, "it wasn't just the individual investigators" (PASU 10). The following explanation by senior

leader TEC 5 illustrates an approach to the relationship combining traditional and emerging-priorities' internationalization,

On one hand, we knew that we wanted to do the traditional such as students and faculty exchange. The vision was that we had to start with the typical; although from the very beginning we entertained the idea of exchanging experiences, exchanging projects in research areas such as biotechnology. This led us to other topics, for instance entrepreneurship, right? We realized, hey this is important to both of us, like enterprise incubators and technology parks, venture capital clubs... In sum, I think that the original vision was, let's exchange students and also let's take a deep take into research. Little by little other areas became important; for instance, right now research on water and energy (PTEC 5).

Such an approach relates to the characteristics that make the ASU-ITESM relationship strategic, a theme also emerging in the faculty and administrators groups. In their accounts, senior leaders referred to the relationship as "relevant", "multidimensional", "comprehensive", and "one of the two poster children" (TEC 4, TEC 5, ASU 7). A description by participant ASU 10 illustrates the "uniqueness" of the ASU-ITESM relationship.

So it's more than just an agreement that involves shared research, and we have many of those universities. What was unique about this program is that it involves every aspect of the way the university does its business: how we administer education

programs, how we organize them, how we involve students, how we handle our business and finances, how we do community engagement. All of those aspects of what we are as a university, as well as what we do as a university were reflected in this partnership. That's why we called it a strategic partnership more than just a research partnership or research relationship (PASU 10).

Last, an emerging theme connected to the rationales and characteristics of the ASU-ITESM relationship, was brought up by senior leader TEC 5. The participant stressed that similarities—a shared vision or similar philosophy—between universities facilitates these types of international relationships. In contrast, the structural differences—curriculum and finances—between public and private universities may hinder such links. One of those differences is the flexibility a university has to accommodate or negotiate on academic and economic aspects of a program. Flexibility on economic aspects will be limited for a public university, particularly when its tuition structure is regulated by the state. Describing a tailored doctoral program that ASU co-designed with ITESM for their top leadership, the participant explained,

In private universities you'll find greater flexibility in their economic structure compared to public universities. In private universities it'll be harder finding academic flexibility than in the public ones, I think [...] In example, with ASU negotiating the curriculum was easy, 'what if we include that course?' ... but the

financial aspects of it, ‘it’s going to cost that much because the State charges’ ... it was more difficult. (PTEC 5)

### **Summary of Semi-structured Interviews: Enacted Rationales**

This study on the rationales shaping the ASU-ITESM relationship was undertaken with an interpretive approach to policy analysis. The approach explores contrasts between the meanings in “authored” texts—intent of the policy by its creators—and “created” texts—local knowledge and other interpretations by communities of meaning (Yanow, 2000, pp. 8-9). For the purpose of this study, participants’ explanations become the *enacted* rationales driving the ASU-ITESM relationship. The enacted rationales refer to the actual rationales the participants acted upon.

The analysis of the semi-structured interviews provided evidence on the type, scope, and priorities of rationales as reported by faculty, administrators, and senior leaders participating in the international relationship between universities. In addition, the analysis drew evidence from key characteristics and influential factors that participants reported on regarding the international relationship.

### **Type and Scope of Rationales**

The rationales or motivations consist of beliefs and attitudes that provide direction to the international relationship and shape actions and interactions taking place. Rationales driving the ASU-ITESM relationship consist of values, interests and needs, and expected benefits. These types of rationales intertwine which makes their categorization challenging. For instance, values frame interests and expected benefits. Two examples from the study are provided next.

If internationalization is regarded as valuable, it is possible that participants will conduct internationalization efforts because they provide students with a global perspective education and with international experiences and because add academic value to the student as several participants indicated for the ASU-ITESM relationship. In another example, when both universities have a keen interest or need in certain academic fields or activities of practice (i.e., research in biotechnology or formation of entrepreneurs), possibilities are such that interests or needs will be reflected in specific programs and initiatives in the international partnership; as it did in the ASU-ITESM relationship.

As for scope, interests or needs can be broad or specific. They apply to the relationship overall or to specific programs within. Similarly, expected benefits aim at individual (e.g., students and faculty), organizational (e.g., university or academic units), or community/societal levels. An attempt to categorize the values, interests and needs, and expected benefits driving the ASU-ITESM relationship is shown in Table 20.

Table 20

*Types and Scope of Rationales for the ASU-ITESM Relationship*

Rationales: Values, interests and needs, and expected benefits
<i>Values</i>
Presidential initiative is top priority; whether promoted-facilitated or mandated-decreed Internationalization/global engagement in fulfillment of the university mission/principles Global connectedness and visibility (e.g., rankings); international relationships as the means to (e.g., institutional branding and status) Academic excellence and innovation in research, teaching, and service; internationalization contributes to Multidisciplinarity and social embeddedness while internationalizing Efficiency approach: By partnering maximize resources and strengths; minimize costs Resource self-sufficiency: Recruitment of students; entrepreneurship as wealth creation Economic motivation: Income or profit generation not important
<i>Interests and needs</i>
Develop initiatives in online education, face-to-face programs, and entrepreneurship; joint seed funding program for research Develop programs in entrepreneurship; for acquisition skills (e.g., students); institutional metrics (e.g., student employability) and wealth creation (e.g., community economic growth) Utilize synergies—within ASU-ITESM—to create international opportunities for students and faculty Instill a global perspective in students; provide them with international experiences “Globalize” faculty; facilitate collaborations between our faculty and faculty abroad Knowledge production in selected areas; genuine interest in knowledge Mutual learning from exchanging experiences; strong drive for innovation transfer Conduct research that provides applied solutions to societal problems Serve our students with high quality experiences in both face-to-face and online programs Engage in community outreach with social programs
<i>Expected benefits</i>
-Scope: Students, researchers, and faculty Student exchange opportunities; global perspective and international experiences enhances future employability Multidisciplinary education; acquisition of skills in demand (e.g., entrepreneurship; multi-modal learning) Collaborations between our faculty and faculty abroad -Scope: Academic units or the university as a whole Internationalize the university multi-dimensionally; take a holistic approach to internationalization Partnering contributes to our excellence; quality improvement; makes our institution stronger Launch entrepreneurship collaborations between both universities such as business incubators, venture capital clubs, and technology parks Strengthen graduate level research and programs; generate joint publications (*) Attain rankings for an undergraduate level program (*) Develop school brand; attract Ph.D. level students to our programs (*) -Scope: the society; communities served by the universities Launch entrepreneurship programs that contribute to wealth creation (e.g., student employability; economic growth) Engage in community outreach with social programs Contribute to the development of the communities; solve pressing issues with applied solutions

*Note.* Also for scope, “(\*)” indicates rationales intended for specific programs; whereas the rest apply to the ASU-ITESM relationship overall.



## **Priorities of Rationales**

The analysis of the interviews also drew evidence on the priorities rationales have driving the relationship between ASU and ITESM. High, moderate, or low priority was determined on the recurrence of rationales were mentioned by faculty, administrators, or senior leadership. Table 21 provides a condensed display summarizing the rationales and their priorities across groups.

Table 21

*Priorities of Rationales across Participants' Groups*

Rationale	Priority		
	●●●= High	●●= Moderate	●= Low
	Faculty	Administrators	Senior leadership
Relationship between the presidents; presidential initiative	●●●	●●●	●●●
Internationalization/ global engagement is part of university mission/principles	●●	●●●	●●●
Mutual learning from exchanging experiences; strong drive for innovation transfer; “a partner for us to model after”	●●	●●●	●●●
Provide students with a global perspective education and with international experiences; adds academic value to the student	●●●	●●	●●
Universities have a similar profile or philosophy; a shared vision	●●●		●●●
Conduct research; knowledge production in selected areas	●●●		●●●
Generate revenue from research; attract external funding	●●●		
Internationalize the university multi-dimensionally; a holistic approach to internationalization			●●●
Geographical proximity. Arizona and Mexico historically, economically, and culturally “intertwined”; “good neighbors”			●●●
Engage in community outreach with social programs	●●	●●	●●
Enhance future employability of the student	●●	●●	
Develop initiatives in online and face-to-face education; research and entrepreneurship	●●		●●
Develop programs in entrepreneurship for acquisition skills, institutional metrics, and wealth creation		●●	●●
Utilize synergies to create international opportunities for students and faculty; and to solve pressing issues in both regions		●●	●●
Partnering contributes to our excellence; quality improvement; beneficial use of strengths put together		●●	●●
“Globalize” faculty; facilitate collaborations between our faculty and faculty abroad		●●	
Contribute to the development of the communities both universities serve		●●	

Create larger projects that may demand state governments involvement		••
Economic or financial gain; not important	•	•
Strengthen graduate level research and program joint publications(*)	••	
Rankings for an undergraduate level program (*)	••	
Develop school brand; attract Ph.D. level students to our programs (*)		••
Serve students with high quality experiences in both face-to-face and online programs (*)		••

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(\*) Indicates rationales intended for specific programs; whereas the rest apply to the ASU-ITESM relationship overall.

On rationales' priorities, three patterns emerged across groups of participants; (a) rationales with similar priority across all groups; (b) rationales with a similar priority for different groups; and (c) priority rationales for specific groups. Each pattern is explained next.

(a) Rationales with similar priority across all groups. Participants agree on several rationales having a high or moderate priority. The relationship between the presidents is reported—consistently across all participants' groups—as a high priority motivation driving the ASU-ITESM relationship. In the same way, the need of engaging in community outreach by means of social programs is regarded by all three groups as a moderate priority motivation.

(b) Rationales with similar priority in different groups. A motivation holding a high priority for one group of participants has—at the same time—a moderate priority for another group. For instance, internationalization/global engagement is part of our university mission/ principles and mutual learning from exchanging experiences are both high priority rationales for administrators and senior leadership; but of moderate priority for the faculty group. In comparison,

provide students with a global perspective education and with international experiences is considered a high priority motivation for the faculty group but one of moderate priority for both administrators and senior leadership.

Several rationales are regarded as high or moderate priority by faculty and senior leadership. In example, institutions have a similar profile/philosophy; a shared vision, conduct research; knowledge production in selected areas, and develop initiatives in online and face-to-face education; research and entrepreneurship, but none of them are even mentioned by participants in the administrators' group. In the other hand, administrators and senior leadership hold of moderate priority the following rationales; develop programs in entrepreneurship, utilize synergies to create international opportunities and to solve regional issues, and partnering contributes to excellence; quality improvement.

(c) Priority rationales for specific groups. Few rationales are viewed with high or moderate priority by specific groups. For instance, the rationale generate revenue from research; attract external funding is held exclusively by the faculty group as high priority. Similarly, this group saw rationales such strengthen graduate level research and programs; generate joint publications and attaining rankings for an undergraduate level program as moderate priority rationales. Only the senior leadership group considered high priority rationales like internationalize the university multi-dimensionally and geographical proximity of Arizona and Mexico. Administrators was the only group mentioning—moderate priority—rationales such as goals were multiple and changing, globalize faculty;

facilitate collaborations abroad for our faculty and contribute to the development of the communities both universities serve.

Compiled in Appendix M, these patterns suggest that the participants enacted the rationales of the ASU-ITESM relationship and framed their priority, according to the essential responsibilities of their job position. For example, most of the rationales mentioned by the faculty group were inherently linked to teaching and research activities, particularly rationales regarded by them as high priority (e.g., provide students with a global perspective and international experiences; knowledge production; attract external funding; strengthen graduate level programs).

Participants in the administrators group emphasized rationales related to the creation and management of programs in fulfillment of institutional goals; as implementers they stressed the “multifaceted” nature of the international relationship and of the goals, as “multiple and changing”. Administrators highlighted the need for using the “synergies” created by “partnering.” Their understanding of “academics” leaned toward institution building and quality improvement (e.g., “contributes to our excellence; “it makes our institution stronger). In comparison, faculty regarded collaborating with peers abroad as “part of our activity”; as one participant put it “many partnerships start either from the research side or the education side”. For faculty, “academics” meant produce knowledge and create learning opportunities—experiential (e.g., student exchange) or through the curriculum—to provide students with a global perspective.

Similarly, senior leadership described the rationales and their priority from their perspective. They have a tendency to relate the international relationship to larger goals at the organizational (e.g., the university overall) and societal (e.g., the community) levels. For instance, senior leadership explained the ASU-ITESM relationship in connection to the university's mission statements or design principles and also in connection to a broader geographical, political-economic context. Senior leadership stressed this interinstitutional relationship provides a “holistic approach” to internationalizing the university. Based on the patterns discussed here, it is plausible to claim that their job position and corresponding responsibilities frame the understanding and priority that participants make of the rationales driving the ASU-ITESM relationship.

### **Key Characteristics and Influential Factors**

Two themes emerged in the participants' explanations on the rationales and their priority driving the ASU-ITESM relationship. Characteristics of the international relationship stood out as participants recurrently compared them to other relationships—particularly in terms of their start-up, their range (e.g., depth and width), and their approaches. In doing so, faculty, administrators, and senior leadership referred to the ASU-ITESM relationship as an alliance or partnership and described it as solid, profound, comprehensive, and unique. In sum, participants stressed the strategic status of the relationship departing from their views on a typical or traditional relationship of this type. A summary of the findings on the key characteristics of the ASU-ITESM relationship are shown next in Table 22.

Last, a theme that also emerged in the participants' accounts was the influential factors they saw in the formation of the ASU-ITESM relationship. Several faculty, administrators, and senior leadership mentioned macro-context—consisting of geo-political, historical, economic and socio-cultural factors—that favorably influenced the formation of the relationship between the universities. These include the geographic location (e.g., Arizona is a border state); a sense of “vicinity” and “partners” between Arizona and Mexico (e.g., “very close neighbors”, “closest ally”); and that both regions are “intertwined” in several ways (e.g., history, economy, culture, demographics, politics). Participants also mentioned a favorable political climate preceding the formation of the relationship in which a series of high profile events within federal, state, and university leadership allowed interests and priorities to converge.

Table 22

*Key Characteristics of the ASU-ITESM Relationship Reported by Participants*

Atypical/not traditional versus Typical/traditional	
<i>Start-up</i>	
At the central administration, at the highest organizational level; “because the presidents’ relationship”, “it was developed at the top”	At the faculty level; because research or teaching collaboration
<i>Range</i>	
University to university relationship	Professor to professor; school to school
Pursuing four areas of collaboration: online education, face-to-face programs, entrepreneurship, and research	To establish a closer link between two universities; “utilize the synergies to create opportunities for faculty and students”
Multifaceted; “there are so many objectives”; “more like a global goal, which could have many mini-goals for each different areas”; “a lot of projects”	Specific academic or research collaborations; “one project”
Broad vision: “a grander plan beyond the just individual researchers”; “a grandiose vision”	Narrow focus; “usually focuses in student and faculty exchange”
<i>Approach</i>	
Top-down; “it really filtered down”; “it started like per decree”	Bottom-up (e.g., faculty to senior leadership)
Bottom-up and top-down; “there were relations at the faculty level but was set as strategy for bi-national relationships by the President”	
Centralized-decentralized; relationship initiated by the central administration but balanced with projects “very grounded at the department level”	Decentralized (e.g., at the faculty or academic unit level)
Quality versus quantity; selected projects; “not massive numbers but strategic links”	Quality and quantity; volume is important for some projects (e.g., student exchange).
Applied or hands-on; provide applied solutions; “committed to the development of their communities in an applied way; not only in academics... but also with projects that aim to generate change”	Conceptual or theoretical contributions
Holistic; “it involves every aspect of the way the university does its business”	Specific; student and faculty exchange; faculty-to faculty research collaborations
<i>Descriptor</i>	
“strategic alliance”	“international linkages”
“solid alliance”	“research partnership/ research relationship”
“profound alliance”	“international partner”
“very active and important”	



“relevant”  
“multidimensional”  
“multi-faceted”  
“comprehensive”  
“poster child for what a relationship is”  
“strategic partnership”  
“strategic collaboration”  
“more than just an agreement on shared research”

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Participants also mentioned the organizational context of both universities as influential to the ASU-ITESM relationship. They stressed the structural differences between public and private universities that may facilitate or hinder the advancement of international relationships. Examples of such differences are both tuition and curricular structures, and the flexibility or restrictions a university has to accommodate for programs created under international relationships. Only mentioned by a handful of participants—administrators and senior leaders—these and other factors that are part of the mezzo-context deserve further investigation. A summary of the influential factors, macro and mezzo, are displayed in Table 23.

Table 23

*Influential Factors: Macro and Organizational Context*

Influential factors
Macro-context
<p><i>Geo-political:</i>            Preceding high profile events and visits: Mexican President, V. Fox to Arizona; Arizona Governor, J. Napolitano to Monterrey (Mexico); ITESM President of the Board, L. Zambrano to ASU            Convergence of institutional and government priorities at the time            Similar needs and complementarities between both universities and their regions            “because of the geography, the border proximity, and their Hispanic community”            “obviously, Mexico as a natural partner because it was a neighbor”; “it resulted from the fact that Arizona and Mexico are very close neighbors”</p> <p><i>Economic:</i>            Areas of opportunity created by the ‘New Economy’; funding a joint RFP [Request for Proposals] to generate knowledge, “it happened because of the context of the new economy, all that is bio-info-nano technologies”</p> <p><i>Historical, cultural, economic, and political:</i>            “Arizona as a place and Mexico are deeply, historically and culturally, and economically intertwined”; “Mexico is Arizona’s closest partner, closest ally, strongest cultural signal, strongest immigration source”</p>
Mezzo-context
<p><i>Structural differences of public and private universities:</i>            Financial and curricular flexibility a university has to accommodate or negotiate for a program.            Financial flexibility: more likely limited in a public university (e.g., tuition structure is regulated by the State)            Curricular flexibility: more likely limited in a private university (e.g., curriculum highly centralized)</p>

## **CHAPTER 5**

### **Conclusion and Research Implications**

#### **Summary of Findings**

A review of the literature showed that international higher education has been insufficiently investigated; moreover, there have only been a few studies that examine the rationales driving international cooperation arrangements between universities. A clear understanding of rationales is necessary because, “they dictate the kind of benefits or expected outcomes one would expect from internationalization efforts... rationales are reflected in the policies and programs that are developed and eventually implemented” (Knight, 2005, pp. 14–15).

This qualitative study investigated the rationales shaping the international relationship between ASU and ITESM. The investigation focused on examining the meanings that the selected participants attached to those rationales. The ASU-ITESM relationship, taking place between a public research university in the U.S. and a private not-for-profit research university in Mexico, illustrates the current complexity that internationalization of higher education faces as a result of globalization.

The conceptual framework guiding this investigation draws on several concepts of internationalization of higher education (de Wit, 2002; Knight, 2004) and an interpretive approach to policy analysis (Yanow, 2000). Qualitative methodologies were utilized for data collection and analysis. Data consisted of institutional policy documents, a ranking survey, and semi-structured interviews with selected participants. Participants consisted of faculty, administrators, and

senior leadership involved in the international relationship; a total of twenty people were both polled and interviewed.

A deductive content analysis guided by de Wit's (2002) and Knight's (2004) typologies of rationales was conducted on the overarching agreement and its addendum ruling the ASU-ITESM relationship. Also based on those typologies, a ranking survey assessed the participants' interpretation of the rationales and their priority driving the international relationship between both universities. To identify patterns, responses were organized by participants' groups (e.g., faculty, administrators, and senior leadership). An inductive analysis—open coding of recurrent themes, forming categories—was conducted on the semistructured interviews. This analysis also probed open-responses provided by participants in the ranking survey; which resulted from high priority rationales (Appendix M).

This study demonstrated that the rationales of the ASU-ITESM relationship are multilayered, dynamic, and complex. They have a function and several meanings attached. Rationales operated on the relationship as declared, interpreted, or enacted; and they did so according to the meanings—type, scope, priority—that participants attached to them.

Institutional policy documents are carriers of meaning (Yanow, 2000). Evidence revealed that declared rationales were embedded in institutional policy, such as the overarching agreement and addendum. In those documents, rationales for the ASU-ITESM relationship were expressed in an ideal form by the authors; mostly senior leadership with sporadic input from administrators and faculty. The

declared rationales and their priority were interpreted by the participants mediated by their sense making processes (e.g., organizational identity, personal inclination, influence of macro and mezzo context). Based on such mediation, interpreted rationales become the enacted rationales; these are the real rationales, those the participants acted upon.

At this point, two propositions—which are based on the data set analyzed for the ASU-ITESM relationship—are worth clarifying. First, the unfolding of the declared-interpreted-enacted rationales described above does not necessarily occur in a linear way, because participants may interpret other rationales than the ones declared in institutional policy. Second, the declared rationales simultaneously have symbolic and literal (or pragmatic) implications. On one hand, they provided a vision for the relationship and also a sense of purpose and of commitment to the partnering institution. On the other hand, the declared rationales outlined a framework to focus actions and shape interactions such as strategies (e.g., setting the “rules of the game”, defining priority areas) and a structure (e.g., staffing and responsibilities).

In addition, findings showed that rationales shaping the ASU-ITESM relationship have meanings—of type, scope, and priority—attached. Different types of rationales, according to both the literature and the participants, were identified across the sets of data. Evidence was found in the documents that illustrated (e.g., according to de Wit, 2002) mostly academic and economic types of rationales; but infrequently, political and social/cultural rationales. Examples were also found that supported (e.g., according to Knight, 2004) mainly rationales such as strategic

alliance, student and staff development, and knowledge production; and less frequently institutional branding and profile, and income generation rationales.

Participants' interviews also provided evidence on rationales' meanings, which took the form of values, interests and needs, or expected benefits. Their classification was challenging; for instance, values—understood as an attitude or posture—frame interests, needs, and expected benefits. Values prevailing in the ASU-ITESM relationship included presidential leadership and authority; university mission; global connectedness; academic excellence and innovation; multidisciplinary and socially embedded education; knowledge production, resource efficiency; and financial selfsufficiency.

Interests and needs are beliefs about useful areas or processes that are desirable to have, thus deserving attention. Evidence from participants' interviews drew on interests and needs in the international interuniversity relationship. These included: the development of initiatives in online and face-to-face education, entrepreneurship, and research; the utilization of synergies to create international opportunities of high quality for students and faculty; instillation of a global perspective in students; the creation of knowledge production in biotechnology, water, and energy; the creation and implementation of research-based solutions to societal problems; engagement in community outreach through social programs; and the exchange of best institutional practices as part of mutual learning and cross-innovation transfer.

The last type of rationale, expected benefits, are the hopes and wishes on incentives that will give rise to an advantage or profit as a result of the partnership.

Examples of expected benefits are provided next as they also illustrate the scope of such rationales. In scope, rationales can be broad, as a vision for the international relationship overall or specific, as goals for the initiatives within. Scope also concerns the individual, organizational, or societal levels expected benefits pertain to. Evidence showed expected benefits of the ASU-ITESM relationship were aimed at students, researchers, and faculty. The expected benefit for students is that they obtain a global perspective and receive a multidisciplinary education, along with skills that are in demand in the job market (e.g., entrepreneurship; multi-modal learning). Furthermore, students' future employability is enhanced by means of foreign exchange and other international exposure opportunities. Expected benefits for researchers and faculty included the provision or facilitation of international experiences consisting of faculty exchange, teaching and research collaborations abroad, opportunities to jointly attract external funds.

Other benefits targeted the entire university or academic units. The evidence illustrates that participants—at both universities—expected that the ASU-ITESM relationship would help to internationalize each university multidimensionally; and it would also contribute to academic excellence and quality improvement by strengthening each university's own capacities (e.g., sharing expertise and infrastructure in entrepreneurship, research, and online education). Evidence also showed benefits were expected for specific programs at the undergraduate (e.g., attain rankings) and graduate levels (e.g., generate joint publications) and for specific schools (e.g., develop school brand; recruitment of international students). Last, evidence showed that there are also expected benefits for society as a result of

the ASU-ITESM relationship. These include: economic growth by means of entrepreneurship and educational programs; the development of communities by offering social programs; and using applied solutions to address pressing issues common to both regions (e.g., Arizona and Nuevo Leon, Mexico).

Priority is another layer of meaning that participants attached to the rationales. Evidence of high, moderate, or low priority was found in the declared, interpreted, and enacted rationales. In declared rationales, priority consisted of the frequency of text passages—illustrating de Wit (2002) and Knight (2004) typologies—found in the policy documents examined. Utilizing de Wit’s typology, the analysis per category demonstrated academic rationales were a high priority, economic rationales a moderate priority; whereas both political and social/cultural rationales are a low priority.

Under de Wit’s typology, the analysis of individual rationales—instead of categories—demonstrated that an international dimension to research and teaching (e.g., a type of academic rationales) is a high-priority motivation. In this analysis, findings also showed a combination of several academic and economic rationales held moderate priority. These included: extension of academic horizon, and institutional building (e.g., academic rationales); economic growth and competitiveness; and financial incentives (e.g., economic rationales).

A similar combination was found for low priority rationales including select economic (e.g., labor market), academic (e.g., profile and status, international academic standards), and political rationales (e.g., technical assistance). Following the same analytic procedure, evidence was not found for



rationales such as enhancement of quality (e.g., academic); national education demand (e.g., economic); social learning/personal development; national/cultural identity (e.g., social/cultural rationales), and all political rationales except technical assistance mentioned earlier. Still, those motivations were considered low priority.

Declared rationales, which were also analyzed utilizing Knight's (2004) typology, provided evidence for strategic alliance as a high-priority motivation. Additionally, findings showed that other Knight (2004) rationales are of moderate priority: student and staff development; income generation; and knowledge production. Last, institutional branding and profile was a low-priority rationale.

For interpreted rationales, the survey showed that participants ranked academic (de Wit, 2002) and strategic alliance (Knight, 2004) rationales as high priority. In comparison, participants viewed the rationales, economic and social/cultural (de Wit, 2002), institutional branding and profile, student and staff development, and knowledge production (Knight, 2004) as a moderate priority. Last, the ranking survey demonstrated that participants regarded political (de Wit, 2002) and income generation (Knight, 2004) rationales as low priority.

Enacted rationales more evidently showed the priorities attached by each group of participants. Evidence from semistructured interviews revealed how rationales were prioritized by faculty, administrators, and senior leadership. Only the rationale that pertained to the relationship between the universities' presidents (e.g., "because the relationship between the Presidents; a presidential initiative") was common to all groups as a high priority. Other than that, explanations of

rationales considered high priority are fragmented among groups. Faculty and senior leadership share high-priority rationales that relate to research, knowledge production, and the fact that both universities have a similar profile or philosophy. On the other hand, administrators and senior leadership regarded both universities having a similar mission or principles and also a keen interest in mutual learning of best organizational practices and innovation transfer as high-priority rationales.

Evidence from the interviews also supported that other rationales were regarded as high priority by either faculty or senior leadership groups. Faculty stressed rationales related to the international dimension of curricular and extracurricular activities and to research revenue and external funding issues. Senior leadership focused on rationales such as internationalizing the university multidimensionally and explaining the relationship as a result of the regional context.

Findings for enacted rationales of moderate priority showed a similar pattern. The rationale related to community outreach by means of social programs was shared by all participants' groups. Aside from that one, explanations on rationales of moderate priority varied among the groups. However, a pattern persists; evidence supported that more frequently than not, rationales are held in common by faculty and senior leadership or by senior leadership and administrators but this trend rarely showed between administrators and faculty. The only rationale that both administrators and faculty viewed of moderate priority was enhancing the future employability of the student.

Similarly, interviews' findings also showed that few rationales were held only by specific groups. For instance, administrators focused on program creation and management to support faculty collaborations, student education, community development, or to strengthen academic units (e.g., brand development, students' recruitment). In comparison, rationales regarded only by faculty concerned the improvement of graduate level programs (e.g., teaching and research, publications) and attainment of program rankings. Faculty regarded the university mission statement/principles and mutual learning and innovation transfer as moderate-priority rationales, both of which were considered high priority for administrators and senior leadership. Last, a rationale considered of moderate priority for senior leadership was the ASU-ITESM relationship providing the opportunity to create larger projects in the future that would require government involvement.

Evidence for enacted rationales of low priority is provided by faculty and administrators. Both groups of participants agreed that economic or financial gain are low-priority motivations—for some participants not a motivation at all—driving the ASU-ITESM relationship. Senior leadership did not indicate whether or not financial gain is a motivation; it did not emerge significantly as a topic in the interviews. On the other hand, faculty regarded the generation of revenue from research and attraction of external funding as a high-priority rationale. Senior leadership and administrators sporadically stressed a need to attract funding from external agencies. These apparent contradictions suggest that participants attach different meanings to economic rationales, depending on perceptions of profit

making or cost recovery. Based on the evidence available from this study, such an assertion is only speculative and requires further investigation.

Last, investigating the meanings associated with the rationales driving the ASU-ITESM relationship provided information pertaining to key characteristics and influential factors. Participants emphasized that the international university alliance departed from a typical or traditional relationship by stressing aspects of its formation, approaches, and range. Similarly, participants suggested influential factors that may facilitate or hinder the formation and implementation of additional university alliances. This theme emerged in the participants' interviews; however, its study exceeds the limitations of this dissertation and need to be investigated separately.

### **Limitations of the Study**

Many characteristics of universities are globally uniform; for instance, they are affected by similar transnational forces (Ollikainen, 1996). However, the findings of this study need to be assessed in the light of its limitations. The purpose of this study was not to generalize but explore, document, and interpret the rationales—their functions and meanings—shaping the ASU-ITESM strategic alliance. Nevertheless, findings should be considered despite methodological limitations. The typologies (de Wit, 2002; Knight, 2004) used in the document analysis and in the ranking survey are internationalization rationales; in this study they were applied to international, university alliances. Several implications to such an exploratory approach are explained next

First, in the typologies used, some rationales had a broader definition than others, such as the international dimension to research and teaching (e.g., a type of academic rationales; de Wit, 2002). The definition for that specific rationale encloses many internationalization activities taking place in the ASU-ITESM, strategic alliance. As a result, it accounted for plenty of evidence across the different sets of data and resulted in a high-priority rationale.

Second, some categories are narrow or tend to merge with others. For example, enhancement of quality (e.g., a type of academic rationales; de Wit, 2002), aims to internationalization high-quality initiatives. It was not supported by the evidence. A potential explanation for such lack of evidence is that participants perceived it implicitly in either of the rationales, international academic standards or the international dimension to research and teaching. This supports Knight's (2004) explanation that rationales intersect categories.

Third, some rationales are more relevant to the national than institutional level. Categories of social/cultural and political (e.g., except technical assistance) rationales were not supported by the evidence. There are two potential explanations for this lack of evidence. One is that current definitions provided by the typologies make political rationales more relevant at the national level than at the institutional level (national education demand, national/regional identity, foreign policy, peace and mutual understanding). As for social/cultural rationales, definitions for this category still embody the spirit permeating academic cooperation in postwar periods (e.g., Cold War). This category could benefit from being disaggregated into several types of rationales (e.g., like the academic or

economic categories); and also from being updated with concepts such as *global citizenship*, *service learning*, and/or *multiculturalism* to reflect current social/cultural motivations.

This investigation made several contributions to the field of international higher education. At the same time, it provides opportunities for future research; these ideas are expanded next.

### **Contributions of the Study**

This investigation made several conceptual, methodological, and practical contributions to the field of international higher education; specifically to studies on international cooperation arrangements between universities. Conceptually, it expanded current understanding of the rationales shaping university strategic alliances in several ways. First, by uncovering the functions (e.g., declared, interpreted, and enacted) and meanings (e.g., scope, type, and priority) attached to the rationales. Previous studies only looked at a single level of meaning for rationales. Second, by supplying characteristics (e.g., formation, approaches, and range) of an international strategic alliance in higher education, existing definitions are complemented as well; for instance, Knight's (2004) strategic alliance. Third, the study contributed conceptually by proposing potential models—compulsory or purposeful—for international inter-university relationships. In this regard, Ollikainen (1996) suggested similar cross-forces taking place in internationalization of Finish universities. These conceptual contributions have practical implications that are addressed at the end of this section.

Methodologically, the study also makes the following contributions. First, interpretive approach to analyze different sets of data was innovative, because Yanow's (2000) approach to interpretive policy analysis allowed multiple interpretations and focused on the different meanings that policies have as "authored" and "constructed" texts (p. 9). In the end, utilizing such an approach led to identify the transitioning functions of the rationales (e.g., declared, interpreted, enacted). In this investigation, qualitative research was designed to elicit multiple meanings from several perspectives through documents, interviews, and survey data; it was, therefore, interpretive and holistic. Second, this study tested theory utilizing current typologies of rationales in the literature. de Wit's (2002) and Knight's (2004) rationales are vastly cited in many conceptual studies and organizational models for internationalization, but they are rarely applied in a real case of study. Actually, researchers criticize that research on internationalization is still "theoretically thin, and pragmatically oriented" (Ollikainen, 1996; Retrieved on May, 1, 2011 from [http://www.frontiersjournal.com/issues/vol2/vol2-05\\_Ollikainen.htm](http://www.frontiersjournal.com/issues/vol2/vol2-05_Ollikainen.htm)).

In this study of the ASU-ITESM strategic alliance, de Wit's (2002) and Knight's (2004) typologies guided the document analysis and the design of the ranking survey. Evidence matching rationales of the selected typologies was found in the document examination; the ranking survey allowed the different priorities participants to be associated with the rationales. However, it was during the interview analysis that the selected typologies were insufficient to describe several rationales the study participants reported on the ASU-ITESM relationship.

Methodologically it poses two after thoughts; first, the selected typologies were not a good fit for this study. They are after all, internationalization rationales; which is a broader phenomenon than the one under study (e.g., international inter-university relationships). Second, as stressed before in this chapter, the current typologies need to be expanded, incorporating rationales' functions and meanings in order to reflect their complexity and dynamic nature as well as current trends (e.g., as mentioned earlier for the social/cultural rationales categories).

Finally, this investigation also made several contributions to practice. Scholars stressed the importance of understanding rationales of international education and scientific cooperation arrangements (Ollikainen, 1996; Altbach, 2006; Childress, 2009). Rationales represent a driving force; dictate the kind of benefits or expected outcomes; and may or may not be reflected in either a plan of implementation strategies or a monitoring and evaluation system (Knight, 2004).

This study demonstrated that participants associated the rationales with different priorities according to their sense making processes (e.g., organizational identity, personal inclination, influence of macro and mezzo context). A fragmented understanding of the rationales of the strategic alliance among groups (e.g., faculty, administrators, and senior leadership) poses important implications for such internationalization efforts. In this regard, this investigation offers several recommendations to university senior leadership. First, it is crucial that senior leadership realizes the implications a fragmented understanding of rationales among groups has for the implementation of internationalization efforts (e.g., described below). Second, it is also essential that senior leadership examine their



own role in closing the gaps of such fragmented understanding and act accordingly. Senior leadership is the “glue” for rationales between groups. As the evidence showed, they hold similar priorities with either faculty or with administrators. In comparison, faculty and administrators hold different priorities for different rationales, even for the same rationales.

Third, tracking the evidence of declared-interpreted-enacted rationales showed that institutional policy is not self-explanatory; quite contrary, it is subject to multiple interpretations. Senior leadership plays a decisive role assisting a more even interpretation and enactment of the rationales through their communication efforts and by encouraging operative planning that transitions from policy to implementation, and that enables a congruent monitoring and reward system. Fourth, senior leadership is also an important equalizer and should strive to balance compulsory and purposeful models for university alliances and that integrate a more participatory approach. A participatory approach will benefit the different groups to reconcile their sense making process with both the monitoring and the reward system; more importantly it will contribute to a long-term sustainability of such international university relationships.

### **Conclusion**

This study attempted investigating the rationales of the ASU-ITESM relationship. In doing so, this investigation addressed the complex and dynamic rationales, their functions (e.g., declared, interpreted, enacted) and meanings (e.g., type, scope, and priority); and the characteristics of this international inter-university relationship.

## **Transitioning Rationales**

In sum, the ASU-ITESM relationship is an international strategic alliance or partnership shaped by a set of rationales that transition as declared, interpreted or enacted. Declared rationales provide a sense of direction and purpose to the international university alliance; and they outline strategies and structures that shape actions and interactions. Interpreted rationales offer indications of the participants' sense making of the rationales and priority they assigned to them. Declared rationales are the motivations that the participants act upon.

On the other hand, the rationales of the ASU-ITESM relationship have different meanings attached based on scope, type, and priority. Rationales pertaining to scope concern the university alliance overall or to specific projects within. Of type, rationales consist of values, interests and needs, and expected benefits. Specifically, for the ASU-ITESM relationship these are mainly academic (e.g., high priority) but are closely followed by economic ones (e.g., moderate priority), oriented more to resource efficiency than to profit making. The competition between academic and economic rationales for priority is an indication of the pressures of globalization on higher education. See, for instance, evidence found for economic rationales such as de Wit's (2002) economic growth and competitiveness and financial incentives and Knight's (2004) institutional branding and profile.

Participants across groups recurrently referred to the relationship between universities as a strategic alliance or strategic partnership when stressing its atypical characteristics of formation, approaches, and range. Interviewed

participants described the alliance as a mechanism or platform that contributes to achieving the university's mission or the presidents' mandates. In this alliance or partnership, goals are multiple and changing with an emphasis on education (e.g., curricular and extracurricular programs), research initiatives, and entrepreneurship permeated by a "mutual learning" spirit that led to innovation transfer (e.g., best practices). Participants stressed this strategic alliance or strategic partnership allowed the university to internationalize multidimensionally by means of a holistic approach serving students, faculty, and the community. Interviewees added that although the strategic alliance was actively promoted by the presidents, a combination of approaches to it took place (e.g., bottom-up, decentralized, applied solutions). Such approaches reflected that (a) input from faculty and administrators and (b) grounding projects at the academic department level were both incorporated into the process. These findings are for the most part consistent with Knight's (2004) description of a strategic alliance; which she explained as an institutional-level rationale of emerging importance.

Evidence also suggested factors considered by the participants as facilitating or hindering the advancement of the relationship including geo-political, economic, historical, and socio-cultural factors (e.g., macro-context) as well as the university's organizational characteristics and structural differences (e.g., of the mezzo-context). Those influential factors are based in the ASU-ITESM strategic alliance; however, they emerged tangentially during the study and generalization should withhold until further research is conducted on this topic.

Last, this investigation suggested that two forces are at play in the ASU-ITESM strategic alliance or partnership. One pursues the decided intent of two university presidents (e.g., compulsory-driven). The other seeks to fulfill each university's principles of internationalization or global engagement (e.g., purpose-driven).

As mentioned by participants, a compulsory model for international interuniversity relationships is promoted, filtered, or brokered down by the president of the university or senior leadership. In this model, a university alliance follows a top-down approach and is centralized by the top administration with little or no input from faculty; it is the "by decree" approach. In comparison, a purposeful model is led by the university mission or principles. It has a wide span, including educational and research opportunities for students, faculty, researchers, entrepreneurship, and social programs for community outreach. This model takes several approaches that include a combination of bottom-up, top-down, and a decentralized flow. It incorporates participation from faculty and from potential stakeholders (e.g., students, users of community programs). More importantly, in this model, a university alliance aims at self-generated, self-motivated, self-sustainable initiatives instead of the creation of an artificial—often costly—structure to support such international interuniversity arrangements. Participant TEC\_7 rightly synthesized these ideas with an analogy on "universities as big planets,"

It's very difficult to maintain a relationship stable. It's hard, because there are cycles, they are cycles that last and then end. It's

natural that relationships are cyclical, right? It's natural because universities are like, like big planets. They have their own trajectories ... as in planets there are times when they get close, but they are spinning in the universe with their own trajectory. They spin around very important local, regional, and national interests... I think it is something for the universities to mutually learn from, right? To identify collaboration opportunities that are self-generated, self-motivated, and self-sustainable... so you don't have to assemble a whole structure to support them and that costs money. (PTEC\_7)

Ideally, a purposeful model—aiming at self-generated, self-motivated, self-sustainable initiatives—would prevail when engaging in university alliances or partnerships. However, the conceptualization this investigation proposes of a purposeful or compulsory model is at this point embryonic and represents a study on its own, worth being further investigated.

### **Implications for Future Research**

The purpose of the study was to explore the rationales, their functions and meanings, and how they shape international, university alliances. In doing so, several lines emerged for future research on this type of international arrangements in higher education; related issues requiring further study are described next.

**Participants' interpretation of rationales' priorities.** Comparing evidence from participants' groups (e.g., faculty, administrators, and senior

leadership) suggested that several factors influence the interpretation of rationales' priorities. It is possible that participants frame rationales and their priority according to their organizational affiliation (e.g. job position responsibilities); personal inclination (e.g., favorable or unfavorable attitude toward internationalization), and sense making of contextual factors (e.g., macro and mezzo context). It is important to continue investigating these issues because they have implications in the formation, implementation, and monitoring of international, university alliances. For current studies on internationalization processes in higher education, see Bartell (2003) (e.g., individual and collective interpretation); Sporn (1999) (e.g., organizational culture and managerial practices); and Taylor (2004) (e.g., internal and external factors in internationalization planning).

**Contradictions on economic motivations.** Findings showed apparent contradictions of different meanings that participants attach to economic rationales. On one hand, faculty and administrators stressed a need to attract funds via technical, assistance projects of external agencies. There were also expectations of generating revenue from research (e.g., patents or grants). On the other hand, faculty and administrators also explained financial motivations were a low priority shaping the strategic alliance between universities; moreover, some participants said that it wasn't a motivation at all.

For instance, in the document analysis, the rationales, economic (de Wit, 2000) and income generation (Knight, 2004), were a moderate priority. In the ranking survey, economic rationales were a moderate priority; whereas income

generation (Knight, 2004) was a low priority. In the semistructured interviews, both economic and income generation rationales were a low priority. This evidence suggests there are different meanings—profit making or cost recovery—attached to this type of rationales that require further investigation.

**Compulsory versus purposeful model.** Participants recurrently reported that the alliance between the universities resulted from the relationship between the presidents. The Presidents actively promoted it; some accounts even report the alliance started by decree. At the same time, evidence showed different motivations shaping the ASU-ITESM relationship. These include: the fulfillment of the university mission; to provide students and faculty with international academic and research opportunities; and to learn from the institutional counterpart, among others. These forces suggest compulsory and/or purposeful models for international, interuniversity relationships that need to be investigated. Also other lines of related inquiry remain. The role of the presidents' leadership in shaping university internationalization should be examined. The inclusion of participatory approaches in the formation and implementation of these types of international linkages between universities should also be looked at more closely in future studies.

**Sustainability of international university, strategic alliances.** Another line for future inquiry is to investigate in depth the sustainability of international, arrangements in higher education. Whether or not any of the approaches reported by the participants (e.g., bottom-up, decentralized, applied solutions) and/or the compulsory and purposeful models proposed in this study contributes favorably to

the long term sustainability of international university, strategic alliances deserves to be further investigated.



## Epilogue

As of July 2011, the ASU-ITESM strategic alliance continues advancing although not at the same activity level it had prior the recent macro-level crises (e.g., economic crisis of 2009, AH1N1 sanitary emergency of 2009, U.S. State Department travel alerts and warnings for Mexico). Both universities have undergone important restructuring—budgetary and organizational—to cope with such events. Implications for the university alliance are many, including the displacement of key participants (e.g., changing jobs in and out of the universities; work overloads with additional responsibilities) and putting existing initiatives to a halt (e.g., student exchange programs; dual programs).

Select initiatives remain active, such as the Community Learning Center, the Water Initiatives Consortium, and the Black and Green Belt Six Sigma Certifications. The relationship between the presidents of Arizona State University (ASU) and Tecnológico de Monterrey (ITESM) has continued to develop. ASU President Michael Crow visited ITESM in February 2011 as keynote speaker for the ITESM Board of Trustees National Conference in Monterrey, Mexico. Similarly, senior leaders from ITESM visited ASU in May of 2011 to initiate a broad collaboration between ASU Global Institute of Sustainability and the upcoming Institute of Sustainability of ITESM. Also, activity among faculty is reported; for instance teams of researchers that worked together in the several *Request For Proposals* jointly launched by ASU and ITESM in past years.

However, recent developments challenge once again the viability of the ASU-ITESM strategic alliance. In June 2010, ITESM's President Rafael Rangel announced his retirement from the university after serving 25 years in that position. It expected the new ITESM President will take office in September 2011. This investigation provided evidence on the personal relationship between the presidents as a high priority rationale—consistently reported by all participants groups—shaping the international strategic alliance between universities. It is still to be seen if the ASU-ITESM strategic alliance will transcend such leadership change.

International university relationships like the one studied here, stress the need to pursue these strategic endeavors with a purposeful rather than a compulsory model. Hopefully, that will contribute to their long term sustainability in spite of a constantly changing environment at the macro and mezzo levels.

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APPENDIX A

DESCRIPTION OF ARIZONA STATE UNIVERSITY

Founded in 1885, Arizona State University is a multi-campus, research university located in the Phoenix metropolitan area. For the Fall 2010 period, ASU's total enrollment, which includes its Tempe, West, Polytechnic, and Downtown Phoenix campuses, was 70,440 students.

*Mission and principles.* ASU's mission is "to establish ASU as the model for a New American University, measured not by who we exclude, but rather by who we include; pursuing research and discovery that benefits the public good; assuming major responsibility for the economic, social, and cultural vitality and health and well-being of the community" (ASU, 2010).<sup>21</sup>

The New American University is a foundational model launched by ASU in 2002 as the "new gold standard" (ASU, 2002) for American Higher education. By employing this model, which consists of eight principles or design aspirations, ASU seeks to "promot[e] excellence in its research and among its students, faculty, and staff, increase access to its educational resources, and work with communities to positively impact social and economic development" (ASU, 2010x).<sup>22</sup> The eight principles of ASU's New American University model are: (1) Leverage [its] place: [whereby] ASU embraces its cultural, socioeconomic, and physical setting; (2) Transform society: ASU catalyzes social change by being connected to social needs; (3) Value entrepreneurship: ASU uses its knowledge and encourages innovation; (4) Conduct use-inspired research: ASU research has purpose and impact; (5) Enable student success: ASU is committed to the success of each unique student; (6) Fuse intellectual disciplines: ASU creates knowledge by transcending academic disciplines; (7) Be socially embedded: ASU connects with communities through mutually beneficial partnerships; and (8) Engage globally: ASU engages with people and issues locally, nationally, and internationally.

*History.* ASU was founded in 1885 as a Normal School in Tempe, Arizona for the purpose of preparing teachers for the Arizona Territory. The Normal School experienced increased growth after 1911 because of the industrial development and population growth experienced by the region upon completion of the Roosevelt Dam. Hopkins and Thomas, Jr. (1960)<sup>23</sup> account for the Normal School's subsequent transformation as follows: "It developed into a Teachers College in 1925 and expanded to Arizona State Teachers College in 1929, and after a battle, it expanded in 1945 under Dr. Gammage's leadership into the multi-

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<sup>21</sup> Arizona State University Mission and Goals. Retrieved on 3/28/11 from <http://president.asu.edu/about/asuvision>

<sup>22</sup> ASU, 2010. A New American University. Retrieved on April 5, 2010 from [http://www.asu.edu/pb/documents/A New American University.pdf](http://www.asu.edu/pb/documents/A%20New%20American%20University.pdf)

<sup>23</sup> Hopkins & Thomas, Jr. (1960). The Arizona State University story. Publisher: Place.

purpose Arizona State College at Tempe” (p. ix).<sup>24</sup> The university’s status—and therefore, its current name, Arizona State University—was granted in 1958 by means of direct vote through a statewide election.

A second period of important growth came to Arizona State College during the postwar years. In fact, by 1960, enrollment reached 11,128 students. And after the school acquired university status, the newly christened Arizona State University began granting Ph.D. degrees and established new programs which undertook research as a priority. “Between 1958 and 1980, ASU reorganized, expanded, built, and grew [...] and in the ’80s began taking on research” (Crow, 2008).<sup>25</sup> During the latter part of the twentieth century, in fact, two events came to strengthen ASU’s research profile. In 1985, the Arizona Board of Regents (ABOR) mandated that ASU become a research university. Then in 1994, ASU received Research I university status from the Carnegie Foundation. This status enabled the university to achieve major financial support for research projects by means of grants and contracts.

To respond to the challenges associated with its expanding enrollment and its increased research activity, ASU was forced to build new infrastructure. The West Campus started in 1989, and the ASU East Campus opened in Fall 1996. Also, between 1990 and 2002, then-ASU President Lattie F. Coor emphasized what he termed the “four pillars,” namely undergraduate education, research, cultural diversity, and economic development.

*Leadership and governance.* In 2002, Michael M. Crow succeeded Coor to become ASU’s 16<sup>th</sup> president and promptly led the school through a major transformation using the New American University model explained above. Before joining ASU, he was Executive Vice Provost of Columbia University, and Professor of Science and Technology Policy in the School of International and Public Affairs. He holds a Ph.D. in Public Administration (Science and Technology Policy) from the Maxwell School of Citizenship and Public Affairs, Syracuse University, New York, and a B.A. in Political Science and Environmental Studies from Iowa State University. In 2010, *Time* magazine named President Crow one of the 10 best college presidents in the U.S., based on ASU’s accomplishments under his leadership.

ASU is governed by the Arizona Board of Regents (ABOR)<sup>26</sup>. State funds that comprise the university’s budget are proposed by the state’s governor and

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<sup>24</sup> By “battle” the authors referred to the political conflict generated by the State Legislature’s and the Board of Regents’ conflicting views as to the legitimacy of the university’s name and status change requests.

<sup>25</sup> President M. Crow interviewed in the article “50 Years ago: Voters endorse Proposition 200” by T. Muggeridge, in *The State Press*, Vol. 95, November 4, 2008, Arizona State University.

<sup>26</sup> The Arizona Board of Regents (ABOR) is a 12-member board created under the Arizona Constitution as the governing body for the State of Arizona’s public university system, which includes Arizona State University, Northern Arizona University, and the University of Arizona.

require approval by its state legislature. For the Fiscal year 2010 [FY2010], ASU's revenue is \$1,607.20 million, of which 25 percent is from state appropriations.<sup>27</sup> For the same period, ASU endowments are estimated at \$441 million.<sup>28</sup> As a result of the economic recession of 2008, ASU's state funding has been cut by \$104 million (accumulative in 2010), which represents a 50 percent reduction in per student funding.

ASU's leadership includes the Executive Vice President and Provost of the University, the Executive Vice President, the Treasurer and Chief Financial Officer, the Secretary of the University, the General Counsel, six Vice Presidents, and sixteen Deans.<sup>29</sup> As of January, 2011 ASU is organized into sixteen schools and fifty-five academic departments.

*Teaching and research.* As of Fall 2010, ASU listed a total enrollment of 70,440 students (80.3% undergraduate, 19.7% graduate)<sup>30</sup>, distributed across its four Campuses in the Phoenix metropolitan area. The founding campus is located in Tempe, West Campus in North Phoenix, Polytechnic Campus (originally, ASU East) in Mesa, and the Downtown Phoenix Campus in Phoenix. In addition, ASU has an Online Programs unit, often called "ASU's fifth campus," which offers more than thirty undergraduate and graduate degrees, some in conjunction with other ASU colleges and schools. ASU's Fall 2010 enrollment and its enrollment goals for year 2012 are shown in Table 24.

Teaching and research activities at ASU are assessed under its institutional mission and the New American University model. As for teaching, ASU seeks to fulfill its mission by delivering "an excellent education to students from all racial, ethnic, and economic backgrounds" (ASU, 2010, p. 1).<sup>31</sup> In Fall 2008, ASU's student to faculty ratio was 23:1. Also, with improving "access" now one of the university's stated goals, minority enrollment increased 7.3 percent from 2008 to 2009. Minorities comprised 27.3 percent of total student body in 2010. 68 percent of ASU undergraduate students received financial aid in FY2009. In addition, ASU awarded a record \$635 million in financial aid, \$238.6 million of it in the form of scholarships and grants to some 35,741 recipients in FY2009.

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<sup>27</sup> Arizona State University 2010 Financial Report. Retrieved on 3/28/11 from [http://annualreport.asu.edu/finance\\_charts\\_.pdf](http://annualreport.asu.edu/finance_charts_.pdf)

<sup>28</sup> Ibid

<sup>29</sup> Some of them hold additional positions such as Dean and Director; Executive Vice Provost and Dean; University Vice President and Dean; or Vice Provost and Dean.

<sup>30</sup> Quick Facts, Fall 2010 (ASU, 2010). Retrieved on 3/28/11 from <http://uoia.asu.edu/quick-facts>

<sup>31</sup> Arizona State University Accomplishments FY2010. Retrieved on March 28, 2011 from <http://annualreport.asu.edu/Arizona-State-University-Accomplishments-FY2010.pdf>

Table 24

*Arizona State University enrollment Fall 2010 and goals for year 2012*

<b>Campus</b>	<b>Fall 2010</b>	<b>Goals for year 2012</b>
Tempe	58,371	50,000
West	11,813	15,000
Polytechnic	9,752	15,000
Downtown	13,567	15,000
ASU Online	N.A.	100,000

*Sources: ASU Quick Facts, Fall 2010; ASU Vision, Mission and Goals (2010).*

**Faculty.**- In 2010, there were 1,841 tenured/tenure-track faculty at ASU (ASU, 2010).<sup>32</sup> ASU also assessed its academic quality in terms of its faculty achievements and diversity. Faculty who have received the highest awards in their fields include: 3 Nobel laureates; 1 member of the American Academy of Arts and Sciences; 1 member of the Institute of Medicine; 1 member of the National Academy of Education; 5 American Association for the Advancement of Science Fellows; 7 Fulbright American Scholars; 2 Guggenheim Fellows; 2 American Council of Learned Societies Fellows; and 1 recipient of a Ford Foundation Fellowship, among other academic and scholarly distinctions. As for diversity, minority tenured/tenure-track faculty represent 22.9 percent of the total 1,841; including African-Americans (2.4%), American Indians (1%), Asian-Americans (11.4%), and Hispanics (8%).

**Rankings.**- Rankings of higher education institutions often give rise to conceptual and methodological disputations. Critics of these rankings emphasize their consumerist ideologies that reduce higher education to a simple good or service that can be easily purchased. In terms of methodology, heated arguments target the rankings' objectivity-subjectivity and fairness. For instance, Vedder (2008) points out differences between input-and-reputation based rankings (e.g., *U.S. News & World Report*) versus output-based rankings (e.g., Center for College Affordability and Productivity, CCAP). Thus, the same university will appear in different positions depending on the criteria used to evaluate it. As controversial as they are, rankings are not only a key referent for the general public, but among the colleges and schools themselves, which often use the rankings "to trumpet favorable recognition" (Robe, 2011).

ASU considers itself as among the best universities in the nation and the world based on both domestic and international rankings. For example, the Academic Ranking of World Universities (ShanghaiRanking Consultancy, 2010) ranked ASU as 81st among the top 500 universities in the world. This assessment compares 1,200 higher education institutions worldwide. The *U.S. News & World Report* (U.S. News & World Report LP, 2011) ranked ASU number 143 in the

<sup>32</sup> (ASU, 2010c). Arizona State University Accomplishments FY2003 to date. Retrieved on April 2nd, 2011 from <http://www.asu.edu/pb/documents/ASU%20Accomplishments%20FY2003%20to%20date.pdf>

Best National Universities<sup>33</sup> category, which ranks 262 national universities—164 public, 98 private—based on the 2006 Basic categories established by the Carnegie Foundation for the Advancement of Teaching. The same report also placed ASU number 2 in the Top Up and Coming Schools category.<sup>34</sup> *Forbes* magazine ranked ASU as number 382 out of 610 colleges and schools. In the category “America's Best College Buys”<sup>35</sup> ASU attained the 47<sup>th</sup> place out of 100 for the same 2009 ranking.

ASU also holds rankings for individual academic programs. Graduate programs in Engineering (24<sup>th</sup>), Business (11<sup>th</sup>), and Education (35<sup>th</sup>) ranked among those in the top 25 nationally for public universities (U.S. News & World Report LP, 2011). Other ASU graduate programs ranked favorably in the 2011 edition of *America's Best Graduate Schools* include its public affairs programs (25<sup>th</sup>), fine arts (30<sup>th</sup>), law (38<sup>th</sup>), and earth science (17<sup>th</sup>).

*Research and entrepreneurship.* ASU is listed in the Carnegie Foundation classification system under “Doctorate-granting Universities”<sup>36</sup> and the sub-category “RU/VH: Research Universities (Very High Research activity)”<sup>37</sup> along with 107 other American universities. The New American University principles hold that research at ASU should be use-inspired, curiosity-driven, linked to education, and at the same time should advance the interests (e.g., social, cultural, economic, and environmental) of the communities that the university serves. ASU research expenditures were \$332.1 million for FY2010, an increase of almost 150 percent from FY2003 (ASU, 2010). Research revenue and private gifts accounted for nearly 20 percent of ASU’s total revenues of \$1,607.2 million; by way of comparison, tuition and fees represented 35 percent of ASU’s total revenues. According to the National Science Foundation, ASU ranked in 2010

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<sup>33</sup> ASU shares the #143 position of this ranking with other seven American universities: George Mason University; Rutgers-Newark; St. John's University; University at Albany, SUNY; University of Illinois-Chicago; University of Mississippi; and University of Texas-Dallas.

<sup>34</sup> The Top Up and Coming Schools category highlights schools “that are making improvements in academics, faculty, students, campus life, diversity, and facilities. These schools are worth watching because they are making promising and innovative changes”. 68 colleges were nominated by peer institutions. ASU shares this position with Drexel University and Northeastern University (U.S. News & World Report LP, 2011).

<sup>35</sup> This category represents colleges and universities that provide students with “the most quality for each tuition dollar spent” (*Forbes*, 2010).

<sup>36</sup> It includes institutions that awarded at least 20 research doctoral degrees during the update year.

<sup>37</sup> Level of research activity Doctorate-granting institutions were assigned to one of three categories based on factors such as research & development (R&D) expenditures, research staff, and doctoral conferrals in several fields (e.g., humanities, social science fields, STEM disciplines, business, education, public policy, and social work).

among the top 20 leading research universities—without a medical school—in the nation (ASU, 2010b).<sup>38</sup>

ASU identifies its research priorities as: established, core, capacity building, and emerging. Figure 1.1 shows the disciplines clustered under each research priority. The “Established” cluster includes Education and Earth & Space Exploration. Those defined as “Core” consist of Sustainability & Renewable Energy, Advanced Materials & Flexible Systems, and Bio & Health. Those considered as assisting “Capacity Building” are Science Policy, Humanities, Informatics & Communication, Social Science, and Decision Science. And lastly, research in the “Emerging” cluster consists of Biosignatures, Climate Adaptation, Learning Sciences, Origins, and Security Defense Systems.

Figure 4  
ASU research priorities

Established		Core			Emerging			
education	earth & space exploration	sustainability & renewable energy	advanced materials & flexible systems	bio & health	biosignatures			
<b>Capacity Building</b>					security defense systems			
					science & policy	informatics & communication	social science	learning sciences
					humanities		decision science	origins
								climate adaptation

*Established, core, and emerging research priorities at ASU.*

In conducting those research priorities, ASU has developed major research institutes and centers, including the Biodesign Institute, Global Institute of Sustainability, Flexible Display Center, Learning Sciences Institute, the Institute for Social Sciences Research, and the Institute for Humanities Research. Some of ASU’s key research initiatives are: the Complex Adaptive Systems Initiative, LightWorks, and the Security & Defense Systems Initiative. In sum, research at ASU consists of an extensive portfolio which includes space research; engineering; journalism; health research that focuses on cancer and nutrition; bio-energy and renewable materials; computing performance and computational nanoscience; education curriculum, policy, and technology; decision-making environments; journalism; even humanities and the arts (e.g., Music, Theater, Letters).

Entrepreneurship.- At ASU, there is also a blurring divide between research and entrepreneurship initiatives. One example is Arizona Technology Enterprises (AzTE), the technology arm of ASU. AzTE was created in 2003 “to

<sup>38</sup> (ASU, 2010b). ASU Financial Report 2010. Retrieved on April 2nd, 2010 from [http://www.asu.edu/fs/documents/annual\\_reports/ASU\\_2010\\_Financial\\_Report.pdf](http://www.asu.edu/fs/documents/annual_reports/ASU_2010_Financial_Report.pdf)

accelerate the rate of technology transfer from university research laboratories to the marketplace” (ASU, 2010c).<sup>39</sup> AzTE ranked seventh in invention disclosures per \$10 million in research and ranked sixth for expenditure-adjusted licenses and options (ASU, 2010d).<sup>40</sup> Another interesting case of public-private-university collaboration at ASU is the Skysong Innovation Center. Skysong resulted from a partnership between ASU and the City of Scottsdale, AZ. The city paid for the land and new infrastructure, whereas ASU committed generating revenue by attracting companies as tenants to Skysong. In addition, ASU offered Skysong tenants access to capital networks, business education, and a skilled workforce. As of January 2010, Skysong houses 45 companies and organizations, 19 of which are international and represent 10 different countries. The economic impact of Skysong across Greater Phoenix is estimated at \$113.6 million annual for 2010 (Arizona Republic, 2010. Retrieved on April 6, 2010 from <http://www.azcentral.com/business/articles/2011/01/10/20110110arizona-state-university-skysong-economic-impact.html>.)

In fact, the use of “value entrepreneurship” to spur knowledge and innovation is one of ASU’s design aspirations. Not only has ASU incorporated entrepreneurship into its own research efforts, but it has also developed infrastructure and programs to imbue an entrepreneurial culture both on and off its campus. In addition to AzTE and Skysong, ASU lists 42 other initiatives that integrate an “innovation ecosystem infused with an entrepreneurial spirit,” including degree and non-degree educational programs, funding opportunities and awards, centers that provide services and foster partnerships, conferences, student organizations, and clubs (ASU, 2010y). Of those programs, some were created, sustained, or expanded as a result of the \$5 million grant that ASU received from the Ewing Marion Kauffman Foundation in 2007. All in all, however, the scope of ASU’s entrepreneurship initiatives varies. Some are for students only—the Edson Student Entrepreneur Initiative and the Innovation Challenge—whereas others are meant to involve both students and faculty, like, for instance, Venture Catalyst. This program provides a series of services to accelerate enterprises, including entrepreneurial education, connections to mentors, capital formation, and intellectual property assistance among others. At ASU, entrepreneurship activity is not simply about turning a

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<sup>39</sup> (ASU, 2010c). Arizona State University Accomplishments FY2003 to date. Retrieved on April 2nd, 2011 from <http://www.asu.edu/pb/documents/ASU%20Accomplishments%20FY2003%20to%20date.pdf>

<sup>40</sup> Association of University Technology Managers-AUTM represents more than 300 universities, research institutions, and teaching hospitals in the United States. Member institutions report the outcomes of their technology transfer operations on an annual basis. AUTM’s most recent report covers activities in fiscal year 2008. AzTE rankings hold for U.S. institutions with at least \$200 million in research expenditures. Retrieved on April 2nd, 2011 from [http://asunews.asu.edu/201012nnn05\\_AzTE](http://asunews.asu.edu/201012nnn05_AzTE)



profit. Two such examples are the Lodestar Center for Philanthropy and Nonprofit Innovation and the GlobalResolve initiative. The first advances social entrepreneurship and nonprofit leadership practice for student, faculty, and community stakeholders through education, consulting, and research practices. While in the second, students generate solutions to create sustainable energy, clean water, and health initiatives for communities in the developing world.

*Internationalization.* As ASU seeks to fully embrace this New American University model, one of its major aspirations is to become more globally engaged in all facets. The university takes two approaches to expanding its global reach: 1) research-oriented partnerships; and , 2) student and faculty mobility. ASU's Global offices work with local, national, and international counterparts to find solutions to societal needs. In addition, the office also identifies international opportunities for researchers and fosters partnerships with institutions abroad. In 2010, ASU Global reported partnerships with several agencies and foundations, including, and 18 partnerships with universities in regions such as Asia, Africa, Europe, Middle East, and North and South America.

Furthermore, ASU Global Education provides services that support both student and faculty mobility. Some of the many services offered include study abroad programs for ASU students, exchange programs for visiting international students, immigration and advising support for degree-seeking international students, immigration services for ASU departments hiring international faculty and research scholars, and a U.S Passport Acceptance Office for the university and local community. As of Fall 2010, ASU's international student population at is 3,856, with 60.3% of these being graduate students. The vast majority of these students--some 2,668 students, or 69.2% of international students--are from Asia. Of the top 15 countries of origin, Mexico ranked 7<sup>th</sup> overall with 101 students.

APPENDIX B

DESCRIPTION OF TECNOLÓGICO DE MONTERREY

Tecnológico de Monterrey is a private not-for-profit multi-campus university with 31 campuses in Mexico. The founding campus is located in Monterrey, Nuevo Leon, Mexico. As of Fall 2010, ITESM total enrollment was of 98,662 students.

*Mission and principles.* In 1985, ITESM President Rafael Rangel introduced the institutional mission to guide the university's operation for the following decade. Since then, the institutional mission has been revised and redefined every ten years, which resulted in the 1995 and 2005 mission statements. (The next one will be unveiled in 2015.) The current ITESM mission is "to educate persons with integrity, ethical standards, and a humanistic outlook, who are internationally competitive in their professional fields; that at the same time are committed citizens to the economic, political, social, and cultural development of their community and to the sustainable use of natural resources" (Tecnológico de Monterrey, 2005). With this mission, ITESM seeks to "to respond to the important changes taking place in society, and particularly, to the challenges for development that the country [Mexico] is currently facing." (Tecnológico de Monterrey, 2005). In addition, the mission statement outlines ten strategies that set priorities for the university's educational model and overall quality assessment; for the focus of research and graduate programs; for business competitiveness and technology transfer; for the launch of institutes for both social development and family-owned enterprises; for the creation and consolidation of specific graduate schools; for initiatives which seek to strengthen ITESM's presence and prestige both within Mexico and the entirety of Latin America; and for the targeting of growth and the operation of specific programs.

*History.* ITESM was founded in 1943 by Eugenio Garza Sada—an MIT alumn—and a group of philanthropic business leaders as a private not-for-profit university. Established in Monterrey, Mexico, the founding campus reported an enrollment of 1,000 students after only four years of operation. In 1950, ITESM was granted accreditation by the highly respected U.S. Southern Association of Colleges and Schools (SACS)<sup>41</sup>. Since then, ITESM has passed the reaffirmation review process every ten years. Student enrollment increased during the early 1960s, reaching 4,458 with representation of 19 countries, and by the end of this decade, the university began granting master's and doctoral degrees in chemistry. In 1975, ITESM inaugurated a second campus in Monterrey, and not four years later, the university was operating a total of fourteen campuses across Mexico.

Steady growth and other milestones marked the 1980s for ITESM. By 1981, student enrollment exceeded 25,000 students across its 21 campuses. During this period, personal computers were introduced for educational purposes at ITESM. In addition, it also founded its Medicine School next to Hospital San Jose (also ITESM's) in Monterrey, Mexico. As a result of this infrastructure

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<sup>41</sup> SACS is the regional association the regional body for the accreditation of degree-granting (e.g., associate, baccalaureate, Master's, or Ph.D.) higher education institutions. It oversees institutions in eleven U.S. Southern states and in Latin America.

expansion and its formulation of an institutional mission in 1985, a new organizational structure was defined for ITESM to operate as a multi-campus system. During this time, the university continued to introduce new technologies in an effort to enhance the delivery of its programs. For example, ITESM became connected to the BITNET network and launched “SEIS,” a satellite-broadcast network among its campuses. SEIS was utilized to deliver a Master’s in Education program across its many campuses.

In 1990, SEIS became ITESM’s Virtual University delivering courses for additional Master’s programs and for undergraduate curricula as well. A new mission statement was released in 1996. Known simply as the “2005 Mission,” it stressed an integral formation of the student (e.g., compared to the previous institutional mission that stressed the formation of excelling professionals), outlined research and extended education as priority strategies, and incorporated an international dimension into the core activities of the university. By the late 1990s, ITESM had even redesigned its educational model and reoriented student social services—which is mandatory in Mexico—to better attend to community needs.

At the dawn of the 21<sup>st</sup> century, ITESM has actively engaged promoting social development by providing educational programs in urban and rural communities. To that end, several initiatives, including Community Learning Centers (CLCs), Prepanet, and the Enterprise Incubator Network, were launched between 2001 and 2004. The CLC Network provides online courses to the general public on such diverse topics as human, social, and economic development. Most courses are free and largely self-guided. Prepanet is an online program which offers high-school level classes to the general public. Courses are designed by ITESM faculty, and ITESM students serve as online tutors. In the Enterprise Incubator Network, both ITESM faculty and students provide face-to-face and online consulting services to entrepreneurs. During this period, ITESM continued to expand its infrastructure, which resulted in the creation of four new campuses were created and included the establishment of a Graduate School in Public Administration and Policy [EGAP], with branches in three cities: Mexico City, Estado de México, and Monterrey. In addition, the Universidad TecMilenio, a teaching university modeled after ITESM, was founded in 2002.

In 2005, a new mission statement was released with strategies to strengthen ITESM’s educational model and curriculum, its research priorities and social embeddedness initiatives. Examples of some of the initiatives launched between 2005 and 2010 in fulfillment of this new mission were: the implementation of an academic curriculum integrating a humanistic perspective across disciplines; the creation of both the FEMSA-Biotechnology Center and the Technology Parks Network (of which there are fourteen). Also, during this period, ITESM launched the Institute for Sustainable Social Development (IDeSS) to house institutional initiatives on social embeddedness and community outreach.

*Leadership and governance.* As of 2011, ITESM is led by Rafael Rangel Sostmann, the university’s 3rd Chancellor. Prior to joining the university in 1968 as an assistant professor, Sostmann worked as a development engineer in the private sector in the U.S. After taking office in 1985, Rangel introduced the first

ITESM mission and reorganized the university as a multi-campus system. During his 25-year tenure, Chancellor Rangel has led the ITESM through a process of expansion, high academic standards, and internationalization. He holds a Ph.D. and a Master's in Mechanical Engineering from the University of Wisconsin–Madison and a Bachelor's in Mechanical and Electrical Engineering from ITESM. Because of his contributions as an educational leader, Rangel has been granted honorary doctorates from Florida International University (1994), University of British Columbia (2003), Arizona State University (2004), Georgetown University (2008), and the Thunderbird School of Global Management (2009) among others. In June 2010, Sostmann announced his retirement as ITESM Chancellor and is currently serving out his tenure until a successor can be named.

A system-wide rectorate based in Monterrey oversees five regional rectorates, which in turn supervise all campuses nationwide. All campuses are sponsored by non-profit organizations composed primarily of local businesspeople. Such non-profit organizations serve as boards of trustees and provide organizational and financial advice to ITESM campuses. A similar non-profit organization, ITESMAC, oversees the ITESM system. At present, Lorenzo H. Zambrano serves as ITESMAC's president. Zambrano is an ITESM alumnus and CEO of CEMEX, a worldwide cement producer based in Monterrey, Mexico.

In 2011, ITESM underwent a major structural reorganization. The reorganization centered around the idea that Virtual University, TecMilenio University, and San José Hospital should all be elevated to the same organizational level as ITESM's 31 campuses. As a result, the ITESM system is now comprised of four entities: (a) Tecnológico de Monterrey (a.k.a., the existing 31 campuses); (b) TecVirtual, formerly Virtual University; (c) TecMilenio, formerly TecMilenio University; and (d) TecSalud, including San José Hospital and other medicinal and health-related centers.

*Teaching and research.* As of Fall 2010, ITESM total enrollment was 98,662 students. Of that, 25 percent is high school, 56 percent undergraduate, and 19 percent graduate<sup>42</sup>. Students who receive some type of financial aid, as a scholarship or student loan, account for 50.49 percent of both high school and undergraduate students. ITESM seeks to fulfill academic excellence in both teaching and research by means of a rigorous admissions process, a unique educational model of curricular and co-curricular activities, and by hiring only highly credentialed faculty who are constantly being evaluated.

ITESM's educational model is student-centered. It aims preparing students to become ethical and socially responsible citizens and to infuse in them an entrepreneurial belief that may well help them contribute toward the future development of their community. This model includes the use of pedagogical techniques, online educational platforms, and co-curricular activities (e.g.,

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<sup>42</sup> ITESM Informe Annual 2010 (ASU, 2010). Retrieved on 3/28/11 from <http://uoia.asu.edu/quick-facts>

athletics, cultural activities, student leadership—clubs and associations—and community service).

In its recently revised educational model, ITESM defines graduate profiles based in learning outcomes and exit competencies for all undergraduate programs. Profiles describe knowledge, abilities, and attitudinal behaviors expected from the students by the time of graduation. Some examples are: mastery of the English language; ethical reasoning; civic responsibility; entrepreneurial and leadership abilities; self-esteem; commitment to sustainable development; highly developed oral and written communication skills; and a vision for the future which is both international and multicultural.

Faculty. In 2010, ITESM employed 8,990 faculty. Of which, 31 percent were the equivalent of tenure-track professors and the rest were clinical faculty. Ninety-five percent of undergraduate courses were taught by professors holding at least a Master's, and 85 percent of graduate courses were taught by professors holding a Ph.D. degree. ITESM faculty also participate in “academias de carreras” or program academies. These are communities of both faculty and deans which provide a space for academic dialogue and an analysis of the corresponding disciplines. Forty-six program academies existed in 2010, as some communities serve more than one academic program.

In regards to academic credentials, ITESM is the private university in Mexico with the highest number of faculty (271) admitted to the National System of Researchers (SNI) and the National Council of Science and Technology (CONACYT), which is roughly equivalent to the U.S.'s National Science Foundation. Admission to the SNI is very competitive, with criteria which includes but is not limited to the attainment of one's doctorate, multiple publications, and a record of excellence in research.

Rankings. In addition to its own internal systems and programs for quality assurance, ITESM conducts both institutional and program evaluations of external accrediting agencies. Institutional accreditations have been granted by the Federation of Private Institutions of Higher Education (FIMPES) in Mexico and by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) in the United States. The last reaffirmation process conducted by SACS, which takes place once every ten years, occurred in 2008.

At the program or department level, undergraduate and graduate programs have been accredited in Mexico by both the Council for Accreditation of Higher Education (COPAES) and by the National Registry of Graduate Programs of the National Council for Science and Technology (CONACYT). All 219 undergraduate ITESM programs are accredited by COPAES. In addition, several undergraduate and graduate programs are accredited by international agencies within their academic disciplines. International accreditations for ITESM programs in administration and business have been granted by the Association to Advance Collegiate Schools of Business (AACSB), Association of MBAs (AMBA, UK), and the European Quality Improvement System (EQUIS). Programs in engineering were accredited by the Accreditation Board for Engineering and Technology

(ABET). Other accreditations for specific undergraduate programs have also occurred in journalism, and food industries engineering.

*Research and entrepreneurship.* With an annual budget of approximately 50 million dollars, scientific and technological research programs are concentrated mainly in Monterrey, Mexico City, and in the state of México. At ITESM research is oriented to: (a) solve societal needs; and (b) transfer knowledge and technology to increase the capacity for innovation and the incubation of productive enterprises. Through its “research chairs” model, the university seeks to solve social, economic, and environmental problems and to promote collaboration between various local, regional, and national companies, as well as between governments, institutions, and universities. The “research chairs” model consists of research groups whose work focuses in knowledge production and the development of human resources at the graduate level in strategic areas. Each chair consists of a team comprised of a head researcher, a group of professors coordinating undergraduate, master’s and doctoral students, and guest researchers. The work of the research chairs is supported by seed funds provided by ITESM, which are complemented by external resources from national and international companies and foundations. In 2010, there were 132 research chairs that generated 50 patent applications, by far the highest for a private university in Mexico. Furthermore, ITESM generated an intellectual property scheme that allows its faculty and researchers to receive royalties from the commercial exploitation of their respective patents.

Research priorities at ITESM are biotechnology and food processing; social development and education; sustainable development; government and public policy; humanities and social sciences; mechatronics, manufacturing, and nanotechnology; health; educational technology; and information and communications technologies (TICs). In order to fulfill these priorities, the university has dedicated 69 research centers and institutes in areas such as manufacturing and design (17); biotechnology and food processing (1); health (1); information and communications technologies (8); sustainable development (5); business (12); government and public policies (23); and education (1).

In addition, intersecting research and entrepreneurship are priorities at ITESM. Two such examples are: its (a) business incubators and accelerators; and its (b) technology parks network. Business incubators operate on campus facilities with the participation of students, alumni, and community entrepreneurs. The program aims to encourage and support the creation, development, and operation of new businesses. The university also has 25 intermediate technology incubators which assist companies in areas such as consulting, telecommunications, franchise development, software services, construction, agribusiness, and commerce. The eight high technology incubators at ITESM help entrepreneurs to transform their innovative projects and ideas into highly valuable, value-added businesses in areas such as agrobiotechnology, biotechnology, information technologies, pharmaceuticals, biomedical engineering, energy, the aerospace industry, and automobile industry.

Similarly, technology accelerators, which operate in fourteen locations, assist technology-based, small- and medium-sized companies preparing to grow internationally. The program focus on companies with high market potential in the areas of biotechnology and health, design and manufacturing, information and telecommunications, energy, and sustainable development among others. The technology parks network is a platform of services and infrastructure that enables the transfer of technology between the university and various competitive enterprises. One of the initiative's key goals is to facilitate the transformation of knowledge that is generated by universities into regional development that is both economic and social. In this spirit, the university has formed a network of fourteen parks, each of which operates under one of four models (e.g., high-value employment; landing and or creation/acceleration of technology-based businesses; innovation; and technology transfer).

*Internationalization.* Similar to entrepreneurship, internationalization is a key dimension of student formation according to the ITESM educational model. Although explicit in its institutional mission only since 1996, ITESM has engaged in internationalization since the 1950s. At that time, programs focused primarily on English language acquisition skills via summer student-exchange programs with American universities. Soon after, international students started attending ITESM to study Spanish as well. Gradually, international programs changed in scope and duration and evolved into a longer-term student exchange format. Initial exchange programs took place for engineering students over a single semester. These programs later expanded to include other academic disciplines and diversified into several modalities.

Today, ITESM's internationalization strategy consists of specific programs for students, faculty, and liaison offices, and also includes participation in associations and consortia. Curricular programs for students include full degrees under the international modality (with 1,288 students enrolled in 33 programs as of 2010); a student exchange; and traditional or Honors' study abroad. A total of 6,705 students from ITESM participated in study abroad or student exchange programs, while 5,301 international students studied at ITESM during 2010. ITESM's major internationalization opportunity for faculty involves preparation programs, both short- and long-term credential programs offered as summer courses, conferences, seminars, and guest-lecture visits. A total of 876 ITESM faculty participated in programs like these, and 844 international faculty taught at ITESM in 2010. The Institute of International Education (IIE) granted ITESM the Andrew Heiskell Award in 2004, in the category of "Best Practices in International Education" for its international faculty training program.

ITESM holds 450 active agreements with universities from 40 countries, including the U.S., Canada, Argentina, Chile, Brazil, Germany, Spain, France, Italy, the United Kingdom, China, Japan, Australia, and New Zealand among others. ITESM also has offices and sites abroad to advance its internationalization strategy. For example, there are 12 international liaison offices located throughout North America, Europe, and Asia. The responsibilities of these offices include: 1) to represent the ITESM when working with local



governments, universities, and organizations; to operate strategic agreements; to identify potential areas for academic and research collaboration; and to promote ITESM programs locally. There are 10 sites in Central and South America, which in addition to the responsibilities described above, also deliver online educational programs. Pursuant to this strategy of late, ITESM has actively participated in consortia, such as Universitas 21, Global Engineering Excellence (GEE), the Six Universities Consortium, the European Consortium of Innovative Universities (ECIU), the Association of Pacific Rim Universities, and the Compostela Group of Universities.

APPENDIX C

CHRONOLOGY OF THE ASU-ITESM RELATIONSHIP

A chronological timeline of the ASU-ITESM relationship is presented next. The documents that were reviewed in order to construct the aforementioned timeline include annual reports, institutional websites, university magazines and newsletters, PowerPoint presentations, and various reports on the ASU-ITESM relationship.

Between 1997 and 2002, the ASU-ITESM relationship was primarily based upon the exchange of students, along with sporadic faculty interaction. In 2003, interactions between both ITESM and ASU deans became prominent, while those at the faculty interaction also increased. For example, both ITESM and ASU Engineering Deans signed a Memorandum of Understanding to establish a faculty exchange program in 2003. Also, the President of Campus Monterrey—ITESM's founding campus—and five deans visited ASU and held meetings with their counterparts to identify areas for academic collaboration. That same year, a group, which included faculty from both ITESM and ASU's Construction Schools and from ITESM's Virtual University planned distance-learning initiatives for the Phoenix construction industry. In addition, faculty from both ASU and ITESM's Engineering Schools partnered to apply for a USAID research grant for a technology transfer with the aerospace industry.

By the end of 2003, interactions between ASU and ITESM escalated to include the presidents of each university. While participating in a bi-national event in Phoenix, President Crow and President Rangel met to discuss launching a Community Learning Center (CLC). Consequently, both Presidents signed a Memorandum of Understanding to jointly establish a CLC on ASU's Downtown Campus. During that meeting, President Rangel invited President Crow to participate in the Summit of the Americas—a series of international meetings bringing together the leaders of countries in North America, Central America, South America and the Caribbean—and a concurrent conference the following year. President Crow accepted Rangel's invitation and presented at the "Future of the Americas" Conference in Monterrey, Mexico. Although diverse units of both universities started began forging an institutional relationship, two central offices emerged as "air-traffic controllers" of sorts. Created in 2003, ASU's Office of Panamerican Initiatives started coordinating activities on ASU's behalf, while ITESM's long-standing Office of Innovation and Development proceeded in a similar fashion.

During 2004, a series of high-profile events took place involving top-leaders from both universities and state governments. Those events—listed next—helped strengthen institutional ties between the two universities and resulted in increased interactions at both the dean and faculty level. In fact that same year, President Crow led an ASU delegation to Monterrey to meet with ITESM leaders responsible of biotechnology, distance education, community learning centers, student life, engineering, technology transfer, and sustainability-environment initiatives. In those meetings, both universities agreed to: 1) jointly conduct research in biodesign and to identify specific projects for further study; 2) establish joint bi-national labs which focus on regional development issues between the two schools' environmental departments; 3) discuss courses to be

taught at the newly created CLC; and 4) establish a dual master's degree program in a selected field of engineering. Next, President Rafael Rangel and ITESM President of the Board<sup>43</sup> Lorenzo Zambrano visited President Michael Crow in Arizona to discuss initiatives in biotechnology, biodesign, engineering, construction, and technology transfer. In fact, during ASU Commencement ceremonies in May 2004, President Rangel received an honorary Doctoral Degree of Humane Letters, because of his innovative contributions to education. Later that year, then-Arizona Governor Janet Napolitano visited ITESM as well.

Then during the summer of 2004, ASU leadership, which included the Vice President and Provost, the Vice Provost of the university, and East Campus Provost, met with President Rangel and ITESM academic leadership in Monterrey. Discussions pertained to the structure of ITESM's numerous international relationships, to current research initiatives taking place at both campuses, and to the available resources at the Virtual University. On the same visit, three delegations of ASU faculty and researchers met with their ITESM counterparts to analyze academic collaborations in new urban materials and technology; environmental quality; architecture and construction; and sustainability programs. By the end of the year, additional visits had taken place between both schools. In November, a group of researchers from ASU BioDesign visited ITESM Biotechnology Center and the San Jose Hospital. Additional meetings were held to exchange information as to each university's current capabilities in biotechnology and biomedicine and to identify projects that would fit within the institutional relationship. In December, ASU hosted a contingent of researchers from CEMEX Mexico and CEMEX USA Technology Centers. The purpose of the visit was to identify potential research areas and current CEMEX projects in which both ITESM and ASU could participate. Also, CEMEX visitors presented several business opportunities and demonstrated new pavement projects with local and state governments (City of Phoenix and Arizona Department of Commerce). And lastly, senior administrators from the ITESM School of Medicine, the San Jose Hospital, and the Biotechnology Center attended the dedication ceremonies for the BioDesign Institute at ASU. The trip concluded with meetings to advance the scope of potential collaborations previously discussed in Monterrey, Mexico.

During 2005, a series of visits, meetings, and events helped create new links between ASU and ITESM. Whereas, current connections between faculty and researchers generated the first projects under the institutional relationship. At the invitation of both ITESM President Rangel and President of the Board Zambrano, ASU President Michael Crow was the keynote speaker at ITESM's 20th Annual Board of Trustees Meeting in Monterrey, Mexico. In addition, researchers from both universities met in Monterrey, Mexico with CEMEX research leaders on technology and concrete to discuss the implementation of the ASU-ITESM joint advanced materials initiative.

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<sup>43</sup> Also CEO and chairman of CEMEX, global cement manufacturer headquartered in Monterrey, Mexico.

Also, during the first half of 2005, the Dean of ITESM's Engineering and Architecture School and a group of eight CEOs and top executives from Monterrey Construction Industry visited ASU. The Monterrey delegation was hosted by ASU's School of Construction and its Industry Advisory Council (IAC). As a result, ITESM implemented a similar IAC that was modeled after the one created by ASU's School of Construction. The visit was reciprocated months later in Monterrey, Mexico where faculty of both universities and their correspondent advisory groups met to discuss a potential bi-national IAC and to advance a dual graduate degree. At this meeting, a declaration of intent was signed.

In the summer of 2005, ASU and ITESM launched an international Six Sigma Black Belt (SSBB) certification for ITESM industrial engineering graduate students. Offered online, the certification program includes live and pre-recorded sessions by ASU professor Douglas Montgomery, an internationally renowned expert in the field. By fall of that year, institutional liaisons—one for ASU, one for ITESM—were installed at the other's university. Designated by each university president, the liaisons are slated to provide on-site support and to help facilitate the various components of the ASU-ITESM relationship.

In 2006, more initiatives were created under the ASU-ITESM relationship, including a CLC, dual degrees, joint research requests for proposals, and initiatives in entrepreneurship. These projects--along with the numerous aforementioned interactions between both universities--led to the signing of the ASU-ITESM overarching agreement. For the first half of that year, the ASU-ITESM relationship registered the following activity. The Community Learning Center (CLC) was launched at ASU in Downtown Phoenix. Through ITESM's online education platform, the CLC delivered ASU's curriculum and coursework and also ITESM's tutored and self-guided courses in Spanish. ASU and ITESM also established a dual degree in an applied field of engineering.<sup>44</sup> This graduate program began coupling student education with an internship in a related industry as well as an academic year-abroad at the sister institution. ITESM President Rangel and three senior leaders were invited by ASU President Crow to participate in a retreat in San Miguel de Allende, México. The focus of this retreat was to discuss issues influencing the relationship and competitiveness of North America in the global environment. And as a result, a joint Request For Proposals (RFP) in biotechnology was released as an effort to jumpstart collaborative research between researchers at the two schools. Each university contributed \$100,000 USD to permit funding for up to two projects for a period of two years. Two proposals were selected—out of seven submitted—by a committee formed by faculty members from both universities.

An ASU delegation of 12 staff and faculty members from various units and schools visited ITESM. Representatives of the Ira A. Fulton School of Engineering, the Mary Lou Fulton College of Education, University College,

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<sup>44</sup> The real name of the program is not disclosed because of confidentiality reasons, as agreed to by the participants of this study.

University Technology Office, the Office of the President, and the College of Graduate Studies held parallel meetings to advance newly created academic and research programs (e.g., Six Sigma Certification Program, joint RFP, etc.); and to establish a framework for future collaborations. Mutual visits continued during 2006, with an increasingly diverse set of areas from each university taking part. For example, leadership from ASU West undergraduate programs visited Monterrey to discuss ASU students taking ITESM's certificate in international business. ASU West leaders proposed that ASU students spend a full semester at ITESM during their senior year to obtain this certification. Months later, ITESM International Programs' leadership reciprocated the visit to advance curricular and logistical aspects of the initiative. In addition, academic staff from ITESM's TecMilenio University visited the ASU Polytechnic Campus to explore opportunities for collaboration in the area of nutrition.

Furthermore, initiatives started developing in the area of entrepreneurship, a common area of interest for both universities. The ASU Office of Economic Affairs, in collaboration with members of the private sector in Arizona and ITESM professors, offered a workshop in Monterrey, México. The workshop "Building Successful Ventures in the U.S." was aimed at Mexican entrepreneurs interested in bi-national enterprise activities.

An overarching agreement was also signed by Presidents Crow and Rangel in October 2006. The agreement provided a framework for current and future collaborations between the universities, defining priority and staffing among other things. It also established that academic and research collaboration would be conducted in four main areas: 1) workforce development; 2) online network; 3) research initiatives; and 4) entrepreneurial network. A leader was designated from each institution to oversee each area and the initiatives within.

At the same time, organizational changes at ASU altered the nature of the structural relationship between ITESM and ASU, when ASU's Office of Panamerican Initiatives became the Office of the Vice President for Global Engagement (OVPGE). Thus, the management of the ITESM-ASU relationship became responsibility of OVPGE on ASU's side; whereas, it remained the same on ITESM's end.

In 2007, new initiatives were created, some of which intersected across areas of the overarching agreement, including an emphasis on establishing more faculty-centered activities between ITESM and ASU. For example, during the first trimester of 2007, ITESM hosted two short-term visiting faculty from ASU. First, a professor from ASU's Department of Computer Science spent a few weeks at ITESM as part of her sabbatical. The purpose of her visit was to conduct research and to activate collaboration. Second, a visiting Fulbright Research Scholar to ASU from Dublin City University in Ireland also visited ITESM. From meeting with ITESM faculty and administrators, this Dublin City University professor learned about ITESM's entrepreneurial and business incubation programs and about the curriculum to encourage entrepreneurship in its students. In addition, several visits took place, with the purpose of developing academic collaboration among faculty. ITESM's Dean of the Department of Electronics and

Information Technologies at the Monterrey Campus led a delegation of faculty and administrators to ASU. The purpose of this visit was the exploration of potential joint projects in computer science, bioinformatics, and electrical engineering. Similarly, ITESM's Dean of the Business School, Monterrey Campus, visited his ASU West counterparts. At this meeting, the idea of ASU offering a Master's Degree Program in Accountancy for ITESM faculty was discussed.

*Workforce development.* Under this area of the agreement, the projects created, whether conceptual or not, were predominantly in the field of engineering. For example, faculty and staff from the ASU School of Engineering visited ITESM and agreed to design a Dual Master's Degree in Innovation and Technology for engineering undergraduate students. In addition, other projects arose from this new agreement, most of them focused on workforce development and online networks. Modeled after the one instituted for graduate students, a Six Sigma Green Belt certification was launched for undergraduate students. The program started with 130 industrial engineering undergraduate students from several ITESM campuses. The certification was offered synchronously via videoconference with ASU professors, including an asynchronous online component through the Blackboard platform. In another example, the aforementioned Dr. Montgomery, Regent's Professor of the ASU Department of Industrial Engineering and a leading authority in the field of statistics, offered a videoconference to over 300 engineering students at ITESM's Campus Toluca.

*Entrepreneurship.* Activity in this area continued to grow as groups at each university identified specific projects for collaboration. ITESM's Associate Vice President of Research and Technology Development and a leading bi-national entrepreneurship project attended the Invest Southwest Capital Conference in Arizona. The conference, co-organized by ASU, gathers investors attending internationally renowned keynote speakers, upcoming presenting companies, exhibits, and interactive sessions. The purpose was for ITESM to assess future participation of student entrepreneurs in the event. Later that year, ASU's Assistant Vice President for Economic Affairs visited ITESM's Guadalajara Campus to meet with faculty and administrators from the Internationalization and Entrepreneurship Division. Among other topics, the idea of holding an Invest Southwest Conference in Mexico was discussed. Such an event would enable each university to attract both Mexican and U.S. investors to help fund ASU-ITESM incubated companies.

That summer, a group of 6 ASU faculty helped lead an entrepreneurship workshop in Monterrey, Mexico for ITESM faculty. And by the end of the year, ITESM and Ministry of Economy officials from the state of Nuevo Leon offered the Business and Innovation in Mexico Seminar at ASU. As a sort of follow-up to the workshop provided by ASU in Monterrey, México the year before, this 2007 seminar covered topics on Mexico's current economy; on Mexico's legal system and business practices; on services and facilities for entrepreneurs and investors; and on ITESM entrepreneurship and business development programs.

*Research.* In this area of the overarching agreement, ASU and ITESM jointly launched the second RFP [Request for Proposals] with a focus on renewable and/or alternative energy sources. As a result, two proposals were selected, each of them awarded \$100,000 UDS disbursed over a period of two years. Also, the winners of the 2006 RFP submitted their progress reports on their projects.

ASU-ITESM groups also held discussions on agreement “housekeeping”. The leaders for each of the four areas established in the overarching agreement reviewed the wording of their clauses and made changes accordingly. As a result, the General Counsel at each university approved an addendum to the overarching agreement. The names for the areas of collaboration became: 1) On-Campus Network; 2) Distance Learning Network; and 3) Bi-National Entrepreneurial Network. The name and scope of each research initiative area remained the same.

In 2008, new initiatives were created under the four areas of the agreement, while those initiatives already in operation continued working. The Distance Learning Network task force developed curriculum such as a Dual Master’s of Science in Engineering with a concentration in Enterprise Systems Innovation and Management that would be delivered to both ASU and ITESM students. Also, whereas an Ed.D. in Global Leadership in Higher Education was designed adhoc—and in a hybrid format—for ITESM leadership, this time around both programs were developed collaboratively, but degrees would be granted by ASU. In addition, the Distance Learning Network task force unveiled a Global Aerospace Capstone Design Course that was supported by Boeing and allowed for the participation of both ASU and ITESM mechanical and aerospace engineering senior students. The first cohort started with 25 ASU students and 15 ITESM students. During the semester-long course, students worked to design parts for the fuselage of a Boeing 787 airplane.

Initiatives implemented by the On-Campus Network group focused on both student and faculty mobility, including a student study abroad program and a faculty exchange program. For the student program, seven students from ASU West spent a semester in Monterrey, Mexico, earning a Certificate in International Business for a class co-taught by ASU and ITESM faculty. The certificate earned ASU students credits for their School of Global Management and Leadership (SGML) program. And for the faculty program, an Assistant Professor in Marketing from ASU West’s SGML program went to Monterrey as a visiting-lecturer. The visit was reciprocated by an ITESM Marketing Professor. During these short visits, the exchanged faculty delivered lectures, while networking with fellow faculty.

Similarly, the ASU-ITESM task force working in the area of entrepreneurship organized an event entitled “Invest Mexico,” a national capital formation conference in Monterrey, Mexico. The event gathered investors and entrepreneurs affiliated with both universities. ASU, of course, provided the know-how, based upon its experience as the co-organizer of the Invest Southwest Conference in Arizona. In addition, ASU provided coaching and mentoring services to the entrepreneurs selected by ITESM to present at the Monterrey



event. And just this year, the Skysong Innovation Center was unveiled at ASU and its inauguration was attended by an ITESM delegation of faculty and leaders in the area of entrepreneurship. During its inaugural speech, ASU President Crow acknowledged that “many of the things that we have here today, we modeled them after Tec de Monterrey--one of our key partners” (Reference of 2008, video).

Also, in 2008 the last RFP was jointly released. The topic chosen for this period was information technologies, which included concepts related to applied and computational mathematics; communications and mobile technology; computing science, applications, and software; and information systems and technology. Two proposals were selected out of eight and awarded with \$100,000 USD each. In addition, during the summer, two ITESM students conducted a lab practicum at ASU Harrington Bioengineering Department.

Furthermore, initiatives that had previously been agreed to continued during 2008. For instance, the Community Learning Center at ASU serviced 120 people taking online-tutored courses, and the Six Sigma certifications, both Black Belt and Green Belt, enrolled 109 and 96 students, respectively.

In 2009, events at the macro-level slowed down the pace of activities between ASU-ITESM. First, because Mexico’s economy is tightly linked to that of the U.S., the effects of the U.S. economic crisis of 2008 started to be felt in Mexico, restricting economic activity. To preserve the quality of academic services, ITESM entered into an austerity plan limiting expenses (e.g., travel, infrastructure investments) and putting new initiatives both domestic and international on hold. Secondly, an outburst of AH1N1 influenza in April created a sanitation emergency in Mexico. In order to halt the spread of the virus, the Mexican government ordered shutting down activity across sectors, including education. Education at all levels—from kindergarten to higher education—suspended classes for weeks. As a result, governments from several countries, including the U.S., issued travel alerts and later warnings that discouraged Americans from traveling to Mexico. While most international students at ITESM stayed in Mexico until the end of the semester, the university did allow students to return to their home countries if they so desired or when they were pulled out by their own institutions. Of a total of five ASU students were at ITESM during the Spring semester, three of decided to stay and two returned to the U.S. 15 ASU students participated in the exchange program with ITESM in 2009, and 18 ITESM students attended ASU. After the AH1N1 crisis, ASU suspended the student exchange program to ITESM campuses in the Mexico City metropolitan area and in the states of Estado de Mexico and Morelos.

By November, the most critical phase of the AH1N1 crisis passed and the plans for an ASU leadership visit to Monterrey continued. ITESM President Rangel and senior leadership hosted the visit for the ASU delegation, which included President Crow, the ASU Treasurer, the General Counsel, and the Executive Director of Global Engagement. The main purpose of the visit was for ABOR President Ernest Calderon to gain a better understanding of the ITESM model and its programs. During the visit, tours and presentations primarily

focused on ITESM's Incubators and Technological Parks Network, its Institute for Sustainable Social Development, and its TecMilenio University.

Although there may have been less overall activity, the ASU-ITESM relationship continued to work on various projects. The universities created the Water Innovation Consortium (WIC) in partnership with InterAmerican Development Bank (IBD) and the FEMSA Foundation who provided funding. The consortium integrates researchers from different disciplines (e.g., engineering science and technology, public policy) to confront water and sanitation issues on a local, regional, and global scale by creating innovative models, teams, and solutions that meet the needs of core stakeholders. In a kick-off meeting at ASU, the funding for a pilot project was defined and approved by both the IBD and the FEMSA Foundation.

Once again, in 2010, macro-level events continued to diminish the development of initiatives under the ITESM-ASU relationship. For example, the economic crisis of 2008 resulted in less state funding for ASU. To make up for the state-mandated budget cuts of \$110 million USD, ASU underwent a drastic structural organization—among other financial measures<sup>45</sup>—and put a halt to new projects, especially those involving international travel, etc. Similarly, violence spawned by Mexico's crusade against drug cartels no doubt dampened the relationship between ITESM and ASU as well. In fact, drug-related violence even managed to ensnare two ITESM students at the gates of the Monterrey Campus. This event and other similar occurrences in Monterrey, Juarez, and other cities resulted in ASU blocking more of ITESM's campuses—five located in Mexico's North region—from participating in the student exchange. And this on top of the ITESM campuses still blocked by ASU after the AH1N1 sanitary crisis. At the end of 2010, the number of students exchanged between ASU and ITESM decreased 50% from previous years.

As for the initiatives under the ASU-ITESM agreement, two programs were cancelled—the Dual Master's of Science in Engineering with a concentration in Enterprise Systems Innovation and Management and the Ed.D. in Global Leadership in Higher Education—because of funding difficulties and a disparity in currency exchange. The On-Campus Network continued working to convert the existing curriculum of that dual master's program into a certificate for engineering students.

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<sup>45</sup> Other major adjustment actions included eliminating 1,309 FTE positions existing in FY 2008; laying off 776 employees, and not replacing 48 employees who retired; eliminating over 350 non-tenure track faculty positions; consolidating schools (from 23 to 16) and academic departments (from 87 to 55); reducing 325 staff positions in custodial, grounds, and support offices. In addition, ASU employees took a furlough without pay ranging from 10 to 15 days. By 2010, ASU reduced the number of class sections offered per 100 FTE students by 16.5%; increased average class size by 12% (from 33 to 37 students); and increased the percentage of classes with over 50 students from 12% to 17%.

Still, faculty and staff from different ITESM campus (e.g., Cuernavaca, Guadalajara, and Toluca) visited ASU to explore potential projects in entrepreneurship, sustainability, business, tourism and community resources, transborder studies, and also to promote student exchange to their campuses. Also, a group of ITESM graduate students worked on an entrepreneurial consultancy project for a company housed at ASU Skysong. Coordinated by ITESM faculty, the students provided the company with policy and marketing research as part of their Capstone Project course. As for research initiatives, the WIC held a summer session to plan the pilot project which consisted of three components: 1) hydrologic modeling; 2) watershed observatory and data warehouse; and 3) a decision-making framework for public policy on water.

## APPENDIX D

### GUIDE FOR THE SEMI-STRUCTURED INTERVIEW (ENGLISH)

(English version)

**Theme 1 (T1): Formation of the relationship and rationales**

- a. How did the ASU-ITESM relationship begin?
- b. Could you cite the reasons for the formation of the ASU-ITESM relationship?
- c. Was there an objective when the ASU-ITESM relationship started?
- d. Is there a vision or strategy for internationalization at your university? Could you please tell me about it?
- e. Is the ASU-ITESM relationship connected to the internationalization vision/strategy at your university? And, if so, how? Please explain.
- f. (OPTIONAL) Was there a vision for the ASU-ITESM relationship when it was conceptualized? And if so, what was it?

**Theme 2 (T2): Salient descriptors of the partnership and contextual factors**

- a. What are the essential characteristics of the ASU-ITESM relationship?
- b. How would you describe the ASU-ITESM relationship?
- c. What do you think may have affected positively/negatively the ASU-ITESM relationship?

APPENDIX E

GUIDE FOR THE SEMI-STRUCTURED INTERVIEW (SPANISH)

(Spanish version)

**Tema 1 (T1): Formación de la relación y racionales**

- a. ¿Cómo inició la relación ASU-ITESM?
- b. ¿Podría mencionar las razones o intenciones de por qué se formó la relación ASU-ITESM?
- c. ¿Hubo un objetivo cuando la relación ASU-ITESM inició?
- d. ¿Hay una visión o estrategia de internacionalización en su universidad?  
¿Podría decirme acerca de ello?
- e. ¿Está conectada la relación ASU-ITESM con la visión o estrategia de internacionalización de su universidad? ¿cómo? ¿por favor podría explicarlo?
- f. (OPCIONAL) ¿Cuando la relación ASU-ITESM fue conceptualizada, hubo una visión a futuro de ésta? ¿cuál era?

**Tema 2 (T2): Descriptores sobresalientes de la relación y factores contextuales**

- a. ¿Cuáles son las características básicas de la relación ASU-ITESM?
- b. ¿Cómo describiría usted la relación ASU-ITESM?
- c. ¿Qué cree que pudo haber afectado positiva o negativamente la relación ASU-ITESM?

APPENDIX F

PARTICIPANT INFORMATION FORM (ENGLISH)



Participant information form.

Dear participant:

I appreciate your willingness to participate in this study. Filling out this form serves two purposes. First, it will provide me with biographical information about you that is relevant to this study. And secondly, it will allow me to refer to you and the data that you provide me with during the interview without disclosing your identity.

**Please select the option that best describes you and/or select the option that best describes your situation.**

**I. Section: Professional background. Please indicate your level of professional experience:**

a1. The total number of years that you have been working at ASU or ITESM: \_\_\_\_\_

a2. How would you describe your actual position?

Faculty member     Administrator     Both, a faculty and an administrator

Other: \_\_\_\_\_

a3. *Please specify the number of years of service in each:*

Number of years serving in the same institution as a FACULTY MEMBER \_\_\_\_\_

Number of years serving in the same institution as an ADMINISTRATOR \_\_\_\_\_

Number of years serving in the same institution BOTH as a FACULTY MEMBER AND an ADMINISTRATOR \_\_\_\_\_

Other: \_\_\_\_\_

**II. Section: Self-representation on the study. According to your preference, please provide a statement that you consider is the best way to represent you with anonymity in the study.**

*For example: "Participant #1 is a faculty member with administrative functions who also conducts research in her/his field".*

Please provide your own: \_\_\_\_\_

**III. Section: Academic background**

**a. Please indicate the highest level of schooling attained:**

Secondary School                       High School                       Some College

College (Undergraduate)               Graduate School               Other: \_\_\_\_\_

*c2. If the graduate school option was selected, please specify and include the name of the program, the year of completion, and the name of the university that granted the degree.*

Master's in \_\_\_\_\_ Year of completion \_\_\_\_\_ University \_\_\_\_\_

Doctorate in \_\_\_\_\_ Year of completion \_\_\_\_\_ University \_\_\_\_\_

**THANK YOU FOR YOUR COOPERATION**

APPENDIX G

RATIONALES RANKING SURVEY (ENGLISH)

(English version)

*Rationales* are the motivations for integrating an international dimension into higher education (de Wit, 2002, p. 84); they guide the process of internationalization (Knight, 2004). Rationales respond to the *why* a government/sector/organization/ university engages in the process of internationalization, whereas approaches explain the *how* to such responses.

**DIRECTIONS: Considering #1 the highest priority and #4 the least priority, please indicate how the following rationales guide the ASU-ITESM relationship.**

#### RELATIONSHIP-OVERALL

- \_\_\_\_\_ Social/cultural.- Related to the national cultural identity; intercultural understanding; citizenship development; and social and community development.
- \_\_\_\_\_ Political.- Related to foreign policy; national security; technical assistance; peace and mutual understanding; national identity; and, regional identity.
- \_\_\_\_\_ Economic.- Related to economic growth and competitiveness; labor market; and financial incentives.
- \_\_\_\_\_ Academic.- Related to the international dimension of research and teaching; extension of academic horizon; institution building; institution profile and status; enhancement of quality; and international academic standards.

Others not included above (and priority): \_\_\_\_\_

#### RELATIONSHIP-SPECIFICS

**DIRECTIONS: Considering #1 the highest priority and #5 the least priority, please indicate how the following rationales guide the ASU-ITESM relationship.**

- \_\_\_\_\_ International branding and profile. (Quest for name recognition internationally in an attempt to attract the brightest of scholars/students, and high-profile research projects).
- \_\_\_\_\_ Income generation. (Internationalization activities as a way to generate alternative sources of income whether they are profit or cost-recovery oriented).
- \_\_\_\_\_ Student and staff development. (Develop student and staff competencies and skills through internationalization initiatives).
- \_\_\_\_\_ Strategic alliances. (Alliance regarded not as an end unto itself, but as a means to achieve academic, scientific, economic, technological, or cultural objectives).
- \_\_\_\_\_ Knowledge production. (International and interdisciplinary collaboration as key to global problem solving).

Others not included above (and priority): \_\_\_\_\_

APPENDIX H  
RATIONALES RANKING SURVEY (SPANISH)

(Spanish version)

### **Formato para selección de *racionales***

Racionales son los “motivantes para integrar una dimensión internacional en educación superior” (de Wit, 2002, p. 84); ellos guían el proceso de internacionalización (Knight, 2004). Responden al “por qué” un gobierno, un sector, una organización, o una institución de educación superior se comprometen en el proceso de internacionalización, mientras que *abordaje* (approach) explica el “cómo” a tales respuestas.

**INSTRUCCIONES: Siendo el #1 el de mayor importancia, por favor indique con un número del 1 al 4, los racionales que en su opinión guían la relación ASU-ITESM.**

#### **EN LO GENERAL**

- \_\_\_\_\_ Social/cultural: Relacionado con la identidad cultural nacional; a un entendimiento intercultural; al desarrollo de ciudadanía; al desarrollo social y comunitario.
- \_\_\_\_\_ Político: Acerca de política extranjera (foreign policy); seguridad nacional; asistencia técnica; paz y entendimiento mutuo; identidad nacional/regional.
- \_\_\_\_\_ Económico: Relacionado con crecimiento económico y competitividad; mercado laboral; incentivos financieros.
- \_\_\_\_\_ Académico: Relacionado con la dimensión internacional de investigación y enseñanza; extensión del horizonte académico; construcción de la institución; perfil y estatus (de la institución); mejoramiento de la calidad; estándares académicos internacionales.

Otros no enunciados arriba: \_\_\_\_\_

#### **EN LO ESPECÍFICO**

**INSTRUCCIONES: Siendo el #1 el de mayor importancia, por favor indique con un número del 1 al 5, los racionales que en su opinión orientan la relación ASU-ITESM.**

- \_\_\_\_\_ Prestigio y perfil internacional. (Búsqueda de reconocimiento del nombre internacionalmente en un intent por atraer los más brillantes estudiantes e investigadores, así como proyectos de investigación de alto perfil).
- \_\_\_\_\_ Generación de ganancias. (Actividades de internacionalización como una forma de generar Fuentes alternativas de ingreso, ya sea orientados a utilidad económica o recuperación de costos).
- \_\_\_\_\_ Desarrollo de estudiantes y de personal. (Desarrollar competencias y habilidades de estudiantes y personal de staff a través de actividades de internacionalización).
- \_\_\_\_\_ Alianzas estratégicas. (Alianzas consdieradas no un fin en si mismas pero un medio para alcanzar objetivos académicos, científicos, económicos, tecnológicos o culturales).
- \_\_\_\_\_ Producción de conocimiento (Investigación, colaboración internacional y interdisciplinaria para resolver problemas globales).

Otros no enunciados arriba: \_\_\_\_\_

APPENDIX I  
PROFILE OF ASU PARTICIPANTS

*ASU participants*

Participant	Self-representation statement	Total years working for university	Years holding administrative functions
<i>Faculty with administrative functions</i>			
ASU2	Faculty member with administrative functions who also conducts research in his/her field and who considers himself/herself a citizen of the world	22	4
ASU6	Faculty member with administrative functions who also conducts research in her/his field	14	12
ASU9	Faculty member in science policy who also has administrative functions in knowledge enterprise design	8	8
<i>Administrators</i>			
ASU1	N.A.	5-7	--
ASU3	Long time city council developer who has worked for non profit and government sector	8	--
ASU4	An administrator affiliated with a school and who directs global operations of such school	7	--
ASU5	N.A.	8	--
ASU8	N.A.	23	--
<i>Senior leadership</i>			
ASU7	Senior-level administrator with responsibility for student global engagement	2	--
ASU10	Senior administrator with responsibilities for global programs who periodically engages in faculty programs	4	--

*Participants ASU1, ASU5, and ASU8 did not provide a statement.*

APPENDIX J  
PROFILE OF ITESM PARTICIPANTS



*ITESM participants*

Participant	Self-representation statement	Total of years working for the university	Years holding administrative functions
<i>Faculty with administrative functions</i>			
TEC1	Faculty member with administrative functions who also conducts research in his/her field	20	6
TEC6	Program designer, online education; identify clients, design programs	16	--
TEC9	Faculty member with administrative functions who also conducts research in his/her field	31	31
TEC10	Researcher	28	9
<i>Administrators</i>			
TEC2	N.A.	29	--
TEC3	Faculty member with administrative functions	29	17
TEC7	N.A.	20	20
TEC8	N.A.	17	9
<i>Senior leadership</i>			
TEC4	N.A.	25	25
TEC5	N.A.	34	30

*Participants TEC2, TEC4, TEC5, TEC7 and TEC8 did not provide a statement.*

APPENDIX K

RATIONALES (DE WIT, 2002): EVIDENCE FROM DOCUMENTS

EXAMINED

Examples of text passages illustrating academic rationales such as international dimension to research and teaching; academic horizon; and institution building are next,

Section A. Binational Workforce Development clause; item 1: “Programs will allow student mobility under an exchange format, “up to 200 students at each institution, both undergraduate and graduate. Such exchanges will allow students to study at the other

Section B. Academic programs clause: “... the parties will develop a model to create new dual degrees, certificates and/or concentrations that are of demand between ASU and ITESM...” institution” (in compliance with all applicable regulations and laws at the institutional, governing boards, state, and country level.”

Section F. Other Academic Collaborations: “...the parties intend to: continue identifying opportunities for the exchange of faculty and research staff; exchange and educate academic personnel through sabbaticals, short stays, seminars, courses, workshops; jointly develop research programs and projects; jointly develop undergraduate and graduate programs; exchange information in the fields of interest to both institutions; explore opportunities for faculty and student exchange, studies and research; jointly carry out professional and academic events; mutually lend advice, technical support and services; jointly co-edit publications; identify other areas of possible interest and collaboration; jointly market opportunities at the beginning of each semester”.

Examples of text passages illustrating academic rationales such as profile and status and international academic standards are displayed next,

Section C. Distance Learning Network clause; item 3: “The Parties will strategically develop a professional network of communication between partners and other institutions worldwide, including but not limited to establishing an annual virtual conference for the development of technology in education”.

Section D. Binational Research Initiative clause; item 2: “The Parties will agree on the specific metrics of the projects to measure the success of the projects and for consideration of additional resources”.

Examples representing economic rationales, economic growth and competitiveness, and financial incentives are displayed next.

Section B. Academic Programs, clause: “Any model developed will provide for an equal sharing between the parties of the

aggregate net revenues of the new joint dual program in consideration of the equal joint efforts of the parties”.

Section C. Distance Learning Network, item 5 clause: “The Parties will develop ASU and ITESM online partner programs in strategic areas in Latin America and beyond”.

Section D. Binational Research Initiative, item 1 clause: “This investment will be provided to initiate joint projects with the expectation that external funding be obtained”.

Section E. Binational Entrepreneurial Network, clause: “The Parties intend to invest in and implement a binational entrepreneurial network to provide students, alumni and others the opportunity to acquire entrepreneurial skills, knowledge and perspective by generating new ventures and strengthening existing ventures that lead to economic and social development”.

Next, a text passage matching the economic rationale, labor market, is provided.

Section A. Binational Workforce Development, clause: “the Parties intend to promote binational workforce development by jointly developing programs that will prepare graduates of both universities to significantly develop and improve the economies of the countries wherein the students work and/or reside”.

Last, a text passage illustrating the political rationale, technical assistance is shown.

Section E. Binational Entrepreneurial Network, item 3 clause: “The Parties will jointly approach international companies, foundations, and other interested parties for funding and mutually beneficial partnerships”.

APPENDIX L  
RATIONALES (KNIGHT, 2004): EVIDENCE FROM DOCUMENTS  
EXAMINED

Selected examples illustrating a strategic alliance rationale are provided as follows,

General purpose of the agreement clause: “In order to encourage closer academic ties, ASU and ITESM intend to enter into agreements on areas of interest and benefit to both institutions. This Agreement will serve as a general framework for cooperation between the two institutions and is intended to facilitate the development of specific bilateral programs of collaboration”.

Section A. Bi-national Workforce Development clause: “... the parties intend to promote binational workforce development by jointly developing programs that will prepare graduates of both universities to significantly develop and improve the economies of the countries wherein the students work and/or reside”.

Section D. Bi-national Research Initiative clause: “to create a binational research initiative that includes investigation and researchers of all disciplines”.

Text passages illustrating the student and staff development rationale are shown next,

Section E. Bi-national Entrepreneurial Network clause: “to invest in and implement a binational entrepreneurial network to provide students, alumni and others the opportunity to acquire entrepreneurial skills, knowledge and perspective by generating new ventures and strengthening existing ventures that lead to economic and social development”.

Section F. Other Academic Collaborations: “...the parties intend to: continue identifying opportunities for the exchange of faculty and research staff; exchange and educate academic personnel through sabbaticals, short stays, seminars, courses, workshops; jointly develop research programs and projects; jointly develop undergraduate and graduate programs; exchange information in the fields of interest to both institutions; explore opportunities for faculty and student exchange, studies and research; jointly carry out professional and academic events; mutually lend advice, technical support and services; jointly co-edit publications; identify other areas of possible interest and collaboration; jointly market opportunities at the beginning of each semester”.

The following examples illustrate ‘income generation’ and ‘knowledge production’ rationales respectively.

Section B. Academic programs clause: “will develop a model to create new dual degrees, certificates and/or concentrations that are of demand between ASU and ITESM... Any model developed will

provide for an equal sharing between the parties of the aggregate net revenues of the new joint dual program in consideration of the equal joint efforts of the parties”.

Section E. Binational entrepreneurial network, item 3 clause: “The Parties will jointly approach international companies, foundations, and other interested parties for funding and mutually beneficial partnerships”.

Two examples supporting the ‘knowledge production’ rationale are shown next,

Section D. Bi-national Research Initiative, clause: “to create a binational research initiative that includes investigation and researchers of all disciplines”.

Section D. Section D. Bi-national Research Initiative, item 1 clause: “1. The Parties will each invest in an ASU-Tec research grant pool for investigators from both institutions to jointly apply, in the effort of having an economic implication, scientific merit and social and industry development”.

Last, the following example illustrates the ‘branding and profile’ rationale,  
Section C. Distance Learning Network, item 3 clause: “The Parties will strategically develop a professional network of communication between partners and other institutions worldwide, including but not limited to an annual virtual conference for the development of technology in education”.

APPENDIX M  
SUMMARY OF DECLARED, INTERPRETED AND ENACTED  
RATIONALES



Summary: High priority declared, interpreted, and enacted rationales

High priority	Declared rationales		Interpreted rationales	Enacted rationales		
	Academic <sup>1</sup>	(A) International dimension to research and teaching <sup>1</sup>		Faculty	Senior leadership	Administrators
			Academic <sup>1</sup>	Generate revenue from research; attract external funding	Internationalize the university multi-dimensionally; a holistic approach to internationalization	
				Provide students education with a global perspective and with international experiences	Geographical proximity. Arizona and Mexico historically, economically, and culturally “intertwined”	
		Strategic alliance <sup>2</sup>	Strategic alliance <sup>2</sup>		Internationalization/ global engagement is part of university mission/principles	
			“Mutual learning of innovative strategic experiences” <sup>3</sup>		Mutual learning from exchanging experiences; strong drive for innovation transfer	
			“Common or similar vision” <sup>3</sup>			
			“Strategic: Affinity between strategic objectives at both universities” <sup>3</sup>	Conduct research; knowledge production in selected areas		
			“Relationship between our Chancellors” <sup>3</sup>	Universities have a similar profile or philosophy; a shared vision		
				Relationship between the Presidents; a presidential initiative		

Notes: <sup>1</sup>(A) Academic, (E) Economic, (S/C) Social/cultural, and (P) Political; de Wit (2002). <sup>2</sup>Knigh (2004); <sup>3</sup>Response provided by the participant in the survey under “other”.

	Declared rationales	Interpreted rationales	Enacted rationales	
			Faculty	Senior leadership
Moderate priority	Economic <sup>1</sup> (E) Economic growth and competitiveness <sup>1</sup> (A) Extension of academic horizon <sup>1</sup> (A) Institution building <sup>1</sup> (E) Financial incentives <sup>1</sup> Income generation <sup>2</sup> Student & staff development <sup>2</sup> Knowledge production <sup>2</sup>	Economic <sup>1</sup> Social/cultural <sup>1</sup> Institutional branding and profile <sup>2</sup> Student and staff development <sup>2</sup> Knowledge production <sup>2</sup>	Internationalization/global engagement is part of university mission/principles	Globalize faculty; facilitate collaborations with faculty abroad
			Mutual learning from exchanging experiences; strong drive for innovation transfer	Contribute to the development of the communities both universities serve
			Strengthen graduate level research and programs; generate joint publications (*)	Develop school brand; attract Ph.D. level students to our programs (*)
			Rankings for an undergraduate level program (*)	Serve students with high quality experiences in both face-to-face and online programs (*)
			Develop initiatives in online and face-to-face education; research and entrepreneurship	
				Provide students with a global perspective education and with international experiences
				Develop programs in entrepreneurship for acquisition skills, institutional metrics, and wealth creation
				Partnering contributes to our excellence; quality improvement; beneficial use of strengths put together
				Utilize synergies to create international opportunities for students and faculty; and to solve pressing issues in both regions
				Enhance future employability of the student
	Engage in community outreach with social programs			

Notes: (A) Academic, (E) Economic, (SC) Social/cultural, and (P) Political; de Wit (2002); Knight (2004); Response provided by the participant in the survey under "other".

	Declared rationales		Interpreted rationales	Enacted rationales		
	Political <sup>1</sup>	Social/cultural <sup>1</sup>		Faculty	Senior leadership	Administrators
<b>Low priority</b>	(E) Labor market <sup>1</sup> (A) Profile and status <sup>1</sup> (A) International academic standards <sup>1</sup> (P) Technical assistance <sup>1</sup> (A) Enhancement of quality <sup>1</sup> (E) National education demand <sup>1</sup> (S/C) Social learning/personal development <sup>1</sup> (S/C) National/cultural identity <sup>1</sup> (P) Foreign policy <sup>1</sup> (P) National policy <sup>1</sup> (P) Peace and mutual understanding <sup>1</sup> (P) National/Regional identity <sup>1</sup> Institutional branding and profile <sup>2</sup>	Political <sup>1</sup>  Income generation <sup>2</sup>	Economic or financial gain not important		Economic or financial gain not important	

Notes: <sup>1</sup>(A) Academic, (E) Economic, (S/C) Social/cultural, and (P) Political; de Wit (2002). <sup>2</sup>Knight (2004); <sup>3</sup>Response provided by the participant in the survey under "other".