Wilson’s Mantra:
Sensemaking, Loose Coupling, and the Intramural Economic Engagement Interface at the University of Massachusetts

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Abstract

Public research universities face increasing pressure from policy makers and the public to demonstrate economic relevance. As a response to this pressure, universities are adopting an “economically engaged” orientation, taking up and renewing commitments to technology-based economic development, workforce expansion, and cultivation of place through social, cultural, and community development.

Research on university-engaged economic development has generally focused on external aspects of engagement, leaving internal organizational changes largely unexamined. When such research has been internally focused, it has been concerned with specific organizational units or functions within the research mission of the university, such as technology transfer operations or interdisciplinary research centers. In practice, engagement bridges internal and external aspects of the university. University economic engagement must employ aspects of the institution’s teaching and service missions as well as that of research, and it must include efforts across university units, departments, and functions. The lack of research on university adaptation to economic engagement from both an internal and institution-wide perspective has limited our understanding of this continually evolving aspect of university mission. Understanding internal and institution-wide dynamics around economic engagement will help university leaders and other practitioners, as well as researchers and policy makers, to shape more effective models of university-engaged economic development.

Examining how a public research university adapts to a mission orientation of economic engagement provides the opportunity to see what kinds of organizational dynamics are at play. This study closely examined three universities within a public
university system—the University of Massachusetts’s flagship institution in Amherst, its Medical School in Worcester, and its Lowell campus. Twenty-nine participants from these three institutions, the system president’s office, and the state government were interviewed. Using a conceptual framework adapted from the literature on universities and regional development, these interviews were explored through a new concept called the Intramural Economic Engagement Interface (Intramural EEI). This idea encompasses organizational/structural and functional dynamics that play in the university’s move toward an economically engaged orientation. Using an inductive and descriptive research design, the analysis of interview data led to development of case studies for each of the three UMass institutions. In a cross-case analysis, organizational theoretical concepts of sensemaking and loose coupling were applied, through which the characteristics of the Intramural EEI at these UMass institutions were interpreted. The research design and data analysis led to a detailed picture of the interrelationships between rhetoric, structure, and activities—and between the teaching, research, and service missions—and how these interrelationships facilitate adaptation to university-engaged economic development efforts.

The Intramural EEI comprises three domains that were the focus of the study—rhetoric, structure, and activities—and the study yielded key findings in each of these domains. One key finding was that university rhetoric enacts institutional identity interpretation. University actors engaging in identity interpretation focus particularly on reconciliation of institutional identity with institutional image. UMass system President Jack Wilson presented an image to external stakeholders as well as the university community through his mantra: “The path to social and economic development in the
state of Massachusetts runs through the University of Massachusetts.” Participants at each campus sought to resolve this image with the individual identity of their institution. With regard to organization and structure, a key finding was that collaborative models were increasingly important, and coordinating mechanisms were more important than positions, titles, or departments for facilitating such collaborative models. With regard to the activities undertaken by institutions in support of economic engagement goals, an important finding was that there were differential emphases on inputs, processes, and outcomes among campuses when participants described their economic engagement efforts. This finding provides an opportunity to examine how different campuses and campus identities relate to views on economic engagement activities.

Based on the findings of this dissertation study, propositions for further research and institutional policies and practices related to economic engagement are offered. Recommendations for further research focus not only on deeper examination of the rhetoric, structure, and activities that comprise the Intramural EEI, but also a closer look at the kinds of connections and linkages that are necessary to establish and maintain the interface. Ideas presented related to institutional policy and practice emphasize a campus-level focus on developing definitions and narratives related to economic engagement, and a focus on establishing coordinating mechanisms rather than centralization mechanisms. The propositions and recommendations can support ongoing research as well as policy development in university-engaged economic development.
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Chapter 1
Introduction

“The path to social and economic development in the state of Massachusetts runs through the University of Massachusetts.” – Jack Wilson, President of the University of Massachusetts, 2003 – 2011

As the world increasingly recognizes the value of knowledge in driving the economy and addressing society’s problems, universities—our central producers of knowledge—struggle to adapt to the new demands that result from this recognition. We are living in a “new economy,” but many of our higher education institutions’ approaches to their role in the economy are old. Demands are increasing on research universities to deliver commercially viable technology to stimulate economic growth. The public also expects, more and more, that universities will facilitate and support economic growth by educating the new-economy workforce and helping to start and expand new businesses and industries. Institutions are beginning to recognize that they must respond to pressures to participate in the new economy, and many are finding ways to adapt. As they work to become “economically engaged,” however, many institutions find themselves in the straits of mission and identity conflict.

To understand this conflict, it is important to first paint a picture of the broad, new-economy context. Living in a new economy means that we are a post-agrarian, post-industrial society. It means that ideas become more important than materials. The path to economic growth is through the application of knowledge and ideas, to the creation of useful—and therefore commercially viable—products and services. One alternative
phrase for the new economy is “knowledge economy,” a phrase that places the value of our institutions of higher education front and center, and a phrase with which these institutions are likely quite comfortable given their heritage as arbiters of knowledge. Another moniker for the new economy is “innovation economy.” This phrase emphasizes less, perhaps, the centrality of knowledge and focuses instead on utility. That the new economy is about both advancing knowledge through discovery and making it useful through innovation is itself a source of identity confusion for universities that are trying to be economically relevant—confusion that is amplified through more tangible demands.

Most university leaders are not thinking about how to respond to the new economy, writ large. Instead, they are—particularly if they are at public research universities—thinking about how best to access public resources to advance their institutions. The new economy is not simply the broad context within which contemporary universities operate. The new economy quickly becomes external pressure of public demand for response, and state and federal funding soon follow this demand. Both the federal government and the states develop policies and programs designed to stimulate and grow local, regional, and national economies. Such policies increasingly call for the participation of universities, which eagerly respond by linking higher education to economic development goals, in hopes of shifting dwindling state appropriations for higher education (Weerts & Ronca, 2006). Public research universities work to become economically engaged so that they can tap new resources in support of carrying out their missions.

But what is the mission of a public research university? While the question is not new, the external pressures described above have brought the question into sharp relief.
To many, responses to demands of the new economy are inconsistent with the purpose of universities, which is primarily to advance knowledge through pure research. To others, advancing knowledge is meaningless if research does not lead to innovations that are useful in solving society’s problems, including the challenge of achieving economic health and prosperity. This knowledge-utility divide is at the heart of universities’ economic engagement identity conflict.

A specific example of how this divide becomes expressed at public research universities can be found in the bifurcation of two aspects of university mission: scientific discovery on the one hand and public engagement on the other. Scientists toil in their laboratories, conducting basic research to uncover fundamental connections among the building blocks of life and the physical world. While scientists work on discovery, research administrators—in sponsored research, technology transfer, research compliance, and other offices—work to maintain the funding, legal, and other support necessary to maintain a robust research program at the institution. Others at the university, usually working under a division called “outreach” or “engagement”—sometimes including core faculty members but often not—explore ways in which the resources of the institution can be brought to bear on solving local, regional, national, and even global problems.

Of course, scientists and research administrators are also interested in solving problems; the bifurcation is not so much about the desired outcome as much as it is about the distance between the discovery work of the university and the outcomes. This distance is sometimes created by beliefs about the appropriate role for the university.
There is also, however, a path-dependent\textsuperscript{1} reality in which scientists are not trained to connect their work to concrete problems and universities are not organized to make such connections. Distance between discovery and engagement, combined with lack of understanding of applied work, often means that responsibility for economic engagement is distributed, in a sometimes disjointed way, across the university.

Efforts undertaken by universities can be seen across missions. They include reinforcement and expansion of both basic and applied scientific research programs and technology commercialization efforts, as well as initiatives designed to help universities reach out to and interact with partners in government, business and industry, and community or economic development. Universities are conducting research; supporting the development of research into commercialized technology; and providing technical assistance, workforce development, and entrepreneurial support to help realize the benefits. Some universities are drawing strong connections among these disparate efforts. Others are still trying to figure out how best to link them, and whether linkage is necessary. Both kinds of institutions face the question of identity—which mission to emphasize, how to best align missions.

Working through questions of identity and mission is important if institutions’ economic engagement is to have an impact. The Kellogg Commission on the Future of State and Land-Grant Universities (1999) noted, “although society has problems, our institutions have ‘disciplines’ … [D]espite the resources and expertise available on our campuses, our institutions are not well organized to bring them to bear on local problems

\textsuperscript{1} Path dependence is the tendency to maintain policies or practices, despite the potential existence of better alternatives, simply because they have been maintained historically.
in a coherent way” (p. 9). The Kellogg commissioners were calling on universities to redefine the service mission of public research universities and become engaged in new ways of solving intractable societal problems.

State legislatures have made a similar call, and the institutional response frequently includes an adaptation of organizational structure. In Illinois, for example, the state legislature passed a resolution officially making economic development the “fourth mission” of the University of Illinois. The university responded by creating a system-wide vice president for technology and economic development and changing some reporting structures to insure execution of the fourth mission. Other examples of the variety of organizational approaches include:

- The appointment of vice presidents for economic development, as at the University of Illinois, the University of Washington, and others.
- The restructuring of universities’ research foundations to include a wider array of activities as at the University of Akron and the University of Wisconsin-Madison.
- Closer ties between technology transfer offices and both research and outreach units.
- Research parks and small business incubators working more closely together, as at Purdue University.
- The creation of new boundary-spanning organizations, like Purdue’s Center for Regional Development or the University of Minnesota’s Urban Research and Outreach/Engagement Center.
These and other organizational responses are the visible results of universities’ efforts to align the often-bifurcated discovery and engagement components of their mission and identities, toward the goal of economic engagement.

The political, cultural, and organizational dynamics surrounding questions of mission and identity lead to the kinds of disorganization and lack of coherence identified by the Kellogg commissioners. Public research university leaders are interested in the benefits that might be derived from new-economy policies and programs, and this interest activates questions of mission and identity. University personnel attempt to resolve these questions through a process of organizational adaptation, in which they respond to demands for economic engagement by better organizing their institutions to align the missions of the university—learning, discovery, and engagement. The ways in which universities adapt, and the extent to which adaptation is necessary, are related to a variety of factors including politics, culture, organization, physical and intellectual assets and resources, and leadership. Knowing how organizational adaptation is playing out at public research universities—and what the key factors are in such adaptation—is the first step to understanding the impact of state economic policy on institutional economic engagement efforts.

**Purpose of the Study**

As a definition of economically engaged public research universities comes into sharper focus, it is important to take stock of the organizational mechanisms (what I will call “economic engagement interfaces”\(^2\)) through which institutions achieve engagement.

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\(^2\) The phrase “engagement interface” has been used in prior literature related to university engagement. Fear, Rosaen, Foster-Fishman, and Bawden (2001) coined the term to describe “the setting where collaborators from the academy and society engage each other” (p. 27). N. Franklin and T. Franklin (2010)
objectives and fulfill expectations of federal and state policy as well as public demand.

Both extramural and intramural engagement interfaces are necessary. Extramural and intermediate engagement interfaces have been studied, but I argue that a comprehensive understanding of institutional economic engagement is necessary, including not only extramural and intermediate, but also intramural engagement interfaces. The intramural interface is shaped, in part, by the external context and the extramural economic engagement interface. The intramural interface is an adaptive response to the external context of new-economy policies and the extramural interface’s extension into the university. The purpose of this study, therefore, is to describe within-university organizational mechanisms—the Intramural Economic Engagement Interface, or Intramural EEI—that institutions develop as an adaptive response.

Research Questions

Toward that end, this study sought answers to the following research questions.

1. As universities adapt to a policy context and public expectation that anticipates university participation in economic development, what are the rhetorical, organizational, and programmatic shifts that take place?

use the phrase to describe one of “three virtuous circles … conceived as the constructive interface between the needs and assets of regions and universities” (p. 77).

That is, scholars have examined the ways in which institutions of higher education have interacted with other entities—business and industry, government, non-profit organizations—toward economic development goals. Some of this literature is reviewed in Chapter 3, and see also the body of literature on the “triple helix” of universities, industry, and government, such as Etzkowitz (2003), Etzkowitz (2010), and Etzkowitz & Leydesdorff (2000). The concepts of external or intermediate interfaces are not used by these names, but rather called “partnerships,” “relations,” and others.
Universities respond to the new-economy policy context in what they say they are doing, in the structure of the institution, and the programs and activities of the organization.

2. In what ways do rhetorical, organizational, and programmatic shifts encourage linkages across institutional missions and functions?

Institutions of higher education derive both benefits and challenges from their nature as loosely coupled organizations (Birnbaum, 1988; Weick, 1976). As noted earlier, adapting to the new-economy policy context means both advancing knowledge through research and discovery and delivering utility through knowledge transfer and technology transfer. Because of the loosely coupled quality of universities, these kinds of objectives are advanced in the frequently siloed research and engagement components of university mission. They might be further siloed, or loosely coupled, across academic disciplines or between faculty work and administration. As part of adaptation, universities might attempt to create linkages across any or all of these loosely coupled components through such efforts as internal partnerships, shared programs, councils or task forces. The benefits of loose coupling—including persistence of parts of the organization, increased sensitivity to the institution’s environment, and breadth of novel solutions, among others (Weick, 1976)—might also encourage universities to avoid attempts at creating linkages.

Significance of the Study

This dissertation study addresses gaps in scholarship on the broadening of university mission to include economic development. First, this body of research is not
yet comprehensive in that it has focused largely on the university’s engagement with the 
*external* environment, leaving *internal* changes prompted by this mission orientation only 
partially examined. Second, research has largely focused on *specific organizational forms*
(i.e., functions directly related to technology commercialization or research organizations 
such as interdisciplinary research centers) within the context of the *research mission* of 
The university. By examining the construct of the Intramural EEI, this study considers 
effects of economic engagement across a broader set of university activities, including an 
array of university activities within the research, teaching, and service components of the 
university. Third, existing scholarship on university mission and organizational 
adaptation and research on university engagement have not generally concentrated on the 
effects of economic development work of universities.

**Methods, Cases, and Data**

Using a qualitative research orientation and the case study method, this 
dissertation study sought to explore phenomena related to university adaptation to a new-
economy context. The case study method was appropriate to my interest in context and 
process. A multiple case study approach included data collection at three campuses of the 
University of Massachusetts (UMass)—UMass Amherst, UMass Medical, and UMass 
Lowell. The University of Massachusetts was selected because of the emergent nature of 
economic engagement at the institution—it was an institution where economic 
engagement had not yet been fully institutionalized. To create a bounded system for my 
research, I focused on universities within a single university system and selected the three 
campuses within the system with the highest research expenditures. Data collection for 
the study comprised 20 interviews with economic engagement actors from the three
institutions. To provide context for the case studies, I conducted nine additional interviews with individuals representing the UMass President’s Office and state government organizations. These methods, cases, and data comprised the research base for this dissertation study.

**Organization of this Dissertation**

This dissertation is organized in seven chapters. In Chapter 1, I have presented a case for examining organizational mechanisms for university adaptation to economic engagement in response to public and policy demands. In Chapter 2, I present the conceptual framework for this dissertation study, describing the Intramural EEI. Chapter 2 also details, in three parts, existing literature to support the conceptual frame: (1) literature that describes the new-economy context in which contemporary research universities operate, (2) the body of work that describes institutional responses to a shifting context, and (3) the theories underpinning this study’s analysis—sensemaking and loose coupling. I articulate the details of my research methods for this study in Chapter 3. In Chapter 4, I provide background and context for the case studies—both an historical examination of the University of Massachusetts (the focus institution for the case studies) and descriptions of each of the research sites, including the general perspectives of research participants on the university role in economic development. Chapter 5 presents further background information then three case studies, each representing one of the three campuses of the University of Massachusetts campuses that I have selected for this study. Chapter 6 comprises a cross-case analysis, examining patterns and trends that emerged throughout this study’s interview data. In Chapter 7, I
present propositions to guide further research in this arena, recommendations for future research design, and implications for policy and practice.

**Chapter Summary**

In this chapter, I have argued that universities are increasingly expected to demonstrate their relevance to the new economy. As universities adapt to an economically engaged orientation, it is important to understand the institutional and organizational mechanisms that facilitate such adaptation, and in particular how mechanisms help universities connect across the learning, discovery, and engagement missions. Toward such an understanding, this dissertation study sought answers to two research questions. The first of these questions is, “As universities adapt to a policy context and public expectation that expects university participation in economic development, what are the rhetorical, organizational, and programmatic shifts that take place?” The second research question is, “In what ways do rhetorical and organizational shifts encourage linkages across institutional missions and functions?”

Exploring answers to these questions addresses gaps in the scholarly work on the university role in economic development by examining the *internal* dynamics of a university that is adapting to economic engagement by considering university efforts across the traditional missions of the university rather than in one mission area. In addition, it broadens the literature on university adaptation to include the specific effects of the economic development work of universities. To seek answers to these questions, I undertook qualitative research using the case study method. Twenty-nine interviews with key actors familiar with UMass economic engagement—including individuals on three
UMass campuses, in the system president’s office, and in the state government—
comprised the data set.

In the next chapter, I provide further context for this study. Chapter 2 presents a
conceptual framework for the study, and a review of the literature.
Chapter 2

Conceptual Framework and Literature Review

This dissertation study used as a starting point a conceptual framework related to what might be happening within universities that are adapting to expectations of economic relevance. In this chapter, I describe this framework and provide an extensive review of the scholarly literature that serves as its underpinning.

Conceptual Framework

Economic engagement interfaces exist between the university and its region, within the university, and within regional actors outside the university. The Oxford English Dictionary (1989) defines “interface” as: “A means or place of interaction between two systems, organizations, etc.; a meeting-point or common ground between two parties, systems, or disciplines; also, interaction, liaison, dialogue” (Interface, 1989). My use of the word is meant to suggest that such means of interaction exist between universities and their regions (intermediate), within universities (intramural), and within regions (extramural). My focus is on the within-university interface, and in particular the interaction between the research and service missions. As I describe later, I propose that rhetoric, structure, and activities all play a role in this internal interaction and therefore make up the Intramural Economic Engagement Interface (Intramural EEI).

Interfaces—consisting of organizations, individuals, communications, and other activities—help to create connections across different aspects of both regional development and the work of the university. Elements of the university might be part of either the intramural or intermediate interfaces, or both. For example, a university research park may play a role in its university’s Intermediate Economic Engagement
Interface by developing partnerships with corporate R&D offices. The same research
park may also operate within the Intramural EEI by encouraging internal partnering and
collaboration across university missions by, for example, helping to develop a continuing
education curriculum tied to a specific industrial cluster. On the other hand, a government
relations office may focus its work on developing relationships mainly with actors
external to the university, while the efforts of a university-wide committee or task force
might be focused solely on identifying existing and necessary connections between and
among individuals and units within the institution. Other examples include offices of the
vice president for research, vice president for outreach/engagement (if there is one),
and/or vice president for economic development (if there is one)—these executive offices
most certainly play a significant role in intramural interfaces but may play varying roles
in the intermediate engagement interface.

The constructs of Intramural, Intermediate, and Extramural Economic
Engagement Interfaces are based on the Chatterton and Goddard (2000) description of
“value added management processes.” See Figure 1.
Figure 1. The Institution/Region Value-Added Management Process (Chatterton & Goddard, 2000). The highlighted area indicates the focus of this study, which I have renamed the Intramural EEI.

In the Chatterton and Goddard (2000) model, three processes work to connect an institution of higher education to its region through economic engagement. Internally (left side of model), the “value added institutional management process” connects “the teaching, research, and community service roles using internal mechanisms (funding, staff development, incentives, and rewards, communications, etc.) that make these activities more responsive to regional needs” (p. 26). A similar process works to make connections across purposes and actors outside the university (the “valued added regional management process,” right side of model). The institutional and regional management
processes are connected by the “institutional/regional dynamic interface” which ties the institution’s internal responses to its external ones.

In Figure 1, the highlighted area indicates the focus of my study. For the purposes of this study, the “value added institutional management process” is renamed the Intramural Economic Engagement Interface$^4$ (Intramural EEI) and is the central point of investigation. Though not part of this study per se, I have also renamed the “value added regional management process” as the Extramural Economic Engagement Interface (Extramural EEI) and the “institutional/regional dynamic interface” as the Intermediate Economic Engagement Interface (Intermediate EEI).

The conceptual framework for my study is illustrated in Figure 2 and includes only the institutional side of the Chatterton and Goddard (2000) framework. This dissertation study examined the extent to which the Intramural EEI—made up of university rhetoric, characteristics of organizational structure, and institutional activities—creates connections across the loosely coupled teaching, research, and service missions and across the functional areas responsible for realizing the outcomes of these missions. The Intramural EEI includes both informal initiatives undertaken by individual faculty members and other university personnel to make connections, as well as more formal institution-wide efforts. The ways in which connections are created or integration happens across the interface will likely play a role in the extent to which universities are able to adapt effectively to the policy context created by the new economy. Examination

$^4$ I have changed the terminology from the Chatterton and Goddard (2000) model to emphasize the role of the construct in providing an interface across the missions of the university and to emphasize my focus on economic engagement. Additionally, “institutional value added management process” emphasizes institutional processes broadly, where my construct of an Intramural EEI specifies rhetoric, organizational structure, and activities.
of the Intramural EEI, then, will include an attempt to understand how both individually initiated and institutional-level mechanisms comprise the interface.

**Figure 2:** Conceptual framework for studying the Intramural EEI.

As illustrated in Figure 2, my study will examine the Intramural EEI as an artifact of: (a) the broader environment in which the research university is situated, characterized as an innovation system or innovation network; (b) the response to this environment, institutional adaptation; and (c) the organizational dynamics of sensemaking and loose coupling.

In the literature on regional economic development (the kind of development that is central to the innovation-driven economy) and the role that universities play in regions, the constructs of *innovation systems* and *innovation networks* (Cooke, 1996; Edquist, 2005) are used to characterize the interaction of institutions and organizations. Therefore,
the conceptual framework for this study employed these constructs to describe the economic environment in which research universities currently operate.

Gumport and Sporn (1999a) developed a framework for examining institutional adaptation, rooted in the idea that universities adapt to their external environment (Cameron, 1984). This grounding is appropriate for this dissertation study, examining how universities respond to an external environment that I call the *new-economy policy context*. Gumport and Sporn cited a number of perspectives on open systems organizational theory as the basis of their work. While their focus was on management structures and expansion of administrative roles, their framework is useful in looking across the organizational foci of this study—structure, activities, and rhetoric.

In examining adaptation dynamics more closely in the Intramural EEI, two specific dynamics discussed in organizational literature have been used: sensemaking and loose coupling. Weick (1995) popularized sensemaking in the organizational literature, and the concept was applied to a university setting by Gioia and Thomas (1996). Weick (1976) introduced the idea of loose coupling to the organizational literature with an article about loose coupling in educational organizations. Many organizational theory scholars followed Weick’s lead in exploring these concepts, a number of them specifically in the realm of educational organizations. These concepts provide a helpful framing of the dynamics of the Intramural EEI.

**Literature Review**

The new economy has cast higher education in a central role in advancing economic growth. The dynamics relating to that growth have been extensively researched and described in the literature. Public higher education in particular faces increased
demands from politicians and the public to demonstrate relevance through economic engagement (Geiger, 2006; Geiger & Sá, 2009). Public research universities—the focus of this study—are taking on participation in economic development across a wide array of activities, from conducting scientific research for industry, to efforts to commercialize discoveries, to supporting local entrepreneurs and small businesses.

The development of these kinds of economically relevant roles for higher education and research universities is fraught with tension. On one level, there is tension created by different geospatial definitions of economic development (Arbo & Benneworth, 2007; Malecki, 1997; Rutten, Boekema, & Kuijpers, 2003)—universities and individuals within them are likely to see “economic engagement” differently depending on whether they view the university’s impact on a local, regional, national, or global scale. Disagreement emerges over the very definitions of knowledge and science and the extent to which they ought to be use-driven or theory-driven (Feldman, Link, & Siegel, 2002; Geiger, 2004b; Machlup, 1962; 1980; Mowery, Nelson, Sampat, & Ziedonis, 2004; Rip, 2002). There is dissonance around the influence of commercial markets on higher education and the extent to which the state can and should play a role in advancing innovation (Geiger, 2000, 2004a; Greenberg, 2007; Kealey, 1996; Machlup, 1962; Stein, 2004). Similar to the dissent around the definition of scientific discovery, the model of university engagement is in flux (Bonnen, 1998; Franklin, 2008; Geiger, 2006; Kellogg Commission on the Future of State and Land-Grant Universities, 1999; Matkin, 1997; Rothaermel, Agung, & Jiang, 2007; Shaffer & Wright, 2010), especially in terms of the extent to which it is driven by agricultural extension, social science and community development, or discovery and learning in scientific disciplines. Despite such tensions,
research universities have embraced their role in innovation-driven economic
development and have undertaken such efforts through partnership and collaboration
networks comprised of university, government, business, and non-profit partners.
Participation in these networks requires organizational adaptation on the part of
universities.

This review of the literature explores issues raised by the new economy, describes
perspectives on how these issues change the engagement context in which universities
operate, and details views on how universities adapt to changing environments. I have
written the literature review in three parts. In Part 1, I show how existing scholarly work
paints a picture of the shifting societal context for public higher education. I note how the
tensions described above arise from this context and how these tensions complicate
definitions of university economic engagement (see Table 1 for a summary of the issues
raised in Part 1 of the literature review). This part of the literature review looks at
tensions arising from the economy, from public policy, and from the role of the public
research university in economic development, and how these tensions complicate
definitions of university economic engagement.

Part 2 deals with responses to the societal context and these tensions. Responses
are characterized by change in both the external environment of the university and within
the university. In Part 2, I explore issues related to the changing nature of university
research and engagement; the development of innovation systems and networks, of which
universities are part; and university adaptation to external contexts.

Part 3 examines the literature related to the framing of my study and its subject,
presenting the scholarly work on sensemaking and loose coupling. My theoretical
framework of the Intramural EEI is a mechanism for these organizational dynamics. The bodies of literature describing these contexts, responses, and dynamics scaffolded this study’s conceptual framework and set the stage for the research methods described in the following chapter.

**Part 1: The New Economy and Economic Engagement Contexts**

First, I describe how the broad context of the new economy, and the university’s role in it, are defined in the literature. This section emphasizes tensions raised by the reality of new demands on universities, and how these tensions complicate the ways in which universities might define economic engagement. Three categories of tensions are explored: (1) definitions of the new economy (also called the knowledge economy and innovation economy), (2) public policy in the new economy context, and (3) the role of public research universities. For each category, I explain how these tensions complicate efforts on the part of public research universities to be economically engaged. Table 1 summarizes the ideas presented in the first part of the literature review.
### Literature Review, Part 1: Tensions in the New Economy and Economic Engagement Contexts

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<tr>
<th>Tensions arise from…</th>
<th>These tensions complicate definitions of university economic engagement by…</th>
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<tr>
<td><strong>1. The economy</strong></td>
<td>…the shift from agricultural and industrial economies to a new economy, also called the knowledge economy and innovation economy.</td>
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<td></td>
<td>…raising broad issues about universities’ role in advancing the new economy—should the emphasis be on basic research and advancing knowledge? Or on supporting the application or utility of knowledge through innovation? Or both?</td>
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<td><strong>2. Public policy</strong></td>
<td>…shifting emphases between federal and state levels of support for science in universities.</td>
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<td>…shifting emphases between policy that is focused “upstream” on basic research, and “downstream” on innovation and economic development policy.</td>
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<td><strong>3. The role of the public research university</strong></td>
<td>…a concurrent emphasis on a global economy and regional competitiveness.</td>
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<td>a. Geospatial definitions of economic development</td>
<td>…debates over the purpose of universities—to focus solely on the advancement of knowledge or also to help make knowledge useful in society.</td>
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<td>b. Definitions of knowledge and science</td>
<td>…debates over whether and how government and the marketplace should be influencing scientific research by universities.</td>
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<td>c. Influence of markets and government</td>
<td>…a shift from a one-way “outreach” view of how universities benefit society, to a more interactive “engagement” perspective in which society provides input.</td>
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<td>d. Changing definitions of university engagement</td>
<td>…a shift from a purely social view of university engagement and economic development to one that includes scientific discovery and innovation along with social change.</td>
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Innovation economy, knowledge economy, new economy. The interests of universities to engage in economic development are rooted in the idea that they are operating within a new economy, one that places knowledge and innovation at the center of economic growth and prosperity. As an indicator of interest in the new economy within the public policy realm, a search for this phrase on U.S. federal and state government websites turned up over 5,000 instances of its use. Ideas about and definitions of the new economy are important because differences in wording and content may imply different roles for higher education in the new economy.

Definitions of the new economy found in the literature point to globalization of business and the proliferation of information technology as the key drivers of this new economy (Atkinson & Correa, 2007; Pohjola, 2002) and the centrality of knowledge and innovation (Atkinson & Andes, 2008; Atkinson & Correa, 2007; Martin & Sunley, 2003). There are some important additional characteristics of the new economy outlined by scholars that relate particularly to the role of higher education in this context. Authors point to, for example, the importance of place-based economies and regional clusters (Cortright et al., 2002; Martin & Sunley, 2003) and universities are increasingly highlighting their role in regional development.

The terms innovation economy and knowledge economy are frequently used in the literature as synonymous to new economy (see, for example, Arbo & Benneworth, 2007; Atkinson & Correa, 2007; Cooke & Leydesdorff, 2006; Felin, Zenger, & Tomsik, 2009; Harloe & Perry, 2004; Powell & Snellman, 2004; Welsh, Glenna, Lacy, & Biscotti, 2004).

5 The web search was conducted on Google on October 29, 2010, searching for the exact phrase “new economy” on government sites (*.gov).
Slaughter and Rhoades (2004) and Rhoades (2006) defined the new economy in terms of its impact on universities, specifically the emergence of what they call “academic capitalism.” Cohen, Delong, and Zysman (2000) argued that the term new economy is far too broad to define these dynamics. The authors contended that the phrase is used to mean too many things by too many stakeholders. This assertion may be true, but there is wide agreement in the literature on the essential characteristics of the new economy, as described in this review and subsequent research design.

Even the use of multiple phrases such as knowledge economy and innovation economy suggests varying levels of importance among university roles in the new economy. Knowledge economy places value on the role of universities in advancing knowledge through basic research. Innovation economy, however, shifts importance to the utility of knowledge. Whether knowledge is valued for its own sake, or is significant only in its application, is a fundamental question in the debate about the purposes of higher education generally and the university in particular.

**Public policy in the new economy.** Public policy in the United States has added fuel to the debate around the purposes of university research. This dissertation emphasizes the university role within two sometimes overlapping categories of public investments: (1) science policy and (2) technology-based economic development, or TBED (“t-bed”) policy. For years, shifts of emphasis in both kinds of policies have occurred: between “upstream” investments in basic scientific research vs. “downstream” investments in stimulating economic development activity (Geiger & Sá, 2009). Such shifts have complicated how public research universities define their role in the economy.
Federal science policy has historically been predicated on the idea that useful technology that helps society ought to be the outcome of research, but such technology will not be developed unless universities engage in basic scientific research. Bush’s (1945) *Science—The Endless Frontier* challenged President Franklin Roosevelt to establish federal funding to support basic scientific research and promised that such investments would eventually lead to applied technology and societal advancement. The system that emerged—primarily the research funding mechanisms of the National Science Foundation (NSF) and National Institutes of Health (NIH)—comprises what Geiger & Sá (2009) called “science federalism” (p. 72), in which the federal government leads in science policy, with states acting as a “junior partner” (p. 72). Importantly, however, and as Geiger & Sá documented, shifts are taking place that complicate the science policy picture and engage institutions of higher education in new ways.

In the early part of the 20th century, science federalism focused on funding basic science, but over the years federal funding sources have increasingly begun to support R&D and innovation—scientific research with application in mind—across federal agencies including not only the NSF and NIH, but also the Small Business Administration, Department of Energy, Department of Commerce and others (Block & Keller, 2008). While this practice has expanded funding opportunities, it has left the federal model decentralized in a way that is inefficient (Block & Keller, 2008). And while the federal government led the effort to encourage universities to commercialize scientific discoveries through the Bayh-Dole Act of 1980, the last 30 years have seen an increasing role of the states in supporting scientific research and development (Geiger & Sá, 2009; Plosila, 2004).
An increased role for states’ funding science is particularly salient to public research universities that rely on state appropriations for a portion of their budgets. It is important to note, however, that state investments in scientific research tend, more than federal funds, to be focused on downstream science investments in R&D and commercialization of technology because state science policy is usually economic development policy (Geiger & Sá, 2009; Plosila, 2004; Waits et al., 2008), and the emphasis is on stimulating technology development so that businesses grow and jobs are created. Despite Bush’s (1945) vision of the trickle-down effect of investment in basic scientific research, it is often difficult for state policy makers to see the connection between science investments upstream and economic growth downstream.

These shifts matter to public research universities. Whether research funding is coming from the federal government or state government matters—different kinds and levels of relationships must be developed to garner these types of funding. Whether investments are dominated by upstream or downstream policies also matters, perhaps even more than the source of the funding because, as Plosila (2004) notes, downstream investments have created in higher education leaders an awakened interest in contributing to economic development in a much broader fashion than their traditional focus on research. These contributions include talent (curriculum, customized training, and lifelong learning), technical assistance and problem solving, and regional and state leadership roles for higher education in economic development. (p. 121)

While public research universities will continue to develop world-class research programs focused on basic science, the funding context of the new economy has pushed them to think more broadly—further downstream to include not only technology transfer and commercialization, but also support for entrepreneurship and small business
development. Such expanded roles for universities have been recognized by the Southern Growth Policies Board (Tornatzky, Waugaman, & Gray, 2008) in looking at the role of public research universities in the Southern states, the Rockefeller Institute (Shaffer & Wright, 2010) in outlining the economic development role for public higher education in New York, and many others. Matkin (1990) encouraged universities to define “technology transfer” broadly to include such activities as industrial liaison programs, continuing education, and support for entrepreneurs and small businesses.

As the climate for funding university research has shifted over the last 60 years, the issue of economic engagement has shifted accordingly and now is part of research funding criteria for universities. This trend has created a broad role for universities in contributing to the economic well being of their states and regions, from developing a prepared workforce, to basic scientific research, to outreach and service activities. The next section further explores the kinds of complications that are created for universities in defining economic engagement across such a broad set of institutional purposes and activities.

**The role of the public research university.** Different views on economic engagement have to do with geospatial orientation, fundamental views on knowledge and science, market and government influence on science and research, and scientific vs. social orientations toward university engagement. As universities attempt to undertake economic engagement across these definitions, a confusion of identity and purpose can emerge.

**Geospatial definitions of economic development.** As science policy has become increasingly about technology transfer and involvement by universities even further downstream in economic development activities, one tension that has surfaced is about
where, geographically, public research universities are expected to have an impact. The
geography of TBED policy is increasingly local, moving toward views that emphasize
the importance of place, locality, and regional competitiveness as a driver for global
competitiveness (American Association of State Colleges and Universities, 2002; Arbo &
Benneworth, 2007; Jones, 2005; Krugman, 1991; Malecki, 1997; Rutten et al., 2003).
The role of universities in their local regions, and in particular in the development of
regional “clusters” of businesses built around common technologies and products (Porter,
2000; 2003), is widely described in the literature (Chatterton & Goddard, 2000; Plosila,
2004; Rutten et al., 2003).

An increasing pressure on universities to both think globally and act locally (Arbo
& Benneworth, 2007; Storper, 1997) when it comes to research and engagement agendas
creates this tension. Universities are not always well equipped to think about the local
aspect of their context, especially where scientific and technological research is
concerned (Feldman & Desrochers, 2003).

Definitions of knowledge and science. Further complicating how universities
think about their scientific and technological contributions is a long-standing debate over
whether knowledge and science should be defined in purely intellectual terms—
undertaken for their own sake—or in more applied, or use-based, terms. The academy’s
definitions of what kinds of knowledge and science matter determine how universities
will be engaged in the new economy. Machlup’s (1962, 1980) comprehensive work on
defining and classifying knowledge illustrates how complex a question is “What is
knowledge?” Machlup identifies at least 10 different classes of knowledge across
different schemes of classification before settling on five types: practical, intellectual,
small-talk and pastime, spiritual, and unwanted. The first two—practical and intellectual—are at the center of historic arguments about the purposes of higher education. Despite the purist perspective that higher education ought to be solely for the development of the intellect, knowledge has been defined time and again in practical and even market-based terms. Pillay (2005) discussed knowledge as capital—in the economic sense of an asset or currency that can be exchanged—and also as other forms of capital—social, human, and cultural. Drucker (1993; 2003), widely seen as the originator of the phrase “the knowledge economy,” put into very practical terms the idea that there is an economy of knowledge, noting that, as with the commercial economy, there are distinctions of class and professional status between those with knowledge capital and those without. The market definition of knowledge has resulted in a broader understanding of the practical purposes of higher education.

In the work of research universities, there is a distinction between and among science, or basic scientific research, and technology, or applied research. As noted by Machlup (1980), such classification of knowledge goes back at least to German philosopher Max Scheler’s concepts of Bildungswissen—“knowledge for the sake of non-material culture”—and Herrschaftswissen—“knowledge for the sake of action or control” (p. 106). Machlup considered Scheler’s classification far more sophisticated than the blunt categorizations of intellectual knowledge as “basic” and practical knowledge as “applied.” Some scholars have suggested that perspectives inclusive of the basic and applied views must be adopted. The phrase “strategic science” is increasingly used to communicate the relevance of basic research and its necessity as a foundation for applied research (Rip, 1997, 2002).
Feldman, Link, and Siegel (2002) have suggested that the foundation of current policy can be found in such strategic views of scientific research, tracing the current policy paradigm back to Bush’s (1945) linear model which suggests the following chain of connections: basic research → applied research → development → enhanced production → economic growth. Whatever its source, the policy paradigm today is based on definitions of knowledge that are decidedly market-oriented (Bell, 1973; Machlup, 1962; Mowery & Sampat, 2005) and that have encouraged universities to embrace the practical role of research in fostering economic growth (Geiger, 2004a).

Stokes (1997) encouraged policy makers and university researchers to refine their definition of science that matters by recognizing that, like the work of Louis Pasteur, the science agendas of university researchers could at the same time further the “quest for fundamental understanding” and consider use in society. Later, Florida (1999) suggested that universities are in fact part of the “infrastructure” of economic development and not simply economic “engines,” meaning that a focus on basic scientific understanding is too simple a role for universities. Florida noted, as I argue here, that the discussion of these definitions creates tensions around the university role.

**Influence of markets and government on science.** Florida’s (1999) argument appears mainly designed to demonstrate for readers that fears about universities’ connection with industry are misplaced—he described these fears and tensions at length. In so doing, Florida highlighted an argument that is central to the definitions of

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6 Bush’s 1945 report to the President is widely cited as the source of the linear model. However, it is important to note that, as explained by Balconi, Brusoni, and Orsenigo (2010), the Bush report only suggests the pieces of the model. The linear model is without a doubt an oversimplification of a more dynamic innovation process, but it may also be an oversimplification of Bush’s points.
knowledge and science discussed above and is central to this study. Applied science may not be such a complicating factor were it not for the fact that industrial and public funding drives scientific research.

Veblen (1918) famously railed against the influence of business on universities— influence in terms of the types of science undertaken by researchers and in terms of how universities are managed. Veblen was not the last, of course, to question industrial influence on university research. Greenberg (2007), Slaughter and Leslie (1997), Slaughter and Rhoades, (2004), and Stein (2004) presented considered arguments against market influence on the academy. However, all these authors recognize that the current global societal and economic context of research universities insures that market influence is here to stay. In the end, each presents ideas about how best to balance the goals of both disinterested science and commercially relevant research.

Geiger (2000, 2004a, 2004b) and Machlup (1962, 1980) have presented more nuanced descriptions of the dynamics of applied research and its influence on university science. What Geiger and Machlup both offered is more dissection than argument—detailed analyses of how markets and utility have shaped how we define knowledge and science. One is left with a sense that there is not a battle happening here, between the forces of good (disinterested science) and evil (market influence), but rather an evolutionary process in which paradigmatic shifts require changes in how we practice science and research.

The issue of government influence has not been taken up as widely as industrial influence—perhaps because the federal role in funding basic scientific research has been so strong. One exception is worth noting. Paralleling Veblen’s vehement arguments
against the influence of business on higher education, Kealey (1996), an unabashed believer in free-market innovation, was just as emphatic in his argument against government influence. Kealey traced the history of science—both fundamental and applied—to antiquity, and while recognizing a significant role of the state and universities throughout his account, he railed against scientific dirigisme, claiming that his hero Adam Smith was fundamentally right that academic research does not, by and large, lead to technological innovation and should not be funded by the government. Kealey’s argument adds to the influence debate because it highlights that there are not only questions about the commercial influence on scientific research, but also about universities’ involvement in innovation. The question raised here is the extent to which knowledge should be treated as a public good, and an economic good more specifically.

Questions about industrial and governmental influence are important to this study because they frame the ways in which universities engage in the external environment of the innovation economy and the ways in which they adapt to this environment. The important lessons to be drawn from the literature described here, in my view, have to do with the fact that there are different ways to think about knowledge and science. But the tensions created by different perspectives need not inspire the digging in of heels or nonproductive debates. Such tension might bring forth, instead, efforts to define anew the ways in which universities balance disinterested and use-inspired research as they think about what it means to be economically engaged.

*University engagement models in flux.* Bonnen (1998), in his articulation of “the land-grant idea,” speaks to this need to find balance:
The real question is one of defining or redefining the social role of the university for each age and society so that legitimate needs are met while the university’s intellectual integrity (and therefore, its long-run viability as a social institution) is protected from external encroachment and compromise. (p. 32)

Bonnen’s words point to another facet of the work of teasing out the role of the public research university in the new economy—the issue of what it means to be “engaged” as an institution. Above, I have largely focused on how the research mission of universities is complicated by questions that are drawn into sharp relief by the new economy. Another university mission—service—has also met with some level of disruption.

As noted by Scott (2006), universities have always been social institutions. Scott documented the historical development of university missions, noting that “service is the keynote” (p. 3) throughout this history. From an emphasis on educating men for the “learned professions” (p. 6) (clergy, lawyers, physicians, and businessmen) in the medieval university, to the “formalization of public service” (p. 23) in the modern American university, Scott showed that public service has always been part of what universities do, even when goals like nationalization, democratization, or research have been more dominant.

If, as Scott (2006) suggested, the mission of the modern American university has included formalizing of the service mission, then “formalization” has meant considerable evolution and sometimes confusion about this particular purpose of universities. In considering this evolution, I will review two broad bodies of the literature—university outreach/engagement and university entrepreneurship. I argue that the emerging idea of
“economic engagement” as a significant aspect of universities’ public service is a combination of the perspectives articulated in these two bodies of scholarly inquiry.

In the inaugural issue of the *Journal of Public Service and Outreach* (which, in its sixth volume, became the *Journal of Higher Education Outreach and Engagement*, or JHEOE), Votruba (1996) challenged universities to do a better job of organizing to meet society’s “complex and formidable challenges” (p. 29) by coalescing knowledge around problems instead of academic disciplines. The creation of the journal represented an interest in highlighting the scholarly value of the public service work of institutions of higher education. A review of the journal’s 14 years of articles reveals that it has contributed greatly to defining and advancing the scholarship of engagement (Sandmann, 2008). An important contribution to come from this body of scholarship is a shift in the definition of the university service mission from an the “outreach” model, which had emphasized one-way interactions with universities’ communities, with campus assets delivered to communities, to an “engagement” paradigm, focusing on two-way interaction and reciprocity with communities as the paradigm for university engagement. The Journal changed its name from including the words “Public Service and Outreach” to “Higher Education Outreach and Engagement” a few years after the Kellogg Commission on the Future of State and Land-Grant Universities (1999) encouraged this transition in the way public research universities view their public service mission. A series of articles preceding and following this shift delved into the specifics of the challenge of redefinition from outreach to engagement. This definitional role played by the literature is important because it implies an important change in the environment in which
universities operate—one in which partnerships and interaction with outside entities becomes important. This change will be further discussed in Part 2: Responses, below.

A review of the literature published in the JHEOE is salient to this dissertation study as much for what JHEOE omits as for what it includes. In addition to articles that talk about the definition and execution of universities’ engagement mission, the journal includes a considerable number of articles detailing specific examples of engagement. With few exceptions (Brotherton, 1999; McCutchen, 1998; Pappas, 1998; Walshok, 1996), the journal’s first decade or so did not present engagement activities of the kind central to my study. While many articles mention economic development, few of the initiatives described are related to science- or technology-based economic development (aside from the notable exceptions mentioned above). Indeed, reviewing the tables of contents for most of the journal’s volumes might give the impression that university outreach is somehow owned by the social sciences, and that economic development, in the eyes of engaged scholars, has a definition that really focuses mainly on “community development.” One article (Jaeger & Thornton, 2005) even suggested that university partnerships with business and industry might be antithetical to public service (a sentiment similar to one I heard at the 2010 National Outreach Scholarship Conference, where an attendee introducing herself mentioned disdainfully that her university considered engagement to be partnerships with businesses and industry in the region). The point is not, however, that the engagement literature is hostile to science- and technology-based economic development types of engagement—rather that such types of engagement have not yet been explored fully by scholars of university engagement. This gap in the literature is one that this dissertation study can begin to fill.
A number of articles in the JHEOE in recent years provide what might be a harbinger of change. Scholars (Garber, Creech, Epps, Bishop, & Chapman, 2010; Franklin, 2009; Franklin, Humphrey, Roth, & Jackson, 2010; Franklin, Sandmann, Franklin, & Settle, 2008; Friedman, 2009; Prigge & Torraco, 2006; Roper & Hirth, 2005) have begun to publish calls for and descriptions of university engagement that is focused on economic development and often includes university-based technology and innovation as a central part of the engagement. This trend suggests that these types of engagement are becoming more a part of the mainstream, which will surely help by way of understanding how they contribute to universities’ fulfillment of the service mission.

The other body of scholarly inquiry that is important to consider in the context of university engagement models in flux is that detailing the emergence of the “entrepreneurial university.” When Rothaermel, Agung and Jang (2007) published their now widely cited article “University Entrepreneurship: A Taxonomy of the Literature,” they cataloged 173 refereed journal articles on university entrepreneurship, published worldwide between 1981 and 2005. The authors note that they “define university entrepreneurship broadly … including, but not limited to: patenting, licensing, creating new firms, facilitating technology transfer through incubators and science parks, and facilitating regional economic development” (Rothaermel et al., 2007, p. 692). While such a broad definition may not provide precision in understanding the form and character of the entrepreneurial university, it is appropriate because the body of literature on university entrepreneurship cuts a wide swath across all of these issues. Some of this literature was identified in the previous sections on definitions of knowledge and science and on government and market influence on university research. The idea of the
entrepreneurial university is important because it takes into account all these dynamics and lends another perspective on university engagement.

Combining the perspectives of the literature on university outreach and engagement and the scholarly work on the entrepreneurial university inspires the term that will be central to the inquiry that is the focus of this dissertation study—that of economic engagement. The phrase is not in wide use in the literature by U.S. researchers, but its roots are expressed by a number of scholars. Geiger (2006) and Geiger & Sá (2009) referred to universities’ pursuit of “economic relevance” (p. 411 and p. 1, respectively)—the express efforts of universities to contribute to economic growth through “university expertise, human capital formation, and direct participation in commercial markets” (Geiger, 2006, p. 411). The European literature on universities and economic development—more developed than U.S. research on the topic—frequently uses interchangeably the terms “economic engagement,” “third mission,” and “third stream activities” (see, for example, Ritsila, Nieminen, Sotarauta, & Lahtonen, 2008; Vorley & Nelles, 2008).

In Part 1 of this literature review, I have shown how various bodies of scholarly work have set the context for my study. This context is one of tensions created by the emergence of a “new economy” which reignites age-old questions of the purposes of higher education and forces redefinitions of the ways in which universities engage with their external environments. The literature examined in Part 1 serves as a basis for

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7 In Europe, economic engagement is a “third mission” because universities there are traditionally thought to have two primary missions—teaching and research. In the United States, contribution to economic development is occasionally called the “fourth mission” of higher education (Kelly, 2009; Sá, Geiger, & Hallacher, 2008; Sonka & Chicoine, 2004) because there are three traditional missions of U.S. institutions—teaching, research, and service.
examining the idea of economic engagement. In Part 2, I review literature that helps to put a finer point on this concept and that establishes a foundation for the conceptual framework and Intramural EEI construct I presented preceding the literature review.

**Part 2: Responses**

In his articulation of “the land-grant idea,” Bonnen (1998) notes that “If new knowledge is to produce the greatest social value, research on R&D demonstrates that it must be moved into use as rapidly as possible. This normally requires some institutional interconnection between the research process and society” (p. 49). This idea of “institutional interconnection” is explored in Part 2 of this literature review. This dissertation study focuses on the development of this kind of interconnection as a response to the new-economy context described in Part 1. First, I present literature that describes the response in terms of the university’s relationship to its external environment, an environment characterized by what has been called “mode 2 knowledge production,” “innovation systems,” and “innovation networks.” Then I detail scholarly literature that speaks to the internal university response to this context—adaptation. At the broadest level, adaptation is explored through the scholarly work on open systems. An open systems view of adaptation also sets the stage for Part 3 of this literature review, examining more specifically the ideas of sensemaking and loose coupling. These areas of scholarship undergird the conceptual framework for this dissertation study.

**Universities and their external environments.** I start with the response to the new economy that is manifest in the university’s external environment because I later note that university adaptation is the institution’s attempt to align itself with that environment (Cameron, 1984; Gumport & Sporn, 1999b). To examine university
adaptation, then, it is important to first consider the external environment in which
adaptation happens.

**Research and engagement 2.0.** One consideration of the external environment
has to do with emerging views of knowledge production and the changing university role.
I alluded to these in the conversation about tensions in Part 1. Gibbons et al. (1994)
suggested that we are entering an age of a whole new form of knowledge production—
“Mode 2”—the characteristics of which are: knowledge produced in the context of
application, transdisciplinarity, heterogeneity and organizational diversity, social
accountability and reflexivity, and quality control (Gibbons, 2000; Gibbons, 2003;
Gibbons et al., 1994; Nowotny, Scott, & Gibbons, 2001). The authors note that the
“socially distributed knowledge production system” (Gibbons et al., 1994, p. 10) that
characterizes Mode 2 has emerged because of changes in society such as the development
of new technologies for information and communications that allow for more interaction
across institutional boundaries and increase the kinds of organizations in which research
happens (including corporations, think tanks, etc.). Such changes foment an increase in
research that is situated in application. Mode 2 is driven by external factors, but as the
authors note it also changes the nature of science (a move toward transdisciplinarity, for
example).

Notice that the characteristics of Mode 2 knowledge production sound like the
ideas presented as part of the argument to shift from an “outreach” view of the role of the
university in public service to an “engagement” definition of service. The idea that the
production of knowledge is entering a new “mode” is echoed in similar ideas presented
by scholars who describe a “second wave” of university engagement (Arbo &
Benneworth, 2007) and the “Land Grant Mission 2.0” (N. Franklin, 2008). A number of scholars have attempted to uncover the ways in which Mode 2 knowledge production is playing out in universities (Bleiklie and Byrkjeflot, 2002; Harloe & Perry, 2004; Hessels & van Lente, 2008; Jacob, 2001; Jacob & Hellström, 2000). A variety of university adaptive organizational forms, including interdisciplinary research centers, science and research parks, technology transfer, entrepreneurial support, and new kinds of outreach and engagement initiatives, are identified by authors as expressive of Mode 2 knowledge production or second wave engagement efforts.

**Innovation systems, innovation networks.** Another view of the external environment in which universities currently operate, thanks to the new economy, is presented in the constructs of “innovation systems” and “innovation networks.” Hessels & van Lente (2008) describe the innovation network concept as a “competing approach” (p. 742) to the Mode 2 concept described above. Hessels and Van Lente also note other conceptualizations of the ways in which science is changing—some of which are included in this review of the literature (strategic science, academic capitalism). These alternative constructs are highly inter-related and I have chosen the ones that appear to be most salient to my research.

According to Edquist (2005), the phrase “national system of innovation” originates in print with Freeman (1987), who “defined it as ‘the network of institutions in the public and private sectors whose activities and interaction initiate, import, and diffuse new technologies’” (Edquist 2005, p. 3, quoting Freeman, 1987). It is important to note the use of the word “institution” here as distinct from “organization”—institutions being “sets of common habits, routines, established practices, rules, or laws that regulate the
relations and interactions between individuals and groups” (Edquist & Johnson, 1997, p. 46). While there is similarity between innovation systems and innovation networks, the key difference is that innovation systems operate at the level of institutions, where networks operate at the level of organizations.

The terms “system of innovation” (sometimes “SI”) and “innovation system” (synonymous with system of innovation) originated, as implied by the Freeman definition, as tools for describing national-level inter-institutional interaction. There is an extensive literature on national systems of innovation (see, for example, Lundvall, 1992; Nelson, 1993; Smith, 2005). Also, Mowery and Sampat (2005) discuss the role of the university in the national innovation system. However, distinctions have been made between different geospatial levels of innovation systems, and a body of literature has emerged on regional and local innovation systems (Asheim & Isaksen, 2002; Asheim & Gertler, 2005; Cooke, 2001; Doloreux, 2002; Oughton, Landabaso, & Morgan, 2002) and the role of universities in regional innovation systems (Arbo & Benneworth, 2007; Boucher, Conway, & Meer, 2003; Cooke, 2004a; Gunasekara, 2006). In addition to spatial boundaries for innovation systems, there are sectoral definitions (Breschi & Malerba, 1997; Breschi & Malerba, 2005; Geiger, 2012; Giesecke, 2000; Gregerson & Johnson, 1997) that place boundaries around the system based on industry category.

A key dynamic in all levels of geospatial and sectoral innovation systems is learning—instiutions’ changing patterns of routines, rules, and practices based on observations of other institutions and systems—and this dynamic has also encouraged significant research activity (Asheim & Isaksen, 2002; Cooke, 2001; 2004b; Doloreux, 2002; Edquist & Johnson, 1997; 1999; Powell & Grodall, 2005). The learning dynamic is
the clearest connection between research on innovation systems and the literature on
innovation networks (Edquist, 1999).

Innovation networks, like their system-level counterparts, are about interaction.
Innovation networks, however, explore interactions between organizations and
individuals rather than between institutions. Innovation at the network level has been the
focus of some scholarly activity, including research that discusses the learning dynamic
within networks (Doloreux, 2002; Powell & Grodall, 2005) network characteristics
(Cooke, 1996; Freeman, 1991), and the place of networks within innovation systems
(Asheim & Isaksen, 2002). The innovation network concept is used as a central part of
the framework for this study.

The innovation systems and innovation networks constructs are important to the
study proposed here because they characterize the external environment to which
universities are adapting. Plosila (2004) indicates this importance in talking about state
policy. Though he does not reference research on innovation systems or networks, he
quotes Atkinson, Court, & Ward (1999) in saying that “States’ economic success will
increasingly be determined by how effectively they can spur technological innovation,
entrepreneurship education, specialized skills and the transition of all organizations—
public and private—from bureaucratic hierarchies to learning networks” (p. 4).

University adaptation. Connected to the idea of learning in networks is that of
adaptation. The literature on university organizational adaptation establishes the notion
that internal changes at universities happen because of forces in the external environment
(Cameron, 1984; Gumport & Sporn, 1999b). These external conditions include, noted
Sporn (2001), the changing demands placed on universities and where these demands
originate (Berdahl & McConnell, 1994; Clark, 1998; Gumport & Sporn, 1999b). In
particular, this study examines how universities create or adjust organizational forms in response to environmental changes. Such forms include patenting and licensing activities (Bercovitz, Feldman, Feller, & Burton, 2001; Wood, 2009), the technology transfer offices that carry out such activities (Gumport & Sporn, 1999b; Matkin, 1990), university spin-off companies (Wood, 2009), continuing education, industrial liaison, and entrepreneurial support (Matkin, 1990; Matkin, 1997) efforts. In this study, university adaptation is explored through this lens—internal transformations in organizational forms in response to shifting conditions external to the university.

**Part 3: Sensemaking, Loose Coupling, and the Economic Engagement Interface**

In Parts 1 and 2 of this literature review, I provided an overview of the scholarly work that describes the external context of the university in the new economy, and the adaptive responses of universities. These responses were treated very generally in Part 2. In Part 3 of the literature review, I look more specifically at two types of organizational dynamics that this study examines closely as part of observing the Intramural EEI—sensemaking and loose coupling. The conceptual framework for this study frames these organizational dynamics as central to the interface.

**Sensemaking and the economic engagement interface.** In his 1995 book, *Sensemaking in Organizations*, Karl Weick reviewed the origins of the sensemaking concept and the scholarly literature to date applying the concept in a variety of individual and organizational contexts. The book serves as a field guide to sensemaking, exploring its characteristics, its contexts, and the organizational processes that make up sensemaking and in which sensemaking can be observed. Most importantly for this study, Weick (1995) presents seven characteristics of sensemaking. These characteristics help to
describe what is happening in the Intramural EEI, the central conceptual frame for this study. In the following paragraphs, these seven characteristics are detailed. I follow this enumeration with a description of additional relevant literature on sensemaking.

**Identity.** Weick (1995) notes that sensemaking is “grounded in identity construction” (p. 18), and he emphasizes that individual identity is central. In sensemaking, however, lines are blurred between individual and organizational identity (Dutton & Dukerich, 1991), as individual identity is partly shaped by what individuals think are the perceptions of the organization for which they work. Sensemaking at the organizational level occurs when individuals in the organization collectively reflect on outside views of the organization, and the organization interacts with the outside based on these views (Ring & Van de Ven, 1989). Later work by Gioia and Thomas (1996), described below, delineates these outside perceptions as organizational image and explores the interaction of identity and image in sensemaking. As I have described in earlier parts of this literature review, the response of universities to a new-economy context is intertwined with identity. This characteristic of sensemaking identified by Weick (1995) is central to this study.

**Retrospective.** Weick’s (1995) conception of sensemaking is heavily grounded in the sociological literature, and he turns to Schutz’s (1967) idea of *lived experience* to make the point that sensemaking is retrospective: “…people can know what they are doing only after they have done it” (p. 24). Sensemaking happens in looking back upon experience rather than in-the-moment. Weick (1995) reinforces the retrospective nature of sensemaking by observing that meanings change over time with shifting organizational priorities (Gioia & Chittipeddi, 1991) and that meanings are frequently peculiar to
different levels of the organization (Gephart, 1992). The idea that sense is made of organizational identity or strategy in retrospect, not in advance, is hinted at in other literature. March (1978) describes the notion of *posterior rationality*—essentially that intentions emerge as “interpretation of action” (p. 593) and that action precedes goals. Sá, Geiger, and Hallacher (2008) describe state policy as rationalized rather than rational—the product of reflection rather than strategy.

**Enactive.** Weick (1995) draws a further link between action and sensemaking, noting that the environment is sensitive to the sensemaking process. As sensemaking proceeds, the organization creates an environment that constrains action within the evolving meaning that is emerging from the sensemaking process. As Weick puts it, “sensemaking is the feedstock for institutionalization” (p. 36). Ring & Van de Ven (1989) describe this institutionalization as the development of “action routines” (p. 185).

**Social.** Symbolic interactionism—the idea that one’s thinking and sense of self are rooted in social interaction—is the “unofficial theory of sensemaking” (Weick, 1995, p. 41), and given this connection it is not surprising that an important characteristic of sensemaking, to Weick, is that it is a social process. Weick notes further bases for the interpretation of sensemaking as a social process in the work of March and Olsen (1976), who note that an organization is a “set of procedures for argumentation and interpretation” (p. 25). Weick notes that Gronn (1983) makes the social connection to educational organizations by describing “talk as the work” in such organizations.

Summing up the notion of sensemaking as inherently social, Weick (1995) notes that this social nature of sensemaking is more about coordination of actions than it is about shared
meaning. The focus on both social characteristics and on action are important to this study given that structure and activities are two components of the Intramural EEI.

**Ongoing.** Noting that “people are always in the middle of things” (Weick, 1995, p. 43), Weick explains that sensemaking happens as part of the ongoing flow of projects and activities in an organization. He notes that interruption in the regular flow can be created by the sense that important changes have happened in the organization’s environment. Such interruptions prompt bracketing—suspension of judgment about the change in the environment and a focus on the experience of it—and sensemaking becomes part of the ongoing flow.

**Cues.** Interruptions come at least partly in the form of cues from the environment, according to Weick (1995). Weick notes that cues are what people notice, an antecedent to sensemaking. Weick points to other scholarly perspectives that form the basis for sensemaking’s focus on cues, noting that Smirich and Morgan (1982) describe leadership as “generating a point of reference” (p. 258). The processes of search (Cyert & March, 1963), scanning (Daft & Weick, 1984), and noticing (Starbuck & Milliken, 1988) are all descriptions of a process in which context plays a role in determining cues, according to Weick (1995). Further delineating the importance of context, Weick (1995) calls on the work of Salancik and Pfeffer (1978), noting that the social context “binds people to actions that they then must justify, it affects the saliency of the information, and it provides norms and expectations that constrain explanations” (p. 53). Weick likens the connection between cues and sensemaking to self-fulfilling prophecies—the cue that is extracted from context becomes an idea to which future action is oriented. Sensemakers “act as if,” to use a currently popular phrase, playing to cues that something has changed.
**Plausibility.** Finally, Weick (1995) describes sensemaking as being more about plausibility than accuracy. In a later work (Weick, Sutcliffe, and Obstfeld, 2005), described further below, Weick and his colleagues note, “To deal with ambiguity, interdependent people search for meaning, settle for plausibility, and move on” (p. 419). Starbuck and Milliken (1988) note that executive leaders use approximations rather than completely accurate understanding of situations to make sense of them. Sensemaking, then, bypasses what has been called *analysis paralysis*—optimizing choices or actions based on evidence—and focuses instead on satisficing—working with a good enough perception of needed action. As Weick notes, “In short, what is needed in sensemaking is a good story” (p. 61).

Weick, Sutcliffe, and Obstfeld (2005) elaborated on Weick’s (1995) articulation of these seven characteristics of sensemaking. Occasionally using different terminology, Weick and his colleagues reaffirmed the importance of identity, social contexts, and action in sensemaking. They built upon the earlier inventory of characteristics by providing a more nuanced definition of the extraction of cues through noticing, bracketing, and labeling. Weick, Sutcliffe and Obstfeld (2005) also enlarge the idea that sensemaking is social by adding that it is also systemic, in that organizational structure creates the flow of interaction through which sensemaking occurs. They further describe sensemaking “as activity that talks events and organizations into existence” (p. 413). They link the idea that sensemaking is about action to the ongoing character of sensemaking, and further link action to presumption, describing sensemaking as an ongoing effort to test hunches. The Weick, Sutcliffe, and Obstfeld (2005) expression adds
important layers of complexity to the Weick (1995) inventory of sensemaking characteristics.

Both Weick (1995) and Weick et al. (2005) create a context for my conceptualization of an Intramural EEI. I have expressed this interface as comprising rhetoric, structure, and activities of the university. The characteristics of sensemaking described in the literature relate to these components. For example, rhetoric provides cues about identity—“a good story” upon which interdependent individuals in the organization take action. That sensemaking is social and systemic, and that organizing happens through sensemaking, is related to the structure component of the Intramural EEI. Sensemaking as enactive and ongoing, and an ongoing interplay between presumption and action, is related to the Intramural EEI component of activities. Characteristics of sensemaking form the basis of the interface.

Sensegiving, identity, image, and change. Gioia and his colleagues (Gioia & Chittipeddi, 1991; Gioia and Thomas, 1996) have also built on the idea of sensemaking in ways that are important to this study. Gioia and Chittipeddi (1991) developed the idea that sensemaking is preceded by, and interacts in an ongoing way with, sensegiving. Sensegiving is related to Weick’s (1995) idea that “what is needed in sensemaking is a good story”—that a plausible narrative prompts action. Sensegiving “is about framing” (Smerek, 2009)—about telling the plausible story and persuading individuals in the organization that the story is plausible enough to take action. Gioia and Thomas (1996) later extended this translation of narrative into action by illustrating a case of university leadership prompting strategic change through sensemaking. Importantly, Gioia and Thomas (1996) described the sensemaking process as a process of reconciliation, for
individuals in the organization, of institutional identity with image. If, as Albert and Whetten (1985) note, identity is “what is core, distinctive, and enduring” (p. 280) about an organization, and image is “tied to perceptions of how external constituencies view the organization” (Goia & Thomas, 1996, p. 372), then sensemaking can be a path to resolving differences between the two. The ideas that sensemaking can be enacted through sensegiving, and toward interpreting organizational identity in light of image, are important underpinnings of the present study, which examines adaptation of the university to expectations created by the perceived “new economy.”

**Loose coupling and the economic engagement interface.** As I examine university adaptation in this study, I am particularly interested in the ways in which the loosely coupled nature of the university influences adaptation. Weick (1976) used the phrase “loosely coupled” in discussing education systems. Since then, a number of scholars have used a tight/loose coupling lens to examine how subsystems within universities interact (Birnbaum, 1988; Cameron, 1978). Gumport and Sporn (1999b) connect loose coupling to the idea of university adaptation by noting that Orton and Weick (1990) identify “three types of adaptability: experimentation, collective judgment, and dissent” (p. 20). Sporn (1999) further connects loose coupling to adaptation by noting that “loose coupling supports adaptation at the local (i.e. basic academic unit) level but overall system adaptation might be impeded” (p. 59). Gumport and Sporn do not expand extensively on this connection, and the study proposed here will try to articulate in more detail the link between university adaptation and tight or loose coupling.

Orton and Weick (1990) reflected on much of the scholarly work invoking loose coupling to date. They provided an analysis of varied approaches to the study of loose
coupling and cautioned that these approaches tended to move away from a dialectical interpretation of loose coupling, thereby “weakening the exploratory value of the concept” (p. 203). Importantly, Orton and Weick explain that loose coupling does not equate with no connectivity at all. Rather, loose coupling is the presence of connections that support both the responsiveness produced by tight coupling and the distinctiveness produced by no coupling at all. Orton and Weick also provide a typology of loose coupling, including coupling among individuals, among subunits, among activities, and between intentions and actions. These types of coupling, along with process-outcomes coupling mentioned by Weick (1976), provide some basis for my exploration of loose coupling in the Intramural EEI.

**The literature and the conceptual framework.** Returning to the conceptual framework presented immediately preceding this literature review, I finish this overview of existing scholarly work by making the connection between sensemaking, loose coupling and my construct of the Intramural EEI. The case that I have made, drawing on the literature, is that in the new economy universities adapt to new mission identities. Adaptation occurs through economic engagement interfaces, and the subject of this study is the Intramural EEI—that creates linkages and connections across the learning, discovery, and engagement missions of the university. The interface comprises institutional rhetoric, structure, and activities. The dynamics of sensemaking and loose coupling are operating within the interface. I am arguing that the interface is what happens when a university responds to its external environment characterized by innovation systems and innovation networks.
Hints at the notion of the Intramural EEI can be found across the literature I have reviewed here. Of course, Chatterton & Goddard (2000) provide the inspiration for the construct in their idea of “value-added management processes.” Other scholars mentioned here have also noted that changes in the external context and the university suggest tighter linkages. Plosila (2004) noted that, in the 1980s, a variety of organizational structures and “comprehensive and integrated frameworks” (p. 118) emerged to better connect economic development policy to science, technology, and the roles of higher education. Jacob (2001) focuses on how universities institutionalize Mode 2 knowledge production and describes the organizational forms that emerge. Geiger (2004a) explores the ways in which the market for research affects universities’ internal coordination to participate in such a market. Rhoades (2006), reflecting on his work with Slaughter (Slaughter & Rhoades, 2004), notes the surfacing of “interstitial structures”:

Second, interstitial structures have emerged within colleges and universities to manage the new activities we have discussed—e.g., technology transfer offices, economic development offices. Finally, there is extended managerial capacity within colleges and universities, an investment in infrastructure and personnel, to engage in the work of academic capitalism. (Rhoades, 2006, p. 391)

The dynamics of the external environment of universities in the new economy—Mode 2 knowledge production, second wave engagement, innovation systems and networks—encourage universities to adapt through economic engagement interfaces both between the university and the outside world, and within the university. Building on the scholarly work outlined here, this dissertation study takes a close look at the Intramural EEI.
Chapter 3
Methodology and Methods

The purpose of this dissertation study was to describe the interface that universities create—in response to demands for economic engagement—between and among their teaching, research, and service missions and between the individuals and institutional units that undertake the work of these missions. The findings of the study shed light on what kinds of rhetoric, organizational structures, and individual and institutional activities are undertaken as part of the development of this interface and the ways in which the interface works through loose coupling across missions. Through the study, I sought to answer two research questions:

1. As universities adapt to a policy context and public expectation that anticipates university participation in economic development, what are the rhetorical, organizational, and programmatic shifts that take place?

2. In what ways do rhetorical, organizational, and programmatic shifts encourage linkages across institutional missions and functions?

The Intramural Economic Engagement Interface (Intramural EEI) that I set out to describe is a complex construct, motivated by multiple external factors and comprising an array of institutional characteristics and dynamics. No existing research defines features or parameters for this construct. The complexity of the construct and lack of existing research led to a qualitative, inductive, descriptive research design, and this study employed a multiple case study approach.
A Qualitative Orientation

Krathwohl (1998) asserted, “Qualitative procedures are ideal for complex phenomena about which there is little certain knowledge” (p. 229). Qualitative research allows for deep exploration and rich description through cultural interpretation, combining both the *emic* perspective of the participants and the *etic* perspective of the researcher (Creswell, 2013). Qualitative research recognizes the social aspect of the creation of meaning and attempts to understand this process through the experience of participants in it (Schram, 2003). The idea of university economic engagement is one that is both rich in history and full of new meaning and new interpretations brought about by the context of the new economy. It is a complex idea about which little is yet known—in particular the ways in which university participants develop meaning around the idea. Qualitative research is appropriate for exploration of this emerging topic.

Researchers have noted a particular need for qualitative research in examining innovation and technology-based economic development. Martínez Vela (2007) provided an excellent overview of the scholarly call for inductive and interpretive approaches to understanding these phenomena. Martínez Vela pointed to perspectives on this issue from Edquist (1997, 2001), who argued for more historical and detailed descriptions of innovation systems, and from Freeman (1995), who called for more qualitative information to explain how R&D and innovation happen. As Martínez Vela observed, it is important to understand “the way in which institutions affect the innovation process” (p. 37), and only an interpretive approach to research can describe such process elements of innovation systems, beyond what quantitative measures of inputs, outputs, outcomes—and their relationships to one another—can provide.
I have noted in Chapter 2 the centrality of the theoretical perspectives of sensemaking and loose coupling to this study. The sensemaking idea is based in symbolic interactionism, established by sociologist George Herbert Mead (1934) and named by Mead’s student Herber Blumer (1969). Symbolic interactionism, at its core, is about how people develop meaning through social interaction and act based on the meanings that they develop. Loose coupling, too, is about social construction and interpretative systems (Orton & Weick, 1990). In describing the uses of qualitative research, and their perspective on its underlying assumptions, Corbin and Strauss (2008) reference Mead and the Pragmatist view of knowledge. Among the assumptions presented by Corbin and Strauss (2008) are a number of references to both social interaction and action—ideas that are also central to sensemaking and loose coupling. Given that sensemaking and loose coupling served as analytic lenses for this study, it was most fitting to undertake the study using qualitative methods.

Given that the researcher is the primary instrument of qualitative research, I note also my perspective on qualitative research. Corbin and Strauss (2008) observed that while the most frequently voiced response to “Why do qualitative research?” is “the research question should dictate the methodological approach” (p. 12), the reality is that qualitative researchers will present their research questions so that qualitative research is required, because they are “drawn to the fluid, evolving, and dynamic nature of this approach” (p. 13). As a researcher, I am drawn to this approach. Although I do not think I have structured my research questions so as to require qualitative methods, I am most interested in the types of questions that are best structured in this way—questions about process, about social phenomena, and about meaning-making. I am also most interested
in linking research and practice. I have a pragmatic view of knowledge. Corbin, in Corbin and Strauss (2008), is explicit about the fit between qualitative research and her practical orientation. I find a similar fit.

**Case Study Method**

Yin (2009) noted that the case study qualitative approach is particularly helpful when “the boundaries between phenomenon and context are not clearly evident” (p. 18). As the conceptual framework described in Chapter 2 suggests, this dissertation study was at least partly about exploring and describing boundaries, and the case study method was an appropriate way to gather evidence.

Merriam (1998) provided a detailed examination of definitions of case study research, noting that “case study” can mean the process of conducting the investigation, refer to the bounded system being studied, or name the product of this study. As an approach to conducting an investigation, according to Merriam, a case study is exceptionally appropriate when the researcher is interested in process, and the case study method can help the researcher discover features of the context that are salient. Multiple case study designs, according to Merriam, can provide a “more compelling” interpretation. Through this study, I addressed my interest in the process(es) of university involvement in economic development and in particular the processes internal to the institution that help individuals orient the work of the university in this direction. Given my interest in process, and my underlying belief that the context is important to the ways in which process is undertaken, case study research provided a suitable design for the investigation into my research questions, and a multiple case design held the promise of compelling interpretation.
In the following sections, I provide details of the research design. First, I explain the selection of my cases and how I identified participants for each case. Second, I describe the interview data that I used in developing the case studies and the procedures for collecting the data. Third, I provide details about how I analyzed data. Fourth and finally, I discuss how I worked to insure the validity and reliability of the research.

Case and Participant Selection

I have mentioned that the concept of university economic engagement, though a reality since at least the creation of the land-grant colleges, is still a somewhat emergent idea. A variety of university practices focused on economic development have been undertaken for many years—cooperative extension by land-grant universities, for example, has been formalized for 100 years and was practiced for many years before that. But the holistic notion that a university has a set of practices that might be collected under an economic engagement umbrella is still largely an emergent concept. This fact leads to the first criterion that I used in my search for case study sites—my cases had to be institutions that reflected the emergent nature of economic engagement rather than representing ideal cases where economic engagement had been “figured out” and institutionalized. Examining economic engagement in an institution where the activity was still forming meant capturing perspectives of people who were living the experience rather than asking participants to remember what the experience was like.

Another criterion was an explicit purpose of outreach and engagement. University participation in economic development is a form of university public service, and it was important to identify cases that had the highest level of policy and public expectations for this kind of service. Although all universities describe a “service” component of their
mission, public universities and land-grant universities in particular have public service built into their charter. The second among my criteria for case selection, therefore, had to do with public control and the additional commitment to service held by land-grant universities.

Also listed among my criteria were certain mechanisms for bounding the case studies. Merriam (1998) emphasized the bounded-system nature of case study design, and it was important to find ways to create such boundaries not only for one case study, but for the multiple cases my study would pursue. The mechanisms on which I decided were (1) universities that were part of the same system and (2) the universities within the system that had the highest research expenditures (because of my interest in technology-based economic development). Members of a system and moderate-to-high emphases on research, then, became the bounding criteria for my case studies.

Finally, a criterion that was important to my case study site selection was the ability to access and examine the context in which the case study sites were operating—to understand the cases both in their individual contexts but also as part of the greater whole of which they were part. Since I had determined that public universities within the same system were among my other criteria, this last criterion meant a set of case studies that were part of a system with which I had some knowledge or for which access might be easily attained. Since I was interested in the state policy context of university economic engagement, it would help to have access to and/or knowledge of the state in which my case studies operated.

These criteria led me to the University of Massachusetts and in particular to three of the university campuses that are part of the UMass system: UMass Amherst, UMass
Medical School, and UMass Lowell. The UMass System is relatively young, having grown beyond the Amherst campus to include the Medical School and the Boston campus in the 1960s and 1970s. UMass Lowell and UMass Dartmouth became part of the system in the mid-1990s. The idea of an economic engagement enterprise across the campuses is also young and still emerging, fitting with my first criterion. Although the system office has had a unit focused on economic development since the mid-1990s, campus-level definitions of economic development efforts are still varied.

Other criteria were met by the choice of the University of Massachusetts and the three selected campuses. The three campuses are part of the same system, and I selected the three campuses with the highest research expenditures, leaving UMass Boston and UMass Dartmouth out of the study. Finally, focusing on the University of Massachusetts meant that I would be studying a system within a context with which I was already somewhat familiar and would have some level of access. I had worked as a senior administrator within the Commonwealth’s community college system and was very familiar with the interplay between the state policy context and higher education. Through my work at Penn State and involvement in the APLU, I also had a significant connection that could provide entrée to the university system, the campuses, and state policy actors. The key informant with whom I first worked to establish connections was a member of the system president’s economic development staff. Combined with its nascent economic engagement enterprise, these factors made the UMass campuses in Amherst, Worcester (Medical School), and Lowell a good choice for my study.

**Context: Commonwealth of Massachusetts.** In the Commonwealth of Massachusetts we find clear examples of the new-economy policy context and how
institutions of higher education are adapting to it. For example, in 1982 the state legislature established the Massachusetts Technology Park Corporation—now the Massachusetts Technology Collaborative (MTC)—which over the years has undertaken a number of initiatives to bring together the resources of state government, business and industry, and academia for economic development. In 2004, the MTC established the John Adams Innovation Institute, and in 2005 the Institute funded, at the University of Massachusetts (UMass) Lowell, a Center of Excellence in Nanomanufacturing. More recently, Massachusetts Governor Deval Patrick announced an $80 million partnership with industry and higher education (UMass, Boston University, Harvard University, MIT, and Northeastern University) partners to create the Massachusetts Green High Performance Computing Center in the Holyoke Innovation District. Efforts such as the Center for Excellence in Nanomanufacturing and the Green High Performance Computing Center affect adaptation by universities, most evidently by encouraging them to partner and collaborate with external organizations in potentially new ways.

Reflecting on the Commonwealth’s response to the sudden end of the “Massachusetts Miracle” of the 1980s and the onset of recession, Moussouris (1998) noted, “Massachusetts appears to be a special case in regard to actively stoking the ‘connection’ between higher education and economic development” (p. 91). What made Massachusetts a “special case” was its simultaneous abundance of technological innovation and the emergence of one of the most renowned technology clusters in the world, and the state’s having one of the highest jobless rates in the country during the recession of the late 1980s and early 1990s. Moussouris’s research documented the policy response in Massachusetts’s community colleges. The focus of this study will be
how such Massachusetts efforts have affected adaptation within the state’s public research university, UMass. By way of understanding the context of adaptation on the part of the three UMass campuses selected for this study, my case study research included interviews with actors in the state higher education and economic development policy realms.

**Context: University of Massachusetts System.** Until the 1960s, the University of Massachusetts comprised only the campus in Amherst, which began as Massachusetts Agricultural College and eventually was named University of Massachusetts. During the higher education boom of the 1960s, Massachusetts created a three-campus system by establishing two additional campuses for UMass, the UMass Medical School in Worcester and UMass Boston. Later, in the mid-1990s, the Commonwealth issued a report that tied future economic development to UMass and creating two additional campuses by adding two existing state universities—the University of Lowell and Southeastern Massachusetts University—to the UMass System. They became UMass Lowell and UMass Dartmouth. Although the focus of my study is on three of the five campuses—Amherst, Medical School, and Lowell—I also interviewed UMass System personnel for contextual perspective.

**Cases.** Massachusetts continues to be a recognized leader in the nation and the world with regard to its higher education and technological innovation assets. In the current recession, the Commonwealth is doing better with regard to unemployment—hovering around the middle of state-by-state rankings of unemployment (U.S. Department of Labor Bureau of Labor Statistics, 2010). Despite the economic downturn, the state is still an important and interesting case when it comes to looking at the
relationship between higher education and economic development. In particular, the role of the UMass System is interesting when compared to other states. UMass campuses exist in what is arguably the most competitive higher education market in the nation, with around 80 private four-year degree granting institutions in the state, nine of which are doctoral/research-intensive institutions, including some of the most prestigious research universities in the world (MIT, Harvard, Tufts, Northeastern). How public research universities respond to a demand for economic engagement when private institutions all around them are generating innovation-based benefits for the economy is important to examine because it can help us understand whether and how public institutions play a special role in economic development.

All three of the campuses selected for this study maintain a significant focus on scientific research. The University of Massachusetts was founded as the Massachusetts Agricultural College in 1863 with two-thirds of the proceeds from the sale of land awarded to the state by the Morrill Act of 1862. The other third of the land-grant proceeds went to the recently-founded Massachusetts Institute of Technology, splitting the agricultural and mechanical education goals of the legislation between the two institutions. As the recipient of the agricultural component of the land-grant funding, UMass has a special implied role in supporting the economic weal. This role, especially given the dominance of MIT in technological innovation, is a significant reason for looking at UMass. Over the years UMass Amherst has developed well beyond its initial singular focus on agriculture to include a wide array of science and technology programs, among others. Today UMass Amherst includes a College of Engineering and College of Natural Sciences in addition to the agricultural school. The UMass Medical School
comprises its own campus in Worcester, and UMass Lowell includes colleges and programs in engineering, science, and other fields.

While the UMass system is governed by a president and single board of trustees, the three campuses that served as case studies for my research operate very much as independent institutions. Each campus has its own chancellor and local administration, and the faculty drives the teaching, research, and engagement functions at each campus. Land-grant universities have an explicit public outreach mission, and many of them have also developed into world-class research universities. Selection of a land-grant university for the cases provided an opportunity to examine how the land-grant mission is being expressed in the context of the new economy. This study compared how the land-grant mission has developed in the new economy across three campuses of one institution.

Comparing across three institutions within the state university system allowed for comparison across outreach and engagement settings (rural and urban, diverse economies) and scientific research emphases. It also allowed for comparison between an institution with an agricultural extension mission and those without the extension function or mission. The three institutions share the state policy context within which they operate and the land-grant mission orientation. However, they operate in different kinds of socioeconomic settings and under the goals of separate boards and chancellors. This combination allowed me to investigate how institutions with both similar and different research and outreach goals all respond to a shared state-level economic development policy context on one hand and unique local economic contexts on the other.
Recently, Massachusetts’s state colleges became universities, at least in name. However, the University of Massachusetts remains the state’s public flagship research university. My study focused on the UMass system because within the system there is wide variation among the institution’s five campuses. I selected three of the institution’s five campuses for my study—UMass Amherst, the UMass Medical School in Worcester, and UMass Lowell—because these three campuses are by far the most research-intensive (based on research spending). Examining the three campuses within a single state system provided an interesting insight into public research universities’ role in economic development because within such a system, commitments are made at both the state level by the system office and at multiple regional levels by each of the campuses. This arrangement provided an opportunity to examine, for one thing, loose coupling within multiple layers of systems and subsystems.

Across the selected campuses, there are both similarities and differences which make the examination of these three helpful to the study. Similarities have largely to do with governance—the whole of the UMass system is governed by a single board of trustees. Chancellors follow the lead of the president in the system office, and vice presidents for academic affairs and for economic development in the system office interact with provosts and vice chancellors for research on all three campuses.

How each campus structures teaching, research, and service, however, is different. The types and volume of research undertaken by each campus, for example, differ—UMass Amherst includes an agricultural college and is known for research in computer science, business, and polymer science; UMass Medical School’s research is focused on biomedical research; and UMass Lowell is a recognized leader in nano- and
biomanufacturing, bioinformatics, and advanced manufacturing. Research budgets range from about $32 million at UMass Lowell to about $100M at UMass Amherst and $164 million at UMass Medical School (14%, 13%, and 23% of total operating costs, respectively) (U.S. Department of Education Integrated Postsecondary Education Data System, 2010).

The structure and function of the public service and engagement mission are also different, and changing, across the campuses, supporting their distinctiveness as research sites. At $304 million, public service is a massive 42% of UMass Medical School’s total operating costs (U.S. Department of Education Integrated Postsecondary Education Data System, 2010) but largely takes the form of delivery of medical care. UMass Amherst spends about $25 million (about 3% of its operating costs) on public service while UMass Lowell spends about $2.7 million (about 2% of operating costs) (U.S. Department of Education Integrated Postsecondary Education Data System, 2010). Organizational structures for public service and outreach are also different. At UMass Amherst, there are outreach and agricultural extension divisions, as well as a Vice Chancellor for Research and Engagement. At UMass Lowell, public service is centered in an Office of Community and Cultural Affairs. The varying approaches to public service are helpful in understanding how the university responds to demands for economic engagement.

Another important difference is the socioeconomic and geographic contexts in which each campus sits. UMass Amherst is a rural campus with strong ties to Springfield, one of the Commonwealth’s mid-sized metropolitan areas. UMass Medical School is in

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8 IPEDS defines “public service” as “A functional expense category that includes expenses for activities established primarily to provide non-instructional services beneficial to individuals and groups external to the institution.” (U.S. Department of Education Integrated Postsecondary Education Data System, 2011).
Worcester, the state’s second-largest metropolitan area, and UMass Lowell is in the middle of another of the state’s mid-size metropolitan areas. How each of these campuses views its role in research and public service is likely to be influenced by the needs of local industries and communities.

Above, I provided examples of innovation-based economic development activities that have engaged UMass campuses. Additional examples of such activity are provided here to illustrate the richness of data available in the UMass cases. In the summer of 2010, UMass Amherst announced a partnership with Springfield Technical Community College (STCC) to advance development and growth of the Scibelli Enterprise Center on the STCC campus in downtown Springfield. This initiative represents one aspect of a broader partnership between UMass Amherst and Western Massachusetts’s largest urban area. As part of a commitment to advancing life sciences in the state, the Massachusetts Life Sciences Center in 2007 announced an $8.2M award to UMass Medical School in Worcester to establish a human embryonic stem cell bank. UMass Lowell opened in 2012 a $70 million Emerging Technologies and Innovation Center. Each of these efforts is touted as an opportunity to advance economic development in the Commonwealth of Massachusetts, and each is driven by or engages UMass in a significant role.

Much more information differentiating the three UMass campuses selected for this study is included in Chapter 4 and Chapter 5. Here, I have attempted to demonstrate how the cases selected best represent the concepts I sought to explore in this dissertation study.

Participants. Individual interview participants were identified with the help of key informants at the UMass System level and on each of the campuses. The system-
level key informant was first identified because he was part of my network through work I had been doing at Penn State with the APLU. This key informant served on UMass System President Jack Wilson’s economic development staff and helped to identify and put me in contact with other participants from the UMass System Office. He also helped me identify and introduced me to a key informant at the state policy level. The state-policy key informant helped me to identify additional participants from the higher education and economic development policy perspectives.

The system-level key informant worked with me to develop an email communication from UMass President Jack Wilson to the campus chancellors at UMass Amherst, UMass Medical School, and UMass Lowell (see Appendix A). The email sent by President Wilson resulted in the identification of campus-level key informants who helped in identifying and making contact with appropriate interview participants (see Appendix B, Appendix C, and Appendix D) at each campus.

An initial list of 25 interview participants was identified through this process. Yin (2009) noted the importance of flexibility in case study research design, and flexibility proved necessary as three of the originally identified participants were unable or unwilling to participate. Also, based on interactions with key informants and initial interview participants, I added participants as I went along. In the end, I interviewed 29 participants for the study (all participants were recruited via email based on text in Appendices B, C, and D, and all signed informed consent forms—see Appendix E). Nine of these interview participants provided context from the state policy and UMass System level perspectives—four state policy actors and five individuals working in the UMass System Office. Of the 20 participants representing or affiliated with the UMass campuses
selected for case studies, ten were from UMass Amherst, 4 were from UMass Medical, and 6 were from UMass Lowell.

It is important to note that almost all participants were high-level administrators or staff members in the organizations that they represented. The unit of analysis was the university campus, and therefore it was important to select participants who had a broad view of economic engagement across the institution. To examine such perspectives, it was necessary to focus participant selection on cabinet-level senior executives and senior staff members within appropriate campus units. However, just as some discussion with system level participants and state policy actors provided context for the broad milieu in which the campuses were operating, it may have helped to have spoken with more implementation-level staff and some faculty members and students engaged in specific programs mentioned by other participants. This constraint is further noted in the Limitations section below.

Data Collection

Merriam (1998) described ideal case study research as including all three types of data collection: participant observation, participant interviews, and document analysis. However, Merriam also noted that case study researchers frequently face time or other resource limitations that prevent all three methods from being used equally, and that in education, case studies frequent rely on interviews as the sole data type. My original research design included two of the three types of data—interviews and document analysis. Included in my interview protocol was a question about what documents might be helpful for me to examine as part of my research, and as a result of answers to that question and additional searching that I conducted based on programs or initiatives
mentioned by participants, a number of documents were collected for analysis. However, interview data proved to be rich, and time proved to be more limited than anticipated. In the end, I decided that interview data would have to suffice as the basis of my case studies.

**Interviews.** The interview protocol was designed to elicit information relevant to my research questions. A copy of the researcher’s interview guide is included in Appendix F. Interviews proceeded generally in three parts. The first part of the interview was focused on contextual information for each participant. The questions in this first part of the interview were specifically about how long the participant had been familiar with UMass engagement in economic development (usually, the length of time they had been working for or with the University), and their own definition or understanding of the term “economic engagement.”

In the second part of the interview, I focused on the first of my two research questions, “As universities adapt to a policy context and public expectation that anticipates university participation in economic development, what are the rhetorical, organizational, and programmatic shifts that take place?” Each of these three kinds of institutional “shifts” was dealt with separately in questions that asked participants about their views on how the university communicated about its role in economic development, what kinds of structural or organizational changes had been attendant to an orientation toward economic engagement, and what kinds of university programs or activities were part of these kinds of efforts.

In the third part of the interview, questions were aimed at gathering participant insights into my second research question, “In what ways do rhetorical, organizational,
and programmatic shifts encourage linkages across institutional missions and functions?”

In this part of the interview, I first asked a question about participant perceptions of connections, generally, at the University of Massachusetts. This open-ended question was intended to find out the ways in which participants thought about connectedness and linkages at the university. The following three questions focused three specific types of connections that might be part of creating linkages across university missions. The first of these asked participants to relate their sense of connections that existed between and among individuals or subunits—organizational connections—within the university. The second question encouraged participants to reflect on connections between the universities intentions with regard to its role in economic development, and the actual activities that the university undertook as part of this overall intention. The third question asked participants to share their views on connectedness between university economic engagement activities and economic outcomes in the state. The questions were complex and designed to elicit broad views on the ways in which each campus and its individuals were experiencing economic engagement and the connectivity required for such engagement.

I did not pilot the research questions. Instead, I made adjustments to the research protocol after the first few interviews. There were necessary fixes to the third part of the interview. First, I found that participants tended to respond to questions about connectivity by assuming a normative stance that “more connected” or “strong connections” was better and would mainly talk about how well connected the university was. I did not find such responses helpful for thinking about how connections are created across the loose coupling of the university, so I added an observation before questions
about connectivity that the organizational literature noted both advantages and
disadvantages of both tight and weaker connections. I also asked the questions in such a
way that participants could tell me about connectivity they observed, as well as
connectivity that they felt was necessary between organizational elements, between
intention and action, and between activities and outcomes. Second, I found that asking
participants about connections between university rhetoric about economic engagement
and university activities put participants on the defensive and responses appeared to be
aimed at assuring me that there was more than a hollow rhetorical promise in what the
university said its intentions were with regard to economic engagement. I stopped using
the word “rhetoric” and switched to the phrase “communication about.” A third
adjustment was made to help participants understand that when I asked about connections
between university economic engagement activities and economic outcomes in the state, I
was not asking them to enumerate economic outcomes that were a result of university
efforts, but rather simply to talk about the connections they had observed or felt needed to
be in place to translate university efforts into outcomes. Although participants still tended
to respond by claiming very good connectivity in general, the adjustments appeared to
elicit more thought about the kinds of connections rather than the strength of the
connections.

Data Analysis

Merriam (1998) describes the constant comparative method as a process of
comparing bits of data to one another and grouping data according to similar aspects.
These similar aspects are named and become categories. Eventually, trends in categorical
assignment of data become apparent. This study employed constant comparative analysis
as the primary analytic tool. I describe below how categories were applied to compared data through coding, how patterns were sought, and how cross-case analysis applied the theoretical framework for this study to look at macro-level trends and patterns across all three case studies.

**Coding.** Using Atlas.ti qualitative data analysis software to assist, I coded interview transcripts. Beginning with my research questions and theoretical propositions, I developed an initial set of a priori codes to categorize evidence. In addition to applying a priori codes, however, I also employed open coding to add new categories as I analyzed the data. I remained open to new categories and codes throughout the coding process. In successive rounds of coding, I moved from applying a priori and open codes to more focused coding and development of thematic codes.

**Pattern matching.** Since patterns of development, starting with my construct of an Intramural EEI and connections across university missions, were identified prior to data analysis, a goal of data analysis was to match empirical evidence to predicted patterns. Once patterns in the empirical evidence were identified through coding, they were matched to the theoretical patterns included in the conceptual framework for this study.

**Cross-case synthesis.** Pattern matching analysis is most evident in the cross-case analysis. I compared the theoretical patterns established prior to data collection and embodied in a priori codes with patterns that emerged through open coding, and across the three cases. This synthesis led to the analysis included in Chapter 6 of this dissertation.
Validity and Reliability

“Validity is a goal rather than a product; it is never something that can be proven or taken for granted.” This view presented by Maxwell (2005, p. 105) highlights the fact that, despite expectations of certainty often driven by positivistic views, validity can be established in qualitative research designs. I attempted to establish the validity of this dissertation research by two “tests common to all social science methods” (Yin, 2009, p. 40): construct validity and reliability.  

Construct validity. I identified operational measures that reflect the concepts being studied. The concepts under study were university adaptation, connections within loosely coupled systems, and my abstraction of an Intramural EEI. I measured these concepts by looking for evidence in rhetoric, organizational structure, and specific activities or initiatives undertaken by universities. To further support construct validity, I used interviews with representatives across university functional areas. As part of my data analysis, I conducted member checks (see Appendix G and Appendix H), asking interview participants to check inferences that I made during the analysis of data.

External validity. Because of the qualitative nature of this study, the intent is not to generalize findings to a population or universe (statistical generalization); rather, generalization is made to theory (analytic generalization)—see Yin, 2009. However, because this is a multiple case study design, a replication logic is used to help insure external validity. Pattern matching and addressing rival explanations, typically used in explanatory rather than exploratory or descriptive studies such as this dissertation study,  

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9 Yin identifies four tests, including internal validity in addition to the three that I have addressed. However, internal validity is necessary only for explanatory studies. Since this dissertation study is designed to be exploratory and descriptive, I have not addressed directly the issue of internal validity.
are used in data analysis to establish replication logic between cases. Such replication logic supports the external validity of the study design and generalizability of findings to theory.

**Reliability.** In order to insure that my results can be replicated, I documented and followed a strict case study protocol for each of the cases in my research. The protocol established data collection procedures, an outline of the case study report, and the questions used for each case study (see Appendix F for interview protocol). A preliminary protocol was developed and any diversions from the original protocol that happened within cases were documented. In addition to the study protocol, I created a case study database, including transcripts of the interviews, my investigator notes and reflective memos, and complete case study narratives drafted after completion of data collection. These forms of documentation further enhanced the reliability of my research design.

Merriam (1998) used another word for reliability of qualitative studies—“trustworthiness.” She noted that methods used for establishing trustworthiness in qualitative studies are different from those that establish reliability in quantitative research. Essentially, detailed descriptions of people and phenomena should allow the reader of qualitative research to determine whether the author’s conclusions make sense. I have endeavored to provide such detailed descriptions.

**Limitations**

Despite the strength of my research design, some limitations are notable. I have listed these limitations here and have addressed some of them in Chapter 7 in making recommendations for further research.
One limitation was my own subjectivity related to the topic. Bogden and Biklen (2007) noted that it is impossible for qualitative researchers to be entirely objective, given that interpretation passes through their own minds. Qualitative researchers employ practices such as reflective memos on their own subjectivity and bracketing—or suspending one’s own perspectives and experiences when interpreting the described experiences of others. Although I did take precautions against my own subjectivity’s playing too significant a role in my interpretation, it was difficult to set aside entirely my own perspective, largely because shortly after completing my data analysis I took a full-time position with the APLU that engaged me every day with members dealing with the same phenomena about which I had interviewed participants at UMass. I was not experiencing these phenomena first hand, but I was constantly thinking about them in the course of my work. It was difficult to separate, entirely, my interpretations of these phenomena generally from interpretations of what was happening in the described experiences of my research participants.

Another limitation was mentioned above. Although case study research ideally includes data in three categories—participant observation, interviews, and document analysis—I limited my data analysis to interviews. Both the richness of my interview data and time constraints contributed to this decision.

Glaser and Strauss (1967) recommended case selection for maximum diversity. One of the criteria I employed for selecting my cases limited slightly the diversity of the cases. Because of my interest in technology-based economic development, I limited my case selection to university campuses with higher research emphases. The UMass campuses left out of the study—UMass Boston and UMass Dartmouth—both participate
significantly and noticeably in economic development efforts. Including one of these campuses would certainly have broadened perspectives on the university role in economic development.

I have also mentioned that I limited participant selection to mostly high-level administration and staff. This approach seemed appropriate for a study emphasizing institutional-level adaptation responses. Including faculty members and students may have helped in capturing a more complete picture of adaptation, especially at the level of program or initiative implementation.

One advantage of case studies that also inherently presents a limitation is that they provide rich, thick description. Detailed cases such as those that I provide in this dissertation may be too detailed to be easily consumed and used by policy makers or practitioners. Another limitation of such detailed descriptions, as noted by Merriam (1998), is that they might create an impression that the whole picture is presented, while in reality even detailed and rich descriptions present a simplification of the real world and actual experiences of participants in the phenomena.

**Chapter Summary**

This dissertation study explored the experiences with university economic engagement of individuals at three campuses of the University of Massachusetts—the state’s public research university system. I interviewed 29 administrators and staff members from the three campuses and also—for context—from the university System Office and the state economic development and higher education bureaucracies. Through the articulation and analysis of the three case studies included in this research and further cross-case analysis, I have established findings related to the ways in which public
research universities adapt to a mission orientation that includes engagement in economic development and how such adaptation affects connections across the loosely coupled nature of the university. My findings are aimed at helping policy makers and practitioners understand what contextual factors contribute to an institution’s efforts to be economically engaged so that institutional and public policy can be designed to be supportive of such university efforts.

I employed a qualitative, interpretative approach to this study. This approach allowed for an understanding of process. I conducted interviews using questions developed to align responses with my research questions. I asked participants about their perspectives on the kinds of rhetoric, structure, and activities employed by the university as part of its adaptation to an economic engagement outlook. The interview protocol also included questions about how participants perceived existing and necessary connections—between and among individuals and subunits of the university, between the universities intentions with regard to economic development and the programs and initiatives undertaken in service to these intentions, and between the universities activities and economic outcomes in the state. I analyzed interview transcripts to identify trends and patterns, and after articulating individual case studies I analyzed trends and patterns across all three case studies using the lens of my conceptual framework. This dissertation study was designed and implemented to provide insights into the public research university experience of economic engagement.
Chapter 4

Background and Context

To set the stage for the case studies presented in Chapter 5, I first provide background and context for the cases. Included here is a brief history of the Massachusetts economy and the University of Massachusetts (UMass). A much more detailed version of this history comprises Appendix I. Also included in this chapter are descriptions of each of the case study sites and the contextual sites, including the participants’ perspectives on the role of the UMass in the Commonwealth’s economy. The voices and perspectives of the participants resonate with the historical developments described here, and the case studies are best examined through the lens created by this background and context.

Historical Perspectives on the Massachusetts Economy and the University of Massachusetts

Shortly after the Massachusetts Bay Colony was established in 1630, Massachusetts became home to the first institution of higher education in the United States. Harvard University was founded in 1636, and to this day the Commonwealth of Massachusetts is home to many of the country’s—indeed, the world’s—finest private colleges and universities. Public higher education is a newer phenomenon in the United States, and in Massachusetts it was 1839 before a public institution of higher education was established. This institution was a normal school—the first public normal school in the country—and Massachusetts became one of the leaders of the normal school movement.
Massachusetts is also one of a few epicenters of the knowledge economy. The Route 128 corridor that crawls up the western side of Boston is frequently listed, with Silicon Valley in California and Research Triangle Park in North Carolina, as a key example of how university research feeds development of high technology industry clusters. The development of the Route 128 corridor began with an increased demand for consumer technology products in the 1970s, but its roots are in post-war research spending by the federal government and the relationships among universities and industrial firms in the region (Saxenian, 1996). To understand how UMass fits into both domains—the context of higher education in the state and the growth of the knowledge economy—it is helpful to review the Commonwealth’s economic history, which has contributed to shaping its higher education landscape.

**Economic History of Massachusetts**

The Massachusetts economy has always relied upon the intellectual and practical ingenuity of its people. Beginning with fur trading then farming in the early years of the Massachusetts Bay Colony, and up through the creation of the high tech economy in the late twentieth century, industry and commerce have been shaped as much by the collective intellect as by natural resources.

During the early decades of the Massachusetts Bay Colony and through the end of the seventeenth century, economic activity consisted mainly of trade in furs, fish, and corn. Through the middle of the eighteenth century, agriculture became a significant segment of the economy, along with shipbuilding and shipping. During and after the Revolutionary War, economic division developed and grew. The war created uneven access to markets, both for farmers and for merchants (Brown & Tager, 2000). After the
war, the commerce-friendly policies of the newly independent state fomented deep divisions between farmers in the western part of the state and the commercially oriented leadership in the east (Brown & Tager, 2000). After the failed Shays Rebellion, through which farmers had hoped to affect policy more supportive of their industry, agriculture began to decline.

Agriculture quickly gave way to manufacturing, and during the nineteenth century Massachusetts became a leader of the industrial economy (Brown & Tager, 2000). During the mid- to late-1800s, immigration became a significant factor, helping to meet the labor market needs of the industrial sector. The way in which immigration affected the economy—through the creation of a largely pluralistic society—is an example of how the economic weal in Massachusetts is tied to the collective intellect (Brown & Tager, 2000). When the state later became a leader of the nationwide transition to the new knowledge economy, with high technology at its center, the intellectual resources of the state seeded the transition.

Throughout its history—and especially into the final decades of the 1900s, as it became a leader in high-tech industry—Massachusetts has been subject to its share of boom and bust cycles. The ebbs and flows of economic prosperity in the state have become central drivers in state politics and in the views of state leaders on higher education (Brown & Tager, 2000).

**Influence of Massachusetts Economic History on UMass**

The economic history of Massachusetts provides insight into UMass’s place in advancing the common good in the Commonwealth. Several key issues in the Massachusetts economy are important to attend to as we consider the University’s role in
the state: the quick departure of agriculture as a significant economic segment, boom and bust cycles, and the juxtaposition of pluralism and self-interest. As described above, the Massachusetts economy moved quickly from agriculture and shifted to manufacturing, providing to the state a chance to play a much larger and more diverse role in the growing nation’s economy than an exclusively farming economy would have done. But what could this shift mean for a new college, established in the mid-nineteenth century and focused on agriculture? Boom and bust cycles have characterized the state’s economy, and this also has implications for the development of UMass—it would become difficult for the University to get much attention from the state, its primary benefactor, while the state was busy riding an economic rollercoaster. The mix of pluralism and self-interest that marks the Commonwealth’s historical economic development also relates to the historical development of the University. The mix created a special brand of politics in Massachusetts, and one artifact has been that private higher education and elitism have been pitted against democratic views of broad access.

The establishment and development of UMass have been part of the history described above, and the historical elements described have shaped the University’s identity. In summarizing some of the key elements of the economic history of Massachusetts, I have established a conceptual lens through which to view some of the important issues in the evolution of the University of Massachusetts. In the next section, I provide details on this evolution.

**History of the University of Massachusetts**

Two major themes overarch the chronicle of the University of Massachusetts. One is the reality that UMass has rarely had an opportunity to advance through endogenous
effort. External forces have played an overwhelming role in the development of the institution, and often these forces have served to limit such development. Second, the University has rarely been on firm ground in terms of its purposes and identity. Even when the leaders of UMass have had a clear idea about what the institution’s role should be and a common understanding of its character, such clarity has often collided with differing public or political beliefs. The history of the University of Massachusetts has been a struggle with these forces of control and identity.

**Theme 1: The Other Masters of UMass Destiny**

The leaders of the University of Massachusetts, throughout the history of the institution, have not been the sole masters of its destiny. Leaders of public institutions are, of course, never alone in making the decisions that affect the growth and advancement of those organizations, but UMass has faced particularly pernicious control by external actors. Political and bureaucratic forces have often limited the development of the institution. These limitations have not only included the general restrictions faced by most state-run organizations (for instance, across-the-board budget cuts or shifts in ideology) but have also involved active, targeted attacks on the University, frequently in the form of questioning why it should even exist.

The robust private higher education sector has also limited UMass’s development. Again, this opposition has not always been passive. Competition would be expected in a state with such a strong presence of many private colleges and universities. However, the private institutions of higher education in Massachusetts, throughout the history of UMass, have not just competed, but have in fact actively sought to limit the availability of high quality, broadly accessible, public university education. With both the state
government and its sister institutions in the private higher education sector frequently working against it, UMass has had to fight for its independent identity, for a place at the table, and indeed for its very existence.

**Difficult relations with the state.** One theme that arises when considering the history of the University of Massachusetts is an ongoing refrain of difficult relations between the institution and the state. The source of this contentious relationship can be traced to Massachusetts’s colonial days, but it is also linked to broad and complex issues of state support for public higher education. This question dates to the origin of higher education in Massachusetts and indeed in the nation.

From the earliest days of Massachusetts higher education, when Harvard was founded in 1636, the Massachusetts government grew accustomed to influence over postsecondary education without a lot of investment in it. The mix of public and private participation in both the governance and funding of Harvard meant that the state could exercise control over the institution but not be solely responsible for its fiduciary base. Even by the middle of the nineteenth century, when Massachusetts Agricultural College (MAC) was founded, state interest in maintaining control but not providing funds continued. By the 1890s, the state government did provide some financial support for MAC (after the federal government also committed operational funds as part of the second Morrill Act), but it quickly followed this commitment with even more control over institutional decision making. From the beginning, MAC was doomed to meager advancement because of limited resources, and a dynamic was established: control by the state disproportionate to the level of state support for the institution.
In the twentieth century, MAC would become Massachusetts State College, then the University of Massachusetts. Even with these new designations and concomitant expansion of mission, the state was reluctant to provide more support for UMass. The state awarded university status partly in recognition of an expected expansion of demand for higher education after World War II, and as expectation became reality in the 1950s and 1960s, the state did follow through with more support. As support declined again in the 1970s, however, the state maintained an interest in asserting control over, and shaping the identity of, the institution. The end of the twentieth century was marked by battles between the University—now a multiple-campus system—and the state over control and support. As the new millennium dawned, the relationship was improving, but nearly 150 years of tension had taken their toll, and UMass remained underdeveloped in many ways when compared to its land-grant counterparts in other states.

**Dominance of private institutions.** The difficult relationship between the state government and the University was not the only factor limiting UMass’s development. Another decisive element has proven persistent throughout the history of higher education in Massachusetts and has played a significant role in the development and fortunes of UMass. Since the founding of Harvard in 1636, and despite the public role in the origins of that institution and other independent colleges that came after it, the story of Massachusetts higher education has largely been a story of private colleges and universities. The private institutions in the state—both elite and non-elite—today number around 90, or three times the number of public institutions.

Beyond sheer numbers, these private institutions have historically overshadowed public higher education in the Commonwealth because of three developments: prestige of
the classical curriculum over utilitarian curricula, active resistance to public higher education mounted by the private sector, and public perception that private higher education served the state better overall. It was not unusual for public higher education throughout the United States to focus on utilitarian ends, and in Massachusetts this was absolutely the case. Prestige was won largely by the privates, in terms of both the curriculum offered and, later, in terms of the social differences between public and private institution attendees. Despite their victory of prestige, and the differentiation of audience, the private universities regularly mounted resistance to increased support for or status of public higher education in the state. Since Harvard’s founding, private institutions had enjoyed state support, and more resources for public higher education meant less for the privates. Leaders of the private institutions frequently spoke out against efforts to advance the role of the public institutions, and in the 1960s they formalized their lobbying efforts through the establishment of the Association of Independent Colleges and Universities in Massachusetts (AICUM). Resistance has often been easy to assert in a state where the attitudes of both policymakers and the public tend toward an elevated status for private higher education. It has been difficult for public institutions to challenge the faith invested in the state’s prestigious private institutions, and that faith has shaped both public sentiment toward UMass and policy setting affecting the University. It is difficult to see how the public higher institutions could ever get out from under the total domination of the privates in Massachusetts.

**Theme 1 summary.** The University of Massachusetts has had to struggle for even a modicum of control over its own destiny. External forces have been particularly active in the state in keeping the University from advancing its goals. These forces comprise
mainly the state government, including the legislature and the bureaucracy, and also the private higher education sector in the Commonwealth. The question of whether public higher education in Massachusetts is even necessary, given the strong private institutions in the state, has been on the tongues of the institution’s stakeholders, including the public, throughout its history. This question, and the assertion of it by various actors, has often limited growth of UMass’s growth and has affected the institution’s ability to establish a clear role and purpose in Massachusetts.

**Theme 2: No Firm Ground**

In addition to battling the state government and the private higher education sector, the University of Massachusetts has historically experienced internally focused battles (though often driven by external forces). These struggles have been over purpose and institutional values. The classical/utilitarian divide, discussed earlier, has been a theme throughout the history of U.S. higher education, and discord and debate about this divide have contributed to challenges faced by UMass to gain prestige and at the same time demonstrate its relevance and be a beacon of access. Identity questions are part of a larger set of institutional values—also including organizational culture and norms—and the extent to which the security of these values has fluctuated has also presented a challenge. Throughout the history of the University of Massachusetts, instability has been a central theme in terms of both institutional purpose and the precariousness of institutional values.

**Instability of purpose and identity.** Describing the instability of purpose and identity as a struggle between prestige and access is an oversimplification, but University leaders’ interest in both these ends has frequently confused the means. Questions about
what kinds of curriculum to offer and whom to admit to the institution were perennial at UMass, and answers to these questions varied widely over time, leading to fluctuation in purpose and identity.

The founding of Massachusetts Agricultural College (MAC) was a boon for agriculture boosters in the state, but the need for an agricultural college in the state was questionable given the limited role of farming in Massachusetts by 1862. Still, early leaders of the institution held steadfast to the “Mass Aggie” identity well into the turn of the century. Even as popularity of engineering programs grew in the late nineteenth century, Massachusetts Agricultural College stuck to its roots. Massachusetts Institute of Technology (MIT) had been given a third of the land-grant funds and was expected to steward the mechanical arts portion of the land-grant mission. Even as other public colleges with mechanical and industrial purposes were established in the state (Lowell Textile School, New Bedford Textile School, and Bradford Durfee Textile School), however, MAC maintained an almost singular focus on agriculture. The narrow emphasis, though persistent and stable, was out of step with public demand, which held the institution back into the 1930s.

After the college became Massachusetts State College (MSC) in 1931, leaders began to work toward realizing a new identity. However, instability would remain, and issues of purpose and identity would grow more complicated as MSC became the University of Massachusetts in 1947. Leaders focused on gaining prestige for the institution, often at the same time trying to work toward democratic aims. Becoming prestigious meant becoming more selective, yet leaders knew that they must provide broad access to remain in good standing with state policymakers. The simultaneous goals
of attaining stature and opening access were at odds and exacerbated the instability of UMass’s purpose and identity.

In the latter half of the twentieth century, UMass became a more diverse institution. The 1960s and 1970s saw the opening of an urban campus in Boston and a medical school in Worcester. Adding campuses would seem to provide an opportunity to alleviate pressure on the flagship campus to meet the competing demands of access and prestige. A Boston campus could focus on broader access, and the creation of a medical school could build the reputation of the University’s research enterprise. But the Boston curriculum was focused on liberal arts, an emphasis out of step with the urban audience. The UMass Medical School was a feather in the cap of the system’s graduate education and research, but with the state’s decision to locate the medical campus in Worcester rather than in Amherst, it would be harder for the flagship campus in Amherst to claim the prestige. Growth complicated, rather than settled, issues of purpose and identity.

The third part of the tripartite mission of the university—the “service” in “teaching, research, and service”—is also historically important and of particular salience to this study. Many land-grant and other public universities have a “home” for this mission—a division or office of “outreach” or “engagement.” UMass Amherst closed its outreach division a few years before this research was undertaken. Prior to that decision, public service had varying levels of prominence for the University. Robert Wood, the first president of the three-campus UMass System, emphasized the importance of focusing on public service and even reducing the prominence of graduate research and classical undergraduate programs in favor of service (Freeland, 1992). Commissions on higher education in the 1960s and 1970s (the same period during which Wood was
appointed), however, were critical of the public service role of universities (Freeland, 1992). Earlier in the twentieth century, the President’s Commission on Higher Education (known as the Zook Commission) advocated for a “social” role for universities. At nearly the same time another group, the Commission on Financing Higher Education (also known as the Rockefeller Commission), was critical of universities stepping beyond their core missions of teaching and research. Though the literature is not clear on the impact that these commissions had on “public service” as part of UMass’s identity, the debates raised by their reports no doubt affected conversations about mission and purpose at UMass. In the end, the UMass perspective on public service is central to its current identity as an institution focused on economic betterment of the Commonwealth, as will be explored in subsequent chapters.

Precarious institutional values. Clark (1956), in examining changes in adult education in California, described the ways in which an organization’s values might be “precarious” or “secure” depending on three factors: (1) the extent to which values are defined, (2) the legitimacy of the organization’s functionaries (“those chiefly responsible for the ‘active implementation’ of institutions” (p. 328)), and (3) the extent to which institutional values are acceptable to the organization’s stakeholders.¹⁰ As discussed in the previous section, the definition of UMass’s institutional values, as embodied in its mission and purpose, has for much of the institution’s history not been well defined. Historically, the legitimacy of UMass leaders—in particular the University’s president—has risen and fallen along with economic boom and bust cycles, shifting political winds, 

¹⁰Clark used the phrase “host population” rather than “stakeholder” but meant essentially the same thing—those who are involved in and could be affected by the institution, and those on whom the institution relies for support.
and national trends in public support for higher education. A related issue has been the extent to which UMass’s institutional values have been acceptable to stakeholders. This support has also oscillated, and it was a factor in the presidencies of the organization. Fluctuation between secure and (more often) precarious institutional values has been, along with inconstancy of purpose, a source of instability for UMass.

From the earliest days of MAC, institutional leaders tried to assert the relevance of the institution. While they were unwavering in their commitment to the agricultural mission, the college had, in Clark’s terms, precarious institutional values. MAC presidents during its first 40 years had little legitimacy in the state legislature, failing time and again to secure a commitment of ongoing financial support from the state. The state’s economy had largely moved on from an emphasis on agriculture, making the college curriculum’s emphasis out-of-step and only minimally relevant. Lack of acceptance of MAC and lack of legitimacy of its leaders kept the institution’s values largely precarious.

As the college won new designations as Massachusetts State College and then University of Massachusetts, the tide began to turn toward more secure institutional values. Leaders during this period and in the decades following World War II would fight a battle against precarious values on both internal and external fronts, working to create an institution worthy of its university status and struggling for legitimacy in the eyes of the state house and the public. John Lederle assumed the president’s office in 1960 and oversaw the greatest period of growth in the university’s history. He was able to balance the pursuit of prestige with the goal of expanding access and finally established secure institutional values—better defined and legitimate in the eyes of external stakeholders.
Unfortunately, the security of institutional values that was established under Lederle was short-lived. In the 1970s the UMass began a new struggle for legitimacy. Institutional values were made unstable again not only because two additional campuses complicated definitions of institutional purpose, but also because a new system of administration was established. UMass now had a system president and three campus chancellors. This arrangement meant that institutional values would need advocacy by four leaders, all of whom would need to fight to gain internal and external legitimacy. Further, each campus now struggled for legitimacy not only with government leaders and the public, but also with the system. In terms of institutional values, a university system with three campuses with distinct missions significantly complicated issues.

Security of institutional values would slowly return during the 1980s and 1990s and into the new millennium. University leaders began rhetorically to make direct links between the success of the Massachusetts economy and the success of the University. As lawmakers and the public began to see the value of the University in economic terms, especially during the 40-year period of regular boom-and-bust cycles between 1970 and 2010, UMass began to once again secure its institutional values.

Leaders of UMass during the 1990s and 2000s sought to reinforce the idea that the University served as a significant driver in transforming the Massachusetts economy. Michael Hooker, whose presidency was short-lived (1992-1995), coauthored with Governor William Weld a report, Choosing to Compete: A Statewide Strategy for Economic Growth and Job Creation (Weld, Cellucci, Tocco, & Hooker, 1993). The report called for a significant role for the University in stimulating economic recovery in the Commonwealth. Former Massachusetts Senate President William Bulger took the
mantle of UMass leadership in 1995 and remained for eight years. He was widely respected in Massachusetts, particularly in the statehouse, and brought new legitimacy to the UMass president’s office. Bulger’s successor, Jack Wilson, built upon Bulger’s success in securing institutional values. As subsequent chapters will discuss, Wilson’s approach to defining institutional values in terms of the social and economic welfare of the Commonwealth were particularly important.

**Theme 2 summary.** The history of the University of Massachusetts is a search for the terra firma of clearly articulated purposes and public acceptance of these purposes. In competition for both prestige and resources with a strong private higher education sector, UMass has tried both to imitate the elite identity of some of its competitors and to make clear its commitment to democratic access and relevance to the state’s goals for growth and prosperity. While identity has remained mutable, so has the extent to which the University’s stakeholders have accepted the overall values of the institution. Leaders of the institution have struggled for the footing such acceptance would provide, on the slippery ground of institutional identity. Only in recent years has the ground become firmer and the institution able to assert a strong sense of identity and leverage that for support from the state government and the public.

**Historical Perspectives Summary**

In this section, I have presented an historical context for this dissertation study. Understanding this history is important to understanding the identity that UMass maintains today, as well as the kinds of organizational dynamics to which this identity leads. Identity and organizational dynamics were forged by the history—a history and
context by turns supportive, neutral, and antagonistic to the University’s attempts to grow and to demonstrate value. These themes will be explored in depth in subsequent chapters.

To summarize, I first discussed in this section the challenges that UMass has faced in having its destiny controlled largely exogenously. In particular, the University has operated at the whim of the state government and has always had an antagonistic relationship with its reluctant benefactor on Beacon Hill in Boston. The state’s public research university has also had to suffer the whims of private higher education in the state, forever resistant to the competition created by an institution that would provide broad access to a high quality education. The UMass situation is not unique—all public institutions of higher education must balance endogenous and exogenous control. External control without financial support, however, has been particularly acute in Massachusetts.

Next, I explored the unstable history of the University. One source of instability has been a never-ending attempt to define the purposes or mission of the institution. Definitions have fluctuated between, and have often straddled, emphases on prestige and access. The University’s institutional values have also remained unstable, owing partly to the mutable definition of purposes and mission. Precarious institutional values have also been a consequence of the lack of legitimacy of the University’s functionaries and the waxing and waning acceptance of University values by its stakeholders. Oscillation of defined purposes and of state and public support for the university has characterized the history of the University of Massachusetts.

Freeland (1992) invoked the concept of institutional values. In Freeland’s interpretation, institutional values—“academic ideas, including conceptions of campus
mission … that are rooted in history and have support within the existing university community” (p. 375)—are the second ingredient in an “institutional complex.” The institutional complex is an amalgam of the “multiple forces producing change” at the university. The first part of Freeland’s institutional complex is the fact that institutions are driven by competition for prestige and resources. The second part is the institutional values themselves. Organizational dynamics make up the third factor of the complex.

Connections between the three elements are important to understand. Freeland (1992) raised Clark’s (1956) definition of precarious values and noted that the security of values is directly related to the first part of the institutional complex: The extent to which the university is able to compete for both prestige and resources is a function of how secure its values are. This section has explored this interrelationship between institutional values, prestige, and resources. Another important connection is between institutional values and organizational dynamics. Subsequent chapters of this dissertation will be focused on an exploration of this link.

**Research Sites and Participants**

Before moving to the case studies that are the subject of this dissertation, in this section of Chapter 4 I give voice to the ways in which UMass’s history has affected current perceptions of the University’s role in economic development. The following pages describe each of the three case study sites and the two additional sites (which provided further background and context for the case studies) at which I conducted my research. Along with descriptions of each site, I provide perspectives from each of the participants on what university economic engagement, or participation of the university in economic development efforts, means to them. Their words frequently echo the themes
described in the previous section—many of them noting the context of the state
government and the dominant private higher education sector or describing economic
engagement in the context of shifting purposes and missions of the University. The
descriptions of the research sites and the words of the participants provide further context
for the case studies in Chapter 5.

In Chapter 3, I discussed my decision to conduct this dissertation research at the
University of Massachusetts (pp. 56–58), noting that the selection of a land-grant
university allows for the examination of an institution with an explicit outreach mission,
and an opportunity to see how such a mission is being expressed in the new economy.
The land-grant university in Massachusetts also provides an opportunity to examine the
pursuit of the public mission in an environment where competition from the private
higher education sector is strong. Looking at how university mission has been adapted
across three campuses within the same system allows for further examination of the
public university’s mission in different local contexts—urban and rural settings with
diverse local economies. Campuses in the same system share state-level policy
contexts—both in terms of public policy and university-wide institutional policy. Each
campus, however, interprets these contexts through a local economic environment. My
supposition in undertaking my research at the University of Massachusetts was that I
would find different definitions of what it means to be economically engaged, and
therefore potentially different manifestations of the Intramural EEI.

This second section of Chapter 4 presents descriptions of each of the sites, along
with brief descriptions of the participants from each site and a focus on those
participants’ views and working definition of economic engagement. Two of the sites—
the Commonwealth of Massachusetts (offices representing the state government) and the University of Massachusetts System Office—provide context. The other three sites are campuses of the University of Massachusetts and were the focus of the case studies examined in detail in Chapters 5 and 6.

Figure 3 illustrates the structure of the case study design and visually represents the relationships between the five sites described here. In addition to the three case study sites of UMass Amherst, UMass Medical, and UMass Lowell, interviews were conducted at two contextual sites—the Commonwealth of Massachusetts (state government entities), and the UMass System Office.

Figure 3. Structure of the case study design.

For each of the following descriptions, I first provide details about the offices and related organizations represented at each site. Table 2 lists the offices represented at each site and also the individual participants (pseudonyms) from each site. To mask the
identity of the participants, I describe them separately from the office descriptions so as not to reveal which participant is from each office or related organization. I also use pseudonyms for the participants. The descriptions in this chapter set the stage for the case study analysis in subsequent chapters not only by describing the range of sites represented, but also by describing the lens of each participant on the idea of “economic engagement.”

Table 2

Research Sites and Participants (Pseudonyms)

<table>
<thead>
<tr>
<th>Participants (pseudonyms)</th>
<th>Frank Marcos</th>
<th>Roland Tony</th>
<th>Edith Everett</th>
<th>Horace Morris</th>
<th>Cameron Darrin</th>
<th>Emmett Gerard</th>
<th>Gregg</th>
<th>Harry Jon</th>
<th>Max Nelson</th>
<th>Clyde Owen</th>
<th>Roger Warren</th>
<th>Dianna Elena</th>
<th>Hugh Kara</th>
<th>Russell Veronica</th>
</tr>
</thead>
</table>
The Commonwealth of Massachusetts

“Politics is a blood sport.” The saying, attributed to nineteenth-century British politician Aneurin Bevan, is frequently invoked in describing politics in the state of Massachusetts. Tandberg and Anderson (2011) describe how the blood sport has played out in Massachusetts public higher education, especially in periodic efforts to restructure public higher education governance in the state for what appears to be primarily political reasons. This study was interested less in the political environment in the Commonwealth than it is in the policy context, but of course the two are intertwined.

As is the case in other states, the state government of Massachusetts plays a significant role in both public higher education and in economic development efforts. The state legislature has passed key legislation restructuring and redefining public higher education in the Commonwealth over the past 50 years, in particular reimagining the state university system. Many of these varied efforts were described earlier in this chapter.

One example of state policy is expressly salient to the case studies presented in this study. In 1992 the new governor of Massachusetts, William Weld, directed the implementation of the Saxon Commission’s recommendations (see p. 350 in Appendix I for a description). With the concomitant legislation, a new system-wide board of trustees was established, and two campuses were added to the University system.

The state bureaucracy and legislature have also set policy and enacted laws aimed at boosting the state’s competitiveness and economic growth. As mentioned previously, in 1993, Governor Weld coauthored, with UMass President Michael Hooker, Choosing to Compete: A Statewide Strategy for Job Creation and Economic Growth (Weld et al., 1993). This report solidified a link between public higher education in Massachusetts and
the success of the private sector and set into motion 20 years of policymaking focusing on cluster development, higher education, and technology-based economic development. To gain an understanding of how Massachusetts policy (and politics) has played a role in the development of UMass’s efforts related to economic development, I interviewed participants from four state policy bodies.

Commonwealth of Massachusetts offices. The offices of the Commonwealth in which I interviewed participants were: the General Court of the Commonwealth of Massachusetts (the state legislature), the Executive Office of Housing and Economic Development, the Innovation Institute at the Massachusetts Technology Collaborative, and the Massachusetts Department of Higher Education. The General Court has passed legislation that has significantly remade public higher education in the state and has also passed legislation that has established new approaches to economic development. The Executive Office of Housing and Economic Development (EOHED), reporting to the governor, develops and promulgates policy to encourage a wide array of economic activities, including technology-based economic development. While usually not focused solely on public higher education in the state, technology-based economic development (TBED) policy from the EOHED has a strong influence on research and economic engagement agendas at University of Massachusetts campuses. This connection can be seen in the link between the EOHED and another state government entity—in actuality a quasi-public organization—the Innovation Institute at Massachusetts Technology Collaborative. This organization’s efforts intend to bring together business and industry with academic partners throughout the state to encourage technology transfer and other activities to drive the economy through innovation. The Massachusetts Department of
Higher Education works with the state’s Board of Higher Education, executing board policies with members of the state system of higher education, across a range of functional areas, from academic affairs to research and performance measurement to workforce development. Participants from these four state government organizations provided contextual perspective on the higher education and economic development policy environment in the state and offered insights into UMass’s role. The following sections provide more detail on each of these entities.

**The General Court of the Commonwealth of Massachusetts.** The Massachusetts state legislature, called the General Court of the Commonwealth of Massachusetts, plays a central role in advancing both higher education and economic development policy. The bicameral body includes 40 members in its upper house, the Massachusetts Senate, and 160 members in its lower house, the Massachusetts House of Representatives. The General Court is overwhelmingly Democratic, with, at the time of this writing, 36 Democrats and four Republicans in the Senate, and 128 Democrats and 32 Republicans in the House of Representatives. Fourteen members (35%) of the Massachusetts Senate were UMass graduates, and 34 members (21%) of the House of Representatives were UMass graduates.

**The Massachusetts Department of Higher Education.** The Massachusetts Department of Higher Education includes a 13-member Board of Higher Education and a staff housed within the Massachusetts Executive Office of Education. Before legislation that reorganized higher education governance in 2008, the Board of Higher Education operated separately from the state’s Department of Education. The Board and the
Department now report to the state’s Secretary of Education, as does the state’s Department of Elementary and Secondary Education.

**Massachusetts Executive Office of Housing and Economic Development.**

Secretary Greg Bialecki, who is a member of Governor Deval Patrick’s cabinet, heads the Massachusetts Executive Office of Housing and Economic Development. Housing and Economic Development comprises seven agencies, the names of which provide a clear sense of the Executive Office’s scope of responsibility: Housing and Community Development, Business Development, Consumer Affairs and Business Regulation, Permit Regulatory Office, Performance Management and Oversight, International Trade and Investment, and Travel and Tourism.

**The Innovation Institute at Massachusetts Technology Collaborative.** The Innovation Institute at Massachusetts Technology Collaborative, formerly known as the John Adams Innovation Institute, is a quasi-public organization established by legislation in 2003. The Institute focuses on cluster development, an approach to economic development that emphasizes the nurturing of existing business clusters—concentrations of interconnected and interrelated businesses in a specific geographic area. The clusters supported by the Institute are mainly in the realm of the digital economy, and included in 2013 big data, digital gaming, robotics, and advanced manufacturing. The Institute works with industry, academic, and government leaders to make strategic investments that have a multiplier effect—recipient organizations use investments as leverage to secure federal, private, and civic dollars. The Institute reports a 6:1 ratio of other investments to Institute dollars (Massachusetts Technology Collaborative, 2014). The Innovation Institute at
Massachusetts Technology Collaborative has worked with 78 institutions of higher education, UMass campuses among them.

**Study participants representing the Commonwealth of Massachusetts.** For this study, I interviewed one participant from each of the above-named organizations within the Commonwealth of Massachusetts state government. I will refer to these participants as Marcos, Frank, Roland, and Tony (pseudonyms). These four participants collectively represent just over 20 years of direct experience with or knowledge of the University of Massachusetts’s efforts in economic development. Three of them have studied and/or written about the role of universities or higher education in economic development. All have played decision-making or other leadership roles on policy or programs that affect the UMass and its economic engagement activities. Two of them graduated from the University of Massachusetts.

All the state policy actors interviewed believed that policy in support of technology-based economic development was the right thing to do. Different perspectives emerged, however, regarding the implication of that belief—specifically, how well the state was creating and implementing such policies and what the emphases should be.

**Frank.** Frank spoke little of the role that policymakers have in encouraging UMass’s contributions to economic development. Instead, he talked with a great deal of pride about the contributions made by the UMass campus in his community, pointing out that the contributions to business and industry are just the beginning—and that social and cultural contributions are important as well.

[T]he university is leading the charge to what we define as the new economic development opportunities. They’re engaging leaders in new and emerging
industries. They are also the social and cultural center of the region. They play host to a lot of social and cultural events that add to the quality of life in the region. [This is part of economic development] because when a CEO chooses where they’re going to relocate or expand their company it’s not just the hot, cold, land prices, electricity prices, utility prices, availability of labor—there’s also a quality of life that the CEO is looking for, for himself and his family and his employees and their families. And to have a public university so engaged in not only the economic development but also the social and cultural activities in the region I think is very important.

Marcos. Marcos asserted that Massachusetts was not doing enough to encourage knowledge-based innovation.

[I observed that] Massachusetts was underperforming in the area of public policy in ways that were ultimately going to seriously weaken the state’s economic position. [T]he private sector has sort of given the state a pass in many ways by being so strong in this area. I think it’s particularly the case in R&D. The state of New York has state supported, high-tech research centers on several of its major public campuses. It also supports R&D-oriented research at private institutions. It has seeded these centers all over the state of New York … and other states have done similar kinds of things. Massachusetts just hasn’t done that.

Roland. Roland expressed caution, noting that policymakers must be careful in setting expectations around universities’ participation in the economy, and that the main contribution that universities make is education of students.
When we’re working with the universities I think we always try to be mindful first off that there’s a central role in developing the framework for the future and a new generation. I say that because … it colors the perspective that they have as the role of principal investigators, as teachers, with both mentoring grad students and also working on research projects and doing classroom and transformational work…. Transfer of information is the first, initial, number-one lens through which the universities look at their relationship to developments in the state’s economy.

Roland also noted that policymakers are very mindful of the presence of leading private universities in the Massachusetts higher education ecosystem and what it means for the role of the state’s public research university in technology and innovation policy.

Anything we do at UMass exists within the fact that MIT also exists right now. And the interesting thing is that if you go back 20 years ago you find that the state’s approach to technology policy and innovation actually treated MIT and those other places as important actors. But in terms of state policy now, they treat them really like they’re off to the side doing their own thing. And the state’s policies frequently do focus on the [public] university itself. One reason I mention that is because for better or for worse I think there are implications for UMass. We really open up our perspective where there’s a central role that the University of Massachusetts presents.

Tony. Tony’s perspective also included the idea that the public research university operates within a context that is dominated by MIT and the private universities, and that
this highlights for policymakers their need to engage UMass in economic development policy.

UMass is a fundamental actor in the economy of Massachusetts. Ask the public. The only major public research university in the state, and it’s a tricky environment in Massachusetts because you have these dominant private institutions right? So UMass is in a very particular space. And so we have almost a particular mission of engaging with UMass partly because of its regional scope and its public mission.

Among the state policy actors interviewed there was agreement that the university can and should play a role in economic development not only through development of technology, but also through education and training, and even through the contribution of cultural and social amenities. The policy actors had differing levels of confidence that the state was doing enough to encourage UMass’s participation in these kinds of economic development, and a couple of them were very much aware of the challenge of UMass playing a role in the midst of dominant private institutions that contribute so much in terms of technology development.

The University of Massachusetts System

The system office for the University of Massachusetts, at the time this research was conducted, was physically split between downtown Boston and Shrewsbury—a town just outside of Worcester where the University’s medical school is located. The Donahue Institute, described later, is headquartered in Amherst, near the University’s flagship campus. Many of the executive offices have since moved to the University’s Boston
location, with back-office operations still run out of Shrewsbury and the Donahue Institute still in Amherst.

By the time I began my research, then-president Jack Wilson had been at the University for seven years and had become known for his interest in building a strong central administration for the five-campus UMass system. As one participant, Marcos, noted, “[Jack] just believes, rightly, that there are certain aspects of university life that can be operated on a centralized basis. You don’t need to have five of everything.” Prior to becoming president, Wilson had led the creation of UMass Online, which from its beginnings was a shared effort across the University’s campuses, and he was interested in further strengthening the ability of the President’s Office to bring efficiencies where possible through centralized administration and services. Wilson’s interests also included gaining more recognition for the University’s strong research and technology transfer activities, and emphasizing the University’s role in economic development.

**University of Massachusetts System offices.** I interviewed participants from four offices at the system level of the University of Massachusetts. The first of these, the President’s Office, technically is one-and-the same with the System Office—the two names are used interchangeably by staff. Here, however, I distinguish between the President’s Office (the president and immediate staff members) and three other units within the System Office: the UMass Office of Economic Development; the Donahue Institute; and the Office of Academic Affairs, Student Affairs, and International Relations. Following are descriptions of each of these.

**The University of Massachusetts President’s Office.** The University of Massachusetts President’s Office provides leadership for the five-campus UMass system.
It comprises offices that manage central and shared services, such as Administrative Services, the Building Authority, and UMass Online. Also under the direction of the President’s Office are groups that engage with the state’s governor, legislature, and other external stakeholders and that coordinate strategic planning, academic affairs, and other core activities across the system’s campuses. Three of the teams within the UMass President’s Office with particular relevance to this study are the Office of Economic Development; the Donahue Institute, which provides research, training, and technical assistance services to various stakeholders in the state, with a particular emphasis on economic development initiatives; and the Office of Academic Affairs, Student Affairs, and International Relations (AASAIR). Economic Development, the Donahue Institute, and AASAIR were all represented among participants in my study and are described further in the following paragraphs.

**UMass Office of Economic Development.** The UMass Office of Economic Development coordinates efforts across the five campuses aimed at stimulating economic growth and prosperity in the Commonwealth. Technology transfer operations across the five campuses are coordinated and supported through this office’s Commercial Ventures and Intellectual Property group, as well as the Massachusetts Technology Transfer Center, which also serves other institutions of higher education throughout the state. The Donahue Institute, described next, is also part of the Office of Economic Development. The coordinating role of the office includes development and management of university system-wide interactions with the private sector; other higher education institutions; and state economic, workforce, and technology development agencies. The Office of Economic Development also has a role in promoting the institution as a statewide
resource for economic development, publishing an electronic newsletter and working to
tell the University’s story with regard to economic engagement. The office provides staff
leadership and coordination for the Board of Trustees Committee on Science,
Technology, and Research and coordinates the President’s Science and Technology
Initiatives Fund.

**Donahue Institute.** The Donahue Institute is one of the organizations within the
Office of Economic Development. The Institute is a statewide resource for research,
organizational development, training, and technical assistance related to workforce and
leadership development, economic analysis, and civic engagement. The Institute was
founded in the 1970s by former Massachusetts legislator Maurice Donahue who joined
the faculty at UMass Amherst and also created the Institute for Governmental Services.
In 1989, the Institute, now with a 45-member staff, was renamed in his honor. The
Institute provides a variety of applied social science research and evaluation, workforce
development, consulting, and economic and public policy research services to
government, business, and higher education clients throughout Massachusetts. The
Institute is central to economic development planning and analysis in the state, serving as
publisher of the *MassBenchmarks* economic journal and conducting economic impact
analyses for higher education and state projects. The Institute’s role as a think tank for
economic, workforce, and community development in Massachusetts is significant in the
innovation and economic engagement network at UMass.

**Office of Academic Affairs, Student Affairs, and International Relations.** The
UMass Office of Academic Affairs, Student Affairs, and International Relations
(AASAIR) is the oversight office for academic quality across the University’s five
campuses. The office is the University’s central resource for academic assessment and accountability; reviewing and evaluating proposed new academic programs; working with external agencies and organizations on issues of academic quality; and advising the Board of Trustees and others on policy matters related to teaching and learning, research, and university outreach. Members of the AASAIR leadership and staff coordinate with provosts and other faculty members and administrators across the UMass five-campus system to encourage and support intercampus and interdisciplinary activities. AASAIR’s work is particularly important to this study’s effort to understand how the teaching and learning mission is linked to the institution’s overall economic engagement enterprise.

**Study participants representing the University of Massachusetts System.** Five participants in this study represented the UMass System Office. These participants, representing leadership and staff members of the four functional areas described above, brought a wide range of experience and perspectives to the research interviews. I will refer to these participants as Edith, Everett, Horace, Morris, and Nina. Their backgrounds include scientific research, startup company formation, information technology, distance learning, international consulting, city planning and development, technology and management consulting, and social science research. The five participants from the UMass President’s Office provided invaluable system-wide perspectives on the University’s economic engagement efforts.

Among participants in the UMass System Office, there was a general feeling that the University had a great story to tell with regard to its contributions to the Massachusetts economy, but their perspective was that perhaps the University had been hiding its light under a bushel. The fact that the University lives in the shadow of the elite
private institutions in Massachusetts is clearly part of the dynamic. These individuals highlighted research and education to varying degrees as significant in the story to be told, but all agreed that the story needed to be told and felt that the System Office played a central role in making sure that happened.

**Edith.** Edith presented the University’s engagement as an imperative rooted in its land-grant mission, noting that for these institutions the “discovery of knowledge is a public trust,” teaching is a “moral vocation,” and taking discovery and teaching “beyond the walls of the university” is a “societal obligation.” She explained that while the level of commitment to engagement in economic development has varied with University presidents over time, since Michael Hooker’s presidency there has been a clear commitment—Hooker’s having put a “rhetorical stake in the ground” by naming a Vice President for Economic Development. Still, she noted, it has been difficult to get members of the University community to be willing to tell the institution’s story with regard to its contributions to the economy:

*When I came to Massachusetts I was stunned by the fact that the University seemed to me to be apologetic for its research. I remember being told by one of the deans at the time, on the Amherst campus and who was chairing the research task force related to strategic planning “well we don't want to talk too loudly about research because the legislature thinks we should just teach and they may take more money away from us.” And I found that almost a uniquely Massachusetts attitude and I came to understand it more in the context of these extraordinary privates that happened to be in Massachusetts. So [we] started to*
craft a story, if you will, about the University that asserts its strengths, again building on its mission.

Edith continued with examples of the importance of telling the story of impact by making clear to state legislators how the University was making a difference in every district in the state. It is important, she said, to make it clear that “an investment in the university reaps multiple dividends for the state,” citing a recent economic impact study conducted by the University that showed an 11 to 1 return on every dollar the state invests in the University. Edith noted the importance of the economic impact statement as part of the institution’s communication about its role in economic development, partly because “you get people’s attention when you put dollar signs next to it and describe it in those ways.”

**Everett.** In his description of UMass’s economic engagement, Everett focused on the importance of defining engagement as a two-way interaction so that both the activities of the university and those of partners are informed by one another. Everett was also interested in understanding and differentiating between university efforts in economic engagement from both a national and regional perspective:

Universities talk a lot about contributing to national competitiveness but I think economic engagement is something that is often more geographically bounded. For example, you know this region of the country has historic strengths in particular industries. To what extent do our academic programs reflect that? To what extent can we try to amplify that?

**Horace.** Using Stanford University as an example, Horace talked about a university’s role in economic development being “part of what we do.” He emphasized that it does not need to be called economic development to do the work and described
economic engagement as simply a natural by-product of the work that researchers do in their laboratories. He noted that, at Stanford, it was more a sense of being in an entrepreneurial place and contributing to the culture by being engaged with industry than it was undertaking economic development work.

I do sense that other folks in universities around the country somehow embody this sense that “this isn’t an extra obligation that the legislature gave us to do so we can get more money or a gimmick to get more money,” which is often the case. Or “the legislature wants to hear about economic development you better put that in our budget proposal.” But starting at the leadership level—to me Stanford is the epitome of this—that there is a sense that engaging in these things, which we may not call economic development, but rather close ties, being entrepreneurial, pushing our research so that it leads to technology, lead to companies, is part of what we do and what makes us great. So I do think that belief, which you see among certain leaders and which embodies certain institutions, is really important.

Horace felt that the belief in a university’s role in this work must be there, or no amount of programming or effort in economic development will matter. Horace recognized that universities contribute to the economy simply through generating innovation and producing talent, but he felt that there is a kind of more “purposeful” orientation implied by economic engagement—a set of beliefs and practices that commit the university to this work.

*Morris.* Morris expressed his interest in seeing the University do a better job promoting its contributions to the economy.
[T]he problem with the University of Massachusetts has been that we haven’t been very good at telling the story of economic engagement. We had much more going on than people knew about because we’d been a little bit too quiet about it. [President Wilson] really geared up an economic engagement strategy and made that a central mantra—“the path to economic and social development in Massachusetts goes through UMass.”

When asked to distinguish between system-level and campus-level examples, Morris was quick to point out that all the stories are really campus-specific—that the System Office is “like an incubator,” with the campuses doing the work and the System Office’s “job to incent that behavior and monitor and nurture those activities.” Morris focused on research as central to economic engagement and was pleased to mention that UMass’s research enterprise compared quite favorably to the elite private universities in the state:

Research is a key component of any economic engagement strategy and with the right mix of research … you know we do $535 million in research every year. Where does that put us in the pantheon of universities here? Well, right behind Harvard and MIT, and by the way chasing Harvard, so in a few years we might pass them. As a matter of fact I would say almost undoubtedly we will pass Harvard within the next decade unless something goes horribly wrong. I don’t think most people recognize that. But we really needed to get the story out, get the facts on the table and have those facts at hand and get them in everybody’s hands so that whether you are a faculty member or a dean or a provost you could just make that point.
Nina. Nina described the long history of business and industry relationships cultivated and maintained by the University, attributing this tradition to the institution’s long-standing commitment to outreach to the community. She explained that it has been a particular advantage in pursuing the University’s research agenda, especially as federal funding agencies are increasingly requiring collaboration:

The federal government may put money out and say “you have to have business partnerships” or “you have to have a business council” or “you have to do joint industry research.” In more recent years in addition to all of that it’s been “you have to collaborate”—whether it’s collaborate across institutions or with the external world. What that has done is driven [the research] agenda as well.

Beyond research, Nina also noted the workforce development role that the University plays in the Massachusetts economy. In particular, she noted that a large contribution that the University was making to advance the governor’s life sciences agenda was through new education and training programs, include a number of professional science master’s (PSM) degree programs11.

The University of Massachusetts System participants emphasized the need for the University to “tell its story” with regard to contributions to the economy. The interviews with these participants illustrated how much the dominance of private institutions in the state continues to shape much of the University’s identity. These themes emerge again

11 PSM programs are special master’s degree programs focused on providing training in both a scientific discipline and business; such programs have been developed with support and encouragement from the Sloan Foundation and Council on Graduate Schools. See http://www.sciencemasters.com for more information.
among the participants who represent the three campuses that are the focus of the case studies. Descriptions of the campuses and the participants representing them follow.

University of Massachusetts Amherst

The University of Massachusetts flagship campus at Amherst sits on 1,400 acres of land on the outskirts of Amherst, a quiet town of about 37,000 in the middle of the Pioneer Valley. This name was given to the Connecticut River Valley in the western part of Massachusetts because of the river’s role in providing access to the interior to English pioneers in the mid-seventeenth century, the same time at which higher education was taking root in the eastern part of the state at Harvard. The Amherst campus started as Massachusetts Agricultural College in 1862 and has grown into a significant research university, with undergraduate and graduate programs in eight schools and colleges, including the College of Engineering. The university’s Stockbridge School of Agriculture—the school that had once been the entire institution—is now considered a department within the College of Natural Sciences.

University of Massachusetts Amherst offices and related organizations. Over the past several years, UMass Amherst has been engaged in a number of efforts that might be considered part of the institution’s economic engagement portfolio. The campus recently established the UMass Innovation Institute (UMII) to provide a new face for the university to private sector partners, reinventing “the way [the University does] business to insure that discoveries translate into innovation” (UMass Amherst, 2014a). The campus has been a key partner in the Pioneer Valley Life Sciences Institute (PVLSI) since its inception. In 2008, the governor called on the campus to be more engaged in the social and economic wellbeing of Springfield, one of the state’s largest urban areas
located 20 miles south of the UMass Amherst and the Springfield Partnership was established. The Massachusetts Green High Performance Computing Center in Holyoke, in which the entire UMass system is partnered, is central to the campus’s computing research plans and also tied to the institution’s economic development work. Representatives of UMass Amherst and related organizations whom I interviewed for this study were all connected to these initiatives and others that are part of the campus’s economic engagement portfolio.

**Chancellor’s Office.** In 1970, the President of the University of Massachusetts Amherst became the “chancellor,” as “president” became the designation for the leader of the recently formed three-campus system. The leadership position at the Amherst campus has been held by 27 individuals. The current chancellor is Dr. Kumble R. Subbaswamy, a physicist who previously served as provost at the University of Kentucky. At the time of this study, the chancellor was Dr. Robert C. Holub, a scholar of German intellectual, cultural, and literary history who had previously served as provost at the University of Tennessee and was on the faculty and administration at the University of California Berkeley for 27 years. Holub was chancellor of UMass Amherst for four years, from 2008 until 2012. The Office of the Chancellor works with the University’s executive administration, composed of seven vice chancellors, including the Provost and Senior Vice Chancellor for Academic Affairs (one position) and the Vice Chancellor for Research and Engagement.

**Office of Research and Engagement.** In 2008, the Vice Provost for Research position was re-established as a full member of the University’s senior executive administration, reporting to the chancellor, and the position was renamed Vice
Chancellor for Research and Engagement. At the time, the then-Vice Provost for Research—an environmental scientist specializing in soil science and contamination—was made Interim Vice Chancellor for Research and Engagement until the Dean of the College of Engineering, a chemical engineer, was appointed to the post. According to the Research and Engagement website,

The mission of the Office of Research and Engagement is to provide leadership and services that support the growth of research and scholarship across the campus, to facilitate funding and engagement with external partners, to promote innovation and societal impact, and to ensure compliance with all research related regulations and policies. (UMass Amherst, 2013a)

The intended definition of “engagement” in the title of the vice chancellor is not completely clear. The creation of the position nearly coincided with the elimination of the Vice Provost for Outreach position, but none of that person’s responsibilities became part of the Office of Research and Engagement. Instead, it is clear that a stake was being planted to establish a definition of engagement that emphasized working with external partners who would bring funding to the University’s research enterprise, and who would become part of the University’s efforts in technology transfer.

University Relations. A visit to the UMass Office of University Relations website (UMass Amherst, 2014b) reveals that the mission of this office is “to tell the impressive story of UMass Amherst: our faculty and their global research; our students who are preparing to lead; and our hundreds of thousands of alumni who make the world a better place every day.” The same page lists government relations, community relations, economic development, and regional partnerships among the wide array of services that
operate out of the office. This arrangement is indicative of the University’s view of the purpose of government and community relations, economic development, and regional partnership activities. One can conclude that campus leadership sees the existence of these functions as supporting the goal of communicating “the impressive story of UMass Amherst.” Other activities undertaken by the Office of University Relations include marketing and communications, media relations, event planning, and operation of New England Public Radio.

The Graduate School. The University of Massachusetts Amherst Graduate School oversees 51 doctoral programs and 73 master’s programs. For some time, the graduate school was also the home of University Outreach, as the head of the graduate school carried the dual title of Vice Provost for University Outreach and Dean of the Graduate School. At the time of this study, the Dean no longer carried this dual title, but the office of the Graduate School was still involved in University outreach through its connection with the Springfield Partnership activity.

University Service, Public Service, and Outreach Council of the UMass Amherst Faculty Senate. The University Service, Public Service, and Outreach Council is one of about a dozen official councils of the UMass Amherst Faculty Senate. The council was created a number of years before UMass Amherst established a position for a Vice Provost for University Outreach, arising from a shared desire among faculty members to get more attention to and support for community engagement. When the Vice Provost for Engagement started in 2008, she viewed the Council as an opportunity to get buy-in from the faculty, as well as to enlist faculty members in advocating an outreach and engagement agenda for the University. During the three years that this vice provost
was in place, the Council undertook a number of initiatives, including the successful effort to secure the Carnegie Community Engagement classification for the university (Carnegie Foundation for the Advancement of Teaching, 2013). The Council also hosted a symposium on the scholarship of engagement for the campus community.

After only three years, however, the university outreach unit was eliminated. It is not clear what precipitated this decision. Without a chief engagement officer or a department focused on outreach and engagement, the Council again became the primary forum for discussions about university engagement, and it now is playing a significant leadership role. The Council has been heavily involved in drafting the institution's accreditation self-study, helping to demonstrate ways in which engagement fits into many of the campus’s activities. The Council is also leading the university’s effort to apply for renewal of the Carnegie Engagement classification.  

Center for Agriculture Research and Extension. The University of Massachusetts Amherst Center for Agriculture Research and Extension, in the College of Natural Sciences, “is the contemporary standard-bearer of the university’s land-grant origins.” (UMass Amherst, 2013b). Funded primarily by the U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA), the organization is the home of UMass Extension and the Massachusetts Agricultural Experiment Station.

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12 The Carnegie Community Engagement Classification is an elective classification from the Carnegie Foundation for the Advancement of Teaching, the same group that provides classifications such as “Research University (very high research activity).” Campuses opt to apply for the elective classification and provide documentation of their efforts in support of community engagement.

13 Information about the University Service, Public Service, and Outreach Council of the UMass Amherst Faculty Senate was provided by one of the participants in this study. To respect the wishes of the participant, I am not identifying the participant even by pseudonym here.
The Center focuses on, among other things, agricultural economic development, helping agricultural businesses in the state through technical assistance.

At the time of this study, two participants were working within UMass Extension, which had, until just prior to my interviews, been part of the university’s Outreach division. This division was eliminated in early 2010. In 2011 Extension became part of the Center for Agriculture Research, which at the same time became part of the College of Natural Sciences.

**Economic Development Council of Western Massachusetts.** The Economic Development Council of Western Massachusetts is a non-profit service provider, separate from the University of Massachusetts. The Council assists with business expansion for existing Western Massachusetts businesses, business relocation for those entering the region, and generally provides a platform for networking among all businesses. Members of the Council include mayors of cities in the region, representatives of prominent businesses, and the chancellors and presidents of area colleges and universities. At the time of this study, UMass Amherst’s Chancellor Holub was a member of the Council and was actively connected with other members of the council on issues related to the role of the university in economic development.

**Pioneer Valley Life Sciences Institute.** The Pioneer Valley Life Sciences Institute, founded in 2002, is a research partnership between the University of Massachusetts Amherst and Baystate Medical Center (the western campus of the Tufts University School of Medicine). The Center brings together university and hospital researchers across disciplines to focus on advancing research on cancer, diabetes, and other diseases (Pioneer Valley Life Sciences Institute, 2013a). The Institute’s goals
clearly encompass having a positive economic impact on the region. For example, one page of its website (Pioneer Valley Life Sciences Institute, 2013b) highlights partnerships with business and industry and states the Institute’s interest in conducting technology transfer, garnering industry sponsorship for research, and providing contract research and services.

**Study participants representing the University of Massachusetts Amherst.**

Ten participants in this study were affiliated with UMass Amherst. I will refer to these participants as Cameron, Darrin, Emmett, Gerard, Gregg, Harry, Jon, Max, Nelson, and Preston. These individuals represented the offices and organizations described above, and the variety of functions for which these groups are responsible is reflected in the diversity of viewpoints that these participants brought to the research interviews. Many of these participants were very familiar with UMass Amherst, having been at the University for quite some time. Their experiences and backgrounds include economics, the humanities, public affairs, public health, engineering, chemistry, economic development, evaluation, planning, law, agriculture, and medical education.

UMass Amherst participants’ perspectives provided a range of insights into the campus’s efforts to be economically engaged. A common refrain was that central to the University’s economic value was its alumni. Participants spoke of a shift toward an emphasis on the research mission of the University, and within that emphasis an attention to technology transfer. A few participants noted, however, that there were some hurdles that the University would have to overcome to achieve its ambitions in these areas, including the challenges of cultivating a culture of entrepreneurship. Overall, it was clear from talking with the 10 participants at UMass Amherst that while the University was
working to respond to public demand for economic relevance, there was still much to do by way of formalizing strategies for such a response.

_Cameron_. Cameron defined economic engagement as “how we take the excellence, knowledge, and expertise that’s here at the University and translate it for the benefit of our region and the Commonwealth.” In his view, there are many ways to approach this activity, and there are responsibilities among members of the administration, faculty, and staff to carry out this translational work. Cameron was very familiar with the long evolution of the University’s organizational structure as the leadership sought to create mechanisms for economic engagement. He described in detail this evolution from a now defunct technology transfer organization called Mass Ventures; to interactions between technology-based economic development and community based economic development; to the establishment of an office called Industry Liaison and Economic Development, which later became Research Liaison and Economic Development; to a recognition of a need to create a culture of entrepreneurship on campus. Throughout the story that Cameron told, there was an implication that the University is struggling to find ways to tie its mission-driven work—particularly that driven by its research mission—to the idea that it should support economic development in the state.

We kind of took it all on in the research organization to do economic development, but didn’t really have explicit economic development goals. It was “we’re doing it to enhance our capacity for research and innovation and if we can find more of our technologies being spun out into spin-offs, that’s great.” But to do that we actually needed to be part of the culture on campus of
entrepreneurship. I mean there were a huge number of things that needed to happen to get to that point.

Beyond research, Cameron recognized that part of the struggle to figure out the University’s role in economic development was to align education and service missions to the benefit of the Commonwealth, too.

When we’re talking about community-based economic development, it’s more the social science kinds of things—the nutrition, community health and those kind of programs; the policy kinds of programs that have a research component to them but it’s social science research; or public health research as opposed to technology based [research]. So it tends not to be science and technology except ultimately when you start talking about STEM education it all comes together. You know everybody wants to do STEM education. So that ends up being a confluence of all of our various engagement activities and it’s challenging sometimes to sort it out and have a strategy that pulls them all together the way things are funded.

Pulling all the activities together seemed to be the constant refrain of Cameron’s story—the University’s need to find ways to align all the good work it was doing toward demonstrating its relevance to the Massachusetts economy.

**Darrin.** In describing his view of university economic engagement, Darrin talked about leveraging research to benefit the private sector, partnering with industry, and the impact of graduates as they enter the workforce. Darrin also described the University’s partnership with Springfield, encouraged by the state’s governor, noting in particular the university’s establishment of a design center in downtown Springfield; the relationship with Springfield Technical Community College to help manage their Scibelli Enterprise
Center; and the plan to move the headquarters of New England Public Radio to the city.

Darrin noted that the “unique” role that UMass Amherst plays in contributing to the Massachusetts economy—particularly when compared to neighboring private universities—is the way in which it partners with industry to build a workforce pipeline.

[T]his year-long partnership that our College of Engineering has with Raytheon where we train their engineers and they come to UMass—I think it’s a master of science program that they come through. And the result has been that there are huge numbers of UMass-trained engineers at Raytheon. MIT obviously is in Massachusetts as well and the [story] is all the MIT engineers want to go out and start their own business. But UMass engineers are doing hands-on practical work, they want to contribute to a company like Raytheon.

Emmett. Emmett noted the lack of a strong institutional definition of economic engagement and the challenges that this absence presents to an effective understanding of the University’s role in this arena, as well as to accurate measurement of its effectiveness. In particular, Emmett asserted that there is a lack of alignment between the administrative view of economic engagement and the faculty view.

My immediate reaction is to say, “Well you’re talking about economic engagement from the standpoint of who?” There may be an administrative definition and/or an administration priority—you’ve probably heard about the Springfield initiative, one of the main things that people will probably say in response to economic engagement. But one of my perspectives is to appreciate what it means from a faculty and disciplinary perspective. The information and action is going to be at the level of faculty and departments because not only is
economic engagement fairly new, I also don’t see the university as being very conscious about where they pursue that.

**Gerard.** For Gerard, the land-grant tradition is what has driven the University’s role in economic development. He describes his view of economic engagement as “a continuation of outreach, which is a continuation of the land-grant tradition of helping your neighbors and helping your county and your state, to outreach which was much broader.” He notes a specific moment in the University’s history when a shift began from a view of engagement focused on outreach to one that was more entrepreneurial—when Michael Hooker became the president of the UMass system in the 1980s:

One of the very first things he did was make clear that one of the missions of the university as a whole was to get involved, on the ground, in economic development—whether it was in terms of going out and creating incubators or whether it was providing assistance to state agencies or even placing our own spin-off companies in Massachusetts. It was really a critical capstone of what he felt was the growing importance of the university in terms of the commonwealth and nation.

**Gregg.** A broad view of university economic contributions was important, from Gregg’s perspective. He first noted, “by our very existence we contribute to economic activities,” pointing to the fact that the University employs thousands of people. He appeared concerned that my view of economic engagement might be overly circumscribed—“when you come with an economic development agenda it’s usually a much narrower focus than what I mean when I talk about what the economic contribution
of the University is to a region or to the state.’” He was eager to establish a definition of economic engagement that recognized the core elements of the University’s mission.

By educating students we contribute to the economy. And in fact some people would say, and I think that this is probably right, that universities no matter how much they produce in terms of inventions and capital ventures and patents and things like that contribute far more in terms of the students that they educate than any of these other activities that are so-called economic activities and economic development activities. And so, so just by our very existence we contribute to economic activities. But usually what people mean who are asking questions about it are more narrowly defined economic activities which are a part of our mission but not, not the, the major part of our mission, which is still to educate students and to conduct research.

Harry. Harry was also interested in a broad view of economic engagement, noting that his particular emphasis would be on the education mission of the University—“you asked me what I think [the mission is], it’s [providing] an educated workforce in Massachusetts.” Harry was concerned that a more limited view of economic engagement predominated on campus.

If you start talking about economic engagement on campus my perception is a more narrow version what is the campus doing specifically like medical devices—you know, nanotechnology, basic research that supports the industry to applied research that actually supplies jobs. Where I would go much broader and just say an educated workforce.
Jon. In a conversation with Jon, the theme of emphasizing the workforce contributions of the University continued.

Our biggest contribution to economic development or economic engagement comes from our graduates. I think that very frequently tends to get lost in the conversation when people want to talk about license income, and that’s all very important—I don’t think that’s unimportant but I think that we can lose sight of the contributions of our graduates. And in Massachusetts, for instance, we contribute a lot of human resources and talent to the innovation pipeline. A lot of our alumni like to stay in Massachusetts. They’re either from Massachusetts or they come here, and they like it here, and we supply a lot of graduates to the high-tech workforce, particularly graduate degrees but also undergraduate degrees.

And I think if you’re looking for metrics for economic engagement and you don’t include that, I think you’re missing something.

Jon was not reluctant, however, to acknowledge university technology transfer as a significant contributor, taking its place along with talent and workforce development. He noted that the University’s orientation toward economic engagement efforts shifted dramatically with the enactment of the Bayh-Dole Act in 1980. He asserted that technology transfer efforts before Bayh-Dole were “practically nil” and have now become “a significant part of our efforts.”

Max. Purchasing goods and services locally and in the region is one way in which the University contributes to the economy, and it was the first kind of impact raised by Max. But he was quick to move beyond a traditional input-output model view of
economic engagement and highlight the technology transfer activities of the University as significant.

Starting with John Lombardi, the previous chancellor for five years, he really recognized that niche as an important one and he focused tremendous resources internally, changed the culture among the researchers so that they would understand that there is an intellectual property and potential commercialization track that this intellectual property could be on, and not just research for research’s sake. He expressed some frustration early on in that unlike many other universities, especially the privates in Boston and Cambridge, this culture in Amherst was not so much geared toward commercialization. He started to change the culture and I think [Chancellor] Holub has continued that emphasis since he’s taken over as chancellor three years ago. What that means is hopefully we will see more intellectual property licensed to entrepreneurs who will hopefully be able to make a successful business out of that and keep the jobs here in western Massachusetts. They’ve also worked really hard on the intellectual property transfer process both at the [UMass System] president’s office and on the campus to streamline and make it less daunting for the owner of the IP, and less daunting for those on the outside for those who might want to purchase a license.

Still, to Max the role of the University as an employer and its impact through spending are significant, making it important to protect and maintain UMass Amherst’s status as the flagship campus of the system. Max suggested that the Amherst campus “should be getting the lion’s share of the resources” but was concerned that this arrangement may not be the case “because of the way the president has carved up the pie.”
**Nelson.** Nelson expressed his view that economic engagement could “mean a number of things including the development of new activities, the development of jobs, the development of new educational activities,” but he was critical of the University’s approach to economic engagement, particularly the Springfield Partnership, noting a lack of coherence.

An organized systematic approach to economic development … is what I think it should be. But I think it hasn’t been. What we’ve seen in Springfield is episodic involvement that is not necessarily well interconnected or integrated to what’s going on either within the region or at the University. It’s not going to focus on economic development—how we do it, how we should do it, what are the goals and interests of the University in the broad range of economic development. The University has periodically established some linkages to things that are going on in Springfield. They have the incubator at the technical community college. Although that’s not really a part of the University—there’s no direct connection to what that does. They developed a design center downtown but I don’t know what that is doing. And they have the [Pioneer Valley Life Sciences Institute], which is a major commitment of their time and effort [but that] was not really recognized or pushed forward as an economic development engine by the University. It wasn’t part of an overall integrated structured process within the university at all.

**Preston.** Preston’s view of university economic engagement centered on technical assistance for business and industry. He noted roots in cooperative extension and pointed to the Small Business Development Center, technical assistance provided as part of the
agricultural focus of the institution, and the Commercial Ventures and Intellectual Property (technology transfer) office as examples of economic engagement.

I would look primarily at the work that the Small Business Development Center does. Some of the work related to agriculture could be viewed as economic development but that’s really wrapped up in a much broader suite of services and relationships. I would think that at a certain level the work that Commercial Ventures and Intellectual Property does is directly related to economic development at the University level, although I’m sure it’s seen primarily as an income generating tool for the University.

The perspectives of participants from the UMass Amherst varied widely. However, some common themes did emerge. These themes will be explored in more depth in Chapter 5, but a brief summary includes:

• A significant contribution to the state’s economy made by UMass Amherst is the University’s alumni.

• There has been an increase in emphasis on the research mission of the University and more attention paid to technology transfer.

• The University needs to become better at fostering a culture of entrepreneurship and at developing formal strategies and plans for pursuing economic development efforts.

**University of Massachusetts Medical School**

The first buildings of the University of Massachusetts Medical School campus were built in 1969 on farmland that had previously belonged to the Worcester State Hospital. A view from the top floor of the Ambulatory Care Center on campus includes the clock tower of the old state hospital. The campus, part of the University of Massachusetts at its founding, was one of many medical schools established in the third
quarter of the twentieth century, a time during which there was a national interest in graduating more doctors, and in particular family doctors. Since its inception, though, the UMass Medical School has avoided a singular focus on developing general practitioner physicians and has instead worked to become a world-class center of research and translational science. To some, these priorities have meant that the University has had a broader impact on the community and regional economy. Physical evidence of this wider influence can also be seen in the same vista that includes the Worcester State Hospital clock tower: Campus buildings now include freshly opened clinical and research facilities and expand into the biomedical research park across the street.

**UMass Medical School offices and related organizations.** Upon its opening in 1970, the UMass Medical School did not have its own chancellor. John Soutter had been appointed dean while the school was still being planned, and he oversaw its construction and opening. While the campus now has a chancellor, the Office of the Dean still plays a primary leadership role in the institution’s operation, and this office was represented among the three participants from the UMass Medical School interviewed for this study. The Office of the Vice Provost for Research and the Office of Community and Government Relations were also included. A fourth participant from Massachusetts Biomedical Initiatives (MBI), a local partner of the campus that provides business support for biotechnology startup businesses, shared perspectives on UMass Medical’s economic engagement efforts. These offices and related organization are fundamentally responsible for operationalizing and communicating the campus’s vision and goals with regard to economic engagement, and their participation provided both a broad view and deep insights into the institution’s work in this arena.
Office of the Dean. The University of Massachusetts Medical School’s Dean of the College of Medicine is also the campus Provost, overseeing all aspects of the UMass Medical’s academic enterprise. The dean’s full title is Dean, Provost, and Executive Vice Chancellor, formalizing the “first among equals” position that is assumed for most campus provosts. Senior staff members in the Office of the Dean include the Vice Provost for Research, the Dean of the Graduate School of Biomedical Science, an Associate Dean for Clinical Affairs, the President of UMass Memorial Medical Center and its affiliated institutions, and the Director of the Department of School Services, which oversees the campus’s talent pipeline and other outreach programs to K-12 schools as well as student services such as financial aid and disability services. The broad scope of activity undertaken by the Office of the Dean presents a distinct perspective on the work of the University in engaging and supporting community and economic development.

Office of the Vice Provost for Research. Reporting to the Dean, Provost, and Executive Vice Chancellor, the Vice Provost for Research at UMass Medical oversees the campus’s entire research enterprise, including centers and institutes; the UMass Center for Clinical and Translational Science (UMCCTS); the research funding, compliance, and training operations; and the campus’s Office of Technology Management. The Office of the Vice Provost oversees over 40% of the research expenditures made by the University of Massachusetts five-campus system—about $250 million at UMass Medical of nearly $600 million overall (U.S. Department of Education Integrated Postsecondary Education Data System, 2010). UMCCTS, part of the National Institutes of Health (NIH) Clinical and Translational Science Awards (CTSA)
consortium, is a center serving all five of the UMass campuses, providing access to UMass Medical library resources and research core services, consultation services, and eligibility to apply for pilot grant programs. The UMCCTS also facilitates community-engaged research as part of its Community Engagement and Research (CER) section. The Office of the Vice Provost for Research represents a significant component of the entire UMass Medical School operation.

*Office of Community and Government Relations.* The Office of Community and Government Relations at UMass Medical School is responsible for building and maintaining relationships with elected officials in the Commonwealth and with stakeholders in the community. The UMass Medical website notes that the office also advocates with elected officials and other key policymakers…; encourages public officials to utilize us as a resource for informed insight…; serves as a resource for the medical school community on governmental issues…; identifies and strengthens partnerships with local community and neighborhood organizations; and keeps public officials and the community informed of important medical school developments. (UMass Medical School, 2013)

*Massachusetts Biomedical Initiatives.* Massachusetts Biomedical Initiatives (MBI) is a private, not-for-profit organization providing incubator space and labs for startup biotech companies in Worcester. At the time of this study, among MBI’s three locations was an incubator space at One Innovation Drive, across the street from the UMass Medical campus in Biotech Three, a building that was purchased by UMass Medical in 2011 in the Massachusetts Biotechnology Research Park. MBI partners with UMass Medical as well as Worcester Polytechnic Institute (one of MBI’s current
locations is at Gateway Park, a research park managed by WPI) and a wide variety of other organizations throughout the region. At its three incubator facilities, MBI offers startup companies lab space, access to shared lab equipment, office support, and general business development support.

**Study participants representing the University of Massachusetts Medical School.** Of the participants in this study, four represented the UMass Medical School or its partner organization Massachusetts Biomedical Initiatives. I refer to these participants as Clyde, Owen, Roger, and Warren. Their leadership roles placed them at the center of the University’s medical campus’s efforts to be economically engaged. Two participants each had over 30 years of experience with the University. Backgrounds and experiences of the participants include medicine, state government, city government, law, and economic development.

The four participants who were affiliated with UMass Medical had varied perspectives on the University’s role in economic development. Two of them noted the impact that universities have through their employment and other spending. One participant had an almost exclusive focus on community development while another had a similarly singular emphasis on the commercialization of science. Generally, the importance of the University’s place as a premier research institution was a common thread.

**Clyde.** Clyde’s definition of economic engagement began with the sense that the success of the Medical School will benefit the community because research dollars will be spent locally. He also spoke about individual faculty initiative:
At our own faculty level where we have investigators who because of their entrepreneurial spirit and intellectual property are excited about starting up a new company, which has happened on many occasions here. We have a university that is very focused on trying to encourage collaborations between campuses around activities that would stimulate economic activity in a more global sense either in the commonwealth or across the country or even internationally.

According to Clyde, this focus speaks to a “more global” aspect of the University’s economic engagement, however, pointing to the entrepreneurial drive of faculty and the orientation of the University toward encouraging collaboration. Clyde also noted that President Wilson’s Science and Technology Fund was a driver in encouraging cross-campus research collaborations that would result in economic development.

Owen. Owen’s perspective on economic engagement also began with the impact of the University’s spending, noting that the University, along with its clinical partner UMass Memorial Medical Center in Worcester, employs 19,000 individuals. Owen compared the direct economic benefit gained by the region as a result of the University’s spending with another important, though less direct, class of benefits: “the businesses that are fed either by our spin-off technologies, by our students who take jobs nearby because they’re trained in close proximity to the area.” In describing this second class of economic benefit to the region, Clyde characterized it as a set of gains that the regional economy stands to realize because of the environment created by the presence of the University. He was careful to point out that is more difficult for the University to measure these kinds of indirect gains than it is to measure the ones in the first class of economic
benefits—the direct benefits that accrue from university payroll and purchase of goods and services.

**Roger.** Roger provided a definition of economic engagement that is, simply, “the commercialization of science.”

It’s basically taking research and development that goes on in laboratories or research centers within the University and doing something with it—commercializing it, making a product. And I think we have a long way to go. We’re getting there … the evolution of the economics of tech transfer and licensing is relatively new over the last decade, taking on a life of its own because the University worked to understand and grow with it. I think we also have to understand that the University’s strength at this point is that research that can be licensed and that tech transfer that can be taken out of the University and developed as a product. Right now I think the University is really doing well and has made a lot of progress on licensing tech transfer. But to expect a university to be the commercialization agent is a little too much to expect because what your conflict is, is academic versus understanding commercialization.

Roger’s clear definition of university economic engagement, focused on technology transfer, came with the caveat that this kind of activity goes against the grain of traditional university culture. He noted that it will take a while for the University to become more engaged in this way because of the market orientation needed for success with technology transfer and how this orientation conflicts with an academic perspective.

**Warren.** Community development is central to Warren’s definition of university economic engagement. To him, economic engagement is about university coordination
with the community on economic development and trying to match “the needs of the local community with the resources we already have.”

So that could be in terms of working with the local chamber of commerce, or looking at particular groups within the city—for instance, newer populations where there’s an employment training need and seeing if there’s a larger goal that fits within our mission. So the educational and health mission that the school has. And really just trying to make sure that our resources are being matched toward those local needs.

While community development is the primary lens through which Warren viewed university-engaged economic development, he also noted that the contributions to Massachusetts’s biotechnology and biomedical industries that the University makes through research and technology transfer are significant.

The common refrain among the four participants from the UMass Medical School was that UMass Medical is a top-notch research institution. The ways in which this status affects economic development were seen differently among the participants, with several emphasizing the economic impact the University has through the size of its payroll and the amount that it spends on goods and services. One participant focused on community development and another on technology commercialization. All these emphases are part of a complex definition of economic engagement that emerged through conversations with all participants in this study.

**University of Massachusetts Lowell**

Firmly rooted in the social and economic development of the region, UMass Lowell is the product of the merger in 1975 of two institutions—Lowell State College,
founded as Lowell Normal School in 1894, and Lowell Technological Institute, founded as Lowell Textile School in 1895. In 1991, the University of Lowell became the University of Massachusetts Lowell when the institution joined the state’s university system. Widely known for its engineering programs and applied science, UMass Lowell has always been well connected with area industry. Since becoming chancellor of the University in 2007, Marty Meehan—a former U.S. Congressman—has built on the institution’s strong reputation in the community to advance its connection to economic development efforts in the region not only through relationships with industry but also ties to the city government and community development efforts. In recent years, the University has opened a new Emerging Technologies and Innovation Center and has established a Center for Innovation & Entrepreneurship.

That the Emerging Technologies and Innovation Center was the first new building on the Lowell campus in 30 years speaks to the institution’s prioritizing of economic engagement. The Lowell participants in this study represented campus offices and also the City of Lowell government. Through conversations with participants it became clear that the University’s role in economic development in the city and region was taken seriously, and participants pointed to a wide variety of initiatives that demonstrated this commitment. In addition to initiatives and programs that support development of entrepreneurship at the University and in the region, and those that seek to spur new business development, the University has also been actively engaged in developing “place”—working to improve the physical surroundings and affect the quality of life. For example, when the University took over the city’s arena and also a downtown hotel, it refurbished these buildings, bringing a new vitality to the city and blurring the lines
between city and campus. The University continues to build on and expand its reputation as engaged in the social and economic well being of the city and region.

**UMass Lowell offices and related organizations.** For this study I interviewed representatives of five UMass Lowell offices and one related organization: the Office of the Chancellor; Office of the Vice Provost for Research; University Relations, Commercial Ventures and Intellectual Property; Manning School of Business; and the City of Lowell Office of Economic Development. This array provided a broad view of the university’s engagement in economic development efforts.

**Office of the Chancellor.** Located in the University’s historic Allen House, the Office of the Chancellor comprises UMass Lowell’s core leadership team. Led by the former U.S. Congressman Marty Meehan, the Office of the Chancellor also includes an Executive Vice Chancellor, the University’s Provost, a Vice Chancellor for Advancement, a Vice Chancellor for University Relations, and a Vice Chancellor for Finance and Operations. These members of the Chancellor’s Executive Cabinet lead all aspects of the University’s operation.

**Office of the Vice Provost for Research.** UMass Lowell’s Office of the Vice Provost for Research coordinates and provides oversight for research facilities and grants. Reporting to the Office of the Vice Provost for Research are the Office of Research Administration, the Office of Institutional Compliance, and Commercial Ventures and Intellectual Property. The Office of the Vice Provost for Research also serves to promote the University’s research both inside and outside the University, including coordination of an annual faculty research symposium, and publication of *Ingenuity*, the University’s research magazine.
University Relations. UMass Lowell’s University Relations office handles a wide variety of activities related to the University’s image, brand, and relationships with external stakeholders. Office responsibilities include: general communications (stories and promotion of events and activities across campus); community and cultural affairs including outreach and engagement, government relations, marketing and branding; media relations; publications; and web services. Inclusion of community and cultural affairs and government relations in the University Relations office is similar to the structure at UMass Amherst and suggests an orientation toward these activities that is focused on image. At the time of this study, University Relations was called the Office of Public Affairs but had essentially the same set of responsibilities.

Commercial Ventures and Intellectual Property. According to the website for UMass Lowell’s Commercial Ventures and Intellectual Property (CVIP) office, the group “is responsible for the protection and commercialization of intellectual property” at the University (UMass Lowell, 2013). The office takes a broad view of this responsibility, noting its effort to achieve its goals through relationship development with industry and by developing an entrepreneurial culture at the institution. Further, the website for the office places this responsibility within a context of broader outcomes, describing its role in contributing “to the economic vibrancy and well being of the Commonwealth,” and pointing out that “CVIP’s activities enable the successful transfer of commercially viable technology from the laboratory to the marketplace for public use and benefit.” The office is part of the activities overseen by the University’s Vice Provost for Research.

Manning School of Business. The Manning School of Business at UMass Lowell is one of six colleges and schools at the University (with the Graduate School of
Education; the Francis College of Engineering; the College of Fine Arts, Humanities, and Social Sciences; the School of Health and Environment; and the College of Sciences).

The School of Business was created in 1971 and now offers undergraduate concentrations in eight areas of study and six different graduate options at the certificate, master’s, and doctoral levels. Related to the University’s emphasis on innovation and entrepreneurship, undergraduate concentrations include Entrepreneurship, and a Master of Science in Innovation and Technological Entrepreneurship is also offered. The Manning School's website notes a number of ways in which its faculty and students engage in the community, including participation in the Merrimack Valley Venture Forum and the Lowell Downtown Business Assistance Plan, corporate partnerships, class projects, and internships.

**City of Lowell Office of Economic Development.** The City of Lowell Office of Economic Development is one of four broad areas of services offered by Lowell’s Department of Planning and Development, alongside community development, housing, and planning. The Office of Economic Development offers incentives to companies and developers to encourage location in the city and a variety of technical assistance services including site selection, workforce education and training, and financing. The Office of Economic Development is a close partner with UMass Lowell, having cooperated on a variety of efforts including the refurbishment of the downtown hotel that is now the UMass Lowell Inn and Conference Center. Six of this study’s participants represented the University of Massachusetts Lowell or its partner, the City of Lowell government. These participants are identified here as Dianna, Elena, Hugh, Kara, Russell, and Veronica. The participants represented a variety of functions across the university and different
perspectives on the role that the institution plays in the local and regional economy. Their backgrounds encompassed continuing education, distance education, materials science, public affairs, government relations, state government, city government, business development, manufacturing, educational leadership, entrepreneurship, and regional planning.

**Study participants representing the University of Massachusetts Lowell.** Like other participants, the perspectives of the six participants affiliated with UMass Lowell comprised a range of ideas about what it means for the University to be economically engaged. A strong theme emerged among this group, however, of the University as a place where students come for a practical education, and where research is generally of the applied and problem-solving type. A number of these participants also talked about the strength of the connection between the University and the city, made even stronger in recent years under the leadership of Chancellor Meehan. Related to this idea, some of the perspectives focused, at least in part, on the University’s contributions to improving the quality of place in Lowell as part of its overall economic engagement. Some participants emphasized the support for entrepreneurship that the University provides, whether through entrepreneurship education programs or connecting research-based technology to start-up companies.

**Dianna.** Dianna described the “most obvious level” of economic engagement as “direct cooperation and partnership with companies in the area as well as trying to help start-up companies.” She noted another level of engagement as problem solving.

A lot of times what we do in terms of economic engagement is to help solve some of the problems that we know companies have—not a direct “Company A has
funded to get this problem solved,” but we know from talking with several companies in our area that “X” is a technical problem that we are looking to help solve and help companies in this area be more successful.

Additionally, Dianna noted “the student piece” as an important level of economic engagement, describing the benefits of the University’s co-op program and other ways in which students interact with business and industry while they are in school.

**Elena.** Noting the region’s last economic downturn, Elena described her initial understanding of university economic engagement as coming from rethinking the University’s continuing education programs for better alignment with the workforce needs of the region. In general, she noted that being in a region that has faced serious economic challenges brings a sense of purpose to the university’s work and makes the University’s teaching and research more relevant. She also described the economic challenges as a catalyst for university-industry partnerships and co-leadership with community principals, prompting collective work toward improvements to the region and its economy. Elena identified a connection between “relevance” and the university’s approach to teaching and learning, driven by the kinds of students who attend UMass Lowell.

At Lowell our students are very practical. They come to the University really seeking careers. So the more that our curriculum is tied into the workforce development needs of the future, the more that we’re tied into business and industry, we have better co-op and internship opportunities for the students. So I think their learning becomes more relevant. I think that they have a lot more
opportunities to connect with the real world before they graduate. And I think their education has more purpose.

Hugh. To Hugh, economic engagement is “using the assets of the University—both physical and brainpower—to help growth in the community.” On one level, this approach means helping companies grow, leading to job creation and economic growth. Beyond the kinds of technology and technical assistance that the University provides to companies, however, Hugh noted that there are talent development and social/cultural development activities that are part of the University’s economic engagement activities.

It’s also a matter of providing students, interns, continuing education for employees. Also the general cultural aspect of having the University with the [humanities] aspect. The music, the plays, that whole cultural aspect, makes for a vibrant community. The University’s role is all of those things tied together. That leads to growth because people want to be in that kind of environment.

Kara. When asked about her view of university economic engagement, Kara first noted “the obvious impact we have as a large institution in terms of jobs and payroll taxes to the Commonwealth.” Beyond this very direct kind of economic engagement, Kara described a change between the previous chancellor (Hogan) and Chancellor Meehan. Whereas economic engagement under Hogan was about direct partnerships with the City of Lowell toward economic and community development—with the University’s investment in the downtown Tsongas Arena as an example—Chancellor Meehan has moved toward a definition of engagement that links this activity more directly to the University’s academic and research purposes. The economic engagement question asked
by Meehan, in Kara’s view, has been, “How do you strengthen the University’s core mission while trying to engage economic actors?”

**Russell.** To Russell, the University’s students are at the core of what it means for the institution to be economically engaged.

Parents send their kids to this university to become professionals. They’re sending them to become an engineer, a teacher, a nurse, a business professional. In order for us to do that we need to look at what’s happening in the region economically. There needs to be a close relationship. Part of what we do is training programs through continuing ed. Part of it is also developing a capacity among these kids that come to us to think very innovatively about how to create the new industries—how to thrive and build new industries. When I think about economic engagement, I think about taking the future citizens of this region and giving them a set of skills that helps them appreciate how technology, business, and engineering can be used to create new ventures, new industries, new opportunities.

This idea of encouraging innovative and entrepreneurial thinking extends to faculty members, too, as Russell noted that engaging faculty expertise in problem solving for local industry and helping faculty members to create their own business opportunities are also part of the University’s economic engagement. To Russell, the education is where it begins, then thinking about how to apply knowledge to business opportunities.

**Veronica.** The University’s openness and willingness to strengthen lines of communication with the City of Lowell and other regional partners are keys to the University’s economic engagement, according to Veronica. These open lines of
communication—whether focused on workforce development or business partnerships—build the foundation for the University’s investment in the community. Veronica described the University’s investment on three levels.

[One is] encouraging the training that happens to future employees of businesses that [Lowell attracts]. Two is the level of support that the University can provide to businesses through research. But businesses may ultimately find Lowell a more attractive place where they might want to bring their business because, thirdly, as a result of some of the real estate investments the University makes in the downtown area there is a greater interaction between the physical downtown and the student body—between the University and the downtown area, physically it becomes a little more seamless.

Perspectives among participants from UMass Lowell varied, but one theme that was important across a number of these views was that the University provides a practical education. Quality of place as a significant contribution that the University makes was apparent in a few of these interviews, including references to a strong link between the University and its community. The link between the University and entrepreneurship and small business development was also mentioned by a few of these participants.

**Chapter Summary**

In this chapter, I have provided descriptions of each of the research sites included in this study as well as accounts of the perspectives of the study participants on the university and economic engagement. The five sites and 29 participants represent a range of institution and organization types, different kinds of geographic locations and communities, and varied definitions of university-engaged economic development. The
three UMass campuses include two urban and one rural, three different levels of research intensity and research foci, and three different histories in terms of connectivity to the local and regional economies. The campuses are also situated in different kinds of communities—one in the quiet, country college town of Amherst; another in the second largest urban area in the state, Worcester; and the third, also in an urban area, the old industrial and mill city of Lowell. Two other “sites” beyond the campuses provide context for the campus case studies and represent a wider perspective—one the UMass System Office, which works to create linkages among the campuses and with state government as well as private sector partners, and the other the Commonwealth of Massachusetts state government. The perspectives of the participants on university economic engagement ranged widely and often reflected the types of communities and constituents in which each was situated. A number of common themes in these perspectives and definitions emerged, however, both within each site and across sites. In Chapter 5, I provide case studies of the three campus sites, detailing participants’ views not only on the definitions of economic engagement but also on the kinds of organizational, functional, and rhetorical changes that are concomitant with an emphasis on economic development efforts.
Chapter 5
Case Studies

In this chapter, I provide case study descriptions and analyses. As discussed in Chapter 3 (p. 55), this dissertation study employs a multiple case study approach, with cases nested in multiple layers of context. The units of analysis are three University of Massachusetts campuses—Amherst, Lowell, and the UMass Medical School in Worcester. All three cases lie within the contexts of both the state policy context and, within that, the University of Massachusetts System. Each case is further nested within its own local community context. In the first part of this chapter, I provide information about the contexts of the Commonwealth of Massachusetts and the UMass System Office. In the next section, I describe the three cases of UMass Amherst, UMass Medical, and UMass Lowell. Lastly, I provide analysis.

Context

Background Interviews

To provide context for the three case studies, I interviewed participants representing the Commonwealth of Massachusetts (state policy actors) and the University of Massachusetts System Office. Units represented by these participants are described in Chapter 4. Analysis of these interviews revealed four context-setting themes with two of themes from Commonwealth participants and two from System participants. Commonwealth of Massachusetts participants illustrated a strong perception that the state university system needed to be oriented toward industry and the market, and also that the system should work to improve the ways in which it communicates its story with regard to economic relevance. UMass System Office perspectives comprised a focus on
organizational and structural elements as key facilitators of the University’s role in economic development, and also an emphasis on the provision of incentives to encourage institutions to adopt an orientation toward economic engagement. These contextual perceptions of the UMass role in economic development provide an important lens through which to understand each campus’s adaptation to an economically engaged stance and establishment of connections and linkages.

Participant perspectives: Commonwealth of Massachusetts. As described in Chapter 4, perspectives among Commonwealth of Massachusetts participants aligned on the issues of whether and how the University of Massachusetts ought to be engaged in efforts to develop the state’s economy. Participants’ definitions of economic engagement included technology and innovation, education and workforce development, and “place development”—that is, social and cultural development of the communities surrounding UMass campuses. Among the four state policy actor participants, there was no consistent level of confidence in the state’s efforts to support UMass in this role, and two of them mentioned additional challenges the public university faced given the dominance of private universities in technology-based economic development in Massachusetts.

When asked to discuss their views on how UMass was adapting to expectations that it play a larger role in economic development, and on the kinds of connections and linkages that needed to be created, two ideas were dominant in participants’ responses. The first was that the University would need increasingly to adopt a market-facing and industry-friendly orientation if it were to play an effective role in helping to grow the state’s economy. The second idea that emerged from these interviews was that the University would need to effectively tell its story and communicate its relevance to
economic development while also remaining true to its mission. Given their roles as influencers of state policy, these participants’ assessments provide some insight into how UMass has moved toward increased economic engagement. Below I elaborate on each of these themes.

**Industry and market orientation.** In practitioners’ discussions about universities and their role in economic development (the kinds of discussions in which I am regularly involved as part of my work), a frequent topic of exploration is how universities can be more responsive to business and industry. This focus is clearly on the minds of policy actors in Massachusetts. Interviews with four state policy representatives revealed an interest in the University of Massachusetts’s alignment with the needs of business and industry and in thinking about research and education in terms of market needs. These participants identified such alignment as increasingly important, noted that it was important to develop new initiatives and mechanisms for adopting this kind of alignment, and recognized that the ability of a campus to move in this direction was partly affected by geography.

A variety of viewpoints from state policy actors reflected the importance of an industry- and market-facing orientation for the University. When asked what university economic engagement meant to him, Frank responded almost immediately with a description of universities as “engaging leaders in new and emerging industries.” Frank used the example of UMass Dartmouth’s (a campus not included in this study) Advanced Technology and Manufacturing Center (ATMC), a facility in Fall River, Massachusetts, designed for university and industry collaboration. Providing an example of the kinds of relationships that the University has with industry because of the ATMC, Frank described
a Fall River company that needed a new adhesive solution for binding wires together. UMass Dartmouth faculty members were able to focus research on solving their problem, and after implementing the solution, the company became more profitable.

Other Massachusetts policy actors also described relationships between UMass and industry, focusing mainly on technology transfer. Marcos asserted that technology transfer is the most direct kind of relationship that the University has with industry. Roland explained that UMass campuses are developing their tech transfer operations in different ways, but that technology transfer operations are a significant part of the University's move toward an industry and market orientation. Tony expressed a belief that the Commercial Ventures and Intellectual Property (CVIP—UMass's name for its tech transfer offices) operation is an example of “creating an entity within the university that will help that create that interface” between the University and industry.

State policy actors encouraged the University to move beyond tech transfer, however, expressing a belief that new kinds of efforts and mechanisms would be required to fully realize the potential of University alignment with industry and market needs. Marcos explained that a key mechanism will be incentives to move faculty members and their research in this direction, posing these questions:

How do you essentially move the behavior of faculty? [Research agendas are] very organically grown, very investigator driven. How do you move that research in a way that it can align better with the needs of clusters or businesses, or provide direct research for industry, or move interesting ideas and technologies in a way that is closer to touching the marketplace?
Marcos noted that the President’s Science & Technology Fund, faculty grants made available through proceeds of technology licensing activity, is one way to incentivize this kind of interest. Roland discussed the need for new kinds of entities and structures and pointed to the new Innovation Institute at UMass Amherst—a “single point of entry” (UMass Amherst, 2013a) to UMass for industry, designed to facilitate speedy and targeted connections—as an example of such entities. Frank provided another example—the fact that the South Coast Development Partnership, a regional economic development organization, is housed at UMass Dartmouth. Tony discussed at length the complexities involved in creating these new kinds of mechanisms and entities, pointing out that they are about long-term relationship development, not simply transactions like acquiring sponsorship for research or negotiating a deal to license technology. Tony declared, “you need boundary objects—entities, projects, people” and described boundary objects as “strengthening the interface between the University and industry.” As examples of boundary objects and a strengthened interface, Tony pointed to the industrial advisory boards that work with research centers funded by the quasi-public Innovation Institute at Mass High Tech. He also classified the Green High Performance Computing Center in downtown Holyoke—a partnership among UMass, four private universities (Harvard, MIT, Boston University, and Northeastern), and two corporations (EMC^2 and Cisco)—as an example. Importantly, state policy actors noted the importance of the UMass System Office in encouraging the establishment of these new mechanisms at the interface of the university and business/industry. Frank described the “system-level prompting” that leads to these kinds of activities at individual campuses, Roland mentioned the need for something to “tie systems together across campuses,” and Marcos warned that more
system-level and campus-level planning will be necessary rather than ad hoc connectivity between the University and the market. State policy actors suggested many and varied approaches beyond technology transfer for the university to become more focused on industry needs.

Participants representing the Commonwealth of Massachusetts identified differences in the ability for individual UMass campuses to engage with business and industry, with geographic location playing some role here. Roland claimed that UMass Lowell and UMass Boston have distinct advantages, given their proximity to the Massachusetts capital and largest urban center. Roland pointed to Lowell’s long history of industry relationships as another factor facilitating development of these kinds of entities. He contrasted Lowell with Amherst, noting that while there is a great quality of life in the bucolic countryside of western Massachusetts, Amherst faculty members and administrators are “not going to run into the guy who owns the factory down the street” as they walk about town. Although noting the challenges presented by institutional history and geographic location, these participants insisted that if the University and its campuses focused on their strengths—particularly underscoring the point that research is important to the innovation economy—they would be able to develop the necessary relationships with industry.

*Telling a “true” story.* The idea that the University simply needed to focus on what it was good at came up in another way in interview with these participants. A theme emerged about the University’s improvement at telling its story with regard to economic engagement. Importantly, though, “telling the story” was not about creating a marketing buzz as much as it was about focusing on University strengths and on enacting the story
by being present in the communities and regions in which the campuses sit. State policy actors felt that these efforts were important to creating a narrative of the university as relevant to economic development.

State policy actors cautioned against the University’s getting caught up in the wrong kind of narrative—for instance, that a university’s value to the economy is simply about tech transfer. Tony implored the University to “make their case for their intrinsic value, which has nothing to do with technology transfer.” He noted that he understands the allure of fixing on tech transfer, since university-engaged economic development, usually focused on technology-based economic development, is the zeitgeist of the innovation economy. His concern is that telling only that story can cause the University to drift from its core missions of research and education. Instead, the University should find a way to tell its story of economic relevance that is rooted in what the University is. Marcos echoed this concern and noted that it is important, too, for the University’s narrative to emphasize talent and workforce development (the education mission) at least as much as it does capitalizing on the fruits of basic research in innovation and technology transfer. These participants noted that the positive effect of telling the right story would be internal to the University as much as external. Tony stressed the importance of the University President’s introduction of this kind of discourse at the system level, and explained that the narrative helps to shape how the University is organized. Frank mentioned the importance of University staff members’ knowledge the narrative, too, both in terms of “where we’ve been” and also “where we want to go.”

Commonwealth of Massachusetts participants agreed that the challenge in telling a clear story of University relevance and connectivity to the economy is that such a story
creates an expectation of direct impact that is not there. Tony warned, “I think you need to respect the loose coupling there,” noting that although the expectation is that the “advancing knowledge narrative” will get connected to the “jobs narrative,” it would behoove universities to not try to draw too close a connection.

Participants saw other ways in which the loose coupling should be appreciated as the narrative takes shape—in particular where pushing partnerships and collaboration is concerned. Marcos mentioned this phenomenon in the context of connections between and among UMass campuses, observing that there is “a healthy tension” between forcing connections and allowing them to develop more organically. In discussing how the narrative encourages partnerships and connections, Roland recognized potentially unintended consequences:

In terms of economic development or community engagement, one might say naively, “Why don’t we scale this stuff by connecting it to this thing over there or that organization over there?” And yet when you look at the funding or sustainability model, or staff capacity, or just the relations between those actors and the community…. Part of structuring them or blowing them up or metastasizing them, it turns out, [could be that you] fundamentally change who they are or what they do in a way that might make them less effective.

Roland cautions that the narrative with which the University moves forward has to be careful not to distort the potential for relationships and connections.

Frank summarized this idea of being true by simply noting how important it is for the University to be present. By their actions—in particular, “by being everywhere”—
University leaders can best tell their story of relevance. “By being part of the community, you become engaged,” observed Frank.

**Participant perspectives: UMass System.** In Chapter 4, I detailed the perspectives of participants from the UMass System Office. To summarize: Generally, these participants, as state policy actors, felt that it was important for the University to do a good job of telling its story with regard to contributions to economic development. The interviews were focused on participants’ views on how UMass was adapting to an economic engagement orientation and on the creation of necessary connections and linkages, and UMass participants made a link between telling the UMass economic engagement story and the ways in which the story played out. Two areas of focus emerged as important in these interviews—university organization and structural issues and the creation of incentives for faculty members, administrators, and staff members to engage in the University’s effort to make contributions to economic development. The UMass System Office plays a significant role in leading efforts around university economic development, and the viewpoints of these participants provide an important lens through which to understand the dynamics at play in the individual campus case studies.

**Organization and structure.** Within the organization and structure theme, two messages stood out: (1) making economic development someone’s responsibility is a way to signal the importance of this activity, and (2) the UMass System Office plays an important role in encouraging and facilitating this activity.

Participants frequently referenced the System Office position of Vice President for Economic Development, held by Tom Chmura. Michael Hooker created this position
when he became UMass president in 1992, and participants generally agreed that
Hooker’s action was an effort to put a stake in the ground that University engagement in
economic development would be important. Nina commented that Hooker “came in
saying ‘I’m the economic development president,’” and then hired Chmura (a colleague
from economic development work in Baltimore) as he “elevated [economic development]
to a vice president position within the university.” Nina also noted that in the 20-plus
years that the position has been in place (with Chmura in the position since it was
created), the University has had “better communication across that function.” Participants
also noted that over the years campuses have followed suit by creating positions with
“economic development” in the title, or at least made sure that someone had primary
responsibility for the function. Morris noted that campuses have been encouraged to have
a research vice chancellor and to house responsibility for economic development with
that person. Edith noted that each campus has some “titled activity” for economic
engagement and further expressed that titles are important not only for signaling value of
a particular function but also for demarcating where that function “lives.” Nina argued
that while economic development may or may not be in someone’s title, the reality is that
there is distributed responsibility for this activity across each campus. System Office
participants agreed, though, that each campus has generally identified a leader for this
type of activity and that this approach has helped to establish economic engagement as a
priority.

Also significant in establishing this practice has been the System Office’s
leadership and assertiveness, as it has played a strong role in coordinating and
orchestrating economic development activity across the campuses. Nina contended that
this role only makes sense, given that the selling point for creating a five-campus university system was economic development, saying, “We had put this promise out there.” According to Nina, the University has followed through on its promise, and she observed:

I think we’re better connected than we used to be when we were a three-campus system. And I think we’re better connected than we were 10 years ago. And it’s because of system-wide groups. It’s because of system-wide proposal efforts.

Pointing to a nearby conference room and noting that the vice chancellors for research from all five campuses meet there monthly, Morris explained that the System Office is “neutral meeting ground”—a place where campus leaders can come together to “share best practices amongst the campuses and talk about how they can work together.” Morris further explained that System Office staff members take an active role in understanding the landscape of efforts on each campus so that they can better play a role in creating linkages. Horace called this active role “nudging connections” between the campuses, and noted, for example, to the Massachusetts Technology Transfer Center (MTTC). The MTTC operates out of the UMass System Office and provides professional development for technology transfer offices at all Massachusetts universities, not only UMass, facilitating relationship development between tech transfer offices and Massachusetts companies. Everett reported that the System Office enables connections and helps campuses build bridges to one another. Although UMass System Office participants agreed that the System Office’s attempts to bring structure and form to conversations about economic engagement across campuses, Nina was quick to point out that System Office staff members are effective at this task partly because they recognize that
connectivity comes from the people involved, not merely from the organizational structure.

As an extension of the connectivity role that the System Office plays for the campuses, participants also discussed the importance of the office in connecting the University with state policy actors. Morris noted how the president has developed a close working relationship with the governor and has effectively served as an advisor to the governor on economic development issues. Nina underscored the importance of this relationship, noting that the System Office, especially through its Donahue Institute, has conducted studies and made many recommendations to the state, including those regarding the role of higher education in economic development.

**Expectations and incentives.** UMass System Office participants, in addition to recognizing the importance of organization and structure in spurring university economic engagement, also talked about establishing expectations with regard to this kind of activity and supporting efforts to meet these expectations by providing incentives. Similar to viewpoints expressed by state policy actor participants, the UMass System Office participants noted how important it was that the University effectively tells its story through both external and internal communications. Telling the story well helped to drive expectations, according to these participants, and to create a clear and compelling mandate for the University’s role.

To help foster the expectation, members of the UMass System Office and particularly President Wilson actively and repeatedly boasted of the University’s accomplishments in technology-based economic development and other forms of engagement. Edith expressed her feeling that the University had previously been hiding
its light under a bushel with regard to the economic value of its research, but that
President Wilson’s use of the statement “The road to the social and economic
development of the Commonwealth goes through the University of Massachusetts” has
become a clear signal. Further, Wilson’s participation in the Chamber of Commerce, his
connection to state agencies, and other actions made clear that UMass “will be part of
what happens for the growing economy in the state,” according to Edith. Everett
confirmed that the UMass System Office has improved over time at asserting the role that
the institution plays, and importantly more specific with regard to identifying impacts, so
that they have become part of the story over time. Others agreed that specificity has been
important to getting the story across—Morris noted that it has been important to have
facts at the ready, giving as an example the fact that UMass is behind only Harvard and
MIT in the state in terms of research expenditures (and a very close third to Harvard at
that), and Nina underscored the point that President Wilson has been able to provide a
forceful story in part because of the specific examples he offers. Horace observed how
critical it has been for the University to get better at relaying this story to keep UMass
from “getting lost in the shuffle.” A public story, an incentive to live up to this story, and
concomitant expectations for achieving it have been established.

More than keeping the University from going unnoticed, though, participants
agreed that such communications have been as important within the University as they
have been externally. Horace noted that Wilson’s comments (“The road to economic and
social development…”), quoted above (and which Horace calls a “mantra”), have
affected practices such as decision making in hiring campus chancellors, where the focus
is on candidates whose visions align with this philosophy. Everett explained that
expectations get translated into specific incentives such as the President’s Science and Technology Fund, which provides financial incentives for research and makes economic engagement an appealing agenda in which to become involved. Morris and Marcos further underscored the importance of this grant fund, noting that it serves an important role in signaling expectations and also directly supports faculty movement in this direction. Internally, this combination of setting expectations by telling the story well and following up with incentives has been important to “convincing [faculty members and administrators] that it’s worth bridging the gap,” between public expectations and current reality, according to Morris. He further described this activity as “planting flags,” then following up through communication and coordination of efforts. Everett asserted that such communications help to establish and make clear priorities, and Horace noted that it serves as a reminder that “you have to keep at it.”

**Review of the Conceptual Framework**

As a precursor to detailing the three case studies of UMass Amherst, UMass Medical School, and UMass Lowell, it is important to provide a reminder of the frame used by this study. I have articulated the idea that an *Intramural Economic Engagement Interface* (Intramural EEI) exists—a combination of university rhetoric, structure, and activities that interact to bring together people and functions across university missions of teaching, research, and service. I have proposed that this interface helps university faculty, staff, and administrators to adapt to economic engagement as a purpose or activity of the university. I have further proposed that the interface consists of connections and linkages that solidify the university’s capacity for economic engagement. Each of the following case studies follows this framework by articulating
how campus participants viewed the process of adaptation to economic engagement and the kinds of connections and linkages that it made necessary. In each case study, examination of the components of this study’s conceptual framework is preceded by an account of the historical connections to the case’s economic engagement story and the primary narrative that is evident from the interview data for that case—the way in which the institution has framed its role in economic development.

Case Studies

University of Massachusetts Amherst

Historical connections. Chapter 4 described a browbeaten history for the University of Massachusetts (see Appendix I for a more in-depth exploration of this history). For 110 years, the University was made up of only the Amherst campus, so it is this campus that is most connected to this difficult history. Important themes from the history of the University are echoed in the voices of study participants representing UMass Amherst, the flagship campus of the public university system. The struggle between access and prestige to secure the core of the University’s identity appears as part of the economic engagement story, as does the fact that the University has always grown in a somewhat ad hoc and opportunistic manner. Overcoming the “Mass Aggie” identity influenced institutional development in the past. Vestiges of this struggle appear to be part of the University’s effort to maintain an identity consistent with the system’s economic engagement expectations.

Included in the history of the institution detailed in Chapter 4 is the fact that Massachusetts Agricultural College was established at a time when agriculture had already begun to diminish as a significant part of the Massachusetts economy. Despite the
lower level of relevance of an agricultural focus, “Mass Aggie” was still the institution’s primary identity for at least six decades after its founding. It was not until the middle of the twentieth century that the University began to significantly expand the scope of its curriculum, well behind such expansion by land-grant and public flagship universities in the Midwest. Although “Mass Aggie” is no longer the institution’s core identity, UMass Amherst still struggles to establish itself as a flagship institution with the concomitant broad scope of academic programs. Whether it is the University’s rural location or its belated movement to expand into a more diverse research university, the University still may not have overcome a perception of provinciality.

Another significant characteristic of the University’s growth and development was the effort to balance aims toward prestige with goals of broadening access to high quality education. As the University grew into a five-campus system, vertical differentiation between campuses allowed UMass Amherst to focus on being a distinct research university. But politics in the state, and the presence of many private colleges and universities—some of them among the most elite research universities in the world—made it difficult for UMass Amherst to jump off the fence between its elite research and democratic access goals. Straddling these intended purposes has left the institution without a strong sense of identity.

Solidifying the University’s identity has also been limited by the fact, as described in Chapter 4, that UMass Amherst, and indeed the entire UMass System, has only in recent years enjoyed the ability to proceed toward its aspirations through more endogenous effort than through the impulses of external forces. Moving toward an orientation of economic engagement requires a keen awareness of the needs of external
constituencies, but to be effective a university must be able to determine its own path to serving these needs. UMass Amherst must overcome a long history of meddlesome exogenous control and influence and establish a strong identity—as a more stable foundation upon which to build this expansion of the University’s mission.

The public flagship. UMass Amherst is proud of its status as the flagship campus of the state university system. There is evidence that some at UMass Amherst feel that this flagship status is somewhat embattled, and that there is a need to protect the resources due a flagship campus. Darrin explained that “establishing this particular campus as the flagship of the system and demonstrating its value statewide is important … this is the flagship campus and is … a leader in terms of the research in the system.”

More directly, Max noted:

We want it to be well funded, we want it to be successful, we want it to be well led, and it’s the flagship campus for the University. And just because it’s out here [in western Massachusetts] we want to make sure that the state still sees it as the flagship campus. And treats it that way. That means it should be getting the lion’s share of the resources, and I’m not so sure it does anymore because of the way the [UMass System] president’s office has carved up the pie.

Beginning in the 1960s, as additional campuses were envisioned and added and the centrality of the University of Massachusetts Amherst gave way to the UMass System, concerns have regularly been raised about the loss of resources to the flagship. Tandberg and Anderson (2012) have relayed the remarks of a former Massachusetts university administrator, Daphne Layton. Layton was a member of the Saxon Commission, which recommended the addition of the University of Lowell and Southeastern Massachusetts
University to the UMass system. Layton said that the expansion of the system created “a stronger voice for the university and the campuses,” (Tandberg & Anderson, 2012, p. 582), but she also expressed the reality that some campuses benefitted more than others. Tandberg and Anderson shared that Layton “also acknowledged that many would argue that it was not good for UMass Amherst, because the flagship would be required to share more of its resources with the other campuses in the newly restructured UMass system” (p. 582). A 1995 Boston Globe article mentioned, “Not surprisingly, Amherst fears erosion of its primacy. Its supporters accuse [then UMass System President] Hooker of shifting resources from the flagship campus to Dartmouth—recently described by Amherst faculty union leader Leo Richards as a ‘tugboat’” (Dembner & Golden, 1995).

Though these concerns about shifting resources may have peaked during system expansion in the 1990s, participants in this dissertation study raised similar concerns.

Today, worries about UMass Amherst’s primacy may be related to more than resources. An issue of university identity and image also exists. Nelson described his fears about the waning strength of the flagship brand:

I think that this university is going through an identity crisis. And it has suffered because of what I think is inconsistent leadership and perhaps lack of appreciation for the University in Amherst. So for example the University in Amherst is supposedly the flagship of the University of Massachusetts. But if you look at where the resources are going they’re going elsewhere. They’re going to Dartmouth, they’re going to Lowell, and they’re going to any one of a number of places. And so you’ve got a flagship that’s withering, and the closer you get to Boston the more resources you get. So if the University is serious about doing
anything, whether it’s economic development or academics or whatever, it just seems to me that its role as a flagship needs to be identified, supported, nurtured, funded, and short of that they’ll just sort of struggle along. It will be basically a big community college.

The flagship identity crisis is not unique to UMass Amherst. In 1998, then University of California Chancellor Robert M. Berdahl gave a speech at Texas A&M University entitled *The Future of Flagship Universities* (Berdahl, 1998). Berdahl (1998) explained that in states where the expansion of higher education in the 1960s led to the creation of public university systems, public flagships were under fire and “in the name of fairness, equitable distribution of scarce resources, or regional politics … there is a subtle, but dangerous effort to weaken flagship campuses…. Texas is not unique in this; similar political dynamics are at work in many of the states.” Today, University of Texas at Austin President William Powers leads the Public Flagship Network, a group of top public research universities that has had a focus on technological innovation in higher education, but that also has an interest in “how better to define and communicate the value of America’s great public research universities” (Powers, 2013). There are very real concerns about maintaining the strength of flagship institutions while at the same time providing resources across a system of universities with varying missions. UMass Amherst, which—as I described in Chapter 4—was finally coming into its own in the 1960s when it suddenly became part of a system. It may be, then, that the flagship identity issues are felt more acutely here than at flagships in other states where these institutions were more well established before the great expansion of the 1960s.
There appears to be no single definition or set of characteristics of a flagship university. Without a doubt, however, the scope and quality of an institution’s research enterprise is central to its identity as a flagship. For leaders at UMass Amherst, the research enterprise has clearly been central to defining the institution’s identity, and the narrative of the University’s economic engagement is expressed through the lens of its research. Shortly after his arrival, Robert Holub (UMass Amherst Chancellor from 2008 until 2012) instigated a strategic planning effort. The resulting plan, *Framework for Excellence: The Flagship Report* (UMass Amherst, 2009) heavily emphasized bolstering the University’s research enterprise, including the statement, “We aspire, specifically, to match the excellence of the public universities that are members of the prestigious Association of American Universities (AAU).” Indicators used in determining AAU membership are largely measures of research enterprise scope and distinction (Association of American Universities, 2010). In the Holub plan, development of a world-class research enterprise is practically an end in itself—if any purpose beyond this is included in *Framework for Excellence*, it is enhanced prestige for the University. Perhaps unexpectedly, the creation and expansion of the UMass System both provided for vertical differentiation (Bastedo, 2009) that gave UMass Amherst the room to establish a focus on research, and also apparently made the campus self-conscious about its association with other universities. The result appears to be a university that deserves recognition as an accomplished research institution, but that has to heavily handedly remind an internal audience that it is indeed worthy of such recognition.

As with other land-grant universities, UMass Amherst also invokes its mission of being engaged in improving the public weal through community outreach and other types
of university engagement. This aspect of the University’s mission, however, is not as tightly connected to its identity as the public flagship. The *Framework for Excellence* (UMass Amherst, 2009) strategic plan included a nod to University outreach efforts, but the goals listed are not nearly as ambitious as those related to research and in fact are focused on single programmatic or functional areas rather than on a broader effort to expand or improve University engagement. Study participant Cameron noted that the link between research efforts and community engagement was at best “opportunistic” and that overall there was a “low” level of connectivity between these mission areas. Preston expressed concern that there was no real institutional structure for engagement, and there had been no effort to define for the University community what the intended definition of “engagement” was in the title of the Vice Chancellor for Research and Engagement. Preston also conveyed frustration with the near exclusion of engagement from the University’s flagship identity: “For Amherst, despite the language of being the state’s flagship university, it positions itself as the flagship in terms of research, secondarily in terms of education. I think the engagement piece is really a follow-on that suffers.”

UMass Amherst participant interviews for this dissertation study revealed an interest in the expression of outreach and engagement as a strong part of the institution’s identity, particularly because of its roots as a land-grant university. Participants also reported, however, that commitment to engagement was not as strong as the desire to be *seen as* an engaged institution.

Though not within the scope of this study, the UMass Amherst strategic plan under current Chancellor Kumble Subbaswamy bears a postscript mention in this discussion of UMass Amherst’s identity as the public flagship for the state of
Massachusetts. The first report from the strategic planning effort, *Innovation and Impact: Renewing the Promise of the Public Research University* (UMass Amherst, 2012) relayed the importance of both research and engagement in a decidedly different tone than the earlier *Framework for Excellence* (UMass Amherst, 2009) plan did. The emphasis of the Innovation and Impact document is the effect that the institution’s efforts in research, education, and engagement will have. The end is not the efforts themselves, but rather what they will help the University to contribute to its stakeholders in the state, as well as nationally and globally. The University’s identity as the public flagship appears poised to shift in emphasis under the current leadership.

**Participant perspectives: UMass Amherst.** In Chapter 4, I described the different perspectives held by participants affiliated with UMass Amherst on the University’s economic engagement role. Among the 10 participants, perspectives emphasized the impact of alumni, an increased emphasis on the University’s research mission and a concomitant focus on technology commercialization, and the need for development of a culture of entrepreneurship as well as the appropriate planning mechanisms for developing economic engagement strategies. Above, I have discussed how important the University’s identity as the Commonwealth’s public flagship is to participants.

For UMass Amherst, identity interpretation is where thinking about the University’s adaptation to economic engagement begins. UMass Amherst participants also explained various ways in which the University was working to redefine engagement as part of its adaptation. When asked to describe the ways in which the institution was creating supporting connections and linkages for economic engagement, two themes
arose: one about the kinds of planning mechanisms or other scaffolding that remained to be developed, and one about the ways in which members of the University community were spanning boundaries across disciplines and functional areas. In the subsequent sections, I analyze UMass Amherst participant perspectives and present greater detail on each of these themes.

**Adaptation to economic engagement.** As participants described UMass Amherst’s efforts to respond to the public expectation that the University be engaged in economic development, they pointed to multiple elements that have been part of this response. Frequent mention was given to the University’s partnership with the city of Springfield, the University’s closest urban neighbor 25 miles down Interstate 91. Other activities were also given prominence by participants, including the expanded vision for the institution’s research enterprise, embodied in the new cabinet-level position of Vice Chancellor for Research and Engagement; strengthening connections to business and industry and emphasizing commercialization of University discoveries; and recognizing a need for more planning and coordination of economic engagement efforts. Analysis of the interviews reveals two primary themes: adaptation through *identity interpretation* and adaptation through *defining engagement*. UMass Amherst participants’ perspectives on the University’s movement toward an economically engaged stance mostly align with these two motifs.

**Adaption through identity interpretation.** When UMass Amherst asserts its identity as the public flagship, a significant point of emphasis of this assertion is the University’s research enterprise. Not surprisingly, then, study participants at the flagship campus described the University’s engagement in economic development efforts largely
as an extension of the institution’s research activity. Participant responses suggested that academic and other leaders at the institution were at the same time grateful for economic engagement as a tool for communicating the relevance and value of research and vexed by the disconnectedness of the academy, uncomfortable with the language and commitments of this engagement. An active, albeit cautious, process is underway of reinterpreting the research mission partly in terms of economic engagement.

Cameron observed that the “campus was given a bit of a shot in the arm in a good way when the UMass System started talking more about economic development.” The University, in his view, was “able to create different kinds of internal and external communications to tell the story of what’s going on here so that we’d be relevant.” Being able to communicate relevance was important, said Cameron, because most lay people do not understand science or the value of research. The economic development frame gave University leaders and opportunity to communicate that value in a way that stakeholders could grasp. As Cameron described it, economic development became part of the research narrative:

[W]e kind of took it all on, in the research organization, to do economic development but didn’t have explicit economic development goals. It was “we’re doing it to enhance our capacity for research and innovation and if we can find more of our technologies being spun out into spin-offs, that’s great.”

Darrin also described how economic development became part of the way in which University leaders were shaping public-facing messages about research:

[R]esearch is the creation of new knowledge and new products. So what do we bring? We bring the educated workforce for the state, but we also bring the
creation of knowledge, the creation of new ideas, the creation of new products and the creation of new business…. That’s all about research. If you’re talking about research in the life sciences we bring potential avenues toward cures for illness, we bring research that’s going to improve the lives of the people in the state. So it’s not only about the creation of marketable materials. It’s also about creation of knowledge that will improve the lives in the state—and hopefully the country.

Generally, UMass Amherst participants have noticed that economic development has become a way for leaders at the institution to communicate relevance and impact of research.

It is clear that serving the research enterprise was a through line as the UMass System adopted and articulated an economic development narrative. Economic impact was important, but expanding research was the prime goal. When asked whether the Vice Provost for Research position had been elevated to Vice Chancellor for Research and Engagement for purpose of advancing an economic engagement agenda, Jon was clear that he felt that this was rather to advance the university’s research agenda:

I don’t think that was driven by economic engagement…. It’s really a question of how much importance … and what sort of volume of research you’re doing…. Most major universities will have a vice president for research or vice chancellor for research. So I think it’s mostly driven by the research, not the economic engagement piece of it, although I don’t think it’s a good idea to necessarily separate the two.
To Jon and others at UMass Amherst, the University’s engagement in economic development did not drive the research agenda, or any other part of the mission. Instead, research was the driver and economic development was a fortunate byproduct that allowed the University to make the value of research more tangible.

At the same time, there is a sense that economic development is not new—that it has always been part of the mission, in particular because of UMass Amherst’s status as a land-grant university. Jon called it “old wine in new bottles”—remarking that it was the same kind of work that the University used to do intensively with agriculture, and that now the focus on was on science and technology. Cameron observed, though, that even in agriculture it was difficult for faculty members and others to think of what they were doing as economic development—that there was a cultural barrier that made it difficult for members of the academy to see their work in these terms.

Even when the economic development narrative has been in the foreground, it has been a strange bedfellow. Gerard related an earlier attempt to bind economic development more closely to the University’s mission. Gerard invoked UMass System President Michael Hooker (1992–1995), who was perhaps most responsible for reframing the UMass story in terms of economic development, remarking that Hooker pushed economic development as central to the UMass mission. He then explained that support for economic development waxed and waned with UMass leaders (both system-wide and at Amherst) following Hooker. Because of UMass Amherst’s commitment to its identity as a research institution, it appears that the economic development story has trouble sticking, and that it has not been tightly connected to the research mission.
A number of study participants at UMass Amherst, in fact, noted just how difficult it was to make the economic development story prevail. Nelson pointed to the cultural disconnect that made it difficult to sustain a discussion about economic development as part of the mission. Max explained that UMass Amherst professors did not “see it as their job to stimulate economic development.” Jon expressed his feeling that the faculty would have to come around because increasing the opportunities for funding and growth of research agendas would be related to this kind of applied and translational work. Cameron felt that external messages about the University’s being economically engaged needed to be coupled with internal communication efforts directed toward creating cultural change. A favorite phrase used by management gurus is “culture trumps strategy,” and at UMass Amherst, identity as research institution is part of the culture, and to date it seems that economic development has been interpreted only as a strategic communications device.

Adaption through redefining engagement. The UMass Amherst culture is as uneasy with a broad engagement-focused identity as it is with economic engagement. As discussed above, a number of study participants at UMass Amherst identified the University’s land-grant roots as important to its identity. Also mentioned earlier, however, is the fact that this importance did not necessarily translate into a strong commitment to outreach and engagement. In 2009, the year before I interviewed participants for this study, the University eliminated its outreach division by doing away with the Vice Provost for Outreach position and reorganizing outreach activities into other parts of the University. Interviews uncovered what appeared to be an interest by some at the University to redefine engagement. Such redefinition emerged as an
important mechanism through which UMass Amherst was adopting economic
development as part of its mission. During analysis of participant interviews, two patterns
surfaced that illustrated this trend. The first pattern was repeated references to working
through a definition of engagement—trying to answer the question of “What is it?” The
second pattern was related to figuring out where at the institution engagement should be
housed—an effort to answer the question “Where does it go?” with regard to
engagement. For UMass Amherst participants, adapting to an economically engaged
orientation was partly about answering these engagement-defining questions.

One participant, Harry, lamented that while the University still maintained some
level of commitment to community development types of engagement, in the end these
types of engagement are not what the University focuses on or what grabs the attention of
the public:

I work with lots of people down in Holyoke but I work at the community level
creating a better, healthier community. That’s what I do. But at the other parts of
the campus, higher up, they’re talking about all kinds of economic engagement—
“there’s a hundred million dollar computing center being built down there.”

That’s all I read in the paper.

Because of the attention garnered by engagement related to technology and economic
development, according to Harry, the committee that nominates UMass Amherst faculty
members for the UMass System-wide President’s Public Service Awards tries to balance
nominations for the award among professors who are “good for economic growth in
Massachusetts” and others who have “done great work in the community, to help the
community really excel.”
The elevation of what was previously a vice provost position to Vice Chancellor for Research and Engagement appeared to have stirred up some of the effort to define engagement. Adding “engagement” to the senior research officer’s title raised questions about what University leaders deemed engagement. In particular, participants observed that this change signaled a shift from “engagement” as community development to engagement with business and industry. Harry also noted that it was made clear during the interview process for the new Vice Chancellor for Research and Engagement that the focus would be on “business engagement” and not “community engagement.” Jon, though, was quick to point out that the word “engagement” in the title was intended to mean more than economic engagement and to refer to research-related partnerships more generally:

But “engagement” means more than “economic engagement” in [the title]. It might mean, for instance, engagement with other institutions of higher ed to partner on large federal proposals. That wouldn’t be unrelated to economic engagement, but it’s not exclusive. It’s not “vice chancellor for research and economic engagement.” Although that can be a part of it.

In general, though, to Jon, the definition of engagement in that title was related specifically to activity in scientific research and development. Another participant, Darrin, noted that the creation of the position and inclusion of the word engagement “signals the commitment on the part of this administration to develop our research and to create the kinds of partnerships we’re talking about.” Darrin also noted that federal relations and state government relations (through interaction with University Relations) were important parts of the definition of engagement. Emmett noted that inclusion of the
word “engagement” in the Vice Chancellor’s title put the issue on the “radar screen,” but that “we don’t have a clear definition of engagement” in the title, raising uncertainty about the university’s commitment to engagement.

Related to the question of “What is engagement?” is the question of “Where does it go?”—from what unit at the University should engagement be led? Cameron described how economic engagement had once been tied to the outreach organization through an Office of Economic Development, but over the years and through multiple organizational shifts, economic development had become part of the research enterprise. Part of the struggle in figuring out where engagement should live, according to Cameron, was the many different kinds of activities that might be considered engagement, including economic engagement based in innovation and technology and more social science-oriented engagement in community health and similar initiatives. The array of engagement activities and modes, in Cameron’s words, make it “challenging at times to sort it out and have a strategy that pulls them all together the way things are funded.” Emmett described a similar complexity, saying that even within the heading of “economic engagement” activities could range from those focused on “enhancing the economic base” to those that emphasized “the quality of life in the region.” Emmett called it a challenge to “understand all the different ways [economic engagement] can be expressed and measured.”

As suggested above, other interpretations of engagement depicted it as an external relations or strategic communications function. Max talked about “external engagement” while describing a new hire in strategic communications: “[T]his chancellor [Holub] hired for the first time an external engagement person at a very high level—vice
chancellor, the vice chancellor for marketing and other [external communications activity].” To Gregg, parsing activities between research and engagement was difficult, yet in the end he clearly saw engagement as an external relations function:

It’s difficult for me to separate in my mind on a lot of these projects what is research and what is engagement? And it would be hard for me to characterize some of the programs that we have in Springfield as to which one it is because I think it’s both in many cases. We don’t have a separate office of engagement. We do have some people who work in some outreach activities but those people mostly fall under this Springfield initiative. So it isn’t really something that’s very separate. [We have] put the Springfield initiative under university relations rather than under research but they work very closely together in order to do what they’re doing.

Cameron and Darrin also pointed to the Springfield initiative as a complicating factor in thinking about a home for either broad engagement activities or specific economic engagement efforts. Cameron noted a “disjointedness” of the Springfield work, with clear objectives but lack of definition of the objectives in terms of economic development, community engagement, and/or partnership development. Darrin pointed to organizational shifts that were happening around the Springfield initiative but were creating “no sense of a cohesion to the commitment of the University in Springfield.”

Darrin expressed interest in trying to create that cohesion moving forward. Throughout the interviews with UMass Amherst participants, the issue was raised that the partnership with the city of Springfield created new challenges in determining placement of economic engagement within the institution.
In the end, the desire to be seen as a serious research university—the flagship public research university in the state—meant that engagement would be defined in terms of research. Jon did not “think it’s a good idea to necessarily separate” research and economic engagement; he saw them as intertwined. Darrin noted that overall the service mission of the University is clearly connected to research, and it was this link that would define the University’s role in the state. There was a sense that emerged from a number of interviews that the economic engagement mission simply needed to be placed somewhere. Nelson commented, for example, how it was critical to have a structure in place for it to happen, and Emmett pointed to the fact that economic development was not assigned to someone and therefore had less chance of happening. For a university interested in maintaining its identity as the public flagship, it made sense for economic engagement to find its home in research.

**Connections and linkages.** As I asked UMass Amherst participants about the kinds of connections that existed and the ways in which connections and linkages were created, two patterns arose. One was the extent to which the University was undertaking efforts to develop plans or other kinds of scaffolding to support economic engagement. The other related to the ways in which members of the University community were spanning boundaries across disciplines and functional areas. According to participants, connections were made or broken based on whether there were intentional structures in place to create connections and on whether connections could successfully cross structural and cultural dividing lines.

**Connecting through planning and scaffolding.** Planning was one important factor necessary for making connections, according to participants at UMass Amherst. Nelson
repeatedly mentioned that the University needed a more organized, coordinated, systematic approach to economic engagement:

[T]here needs to be a connection between setting up your goals, and setting up your mission and your vision, and then implementing a program to accomplish the mission and vision that you identify. And I think that’s what’s missing. It’s just not there.

Max echoed this sentiment, saying, “I do not believe that they have an internal strategic plan for how they’re going to deploy the university resources to meet a regional economic development issue.” Preston conveyed a similar perception, couching the lack of planning in terms of the Springfield initiative, expressing doubt that various activities in Springfield were ever “housed within a broader framework of ‘here’s how the university is going to work with the city of Springfield.’” Cameron also pointed to a lack of planning, noting that construction of connections was largely “opportunistic,” but he also pointed to Rising to the Challenge, a companion document to the Chancellor’s Framework for Excellence (UMass Amherst, 2009), saying that this document was moving in the direction of clarifying actions to be taken toward achieving strategic objectives. Overall, a lack of planning was repeatedly mentioned as a potential barrier to building effective connections across the University to support economic engagement.

Closely related to comments about planning (or lack thereof) were observations about a need for more scaffolding, in the form of organizational structures and policies, to support the University’s realization of its intention to be economically engaged. Cameron speculated that one reason for a lack of scaffolding might be changes in leadership, and the concomitant changes in institutional priorities. Regular changes have left UMass,
according to Cameron, without an economic development agenda or a set of policies that might encourage and support economic engagement efforts. Gerard also noted the impact of leadership changes, first pointing to the importance of Michael Hooker’s emphasis on economic development in the 1990s, then reporting that after Hooker’s presidency, “support for economic development went up and down.” Cameron and Preston both reported the absence of any kind of “formal mechanisms … to support and guide this work” (Preston), with Cameron noting in particular the lack of an economic development council of any sort. Nelson suggested that some kind of coordinating body could help provide cohesion to the University’s efforts in economic development, noting that not having “the structure and the function worked out” meant that “things aren’t going to happen.”

To Max, what was missing was top-down coordination across program and functional areas, keeping the University from realizing what could be a bigger scale of impact. Max presented an example:

Let’s say the University really wanted to make an impact on the dropout rate, which is a huge problem for Springfield. There you could coordinate a sociology department, a psychology department, an education department, a planning department, a whole bunch of departments—a multidisciplinary approach to a problem. I don’t see that. I don’t see any of that. So I think the programs that we see are programs that are generated by independent departments with independent community colleagues. And then become institutionalized. But it’s not top-down or strategic.
UMass Amherst participants regularly pointed to the lack of coordination and other efforts to create structures as a significant barrier to building the kinds of connections needed to support and encourage economic engagement.

**Connecting through boundary spanning.** Boundary spanning was another theme that emerged from the UMass Amherst interviews as participants discussed how connections are made. According to interview data, there appeared to be a recognized need for boundary spanning—reaching across structural and functional boundaries at the University, and between the University and other entities, to connect and collaborate. Participants viewed structural and organizational connections as starting points for boundary spanning and observed that the planning and scaffolding issues discussed above were therefore inhibitors. Boundary spanning, however, went beyond the structural connections, in the eyes of the participants, and they repeatedly discussed the need for trust and social capital development to support the crossing of boundaries. They also observed that the embeddedness of the University in a particular place and the “innovation ecosystem” of that place affected boundary spanning activity.

Gregg emphasized creating the structures and policies that would support and encourage boundary spanning. He expressed his feeling that it was “the job of the administration … to make it easier to cross those barriers, to make any hurdles low enough so that people can cross over.” Cameron observed that previous structures in place had facilitated boundary spanning for economic engagement across the research and outreach functions of the University, but these efforts had, since the dissolution of the Outreach division, gone back to remaining within the boundaries of Research. With the University Relations office taking on some of what used to be Outreach, Cameron noted
that it was still to be seen whether there would be successful spanning across these functional boundaries. Gregg pointed to physical structures as a mechanism for boundary spanning, explaining how the new science complex under construction would encourage interdisciplinary work:

[W]e’re not putting any departments in there. So it’s not a chemistry department or a biochemistry department or biology department. What we’re doing is populating the building on the basis of projects and groups in different modules. So if you’re working on problems in immunology, for example, you might have a collaboration with someone from chemistry and someone from biochemistry and someone from chemical engineering or polymer science who’s dealing with delivery of medications. So people who are working on a specific problem or in a specific research area will get then that new laboratory space.

While many participants mentioned boundary spanning as important but something that the University still needed develop, Jon felt confident that members of the University, and in particular faculty, were already quite good at boundary spanning. He explained that this was because faculty members have had to collaborate for years to make the institution’s education and research programs competitive. In general, participants’ views were mixed as to whether the right structures and policies were in place to encourage boundary spanning in the engagement context, however.

One of the issues driving the need for better connections across boundaries was the need to develop social capital and trust. Most participants who mentioned this need discussed it in terms of boundaries between the University and outside entities, though there was an implication that developing trust inside the institution would be helpful in
making these kinds of connections outside. In the participants’ view, it is the institution’s embeddedness in a place and in an innovation ecosystem that required development of social capital and trust. Darrin suggested that having a physical presence in downtown Springfield would be important in developing a sense of interdependence and mutual support as part of the Springfield initiative. Cameron talked about the need for such trust-building in particular between the University and the school system in Springfield—the need for the University to move away from short-term relationships that leave schools feeling deserted in the end.

As part of the discussions related to development of social capital, participants often mentioned that social capital was important because the University alone cannot be responsible for achieving the desired outcomes of economic engagement. Gregg explained, for example, that while the University works to bring discoveries to market, this kind of activity is “not something that we can control the way we can control education and research.” This situation is why, Jon underscored, the institution needs to be connected to a private sector network: “If all the responsibility is on the institution and every effort is within the institution I think you’re doomed. And that’s the engagement piece.” In Jon’s view, it is the network, not the University alone, that realizes the commercial potential of university research. Interviews with UMass Amherst participants frequently included discussions of the importance of building networks and other forms of social capital and trust as a prerequisite for successful economic engagement.

As mentioned above, Jon was quick to make the point that “I don’t think any university can be successful in [economic development] by themselves; you have to have a private sector network: entrepreneurs, service providers, investors, facilities off
campus.” Jon’s view that the University is an integral part of a larger “ecosystem” was echoed by a number of other participants. It was, to a number of the participants, the connections outside the institution that were most important in terms of linking activities to outcomes. Max illustrated the idea that UMass Amherst is embedded in multiple “places,” and that the geospatial scale was important in connecting to the ecosystem(s) in appropriate ways. UMass Amherst has an economic development role not just in western Massachusetts, but as the state’s public flagship university, it has a responsibility to the state as a whole. Harry talked about the importance of building connections with entities outside the institution in the context of the University’s efforts to contribute to the healthcare workforce in the state—the need to “demystify” the University and draw talent.

In comments that reflected back on the structure and scaffolding issue, though, Emmett noted remaining challenges in building connections between the University and external networks. In particular, Emmett repeatedly noted the need for a “central locus or nexus”—a connection point with the University for external stakeholders, through which they could link to appropriate points within the University to undertake economic engagement efforts. Again, the importance of these kinds of connections with external networks was expressed time and again during the UMass Amherst participant interviews, creating a clear sense that the University could not achieve economic development ends on their own.

**Discussion.** The work that the University of Massachusetts Amherst has undertaken to engage in economic development activity has been rooted firmly in the institution’s identity as the public flagship for the state, an institution with a significant
and noteworthy research enterprise. Understandably, economic engagement efforts have been linked most closely to the research activity of the University—conceptualized as an extension of the research mission. It is easier to say that economic engagement is part of research, however, than it is to make this concept resonate with faculty. The institution added the word “engagement” to the Vice Chancellor for Research’s title, putting a stake in the ground to assert that connecting research to the outside world would be an important priority. Definitions of “engagement,” however, were not necessarily shared across functional areas at UMass Amherst, which complicated University leaders’ ability to simply establish Research as a home for economic engagement. Also complicating the effort to be economically engaged were adequate plans and scaffolding structures or policies to help the University live up to the promise of contributing to the economy. Absent top-down planning or organizing, scaffolding appeared to be emerging in a more organic way. Participants regularly pointed to boundary spanning—efforts to create links across disciplines and functions within the University and with external stakeholders—and a focus on developing social capital as important tools for creating connections and linkages to support economic engagement.

University of Massachusetts Medical School

Historical connections. The University of Massachusetts Medical School was first conceived in 1948, but serious consideration for the school was not undertaken until the mid- to late-1950s, and the enabling legislations was not passed until 1962. It would then be another eight years before the first students were to attend the school. Over these 22 years, the development of the University of Massachusetts Medical School was fraught with many of the kinds of difficulties faced by UMass over its 150 years and
described in Chapter 4—in particular, a strained relationship with the Massachusetts political establishment, disagreements between the private higher education sector and the public University of Massachusetts, and tensions between elite and democratic education.

Development of UMass Medical benefitted from a politically friendly atmosphere for the state university, which was in place throughout the 1960s. This period witnessed tremendous growth for UMass, as described in Chapter 4, and this growth was fueled by state support—funding and relaxed regulation on the part of the Massachusetts state legislature and belief in public higher education as a mechanism for advancement of the working class on the part of the citizens of the Commonwealth. Despite a generally supportive stance for UMass in many quarters, however, the establishment of the University’s medical school was not without political opposition. Some of the opposition stemmed from the private higher education sector, some from disagreements about the purposes of a public medical school in Massachusetts, and some from issues of location and budget. All these sources of tension are discussed further below. After supporters won the enabling legislation in the early 1960s, the first dean of the medical school, Dr. Lamar Soutter, faced fights over salary caps that would limit his ability to hire top-notch faculty, the decision about where the school was to be located, and adequate funding for the design and construction of the campus. Just as its parent campus in Amherst had, the nascent medical school faced significant start-up challenges in the form of tense lobbying and negotiations with the state legislature and governor.

The private higher education sector also presented a number of challenges to the formation of the medical campus. By the 1950s and 1960s, UMass was used to
confrontation by the private sector, which, since the days of MAC, had fought to keep state support and other advantages for the public sector to a minimum. The deans of Boston’s medical schools at Boston University, Tufts, and Harvard resisted the establishment of a state medical school, particularly in Boston, as early as the 1950s (More, 2012) when the idea had barely gotten off the ground. Opposition by the privates was a significant factor in the placement of the UMass Medical School in Worcester (More, 2012) rather than in Boston (just as they would later resist the UMass Boston campus). In the end, the private institutions were unable to counter the case made by proponents of the UMass Medical School that not enough capable Massachusetts and New England students—especially those of modest means—were being admitted to extant private medical schools (More, 2012). The regional and class-based arguments, along with a case for expanding the medical workforce, struck a chord with legislatures, and approval was granted in 1962.

As More (2012) explained, however, “the question of whether to create the school rapidly was supplanted by the question of what kind of school it should be” (p. 13). With the development of the University’s medical school, once again the question of purpose was raised for UMass—a question that had been a significant part of the institution’s history since it was Massachusetts Agricultural College. Historically, the question of purpose was rooted in prestige (see Chapter 4), and so it was to be with the UMass Medical School. Though the institution was born of a national demand for family and community medical practitioners, and the regional interest was also in this kind of practitioner, as well as access to medical education for a broader segment of society, a
different purpose was outlined in the rhetoric of the founding dean. Intentions were clear from the beginning:

[T]he determination of UMass Med, embodied in its founding dean, Lamar Soutter, to resist the pressure to become a “community” medical school—one that exclusively emphasizes primary care at the expense of specialization and world class research—makes its history exemplary, if not unique (More, 2012, p. 3).

Soutter did indeed see to it that this purpose did not define the school, though not without engaging in formidable political clashes. The school was established with a significant mission related to research and specialization, including the construction of its own teaching hospital. A detailed account of the politics surrounding this effort is provided by More (2012) in *A History of the University of Massachusetts Medical School: Integrating Primary Care and Biomedical Research*—the title of which is an indicator of how significant the question of purpose was to founding of the institution.

It is relevant to consider this question of what type of school UMass Medical aimed to be and has become because this history influences and defines the nature of its economic engagement in the region—the focus of this study. UMass Medical embraced a broad mission including world-class research on one end of the spectrum, to translational and applied clinical work in the middle, to deep connections to the community at the other end. These three purposes of UMass Medical bring into sharp relief the connection between university identity, as shaped by purpose, and the ways that the institution organizes for economic engagement.
Bench to bedside to community.\(^{14}\) Both Dean Soutter’s words, quoted above, and his actions during the foundation decade of UMass Medical disclosed the aspirations for a world-class research program. This vision has been realized: In 2006, a UMass Medical researcher, Craig Mello, was awarded a Nobel Prize for discovery of RNA interference, an important breakthrough related to the transmission of genetic information. The University’s website boasts of its extensive research enterprise, including attracting over $240 million per year in research funding (UMass Medical School, 2014a), and notes that the University “ranks near the top among public medical schools in the Northeast in the amount of funding awarded by the National Institutes of Health” and is “one of the fastest-growing research institutions in the U.S.” (UMass Medical School, 2014b).

The research program at UMass Medical is very much connected to practice. One manifestation of this approach is the central role clinical and translational medicine plays. The University received a National Institutes of Health (NIH) Clinical and Translational Science Award (CTSA) in 2010 to expand its translational work.\(^{15}\) The University also emphasizes high-quality medical education, noting on its website:

> Since accepting its first class in 1970, the primary responsibility of the School of Medicine has been to provide our students with an accessible, comprehensive and personally rewarding medical education of the highest quality and one which optimally prepares them to excel as tomorrow’s physicians—caring, competent,

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\(^{14}\) My use of the word “bench” refers to bench research—fundamental medical research conducted in a laboratory on non-human subjects.

\(^{15}\) UMass Medical serves as the lead institution on this award, but the grant was won by through a consortium effort of all five of the UMass campuses.
productive and fulfilled in their chosen career serving a diversity of patients, communities and the health sciences. (UMass Medical School, 2104c)

Clinical care is also a focus. The University has developed a strong connection with its clinical partner, UMass Memorial Health Care, a system of five hospitals with facilities across central and western Massachusetts. One of these, UMass Memorial Medical Center, is the original teaching hospital built by the UMass Medical School in the 1970s.

One participant, Owen, mentioned that the strong clinical connection had not always been in place; only recently had the University renewed the strong link as part of an effort to reconnect basic research to human disease. Owen described the “divorce” of the clinical activity from the UMass Medical School:

[T]he school separated from the hospital and the physician practice went with the hospital. So there was this divorce between clinical activity and the school. The school actually did relatively well financially during this period of time and invested a lot of money in research.

Owen then explained that once this split happened, basic research at the University became too focused on simple model organisms and not connected enough to clinical practice. He noted that his arrival at the University was concomitant with a shift in thinking about this relationship:

[I]t was time for it to come back together in a sense. And so there was both a cultural healing between the clinical system and the school, and also a redirection of resources on the research mission in ways that would be more relevant to patients.
This kind of connection to practice was a significant part of the promise made by early supporters of the UMass Medical School and its founding dean Lamar Soutter. It is interesting that a temporary weakening of that connection appeared to have the effect of freeing up the institution to develop a world-class research enterprise. That University leaders deemed it important to reconnect basic and clinical research is also telling: There is a commitment to staying relevant, even while advancing the institution’s research agenda.

UMass Medical is also very much connected to the community in ways that go beyond clinical care. There are community links through the school’s clinical partner UMass Memorial Health Care. The organization has a physical presence through its facilities throughout central and western Massachusetts. UMass Memorial also supports a number of community health initiatives. UMass Medical’s connection to the community, however, extends well beyond its relationship with its clinical partner and community health programs. The University also does extensive outreach to K-12 schools in the region through STEM and health education programs and engages in healthcare workforce development initiatives. The physical presence of the institution has contributed to the development of the neighborhoods surrounding the campus. The University is one of only two free-standing medical universities in the nation to have earned the elective Community Engagement classification from the Carnegie Foundation. This connection to the community was promised during the deliberations over where to site the UMass Medical campus. A strong case was made for the way in which the University could contribute to the city of Worcester by developing communities. The extent to which the University is community-engaged is an important part of its identity.
Of the qualities of UMass Medical described here—a world-class research program, strong clinical and practical education links, and connections to the community—it is important to note that these traits did not develop in an orderly succession. Despite being articulated by the founding dean, the research prominence has been the most recent development, and the first emphasis of the medical school was indeed on community and public service, making good on the promise that was made when placing the University in Worcester—a promise that bound the University’s mission to the community. Next was the development of the clinical and practical education aspect of the University’s mission and identity. The trajectory of the development of these different aspects of UMass Medical’s mission and identity is important because it suggests a particular orientation of the institution that influences the way in which leaders organize the University’s efforts in economic engagement in different ways at different times. As will become clear in the subsequent description of UMass Medical’s efforts in economic engagement, the “community” and “bedside” aspects of the bench to bedside to community continuum drive the institution’s work in this arena. The way that all three of these facets have unfolded has shaped engagement as it stands today, which the focus of the next section.

**UMass Medical School participant perspectives.** As described in Chapter 4, the participants affiliated with UMass Medical viewed the University’s economic engagement role in various ways. Across the four participants, perspectives emphasized University spending (employment, purchase of goods and services, real estate development), community development, and the commercialization of research. The description of UMass Medical provided by all participants suggests that the University’s
connection to the community is central to its identity. As with UMass Amherst, identity interpretation at UMass Medical is an important starting point for participants in thinking about how the institution adapts to expectations to be economically engaged. Other themes that emerged from UMass Medical participant interviews included the role of leadership in helping to adapt—in particular how priority setting is critical to establishing the right connections—and the importance of aligning and creating connections across interests. The analysis of participant perspectives provided in the following pages provides greater detail on each of these themes.

**Adaptation to economic engagement.** When discussing how the University has adapted to expectations for the institution to participate in economic development, UMass Medical participants raised a variety of factors that have been important to this adaptation, including: the institution’s Center for Clinical and Translational Sciences, which engages researchers on all five UMass campuses; its central location in the state; and its efforts at seeking appropriate funding mechanisms. Analysis of the interviews revealed two primary themes within this area: adaptation through identity interpretation and adaptation through leadership. Much of what participants saw as aspects of UMass Medical’s adaptation fit into one of these two categories.

**Adaptation through identity interpretation.** At UMass Medical, the institution’s adaptation to an economically engaged orientation is largely grounded in being a strong presence and good citizen—an anchor institution for the city. The roles of universities and hospitals (“eds and meds”), along with community colleges, K-12 schools, libraries, and government offices, are increasingly being considered in the literature on “anchor institutions”—those institutions in communities that are anchored to their place and have
deep roots and extensive reach (see, for example, Birch, Perry, & Taylor, 2013). These institutions are not likely to leave their geographic place, and they have a strong interest in fostering the well being of that place. A primary impact they generally have on their community is through their size—they are often among the largest employers in their regions, and they spend a significant part of their budget locally on goods and services. In addition to their size, there is a mission component to the definition of anchor institutions (Serang, Thompson, & Howard, 2013), which can be broadly summarized as community and economic development. Participants from UMass Medical did not use the term “anchor institution,” but as they described the University’s adaptation to expectations for engagement in economic development, they were clearly focused on what they believed was the institution’s identity as an important force in the community (in effect, what could be termed an anchor institution role). For these participants, adaptation to economic engagement meant reinforcing this identity and focusing on ways to communicate and expand upon it.

During the location and development of the Medical School in the late 1960s, the case was made that the presence of the University would be an economic boon for the city (More, 2012). Perhaps the force with which this case was made at the time set the stage for an important part of the University’s identity being the economic contribution that it makes to Worcester. The University makes clear the inevitability of its economic impact due to its direct contributions to the economy through spending on payroll and purchasing. Warren described it this way:

It’s kind of a mystery to people, and so we get out there and describe all of the good work that’s going on here, but also the job opportunities that exist here,
the number of people that we employ, the amount of money that we spend locally.

Owen also noted that it is important to communicate this direct value, explaining that the UMass Donahue Institute did an analysis of the economic impact (through spending on payroll and purchasing) of the Lazare Research Building, and this analysis was used to make the case for construction of the campus’s new Sherman Center research building.

Roger, too, emphasized the direct effects, noting “UMass and UMass Memorial Hospital combined are the biggest employer in Central Massachusetts, and are an economic linchpin.” These direct contributions are central to “input/output” economic impact analyses—the kind of analyses many universities conduct to demonstrate their economic contributions. Although “traditional” input/output measures are increasingly understood to capture only part of the story of impact (see, for example, Drucker & Goldstein, 2007), for UMass Medical it is clear that these types of measures—and communication about them—are important starting points, establishing the basis for university contributions to the economy.

The direct input/output contributions, though, clearly provide only one basis for a broader message. For UMass Medical, the goal is to communicate the value of the institution as a member of the community that contributes in multiple ways. According to Warren, the effect of the University’s advancement of a message about its direct impact (see quotation above) is, “People just gain more of an appreciation of it; then you’re seen as a part of the community.” Roger, too, expanded on his assertion that the employment factor was important. To Roger, these direct contributions communicate not only to the University’s external stakeholders, but also internally at UMass Medical: “They
understand and see themselves no longer as an island unto themselves.” There is a sense that the scale of direct impacts impels the University to play a broader role as a member of the community, not just an economic driver.

Though there is an inevitable character to the university’s economic impact through the input/output types of measures—that is, they simply happen through the university’s spending—the broader community role requires action, focused on connecting university resources to community needs. UMass Medical participants frequently mentioned the kinds of initiatives that they undertake to be connected to the community. Warren described some of this activity.

[T]rying to make sure that we’re coordinating with the local community in economic development efforts and to some degree that means just matching the needs of the local community with the resources that we already have … acting almost as that bridge between the community and the medical school. That could be working with the local chamber of commerce, or looking at particular groups within the city, for instance, newer populations where there’s an employment training need and seeing if there’s a larger goal that fits within our mission—the educational and health mission that the school has. And really just trying to make sure that our resources are being matched toward those local needs.

Roger mentioned “[UMass Medical Chancellor] Collins’s being involved in the United Way campaign. That’s a very clear signal that we’re engaged in the community and this is important to us.” This kind of participation by the University leader is a consequential tool for communicating and interpreting the University’s identity—for both internal and external audiences.
Increasingly, the commercialization of university research is becoming part of UMass Medical’s identity, and participants viewed this trend as an important step—building on the “anchor institution” foundations—in the University’s taking up the mantle of economic engagement. Accentuating the value of commercialization activity, though, appears to be more of an internal identity interpretation task than a case to be made with external stakeholders. External stakeholders expect this kind of activity and engagement in economic development—Roger noted that in a place like Massachusetts where higher education is a vast industry unto itself, such an expectation makes sense: “More emphasis has to be placed on the commercialization of science because our product in Massachusetts is not just apples and cranberries. It’s innovation and brains.”

But understanding the value of research in innovation, and interpreting this as part of the University’s mission or identity, takes a deliberate effort. Owen discussed how an emphasis on technology commercialization, along with a renewed emphasis on connecting basic research with the clinical side of the University’s mission, was a significant part of the discussions with the search committee when he was hired at UMass Medical. He described the concerted effort at the University to emphasize these priorities:

> Now internally I think we’ve begun to communicate differently about the privatization or the technology development commercialization piece. And it’s actually because we want to encourage it to occur more. This is part of a very singular theme [emphasis added] we’ve had over the last four years in the development of clinical and translational research. It’s been to clarify the pathway

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16 Some literature on anchor institutions includes technology transfer as one strategy undertaken by universities in fulfilling anchor institution responsibilities (see, for example, Dubb & Howard, 2012).
to commercialization of discoveries by our faculty. And components of that include the development and then dissemination of more detailed policies.

The “singular theme” appears to be taking hold. Roger observed that many at the institution are buying into the theme, and it has energized the research vice provost:

I know lots of department heads and lots of professors and lots of people connected to the medical school who have drank the Kool-Aid and are singing off the same song sheet. And that’s because they buy into what Wilson and Collins and others have inspired within the university. So [Vice Provost for Research] John Sullivan, who I know very well—I’ve known many, many years—he’s probably happier and more productive than he’s ever been in all his time [at UMass Medical]. I think it’s simply because of what he feels is the leadership’s vision, and his buying into the notion that together they will build buildings and do more research and do more tech transfer and more licensing and that’s a good thing. So I just sense it. There’s more teamwork and when you have that. I think you get more productivity. And then, obviously, more economic development.

Roger’s mention of collaboration is part of another theme that emerged from interviews with UMass Medical participants. In addition to interpreting the institution’s identity as a strong contributor to the community and as a place that emphasizes technology transfer, UMass Medical increasingly understands its identity as a collaborative institution. Roger (see quotation above) suggested that University leadership has played a significant role in enacting this identity interpretation, and Clyde also emphasized the role of University leadership in encouraging more collaboration across UMass campuses.
I think over the last decade there have been a number of connections that have been fostered, again because of the leadership of individuals like Jack Wilson and Michael Collins and others. I think there’s also the realization that if we are going to be a great world-class research enterprise that by taking advantage of the expertise that exists on our sister campuses we can really facilitate high-level collaborations that really allow us to go after peer-reviewed funding that is incredibly competitive.

Owen suggested that the extensively collaborative atmosphere is built on a lot of informal networks, which frequently bring together basic researchers and those with a more clinical emphasis, that contribute to the “hum” of the institution.

[T]here’s an interesting group that’s self-assembled that call themselves “the neurodegenerates” and they study the basic science of neurodegenerative diseases…. That’s really what makes this place hum. It’s not that we moved away from the basic science but that we chose to kind of get the basic scientists intermingled and interested in these human diseases, which are really very fascinating.

*Adaptation through leadership.* The leadership has not only enacted identity interpretation for UMass Medical as a collaborative place. It has also been a substantive force in facilitating the University’s adaptation, overall, toward meeting the expectations that it be an economically engaged institution. Leaders facilitate this move by making connections between the interests of faculty members and the goal of being economically engaged and by setting and communicating priorities—putting a stake in the ground to
direct university efforts along the economic engagement trajectory. UMass Medical participants recognized the leadership role in pushing adaptation.

Faculty members and others at UMass Medical began to develop an interest in economic engagement as the leadership drew a connection between their interests and the kinds of University outputs and outcomes that contribute to the economy. This kind of linking of interests, according to participants at UMass Medical, has been an important part of the University leadership’s role. As mentioned above, the leadership has encouraged UMass Medical to adopt an identity of collaboration, and Clyde explained that this process has occurred by linking collaboration to an interest in having a “world-class research enterprise” and in garnering competitive research grants.

I think there’s also the realization that if we are going to be a great world-class research enterprise, that by taking advantage of the expertise that exists on our sister campuses we can really facilitate high level collaborations that really allow us to go after peer reviewed funding that is incredibly competitive. I think that in the past there was not a good understanding or realization that we had pockets of world-class expertise on each of our campuses that really could be engaged and brought together in a way that it is being done now.

Linking of interests plays out in other ways, too. Again emphasizing the idea of being a world-class research organization, Clyde further commented that basic science, in which the faculty at UMass Medical is deeply interested, is “tightly linked” to economic activity, noting, “Any university that’s doing great basic research has also got great economic activity from that research.” In the spirit of the anchor institution role, Clyde pointed out that the economic benefit of the University’s growing physical plant further
illustrates this connection—that the University’s “effort to be a world-class institution” is what has driven the growth.

Tapping into researchers’ desire to see the relevance of their work—to have a real impact—also links interests. Owen described this impulse:

It really is the impetus…. I have to tell you that from my personal point of view the impetus is in seeing a greater impact of the discoveries across the whole spectrum, from the most biological like RNA interference [subject of UMass Medical Nobel Laureate Craig Mello’s research] to the most clinical like John Ware’s patient questionnaires [used to collect patient-reported outcomes data]. The impetus is to see the greater impact into human health. And that’s what we call clinical and translational research.

Just as Clyde saw basic science as tightly linked to economic engagement, Owen explained that focusing on relevance does not mean encouraging a move away from basic science. Rather, at UMass Medical the leaders of the research enterprise are “trying to intermingle basic scientists with people who are interested in human disease” (Clyde). This approach helps basic scientists to understand their work in a different way and informs their research at the same time as it benefits development of clinical interventions. In this way, UMass Medical leadership links interests in understanding fundamental biological science with economic engagement by demonstrating relevance.

Leaders at both UMass Medical and the UMass System also encourage adaptation to an economically engaged orientation by setting priorities. Roger explained that Jack Wilson was forceful in establishing better connections across campuses, including pushing out UMass Amherst chancellor John Lombardi “because he wouldn’t play ball”
and submit to better collaboration with other UMass campuses. “The path to social and economic development in Massachusetts runs through the University of Massachusetts” was Wilson’s mantra, and it placed at center stage economic and community engagement by the University. Clyde believed that to Wilson, placing economic engagement center stage is a way to “really elevate the quality of the university and the reputation of the University of Massachusetts.” Importantly, Wilson facilitates the translation of his mantra into action by putting resources behind it. A number of participants in this study, including those at UMass Medical, pointed to the President’s Science and Technology Fund—which makes revenue from technology licensing activity available as grants to faculty members who are working on research with potential to enhance economic engagement—not only as a signal that this kind of work is a priority, but also that Wilson’s vision not an empty promise. Wilson was frequently mentioned, along with the UMass Medical Chancellor Michael Collins, in comments about University leaders’ setting priorities, demonstrating a value placed on the role of the central system leader in helping to foster university adaptation to economic engagement.

**Connections and linkages.** I asked participants about the kinds of connections that were in place or that were being built and about the mechanisms for building connections. The kinds of links that participants discussed made clear the University’s effort to build tighter connections across boundaries. The most central form of linkage discussed by UMass Medical participants was collaboration among faculty members—particularly between basic scientists and clinically-oriented researchers—and a number of mechanisms for increasing such collaboration were identified. UMass Medical participants frequently mentioned the priority and tone setting undertaken by leaders,
discussed above as enacting university adaptation. Emphasizing both inputs and outputs of linkages was another tool for connection building that participants described. Finally, the provision of funding and other incentives was also mentioned.

*Connecting through setting priorities.* Priority setting was noted above as one aspect of leadership’s effect on enacting adaptation to economic engagement. Priority setting also affects the level at which connections are created. According to UMass Medical participants, Wilson’s mantra established a tone, and in conjunction with his emphasis on encouraging more connections between campuses, this tone affected the kinds of priorities that are established. As quoted above, Roger described it as drinking the Kool-Aid:

Jack’s attitude was, “You know we’re trying to build a system here. We’re all in this together. And we leave our swords and shields outside the door.” And so that connectivity has come and it’s very evident. As a result, the president appointed chancellors who drank the Kool-Aid, who basically subscribed to his theory. I am so blessed to have the resources that when I call them—I don’t care who it is, I mean it’s really amazing how they are just so receptive.

Clyde also pointed to leaders’ emphasis on collaboration: “It was really under Michael’s leadership and Jack’s leadership that we as an individual campus were really encouraged to begin to think about how we might interact better with other campuses.” The collaborative tone set by leaders is an important catalyst for priority setting and connection building.

Another way that collaboration becomes established as a priority, according to participants at UMass Medical, is that leaders emphasize both the kinds of outcomes that
require collaboration and the inputs necessary for collaboration. Owen’s description of how therapeutics-focused research instituted prompt collaboration is an example of outcomes-driven connectivity.

Most but not all of the interdepartmental centers and institutes that we have are right now focused on development of novel therapeutics—they have the word “therapy” or “therapeutics” in them. And it’s not coincidental. It creates an organizing principal for them to develop new therapeutics. So in reaching for that goal they’re simultaneously touching into economic development and what that specifically might do is to pair up someone like a Ph.D. biochemist who studies RNA biology with a physical scientist who works on ALS. To be able to understand the mechanism in these complex diseases it is both beneficial to the science and beneficial to the development of therapeutics. So those are the kinds of connections that occur.

On the other hand, the University also pays attention to the inputs needed to foster collaboration. Owen’s further description of how centers, programs, and institutes grow into their own illustrates how inputs can encourage connectivity.

We have a growing number of centers, programs, and institutes, or CPIs. Some are strong, if you will, and some are weak. Strong CPIs have their own discrete budget. They have a payroll, they have an allocation from the school, and they have space assigned to the director to deal to recruit lines into. Then there are sort of weaker ones…. You can also become a CPI without a budget. Those become more like affinity groups, but if they are very successful and get lots of grants they potentially could become more of a strong CPI. So like the
“neurodegenerates” group actually formalized themselves as a neuro-therapeutics institute and because they were so productive, they’re going to likely become a strong CPI and have actual space assignment in the new building. And so that’s an example of one that crossed over.

In both cases, the research centers that Owen describes are fostering collaboration around an intended outcome—development of therapeutics. Emphasis is also placed on inputs to collaboration—the institution invests resources in formalizing collaboration as it develops.

Funding and provision of other incentives is another way to establish priorities that then build the connections and collaboration. The President’s Science and Technology Fund established by President Wilson, mentioned earlier, has been an important incentive to drive collaboration. According to Clyde, the fund “really encourages faculty on individual campuses or especially across campuses to partner in activities that would lead to economic development down the line.” Clyde noted the Life Sciences Moment Fund, also established by President Wilson, as having a similar effect on encouraging collaboration. Owen also described how incentives are central to building connections: “Hire great people, and give them space and money.” To Warren, funding creates an incentive to build connections between the University and the community because of the sense that legislators are more likely to support the University if it is connected to constituents. Roger put the finest point on the role of funding as an incentive for collaboration, describing the trend in federal agency grant funding to emphasize collaboration, putting it in terms of survival.
Economics. You know, survival. Basically, what happens when you work together, there’s an incentive for a grant or funding. When you do work together that gets you to the table pretty quickly versus by yourself, or all working against each other.

*Connecting through aligning and linking interests.* Interest linking was discussed above as a mechanism for priority setting. Participants at UMass Medical also pointed to the linking of interests as a tool for building connections between and among faculty members. Here, the idea of interests linking focuses on the connecting of interests through faculty goals, the informal connections that link interests, and the emphasis on research.

As described earlier, one way to link interests is to make explicit connections between the topics in which faculty members are interested and the kinds of activity that the leadership wants to incent. Faculty members desire in research funding, and, as has been discussed, funding programs that require collaboration across campuses (such as the Life Sciences Moment Fund) links that interest to collaboration. UMass Medical participants pointed to other efforts that link faculty interests and research strengths across campuses. The Massachusetts Medical Device Development Center (M2D2) was identified as an initiative that linked the engineering strengths at UMass Lowell to the clinical expertise at UMass Medical. The NIH Clinical and Translational Science Award (CTSA) garnered by UMass Medical with the explicit goal of linking researchers across all five UMass campuses and multiple schools (including colleges of business, education, and engineering) is another of these efforts.
A slightly different approach to building connections through faculty goals can be seen in the Massachusetts Green High Performance Computing Center (MGHPCC), a collaboration that not only builds connections among UMass campuses but also with private universities in the state, business and industry, and the state economic development agency. The MGHPCC was developed to address the need that faculty members across multiple universities and campuses perceived for high-performance computing to complete research, and now the Center prompts collaboration through a seed grant program. All these programs use shared needs or research goals to build connections among faculty members.

Faculty members do not always need to be convinced to collaborate through the carrot of research funding or other resources. UMass Medical participants explained how the University is also tapping into natural collaborative interests of faculty members and their interests in better understanding the applications of their research. The University looks to fill new faculty positions with people who are already inclined this way. Owen described a deliberate effort to recruit “new faculty and new faculty leaders who were already desirous of this type of interdisciplinary activity to facilitate novel therapeutics; so we sort of seeded the place.” Warren pointed out that the University has developed a reputation for being a collaborative place, and this perception draws researchers who are interested in this kind of environment: “Among and between the researchers there’s significant collaboration which, in fact, many of them cite as the reason they’re here.” As has been discussed, the University provides informal networking opportunities and encourages “intermingling” of basic scientists with clinically oriented researchers. When
collaborative faculty members are recruited to the University, their interests in collaboration are nurtured.

In addition to exploring connections between and among faculty members, this study also asked participants to talk about how connections are fostered between the work of the University and that of the regional economy. To participants at UMass Medical, this kind of connection is also a matter of linking interests. Participants remarked that a focus on building a world-class research enterprise ultimately leads to improving the economic well being of the community and region. Clyde described how this connection is established:

[I]n the mid-1990s we decided that we wanted to be a top-25 research medical school in the United States. What do we need to put in place if we’re going to be in the top 25? We picked these areas where we had almost no strength at all, and we said “Okay, we’ve got to start several new departments. And if we’re going to recruit outstanding, world-class faculty, they’re going to have to have space.” So … that was the genesis of the Lazare Research Building, which was a 365,000 square foot, $120,000,000.00 facility, and we recruited 100 new tenure-track faculty members. And in that building are 1,200 new jobs that came out of that. So here’s a whole process where economic development was never part of the discussion. It was really focused around, “How can we become a world class research medical school?”

UMass Medical participants repeatedly described this intrinsic connection between the interests of the University to build a world-class research enterprise and the economic interests of the region.
**Discussion.** The story of UMass Medical is about recognizing value, for both the University and the community, across the bench to bedside to community spectrum. University leaders help faculty members and others at the institution to understand and appreciate the value along multiple points on that spectrum. First, there is a confident expression of the value that the University offers—“our presence is an important anchor.” Rather than rest passively on the value of the University’s spending on payroll, construction, and vendors, though, leaders show that the introduction of more active efforts to be economically engaged can also enhance the research enterprise. Adaptation to an economically engaged orientation is, for UMass Medical, about recognizing the established presence of the University and then extending it by focusing on what made this presence strong in the first place—a focus on building a globally recognized research institution. Creating and strengthening linkages and connections is also about recognizing the interests that drive researchers and then linking them to the economic engagement priorities that have been established and communicated by the leadership. UMass Medical creates a seamless link along the bench to bedside to community continuum.

**University of Massachusetts Lowell**

**Historical connections.** In 1975, Lowell State College (founded in 1894 as the Lowell Normal School) and the Lowell Technological Institute (founded in 1895 as the Lowell Textile School) merged to create the University of Lowell. In 1991, the University of Lowell became part of the state university system as UMass Lowell. A story can be traced, however, from Lowell’s founding as a mill city, through the late nineteenth century when the normal school and textile school were started, through the 1990s when Lowell became part of the UMass System, to UMass Lowell’s taking its
place in the innovation economy in the early part of the twenty-first century. It is a story of an institution firmly rooted in practical matters, in a city that values connectivity.

Lowell was founded in 1826 as a company town for the Merrimack Manufacturing Company. Called an “instant city” by Brown and Tager (2000, p. 132), Lowell was incorporated as a city just 10 years after its founding, and at that time it already had a diverse population and “cosmopolitan characteristic of an urban center” (Brown & Tager, 2000, p. 132). The city grew rapidly and, as Brown and Tager have reported, “Lowell reigned supreme until 1890” (p. 221) in terms of population growth and manufacturing, thanks to a booming cotton industry. However, by the mid-nineteenth century, the “rapid growth and dense settlement” led to high costs for real estate and the “rise of slums and tenements” (p. 221). By 1890, Lowell was eclipsed by Fall River as the manufacturing center of Massachusetts, and a few years later the Panic of 1893 set off an economic depression across the nation.

Perhaps in an effort to regain some hope for its future, Lowell established in the middle part of the last decade of the nineteenth century two new institutions of higher learning. One, founded in 1894, was the Lowell Normal School, a two-year teacher preparation college. The other, approved by the state legislature in 1895, was the Lowell Textile School. Both institutions were points of pride for the city, and neither came without some wrangling. Newspaper accounts from late 1893 and early 1894 (The Lowell Sun, 1893a, 1893b, 1894a, 1894b, 1894c, 1894d, 1894e, 1894f) make clear the city’s interest in having normal school within its boundaries. The newspaper called on “local pride” (The Lowell Sun, 1894a) to win the school for Lowell over other prospective sites in Massachusetts. After it briefly appeared that the state would award
the normal school charter to Lawrence (The Lowell Sun, 1894c, 1894d), The Lowell Sun announced “Lowell Won the Battle with Lawrence” (1894e). While the newspaper’s calls for the textile school were not as frequent as the demands for the normal school, The Lowell Sun did impatiently note, in mid-1895, “It has been stated at various times that we are to have a textile school, but there is no sign of it hereabouts” (The Lowell Sun, 1895). The people of the City of Lowell clearly wanted to have pride in their city and the quality of their workers.

As Frank (2012) noted in her pictorial history of UMass Lowell, the classrooms at Lowell Textile School “were indistinguishable from working mills” (p. 33). Students at the school, pictured in 1900, “underscore the practical aims of the curriculum … students wear overalls, and hold hammers, wrenches, and bobbins” (p. 30). Both the Textile School and the Normal School expanded beyond their very practical roots in the early and middle decades of the twentieth century. The Normal School became Lowell Teachers College in 1932 and expanded to offer four-year programs in the arts and sciences. Lowell Textile School changed its name to Lowell Textile Institute in 1928 and in 1955 changed again to Lowell Technological Institute. Both name changes signaled expansion of programs, and eventually the Institute increased its emphasis on engineering and research in addition to development of purely practical skills. The schools grew into more comprehensive institutions but clearly maintained their focus on practical education. Today, UMass Lowell retains a similar focus in its public identity, declaring in its marketing materials that the University is about “learning with purpose” (UMass Lowell, 2014a).
The schools’ reinventions of themselves probably helped them to survive the decimation of Massachusetts’s factory cities that accompanied the “dramatic collapse of Massachusetts’ two major industries [textiles and shoes] between 1921 and 1949” (Brown & Tager, 2000, p. 264). By the early 1980s, after a few boom-and-bust cycles, Massachusetts once again had a booming economy, and the presence of the University of Lowell—the product of the merger of Lowell State College (formerly Lowell Teachers College) and Lowell Technological Institute in 1975—could have been a significant reason that Lowell was among the Commonwealth’s three strongest labor markets (Boston, Lowell, and Worcester), in which growth was concentrated (Brown & Tager, 2000, p. 310). In the early 1990s, the University of Lowell, along with Southeastern Massachusetts University (soon to be UMass Dartmouth), became a central part of Governor Weld’s economic development plan. After a recommendation from the Saxon Commission, the University of Lowell joined the state university system and became UMass Lowell.

The practical university, connected to place. That UMass Lowell is an institution focused on practical education is not simply an historical fact. It is also a point of pride and is central to the University’s identity. On its website, the University declares, “UMass Lowell is a public university committed to preparing our students for work in the real world—solving real problems and helping real people—by providing an affordable high-quality education” (UMass Lowell, 2014a). The description on the website also highlights UMass Lowell’s ability to link students to a career path and the University’s “focus on experiential and ‘hands-on’ learning” (UMass Lowell, 2014a). As mentioned above, UMass Lowell’s marketing tag line is “learning with purpose.” It is clear that
University leaders want the institution to be known for offering a practical education, and they avoid high-minded descriptions of academics or the University’s research enterprise so as not to distance themselves from the students and families who will be interested in the flavor of education they offer.

This is not to say that the University does not boast of its research enterprise. Also on its website is a note about the University’s $50 million annual research funding and its 37 interdisciplinary centers and institutes (UMass Lowell, 2104b), but even the University’s description of its research emphasizes how this activity is framed as part of the University’s focus on experiential learning. Chancellor Meehan’s welcome message on the website points to the practical side of the University’s research efforts:

This city and region and our campus have always been identified with invention and innovation. The tradition continues today in the classrooms and laboratories of UMass Lowell. We are on the leading edge of the knowledge economy. Massachusetts and our country must move forward on the strength of intellect and imagination. Author Thomas L. Friedman calls brainpower the new oil in the 21st century global economy. That is the kind of energy policy that we understand at UMass Lowell.

Meehan’s words make clear that research, in addition to learning, has purpose at UMass Lowell. Advancing knowledge is important, particularly as an economic driver. Invention and innovation, then, are important aspects of what happens in the University’s research efforts. He links the state’s economy to the University. Throughout the UMass Lowell website, this refrain of practicality is echoed.
Just as Meehan’s statements on the website draw a link between the University’s efforts and the economy, Russell described how the University’s practical focus and regional connectedness are intertwined:

[Parents send their kids to this university to become professionals. So they’re sending them to become an engineer, a teacher, a nurse, a business professional. And so in order for us to do that we need to look at what’s happening in the region economically.

Elena discussed at length the importance of the University’s connection with the community. She pointed out that “[UMass Lowell] is not only a public university, but we are in a city that has had its own economic challenges and a region that has struggled economically.” For Elena, this situation means that the University has an obligation to contribute, and at the same time she saw opportunity for students to benefit from education and research that are “relevant and needed.” She described significant engagement with civic and business leaders, including an example of the city and the University undertaking a traffic study together. Both the city and the University are affected by the traffic problems, Elena explained, so it made sense for them to work together: “[I]t’s a matter of bringing people together to see that you all have a common purpose.” Veronica underscored the importance of community and University interconnectedness, describing hopes for students to get jobs locally, become home owners, and become part of the community—“along the way you become more and more vested in the community…. That whole continuum of what could happen as a result of that student coming out the University—ideally that’s what you would like to see.”
Importantly, the University also values its connections to industry. Dianna observed. “[T]his campus always had a strong tie to industry, and so it’s not unusual for us to work with companies.” She noted that companies have an opportunity to drive the University’s research agenda by sharing the questions they have or problems that they’re trying to tackle. For the kinds of research that the University undertakes, it makes sense to be connecting with industry in this way. Dianna noted,

One area we have more strength in is manufacturing sciences … [an area that] doesn’t make a whole lot of sense unless you understand what’s going on outside. You can’t do that without at least communication with industry to know what their problems are.

Hugh echoed this sentiment, saying that it is important to know what problems keep company leaders up at night. Dianna pointed to benefits to the University from working closely with industry “on many levels”—including opportunities for students to get jobs, for industries to advocate on the University’s behalf at the state level, and eventually for industries to invest in University research.

The University’s strategic plan reflects the strong connectivity to community and industry and brings together what might seem like different kinds of engagement—community involvement and industry partnerships. Russell explained how the strategic planning process challenged one committee to link the University’s connections across civic and economic development efforts:

[The committee] was trying to figure out “How do we fit together economic development—working with companies—but also the need to develop community partnerships and engage with communities?” And it was a little
bumpy at first—we were scratching our heads. These are two different things. But
as we talked it through, it’s like, “Well, ultimately they’re not two different things
because if you don’t have jobs, you don’t have community.”

Stakeholders external to the University have also recognized the value of such
connections. In 2009, the Commonwealth’s economic development agency published A
Framework for Action: The State Regional Economic Development Strategy (Executive
The document noted time and again the links between community and economic
development, and it identified UMass Lowell as a rare example of collaboration in the
region: “[R]egional collaboration is minimal, with some notable and growing exceptions,
as with the region’s colleges and UMass Lowell, for example.”

**UMass Lowell participant perspectives.** UMass Lowell participants held a
range of views, as described in Chapter 4, on economic engagement efforts at the
University. Among the six participants, viewpoints included the University’s emphases
on practical education and applied research, the strong and valuable connection between
the University and the community, and the University’s contributions to improving the
quality of place in Lowell. Participants also highlighted the University’s efforts to foster
entrepreneurship. These themes are well aligned with the description above of UMass
Lowell as a practical, connected institution.

As with both UMass Amherst and UMass Medical, UMass Lowell’s efforts to
adapt to an orientation toward economic engagement begin with identity interpretation.
Another theme related to adaptation that emerged from interviews with UMass Lowell
participants was the need for appropriate organization and structure to support economic
engagement efforts. Perspectives on how the University created linkages and connections among economic engagement factors gave rise to two themes: one related to the need for fostering social capital development, and another about the importance of clear intended outcomes of economic development efforts. The following exploration of UMass Lowell participants’ perspectives affords more detail explanations of these themes.

**Adaptation to economic engagement.** In discussion about how the University has adapted to economic engagement, UMass Lowell participants pointed to an array of features of the institution that have facilitated this adaptation. Some indicated the ways in which the University is embedded in the city, through facilities such as the Lowell Inn and Conference Center and the Tsongas Arena, both of which came under University ownership and operation in recent years. Others mentioned efforts more explicitly aligned with technology-based economic development, such as the construction of a new Emerging Technologies and Innovation Center, and the University’s business incubator. Still others referred in general to the University’s strong relationships with industry and efforts by University leaders to coordinate better on communication with external stakeholders. Examination of the UMass Lowell participant interviews reveals two prominent patterns: adaptation through *identity interpretation*, and adaptation through *organization and structure*.

**Adaptation through identity interpretation.** The motifs of practicality and connectivity, as discussed above, have become central to UMass Lowell’s identity. It is not surprising, then, that these patterns emerged as important contributors to the University’s ability to be economically engaged, as reported by UMass Lowell participants. Perhaps because Lowell grew up as a company town—where the economic
wellbeing of the citizens is tightly connected to attention given to social development—participants rarely discussed community development as something entirely separate from economic development. More than participants at UMass Amherst or the Medical School, UMass Lowell participants focused on the role of the University in developing the community and being “stewards of place” (American Association of State Colleges and Universities, 2002). The idea that the University is a member of the community resonated throughout participant interviews. Students and their education are viewed as playing an important role in the University’s efforts to be economically engaged, and participants often highlighted UMass Lowell’s practical education offerings and involvement of students in internships and entrepreneurship as important aspects of university economic engagement. Of growing importance in the University’s identity are research and innovation, and as discussed previously the practical nature of the University’s research efforts is emphasized. Participants also took note of the fact that there was a noticeable shift in how the institution’s identity was being interpreted since the arrival of Chancellor Meehan. In the following paragraphs, I explore these elements of UMass Lowell’s identity interpretation.

The fact that the University’s roles in community development and in economic development are intertwined has been discussed. Russell’s comment that you cannot have community if you do not have jobs is one example of this sentiment. It is clear from UMass Lowell participant interviews that creating a great place to live and work is as important as stimulating economic growth. More than colleagues at UMass Amherst and UMass Medical, participants at UMass Lowell recognized place development as critical.
A range of activities related to the cultivation of place emerged from UMass Lowell participants’ descriptions of the University’s role. Some emphasized real estate and infrastructure, as in the University’s ownership of the Inn and Conference Center and Tsongas Arena or the University’s participation in the city transportation study. Other descriptions related to the University’s role in Lowell’s cultural development. Elena described, for example, UMass Lowell’s efforts with the city to expand the Kerouac Festival (beat author Jack Kerouac was born in Lowell) into a full-blown literary festival and otherwise encouraging tourism and helping the community see itself as a destination.

Also part of cultivating place, from the perspective of UMass Lowell participants, was the social development kinds of work undertaken by the University. Elena noted, for example, how the University was helping citizens face the economic challenges of industrial decline, and Russell described important partnerships involving the University’s Center for Family, Work, and Community. Activities directly related to business and economic development were frequently couched in terms of community. Hugh noted the importance of the University’s involvement in the community as an enabling factor in the University’s business development efforts in the city; Veronica observed that the University’s investment in talent development served both to foster economic growth by employing students and to develop community by creating residents and homeowners who are knowledgeable about and committed to the city and region. Attention to quality of place issues were predominant in the UMass Lowell interviews.

There is no question that UMass Lowell participants see the creation of an educated workforce as the University’s single most important contribution to economic development. Russell underscored this belief: “[T]he first way we [have an impact] is by
graduating people who have been educated, and UMass as a system has a tremendous impact on this state.” Hugh and Veronica both made a connection between the talent development that happens through UMass Lowell curriculum, cooperative education, and internships and the ability of the city to attract businesses. Russell described the education that students get as decidedly practical, and Elena talked about the facts that students do relevant work while studying at UMass Lowell and that their curriculum is tied to workforce needs in the region. Russell emphasized the need for the University to be involved in “boots on the ground” training and preparation for employment with local companies:

I think real economic development is boots on the ground…. How many people do you have working with companies? How many people do you have working in the community? What percentage of your faculty has these types of activities going on?

Veronica underscored the importance of skills training:

I think one of the big outcomes is the skills training. You know, the fact that these people coming out of with a skill set that’s going to be of value and of service to the businesses, particularly growing businesses in the region.

Other ways in which preparation of students is seen as central to the University’s economic engagement efforts include the view that students’ participation in the workforce is the primary knowledge transfer mechanism for the University (Dianna) and that student engagement in social entrepreneurship initiatives involves the University in solving real social problems (Elena). In general, students’ ideas are valued, and their engagement in entrepreneurial efforts is a point of pride for UMass Lowell, as in
Russell’s description of one student’s creation of a bikesharing program that was eventually adopted by the City of Lowell. A large part of the University’s identity is tied to how students develop skills and talent, and the contributions that they make to the regional economy.

The University’s identity is also connected to innovation-oriented research, entrepreneurial efforts of faculty, and the mechanisms that the University has in place to promote entrepreneurship generally in the city and region. Evidence of this growing aspect of UMass Lowell’s identity can be found, for example, in the way in which Hugh described the University’s efforts in technology transfer. According to Hugh, the University is not only increasingly emphasizing this work. It is also, in keeping with its identity as connected with its community and stakeholders, emphasizing a collaborative approach to these efforts. Hugh described how the University is frequently willing “to put some of our skin in the game” to fund translational work and test the viability of technologies, rather than just asking startups and other businesses to hand over money in exchange for a license agreement. Dianna, who noted similar kinds of relationship building in University-business partnerships, provided further evidence of the increased emphasis on an interest in technology transfer as part of the institution’s identity.

Veronica explained that the relationship building that is happening around tech transfer is indicative of a broader industry-friendly orientation.

UMass Lowell, broadly speaking, manifests a view that engagement with business and industry is the University’s most direct way to influence economic development. Dianna observed that “direct cooperation and partnership with companies in the area, as well as trying to help start up companies” is economic engagement on the “most direct
level.” Russell affirmed this perspective by describing other forms of direct engagement with industry. The University provides expertise and technical assistance to businesses operating in areas of University know-how, and the University has created incubator space to be able to develop close relationships with businesses that will, it hopes, stay in the area. Benefit for students is a factor considered in any UMass Lowell initiative, and Russell was quick to point out how relationships with budding businesses are also of great benefit to students, who become engaged in activities such as business planning for the firms in UMass Lowell incubators. Building on its history of close relationships with industry, the University continues to extend this identity by developing relationships with entrepreneurs—and becoming entrepreneurial itself.

UMass Lowell’s decidedly applied view of the research enterprise has positioned the University well to be engaged in these kinds of business and industry relationship building efforts and has been an important part of the University’s identity interpretation around economic engagement. Dianna asserted, “Because we’ve always worked with industry the economic development part logically goes hand in hand with that—we’re not the type of institution where everybody here is only going to do basic research.” The University’s emphasis on applied research was a recurring theme throughout a number of the UMass Lowell participant interviews. Stressing a point that the University’s research is focused on real-world problems and needs, Elena described the orientation of the University’s research enterprise:

You have to have the basic research because you never know what the problem 50 years from now is going to be. But you will find that there are fewer people here that just try to figure out what’s smaller than the electron—that fundamental
physics problem. Instead you’ll see people saying, “How can I control that atom so that it can be put in the spot that I want it to be so that it turns into a device?”

Russell described how the idea of applied research reaches across disciplines and departments, noting that not only is nanoscience research focused on nanomanufacturing, but also that education researchers focus on classroom practice and business researchers emphasize leadership for innovation. Participants at UMass Lowell reported that as innovation became an increasingly significant part of the University’s identity, the institution would also become increasingly serious about its research enterprise, and this enterprise would maintain the practical, applied character of the institution.

The University has indeed intensified its research program, and many participants reported that this and other shifts in thinking about institutional identity have come with Chancellor Marty Meehan. Elena remarked that one major change has been the creation of a vice provost for research position. Dianna noted the importance of new leadership’s “signaling what’s important.” Hugh attributed shifts in the University’s identity toward an economically engaged institution to Meehan’s “astute,” “inspiring,” and “strong” leadership:

I think he’s an inspiring speaker—I think it evolves from that. I think that it’s, you know, the [Emerging Technologies and Innovation Center] building going up is the first time that we had a new building here in 30 years. So people can be afraid of change, but they can also be inspired by change. And I think it’s a lot of the latter here.

Hugh further made that case that while economic engagement might not be much more than rhetoric at other institutions, Meehan not only “speaks the words.” Rather, he also
has pushed the University community to “act on the steps needed” to fulfill the promise of the words. Kara discussed at length the shifts that happened from the previous leader of the University, Chancellor Hogan, to Chancellor Meehan. One particularly contentious change was the dismantling of the University’s Regional Economic and Social Development (RESD) research center. On the surface, it would seem that maintaining a center with such a focus would be important to inspiring identity interpretation around economic engagement. Kara explained, however, that a shift that came with Meehan was a laser focus on programs and initiatives that directly benefit the education and research missions of the institution, and there was at least a perception that RESD was not creating such benefit. Russell further explained that RESD was focused on good research, but it was somehow unable to “[bring] it into the mainstream.” The participant interviews from UMass Lowell provide a sharp picture of the leadership change between chancellors’ creating shifts in the way the members of the UMass Lowell community have interpreted the identity of the institution.

Adaptation through organization and structure. Analysis of the UMass Lowell participant interviews reveals a second way in which the University’s adaptation to an economically engaged orientation played out—through organization and structure. Part of the adaption through organization and structure is a continuation of the theme of the role of leadership, with Meehan’s approach to organizing the institution for economic engagement discussed time and again. Participants also frequently noted how responsibilities had changed across various positions in University leadership and staff. A strong thrust of the theme of adaptation through organization and structure is recognition by a number of participants that, in addition to individuals’ responsibilities changing,
there is also a collective responsibility. That is, members of the organization needed to coordinate and work together to achieve the kinds of economic engagement outcomes that the University hoped to achieve. Participants at UMass Lowell painted a picture of adaptation through these kinds of dynamics of university organization and structure.

The fact that Chancellor Meehan has been a charismatic leader appears to have played a noteworthy role in the centrality of organization and structure in the University’s adaptation to an economic engagement orientation. Dianna expressed her feeling that leadership was an important factor:

I think part of it was certainly leadership. The leadership recognized that we wanted to connect in a stronger way to companies and with a little bit more strategic planning from the campus rather than people stumbling over each other—you know, one person is coming out the door and you’re going in the door kind of situation. I think it starts from there and then, because there are a lot of new people in those positions … a lot of the new people are very much in favor of trying to leverage and work together. It’s all leadership. Signaling what’s important.

Hugh pointed out that Chancellor Meehan’s strong leadership created a “flow down” that means, “When a decision is made for something to happen it’s going to happen. Vision gets converted into actions.” Elena noted that strong leadership means that there is more of a team orientation among the University’s senior leaders: “Marty as a leader, he feels very strongly about teamwork, and he’s built an executive cabinet that functions very much that way. There really is zero tolerance for territorial behavior leadership.”
Enacting adaptation through organization and structure, according to UMass Lowell participants, begins with leadership.

Responsibilities of individuals and offices have shifted, and this change has also contributed to adaptation. Dianna discussed the creation of the vice provost for research position, and the need for this and other kinds of organizational changes to scale the institution’s research capacity:

A lot of it is because of the emphasis on growing research at this university. In the past, it’s functioned well because it’s functioned in a very well run mom-and-pop kind of structure. At some level that works great because there’s a lot of one-on-one service, but you can’t scale that. And so there’s a recognition that now you have to change your structure if you’re going to scale to a much higher level of research activity.

The University has taken a less explicit approach, though, with establishing responsibility for university-engaged economic development efforts. Kara explained that UMass Lowell in the past had designated economic development responsibility to an individual, but there were personality and political issues with the position. With Chancellor Meehan’s emphasis on only investments with direct benefits to students and the research enterprise, the position had not been kept.\(^\text{17}\) In another case, Russell explained that University leadership allowed an economic development activity—the Massachusetts Medical Device Development Center (M2D2)—to exist outside a formal reporting structure for a while, then brought that activity under the Commercial Ventures and Intellectual Property

\(^{17}\) Since the time that data collection was completed for this study, an associate vice chancellor for entrepreneurship and economic development position has been created.
(CVIP) office. In general, interviews with UMass Lowell participants revealed a pattern of both ad hoc and more explicit structures for encouraging economic engagement efforts, and the preponderance of attitudes seemed to be that moving toward more explicit structures would aid in the University’s attempts to accomplish its goals for economic engagement.

Despite the interest in more explicit structure and responsibilities around university economic development activity, however, UMass Lowell participants also revealed a sense that this area of University effort would need to be an area of collective responsibility. As mentioned earlier, Elena pointed to Chancellor Meehan’s orientation toward a team approach for responsibilities of the executive staff and in general encouraging work across boundaries. Time and again, UMass Lowell participants expressed a belief that this kind of work could happen best with loose connections among areas with collective responsibility but not too much top-down or hierarchical control.

Dianna likened what was needed to the way in which the UMass System Office coordinates or facilitates economic engagement and other activities across campuses—and encourages connections among campuses, but dictates neither specific activities nor collaboration. UMass Lowell participants most frequently addressed the idea of balancing the need for coordination with the importance of loose connections in the context of the need for more coordination around the business and industry connections that the University is making. Hugh raised the issue of “the left hand not knowing what the right is doing,” in terms of different units—such as continuing education, tech transfer, the co-op program, and research—all communicating with the same companies but not necessarily sharing information. Hugh and other participants discussed University plans
to create a database through which different units could share information about industry
contacts, and participants agreed that this kind of coordination across diffuse
relationships was better than centralizing all contacts and relationship development.
UMass Lowell participants frequently made the point that although coordination and
connectivity were important, the University could not promote responsibility for
economic engagement across boundaries by creating top-down structures.

**Connections and linkages.** I asked UMass Lowell participants about the kinds of
contact networks in place to support economic engagement efforts and what had been required
to establish them. Two patterns were most evident among participant responses. One
pattern was an expressed need for the establishment of social capital—trust among
stakeholders and a belief in the value of networks. Another theme was related to the
importance of explicit intended outcomes, and a focus on such outcomes, in economic
genagement efforts.

**Connecting through development of social capital.** Just as the sense that collective
responsibility among university departments and individuals is important, participants at
UMass Lowell also expressed a perception that the University’s ability to achieve
economic engagement outcomes was affected by the extent to which the University could
develop shared responsibility for those outcomes between and among the University and
external stakeholders. Dianna described the time needed, for example, because a long-
term relationship with a company only happens after persistent, episodic collaboration.
Russell observed that while the University can incubate businesses, moving them out of
the incubator and getting them established requires effort on the part of the city. Russell
also referred to the kinds of relationship development in which the University engages
with community-based social organizations, particularly through the Center for Family and Work, and how this effort can be an important link on issues related to jobs and employment. Russell mentioned alumni, who sit on advisory boards and who “have an investment in this institution” and can contribute to the University’s success in economic engagement efforts.

An important element of the conversations about social capital development was that there is reflexivity in relationship building—as the University builds external networks and realizes the value of these networks, internal networks are also affected and increasingly valued. Elena described how the University’s participation in the city’s traffic study created a realization among faculty and students that connectivity and networking—in particular bringing people together who do not normally interact—was important to advancing shared goals. Russell expressed concern that what the institution had learned from building social capital with external stakeholders had not yet affected the ways in which such trust and collaboration were encouraged internally, but he clearly indicated an expectation that external networks would change internal ones. Hugh’s remarks conveyed a similar expectation. Hugh described an interest on the University’s part to encourage more internal connectivity and collaboration:

How can we best define centers that really can go after large contracts? Let’s not have all the little individual proposals going out, but let’s try to take the best resources in a cross-disciplinary manner to go after funding opportunities from the government, a company or a foundation.
There was, among UMass Lowell participants, a hope that the kinds of social capital being built with external stakeholders will have an effect on the ways in which networks inside the University are established.

Whether the social capital building is internal or external, UMass Lowell participants seemed to agree that certain kinds of support are needed to foster and maintain trust and networks—a kind of social capital infrastructure. I discussed one aspect of this infrastructure earlier, describing participant perceptions that better coordination between contacts with corporate partners was important. Dianna asserted, “We’re really trying to communicate better internally in order to make our connections with the companies much more robust,” providing an example of units across the campus working together on a brochure to direct companies to the best contacts for different needs. Kara explained that some level of centralization is needed in order for better coordination to happen:

There was definitely a sense that there was an attempt to centralize at least some of our information. One of the basic frustrations for this place has been, if you deal with corporate entities…, for example, our career services department doesn’t know what our nano business liaison is doing or what companies they’re touching.

Veronica underscored the need for a central clearinghouse, noting,

One of the things that I have heard, and this isn’t necessarily applied to UMass Lowell, is that businesses will try to reach out to the universities directly and they didn’t know who to talk to. And they never heard back or they couldn’t get through and so there was that level of disconnect.
According to participants, conversations about such coordination at UMass Lowell have frequently led to an articulation of plans to create a database of contacts that could be updated by individuals across multiple departments. Hugh, however, expressed skepticism about such a plan: “You can have a wonderful database, but if no one uses it…” Hugh was uncertain of what the solution is, saying only that many at the University are asking, “How do we handle this?”

The example of the UMass System Office was frequently cited as an example of effective facilitation or coordination and of helpful infrastructure for making connections across campuses. Elena described the efforts of the System Office’s economic development staff as important to fostering campus-level engagement in economic development efforts. Russell echoed these sentiments, remarking that the central Commercial Ventures and Intellectual Property (CVIP, or tech transfer) office is a particularly good example of connectivity across campuses. Dianna observed that the facilitation and coordination by the UMass System Office has helped campuses to overcome, to some extent, their competitiveness with one another and come together on efforts that will produce mutual benefit.

This kind of bringing together appears to be what UMass Lowell participants were interested in having more of, by way of creating a scaffold for social capital development on campus. I mentioned earlier Elena’s description of how Chancellor Meehan encourages administrators and staff members to work together across boundaries. There also appears to be some tension around whether responsibility for bringing people together should be one person’s responsibility or a shared responsibility. Kara, for example, pressed for clarity around who at the executive level has responsibility
for economic development and for this role to be staffed. Elena, on the other hand, appeared comfortable with the sharing of responsibility for economic development among multiple University executives rather than a staff position; she predicted the solidification of coordination in the near future through establishment of a standing committee. For his part, Russell appeared to be more interested in coordination among multiple responsible units rather than assignation to an individual unit, for fear that the latter approach would seed the establishment of a bureaucracy that might eventually stifle innovation. No matter the specific approach advocated, though, it was clear that UMass Lowell participants perceived a need for scaffolding to encourage and support more internal social capital development.

UMass Lowell’s strong connection to the community and to local industry has been discussed. It is not a surprise, then, that among Lowell participants there was a great deal of optimism that the University and its stakeholders, internal and external alike, will continue to develop the social capital necessary to envision and achieve shared outcomes. There was a clear understanding that there is value in networks, and what remains is figuring out and refining the mechanisms for fostering and maintaining networks.

Connecting through a focus on outcomes. To participants at UMass Lowell, social capital development is an important input or process, but another pattern evident in interviews is that connections and linkages are built around a focus on outcomes. Participants frequently discussed how both the University and its stakeholders need to stay attentive to the intended outcomes of different initiatives. Further, they talked about how identified outcomes need to be meaningful to both the community or other external
stakeholders and the University, how the outcomes needed to be clear, and how clarity of outcomes was an important catalyst for creating connections.

In the previous section, I discussed the idea that development of social capital appeared to be perceived by UMass Lowell participants as necessarily reflexive, with external network development creating a need for better internal network development. Participants felt similarly about the need for a focus on outcomes. Such focus could only be helpful if there was meaning in the outcomes for all invested parties. Elena talked about the necessity of outcomes to be “win-win,” providing an example of a faculty member who recently signed an agreement with a medical device provider. The agreement advanced the faculty member’s research goals, helped the company create a new product, and brought additional revenue to both the faculty member and the University. Elena also explained that, in general, faculty can frequently find meaning in both R&D focused and workforce development kinds of partnerships because such efforts illustrate the relevance of their work. This theme carried through other participant interviews as well. Dianna observed that it is important for industry partners and the University to take time to educate each other on their desired outcomes, as well as processes. She added that, with a focus on the outcomes, a shared understanding of the appropriate inputs and processes can be reached, often to the benefit of both parties. For an outcomes focus to have a role in fostering connections, according to UMass Lowell participants, it is important to identify outcomes of mutual benefit.

Further, identified outcomes and the problems they solve need to be clear. Even if the outcome is simply improving the bottom line, according to Hugh, it is important to have a clear sense of the extent to which such improvement has taken place
because this information provides fuel for further partnership development. Kara specified the importance of understanding the outcomes of business incubation—having a benchmark for what constitutes success, a clear definition of what graduation from the incubator means. Veronica noted that outcomes around the education mission of the University have potential for greatest clarity:

Well I think one of the big outcomes is the skills training. You know the fact that these people coming out of with a skill set that’s going to be of value and of service to the businesses, particularly growing businesses in the region.

Veronica further observed that outcomes become clearer the more they are linked with one another, as with the University’s creation of companies based on its research outcomes and production of the skilled graduates to work in those companies.

For Dianna and Russell, however, clarity of outcomes is a challenge. While they agreed that clearly articulated desired outcomes are important for stimulating connections and linkages, they were cautious about the ability to measure outcomes. Dianna noted that the outcome in which most stakeholders are interested in is job creation, but she questioned what it means for the University to create jobs. On one level, the University creates jobs for faculty members, graduate students, and post docs. But perhaps more importantly, but much more difficult to measure, are the secondary job creation effects through support for business development in businesses that incorporate University discoveries. Russell agreed that there is difficulty in providing numbers that reflect the real impact of the University’s economic engagement, and it is frequently difficult for the University and, for example, venture capitalists (VCs) to agree on the benchmark:
If a VC is looking for a 10X return, and we’re looking at a company that’s only going to provide a 2X return—which you and I might think is a good thing, because it’s going to create some jobs—the VC is not interested. So there’s this gap that we don’t have control of that makes it more difficult to do the economic development. And so that’s why when people ask for numbers it’s like, “Well, I wish I could give you some better ones but this is a reality.”

Indeed, Russell questioned whether revenue or profit yields are even the best outcomes measure. He noted that part of measures being clear is that they reinforce mutual benefit, and the revenue benefit for the industry partner is likely to be higher than it is for the university. According to Russell, outcomes that are easier to measure, and therefore clearer, are those that are related to a specific training need that the University serves or clear research problems identified by an industry partner.

Clear outcomes become a catalyst for building necessary connections. Russell used the Massachusetts Medical Device Development (M2D2) Center as an example of how clear outcomes, focused on real-world problems, bring people together. What started as a way for one engineering faculty member to advance his research and simultaneously help businesses move quickly from idea to prototype has become an interdisciplinary effort, including multiple colleges within the University (engineering, business, health) as well as multiple external partners. Other UMass Lowell study participants noted that M2D2 and programs like it were effective because they catalyzed partnership building around clear and mutually beneficial outcomes.

Discussion. As with both UMass Amherst and UMass Medical, institutional identity is an important starting point for Lowell in finding its way toward economic
engagement. The identity of UMass Lowell as a practical university with deep connections to community and industry is a different lens through which to perceive the role of the University as anchor institution. In Lowell, the University as anchor feels more like the community’s “rock” or “touchstone” more than simply an asset. At UMass Lowell there is a recognition that the leader plays an important role, although the real issue is what kinds of changes must happen throughout the organization—not just in institutional leadership—in order for the University to fully adapt to its role as an economic engine. A strong sense of collective responsibility for achieving economic and social outcomes exists both inside the University and between the University and its external stakeholders and partners. Social capital—trust and recognition of the value of networks—needs to be developed internally in order for external partnerships to realize their objectives. Given the practical nature of UMass Lowell, it is no surprise that there is a strong feeling that such objectives—the intended outcomes of economic engagement—need to be clear and meaningful to all parties. The University catalyzes partnerships and realizes outcomes through its focus on practicality and clarity of intentions.

**Chapter Summary and Initial Conclusions**

A thorough cross-case analysis is provided in the subsequent chapter. In concluding this case study chapter, however, I make a few observations about themes and patterns across cases. Institutional identity is important to how university participation in economic development plays out at UMass campuses. There is also clearly interplay between institutional identity at the campus level and the broader narrative that is being pushed at the system and state levels. In each of the three case studies, participants have described interpretations of the institution’s identity and how campus identity plays a role
in the extent and ways in which the institution is economically engaged. Jack Wilson’s assertion, “The path to social and economic development in Massachusetts runs through the University of Massachusetts,” serves as an overarching narrative around which identity can take shape at each campus. At UMass Amherst, identity is interpreted around the campuses status as the public flagship university. At UMass Medical School, identity interpretation happens around the complementary ideas of being a world-class biomedical research facility and serving the community. At UMass Lowell, the identity is less about basic research and more about practical education, research focused on solving specific problems for industry and communities, and its role as an institutional citizen of the city. Consistently across cases, identity interpretation was the primary dynamic affecting participant views on university engagement in economic development.

Though expressed very differently at each campus, the development of social capital is also evidently important across cases. At UMass Amherst, creating connections and linkages focused on encouraging boundary-crossing and boundary-spanning activity. Participants at UMass Medical School focused on linking the interests of different actors as a way to establish the connectivity necessary for economic engagement. UMass Lowell participants talked about establishing trust and shared responsibility. Lowell participants identified other kinds of connections or mechanisms for linking—including planning and organizational/structural changes—but it seemed that the primary benefits of these were also related to the creation of social capital.

A common thread that runs through all the cases, and also across both the issues of identity interpretation and social capital development, is the extent to which the dynamics surrounding university adaptation to economic engagement happen explicitly—
through encouragement or requirements—or more organically. Participants at all three campuses expressed interest in explicit means for enacting adaptation to an economically engaged orientation—such as strategic plans, positions and titles, committees or gatherings, and articulated outcomes. Also conveyed by participants across the campuses, however, was the idea that it is important for change to happen organically, from the bottom up, firmly rooted in faculty interests. There appears to be a tension between pushing for movement toward economic engagement and simply allowing it to happen.

In this chapter, I have described participant perspectives at all three case study institutions and provided some insights from background interviews with state and system-level actors. In Chapter 6, I explore in more depth the similarities and differences among cases, focusing and expanding on the conclusions articulated in the summary paragraphs in Chapter 5. Returning to the conceptual framework for this study, I undertake these comparisons, and articulate conclusions, by relating how the Intramural EEI manifests at each institution. I also draw on the literature discussed in Chapter 2 by examining the Intramural EEI both as a process and product of sensemaking and of attempts to modulate loose coupling at the University of Massachusetts.
Chapter 6

Cross-Case Analysis

In the previous chapter, I presented in-depth case studies for each of the three UMass campuses of this dissertation study, including the themes and patterns that emerged from interviews with participants at these campuses as well as background interviews with participants representing the Commonwealth of Massachusetts and the UMass System Office. In this chapter, I examine how these themes and patterns are interrelated across cases. I use as a lens for this analysis the conceptual framework presented in Chapter 2 and the theoretical underpinnings of that framework—sensemaking and loose coupling.

First, I describe the evidence across the cases that indicates that sensemaking is happening in the three components of the Intramural Economic Engagement Interface (Intramural EEI)—rhetoric, structure, and activities. Second, I look at the Intramural EEI as a mechanism for loose coupling, illustrating how the patterns that emerged from participant interviews show the creation of linkages focused on both stability and flexibility in the loose coupling of the interface. The cross-case analysis presented in this chapter sets the stage for the research and practice implications presented in Chapter 7.

Although the Commonwealth of Massachusetts and the UMass System Office were not presented as full case studies (interviews with participants at these sites provided background and context), some information from these interviews is included in the cross-case analysis presented here. The patterns identified through these interviews (presented at the beginning of Chapter 5, pp. 148–161) continue to provide context for the case-specific findings.
Prior to presenting the cross-case analysis, it is important to note that during participant interviews it was difficult to separate the Intramural EEI from the Intermediate EEI and the Extramural EEI (see descriptions on pp. 13–18 in Chapter 2; as a review, Table 3 provides descriptions of these concepts). The findings in this chapter, then, although focused on the internal dynamics at the case study sites, occasionally refer to relationships between the University and its external stakeholders or relationships outside the University. As I will discuss in Chapter 7, future research on the Intramural EEI should find ways to better delimit the sensemaking and loose-coupling dynamics within an institution, outside an institution, and between an institution and its external stakeholders.

Table 3

*Descriptions of Three Economic Engagement Interfaces (EEIs)*

<table>
<thead>
<tr>
<th>Economic Engagement Interface (EEI)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intramural EEI</strong></td>
<td>The rhetoric, structure, and activities that establish and support linkages—among individuals, between university intentions and actions, and between actions and outcomes—<em>within the university</em>.</td>
</tr>
<tr>
<td><strong>Intermediate EEI</strong></td>
<td>The rhetoric, structure, and activities that establish and support linkages <em>between the university and the external environment</em>.</td>
</tr>
<tr>
<td><strong>Extramural EEI</strong></td>
<td>The rhetoric, structure, and activities that establish and support linkages <em>among entities external to the university</em>.</td>
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</table>

**Sensemaking and the Intramural Economic Engagement Interface**

The concept of sensemaking is presented at length in Chapter 2. As discussed, sensemaking is a process through which members of an organization ascribe meaning to experience. Sensemaking is complemented by the concepts of sensegiving, identity, and
image. Sensegiving is another dimension of strategic change “concerned with the process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality” (Gioia & Chittipeddi, 1991, p. 442).

Related to sensemaking and sensegiving are the concepts of institutional identity and image, with identity being “what is core, distinctive, and enduring” (Albert & Whetten, 1985, p. 280) about an organization, and image being “tied to perceptions of how external constituencies view the organization” (Goia & Thomas, 1996, p. 372). The formation of institutional identity and image are intertwined through sensegiving and sensemaking, with organizational leaders’ attempting to manipulate image through sensegiving, and organizational participants’ undertaking sensemaking to reconcile institutional identity with image (Gioia & Chittipeddi, 1991). This study has used sensemaking and these related concepts as frames for examining university adaptation to an economic engagement orientation. Adaptation is the process through which organizations adjust to their external environment (Cameron, 1984). I have suggested that a process of adaptation has been underway at the University of Massachusetts—that organizational participants have been working at identity interpretation to resolve identity with image through sensemaking and sensegiving processes. In this section, I present a cross-case analysis through the lens of sensemaking, considered broadly.

As noted above, the conceptual framework for this study focuses on the Intramural EEI—a conceptual entity that is made up of rhetoric, organizational structure, and the activities or action of members of a university. Working through the Intramural EEI, university actors develop definitions of the university’s role in economic development, creating connections among and across the missions of the university
Intramural EEI to create the intra-university connections—between and among individuals, units, and subunits—necessary for university economic engagement. The Intramural EEI is created and maintained through the processes of sensemaking and loose coupling. Table 4 illustrates how sensemaking and loose-coupling concepts are linked to the three components—rhetoric, structure, and activities—of the Intramural EEI. Here, I report cross-case findings related to the role of sensemaking in the Intramural EEI.

Weick and others have worked to develop more complete definitions and descriptions of sensemaking. In Chapter 2 (pp. 43–48), I reviewed Weick’s (1995) seven

Table 4

*Relationship of Sensemaking Features and Loose Coupling Elements to Intramural EEI*

<table>
<thead>
<tr>
<th>Intramural Economic Engagement Interface Components</th>
<th>Sensemaking Features</th>
<th>Loose-Coupling Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Noticing and bracketing, Labeling, Identity, Plausibility (Weick et al., 2005)</td>
<td>Process-Outcome (Weick, 1976)</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>Social and systemic, Organizing through communication (Weick et al., 2005)</td>
<td>Organizational (individuals, subunits, organizations, hierarchical levels) (Orton &amp; Weick, 1990)</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Enactive of sensible environments, Social, Ongoing (Weick, 1995)</td>
<td>Intention-Action (Weick, 1976; March &amp; Olsen, 1975)</td>
</tr>
<tr>
<td></td>
<td>Presumption, Action (Weick et al., 2005)</td>
<td>Process-Outcome (Weick, 1976)</td>
</tr>
</tbody>
</table>
properties of sensemaking and the features of sensemaking itemized by Weick, Sutcliffe, and Obstfeld (2005). In Table 4, I relate how features of sensemaking described by these authors are related to the components of the Intramural EEI. The cross-case analysis of the Intramural EEI at UMass will examine each of the components of the Intramural EEI, building on descriptions of sensemaking features.

Identity and Emerging Definitions of Economic Engagement

First, it is worth examining how study participants defined economic engagement as these definitions likely shaped the Intramural EEI at UMass. Weick and others (Weick, 1995; Weick et al., 2005) have discussed the centrality of identity interpretation to sensemaking. How study participants described their views on the definition of economic engagement, then, is relevant to the ways in which sensemaking happens in the Intramural EEI. In Chapter 4, I provided descriptions of the research sites and study participants and included many participants’ characterizations of economic engagement. In the following discussion of economic engagement definitions, I use many of these participant definitions for illustration. Below I focus on three definitions in particular.

Definitions beyond the traditional economic impact mindset. First, it is important to note that many observers who are interested in the economic contributions of universities, especially economists, use the term economic impact to refer to an analysis that uses input/output models to determine the net gain in a local economy due to the presence and activity of a specific entity in the region. Applied to universities, input/output models mainly examine university expenditures, through payroll and goods and services purchased, and the direct impact (through a multiplier effect) of these expenditures on the local economy. Most university leaders would agree that limiting
descriptions of the institution’s economic impact to payroll and purchasing is an incomplete and circumscribed way to report impact.

Accordingly, economic impact is frequently used in everyday parlance to mean something much broader than what economists may mean by the phrase. Universities report their impact by, for example, noting that they contribute significantly to the local or regional workforce or by attracting visitors to the area with university sports and cultural venues. The economic effects of technology that is patented and licensed by universities are also caught in the wide economic impact net cast by institutions. Other phrases, such as return on investment and cost-benefit are frequently misapplied (from an economist’s standpoint) but are widely used as synonymous with economic impact (Swenson, 2014).

Scholars have recognized the need to expand our thinking with regard to the economic impact of universities, and practitioner-focused organizations are attempting to develop resources to help universities do an effective, and accurate, job with economic impact analysis. Drucker and Goldstein (2007) noted:

[S]pending studies have not been well able to capture and quantify the economic impacts of university activities. This is partly the result of methodological limitations and also partly because of the practice of considering too narrow a spectrum of university influences on regional economic development. The authors proceeded to a detailed analysis of many emerging approaches to assessing the regional impact of universities. They observed that studies try to capture the regional influences of universities across an array of university outputs, referencing a “typology of university functions” (p. 22) created by Goldstein, Maier, and Luger (1995):
1. Creation of knowledge.
2. Human-capital creation.
3. Transfer of existing know-how.
4. Technological innovation.
5. Capital investment.
6. Regional leadership.
8. Influence on regional milieu.

The Association of Public and Land-grant Universities (APLU) and its Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP, for which I serve as staff director) have developed a set of guidelines for university economic impact analysis (APLU, 2014). The guidelines encourage universities to continue conducting traditional input/output analyses and expand their descriptions of university contributions to the economy by including contributions to talent, innovation, and place. The guidelines caution universities to be careful, however, about mixing indicators inappropriately—applying regional economic impact multipliers to outputs other than direct spending through payroll and purchases, for example.

Participants in the present study, when asked to describe what the phrase economic engagement meant to them, talked about everything from university spending to human capital development, technology and innovation, and social and cultural assets. Essentially, each category in the Goldstein et al. (1995) typology referenced above was mentioned by at least one participant. The following brief exploration of participants’ definitions of economic engagement will use the more simplified APLU (2014)
framework of talent, innovation, and place. During analysis of participant interviews, these categories served as groupings for codes that emerged in analyzing participant definitions of economic engagement.

**University contributions to talent development.** In the “talent” code grouping, a number of categories emerged: workforce development, graduating students, academic programs, student engagement, and knowledge transfer. Each of these codes reflected different perspectives on the ways in which the university contributes to human capital development. Although it is not within the scope of this analysis to describe the nuances in interpreted meaning reflected by the different codes, it is important to note that participants’ definitions of economic engagement frequently included the education of students and preparation for the workforce as key elements. In my experience working with university presidents and chancellors, this is the most frequently identified economic contribution, which seems obvious. However, it is clear that some participants emphasized talent development as a key contribution because they felt that in the public discourse about universities and economic development, the story of human capital development through education, was sometimes getting lost. Examples follow of participants’ characterizations of economic engagement by incorporating education and workforce development. These examples are drawn from Chapter 4 and the descriptions of research sites and participants.

Jon (UMass Amherst) expressed concern that the economic contribution of graduates “frequently tends to get lost in the conversation when people want to talk about license income.” Jon’s colleagues at UMass Amherst similarly voiced the importance of the economic engagement contribution of students, including Gregg who said that
universities “contribute far more in terms of the students that they educate than any of these other activities that are so-called economic activities.” Roland (Commonwealth of Massachusetts) emphasized that “the main contribution that universities make is education of students” and warned that the state should exercise caution in developing policy related to the University and economic development, keeping in mind this primary contribution. At UMass Lowell, nearly every participant mentioned the importance of the University to the regional economy through the practical education it provides. UMass Lowell participant Russell put it this way: “When I think about economic engagement, I think about taking the future citizens of this region and giving them a set of skills.” A number of other participants mentioned education and contributions to the workforce, and many of these statements are included in the descriptions of the research participants found in Chapter 4.

**University contributions to innovation development.** In the “innovation” code grouping, codes included problem solving, business development, technical assistance, research, entrepreneurship, technology transfer, and industry relationships. Participants mentioned all these kinds of activities when relaying their definitions of economic engagement, and the codes reflected the different aspects of technology- and innovation-based economic development activities in which universities engage. Again, exploration of the different categories is not within the bounds of the present analysis. It is sufficient to comment that participants frequently mentioned different kinds of activities that could be categorized as “innovation development” when detailing their definitions of economic engagement. A number of these mentions were in the context of illustrating the extent to which UMass is friendly to business and industry. As discussed frequently in this
dissertation, connectedness with business and industry was an important part of institutions’ identity interpretation. Drawing again from participants’ descriptions of the meaning of economic engagement included in Chapter 4, some examples follow.

Horace (UMass System Office) evoked Stanford University in providing a characterization of economic engagement:

[T]o me Stanford is the epitome of this—that there is a sense that engaging in these things, which we may not call economic development, but rather close ties, being entrepreneurial, pushing our research so that it leads to technology, leads to companies, is part of what we do and what makes us great.

Horace’s colleagues from the UMass System Office also frequently mentioned business and industry partnerships as part of defining economic engagement, with Nina in particular noting how such partnerships have played a critical role in shaping the University’s research agenda. Roger (UMass Medical School) was simple and direct in his definitions of economic engagement—“the commercialization of science.” Given UMass Lowell’s history of close connections with industry, it is no surprise that participants from that site frequently mentioned innovation and technology transfer in characterizing economic engagement. Dianna (UMass Lowell) noted that partnerships were frequently about problem solving for companies, and Hugh also played up the importance of the technical assistance that the University provides to the local business community. Examples of the role of innovation, technology transfer, and partnering with business and industry can be found throughout study participants’ definitions of economic engagement, and these are detailed in Chapter 4.
University contributions to place development. The categories comprising the “place development” code grouping included industry recruitment; quality of life; visitor attraction; real estate; and cultural, community, social, and physical amenities. Each of these functions of the University, generally related to quality of life in the region, was mentioned by at least one participant in this study. This analysis will not detail the shades of meaning inferred by the different categories within the “place development” code grouping, but of the three groupings discussed here, I was most surprised by the prevalence of responses in this category. These kinds of contributions would fall under the last, somewhat vague type of output—“influence on regional milieu”—presented above (Goldstein et al., 1995; Drucker & Goldstein 2007). The cultural, social, and community development contributions that universities make are much more subtle, harder to measure, and more difficult to communicate (Goldstein et al., 1995), and in my experience university leaders do not tend to talk about these kinds of contributions when discussing their institution’s influence. After confirming that regional milieu outputs are difficult to measure, Goldstein and his colleagues (1995) asserted, “the long-term trend of an increasingly knowledge-based economy strongly suggests that these particular types of university outputs may be among the most important in contributing to economic development” (p. 114). It seems that at least a few of the participants in this study would consider this statement to be true. Below are some examples from Chapter 4, illustrating the ways in which participants included “place” development in their definitions of economic engagement.

Warren (UMass Medical School) strongly emphasized community development efforts of the University when describing his view of economic engagement, noting that a
primary aspect of such work is matching “the needs of the local community with the resources we already have.” Describing the UMass campus in his region, Frank (Commonwealth of Massachusetts) played up the cultural contributions of the university: “They are also the social and cultural center of the region. They play host to a lot of social and cultural events that add to the quality of life in the region.” Cameron (UMass Amherst) raised the issue of quality of place when he differentiated among different kinds economic development and observed, “When we’re talking about community-based economic development, it’s more the social science kinds of things—the nutrition, community health and those kind of programs.” Descriptions of place development as part of an economic engagement definition were most frequent among participants at UMass Lowell, with Hugh’s description capturing well the cultural aspect of place development: “The general cultural aspect of having the university with the [humanities] aspect. The music, the plays, that whole cultural aspect makes for a vibrant community.” Participants, more frequently than expected, mentioned these kinds of quality of place issues in portraying meanings of economic engagement, and additional examples can be found in the descriptions of study participants in Chapter 4.

**Definitions that include engagement.** As discussed in Chapter 2, I am using the term economic engagement to describe those activities undertaken by the university, most often in partnership with other institutions and organizations, to contribute to the economic development of their region. I suggest in Chapter 2 (pp. 32–37) that the idea of economic engagement emerges from both the literature on university public service, outreach, and engagement and from the literature on university entrepreneurship. Although economic engagement is not a phrase widely in use in the U.S. literature on
universities and economic development, the phrase is used rather extensively in European scholarly work and is an apt phrase for the subject of this study. That said, participant interviews did not often reveal connectivity between the economic development-focused activities of the University and what has traditionally been called public service, outreach, or engagement. As noted in the review of the literature, reconciling economic development activities with university engagement is something that has yet to be done, at least from the perspective of the review of articles published in the *Journal of Higher Education Outreach and Engagement*, included in Chapter 2 (pp. 34–36). Participant interviews mostly reflected this disconnect, but there was some evidence that engagement is the way in which UMass sees economic development work.

One obvious example is the use of the word engagement in the title of the Vice Chancellor for Research and Engagement at UMass Amherst. While it was noted by some participants that use of that word in that context was not yet well defined, and it was still unclear what was meant by its use, the titling of that role is a clear indication that UMass Amherst sees innovation-based economic development as engagement. Cameron (UMass Amherst) pointed out the challenge presented in trying to define different kinds of activities, including social science-driven community economic development, under an engagement umbrella. While not as explicit in the use of the word engagement, definitions from participants at UMass Lowell were replete with descriptions of engagement kinds of activities—two-way, reciprocal efforts between the University and its stakeholders in the community, including business and industry. This kind of reciprocal relationship is central to the literature on university engagement, and Everett (UMass System Office) included this as a primary component of his definition of
economic engagement. Other than these few notable examples, definitions of economic engagement from participants did not generally include connections with what has traditionally been called public service, outreach, or engagement at universities.

**Sensemaking Features and the UMass Intramural Economic Engagement Interface**

In this section, I examine cross-case findings related to sensemaking and the Intramural EEI at UMass. Table 5 provides a summary overview of these findings.

Table 5

*Summary of Cross-Case Findings Related to Sensemaking and the Intramural Economic Engagement Interface (Intramural EEI)*

<table>
<thead>
<tr>
<th>State</th>
<th>Rhetoric</th>
<th>Structure</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>President Wilson signaled the importance of the university role in economic development.</td>
<td>“Engagement” in the Vice Chancellor for Research title.</td>
<td>Centrality of planning and scaffolding.</td>
</tr>
<tr>
<td>Medical</td>
<td>Identity: bench research connected to clinical practice, connected to community.</td>
<td>Leadership: interests linking and priority setting.</td>
<td>Priority setting.</td>
</tr>
</tbody>
</table>
Rhetoric: telling the economic engagement story. As illustrated earlier (Table 4), a number of features of the sensemaking concept are related to the “rhetoric” component of the Intramural EEI. These features, detailed in Chapter 2 (pp. 43–47), are summarized in the paragraphs following this list.

- Identity construction (Weick, 1995); identity (Weick et al., 2005).
- Extracted cues (Weick, 1995); noticing and bracketing, labeling (Weick et al., 2005).
- Plausibility rather than accuracy (Weick, 1995); plausibility (Weick et al., 2005).

Identity construction. Identity—both at the personal level and the collective level—is central to sensemaking. The basic sensemaking recipe, “How can I know who I am until I see what I say?” (Weick, 1995, p. 18) becomes “How can I know who we are becoming until I see what they say and do with our actions?” (Weick et al., 2005) at the collective level and when the issue of image (how those outside the organization see us) is added to the mix.

Extracted cues. It is important to appreciate the things that are noticed. What gets noticed also gets bracketed (“Here is something to which I need to pay attention.”) and labeled. Sensemaking is about, in part, noticing what is going on, holding it up for examination, and naming it.

Plausibility rather than accuracy. Information required for sensemaking need not be accurate, it simply needs to be credible, or possible. If action can be taken on the information, that is enough. It is not bad to have accurate information, but getting caught up in telling a story that is accurate can impede action. Since sensemaking happens
through action, a plausible story that can prompt action is more important than an accurate story that we have to wait for or analyze before taking action.

In the Intramural EEI, I incorporate these features of sensemaking into the rhetoric component. To understand rhetoric as a mechanism of the Intramural EEI, one must understand how organizational identity is understood and affected by adaptation to an economic engagement orientation. What people, especially senior university leaders, say becomes a set of cues, and what leaders and others say also defines what is noticed and bracketed. Finally, as part of the Intramural EEI, plausibility in rhetoric is more important than accuracy. In participant interviews, evidence can be found of the relevance of sensemaking features to the Intramural EEI at UMass.

As described in the Background Interviews section of Chapter 5 (pp. 148–163), telling a story was important to participants both from the Commonwealth and from the UMass System Office. In telling a story, the University system and its campuses are exploring identity (and image, as discussed below). Participants from the Commonwealth noted that it was important for this story to be, at least in part, about the University’s orientation toward the market and industry—language along these lines would need to be part of the cues conveyed by the story. Importantly, however, Commonwealth participants noted that it was important that the story be “true” to the mission of the University. In other words, the story would need to be plausible—meaning, from state policy actors’ perspective, the story would have to be something that both the public can believe as plausible and that University actors could themselves believe in. Participants from the UMass System Office noted President Jack Wilson’s mantra: “The path to social and economic development in the state of Massachusetts runs through the University of
Massachusetts.” This rhetorical tool signaled an image of UMass’s relevance to those outside the University and an identity of relevance to those inside. The mantra is a cue, and importantly it tells a plausible story without attempting to be complete or accurate.

The relationship between identity and image became evident and important in the participant interviews for all three the case studies. As discussed in Chapter 2, the literature on sensemaking includes an important study by Gioia and Thomas (1996) in which the authors investigated sensemaking in the context of a university adapting to strategic change. Gioia and Thomas provided a distinction, based in the literature, between organizational identity—“those features of the organization that members perceive as ostensibly central, enduring, and distinctive in character that contribute to how they define the organization and their identification with it” (p. 372)—and image—“how members believe others view their organization” (p. 372). Gioia, Shultz, and Corley (2000) further argued “a close reciprocal relationship between organizational identity and various forms of image.” Below is a brief analysis of the case studies, looking at how each campus’s identity interacted with the image that President Wilson was seeking to create—one of each UMass campus, and the system as a whole, being a relevant, central driver of economic and social development in the Commonwealth.

At the three UMass campuses that serve as this dissertation project’s case studies, different institutional identities emerged from participant interviews, as did different approaches to aligning institutional identity with the image portrayed by Wilson’s mantra. Participants at UMass Amherst focused on an institutional identity as the public flagship, engaged in world-class research. A primary mechanism for adapting to an economic engagement orientation, and aligning with the image cast by Wilson’s mantra,
was redefining engagement as something critically connected to the research mission of the University, and in particular the ways in which research is driven by business and industry. At UMass Medical, there was also a focus on the University’s world-class research reputation, as well as an emphasis on community development. Reconciling image and identity for participants at UMass Medical was simply a matter of leadership—providing clear connections between the economic engagement image and faculty members’ research interests and establishing clear priorities. The identity for UMass Lowell was that of a practical university, well connected to the community and to industry. Adaptation of the UMass Lowell identity meant structural changes largely instigated by a change in leadership, with Chancellor Marty Meehan prompting shifts away from a mom-and-pop organization for economic engagement to something more systematic and the realization that collective responsibility was needed across the University. Each institution worked on adaptation through identity interpretation, and each took a slightly different approach to aligning its identity with the image.

Beyond the differences, however, there are commonalities to the campus findings. The first commonality is of course the emphasis on identity for each institution, and how institutional identity was clearly a starting point for discussions about the economic engagement image. Beyond this similarity, there is clearly something about signaling—a rhetorical mechanism employed by each campus’s leadership—that is important to all three institutions’ adaptation. At Amherst, signaling happened through the redefinition of engagement, largely in the form of changing the senior research officer’s title to include the word engagement and tying that activity to the University’s research mission. Signaling at the Medical School happened through what I have called interests linking—
University leadership’s establishment of compelling connections between economic engagement efforts and faculty research interests and definition of priorities in the economic engagement domain. “Align efforts and work together” could be considered to be the signal from Chancellor Marty Meehan at UMass Lowell. Participants at that campus explained a movement toward better coordination and shared responsibility, prompted by messaging from Chancellor Meehan. Although the mechanism for adapting to the economic engagement image was slightly different at each campus, leadership and signaling clearly played a role across all three.

**Structure: organizing for economic engagement.** Referring again to Table 4, the sensemaking concept is also related to the “structure” component of the Intramural EEI. Related sensemaking features are detailed in Chapter 2 (pp. 43–48) and include:

- Social (Weick, 1995).
- Social and systemic, organizing through communication, intraorganizational evolution (Weick et al., 2005).

Essentially, the features listed above are all related to interaction and how an organization both affects and is affected by interaction. Sensemaking happens through interaction between and among actors in the organization as well as with actors from outside the organization. Over time, the shape of the organization and broader system adapt based on sensemaking activity.

I include these features of sensemaking in the structure component of the Intramural EEI. In my framework, structure refers explicitly to the structure of the organization—how units and subunits are aligned, what kinds of formal organizational links are established between them, and so forth. The features described above do not
relate only to what form the organization takes, but more broadly to the ways in which individuals in the organization interact with one another and thereby engage in sensemaking. My inclusion of these features in the structure component of the Intramural EEI suggests that the formal structure of the organization both has an effect on how interactions happen, particularly with regard to who interacts with whom, and is in turn affected by the sensemaking activity of organizational actors. The case studies described in Chapter 5 illustrate this dynamic, and the following analysis across the cases relays how both the structure of the organization and the necessary interpersonal interactions recursively affected one another.

As mentioned earlier, leadership rhetoric in the form of signaling was an important adaptive tool for all three campuses, and essentially the primary locus of impact of that signaling—at all three campuses—was organizational structure. At Amherst, the creation of a Vice Chancellor for Research and Engagement position was both a signal and an organizational shift (prior to the addition of engagement to this position’s title, the position had been a vice provost for research, not reporting directly to the chancellor). Another important mechanism for Amherst, discussed in the context of creating connections and linkages across the organization, was boundary spanning—linking people units across disciplines and functions for collaboration. At the Medical School, leadership signaling in the form of interests linking and priority setting also led to organizational change by lowering some boundaries. The key element in this leadership work, with regard to the structure aspect of the Intramural EEI, appears to have been the interests linking. At UMass Medical, in an echo of Amherst’s boundary spanning, collaboration happened through faculty-to-faculty connections based on interests and in
turn to the economic engagement image. For Lowell, where (as discussed above)
organization and structure were the subject of the chancellor’s rhetorical signaling, an
important mechanism became the recognition of a collective responsibility among
University stakeholders for realizing the economic engagement image, and the
construction of the social capital necessary for collaborative work toward fulfilling the
image. The “structure” component of the Intramural EEI is clearly active at all three
institutions, although the primary mechanism for enacting that component was expressed
differently at each campus.

While it is described slightly differently, a similar pattern is again evident for the
structure component of the interface. Whether it was discussed as boundary spanning,
interests linking, or social capital development, the key device for structural or
organizational responses to expectations for economic engagement was collaboration. In
the end, social capital may have been what participants were getting at on all three
campuses. Even in the conversations about interests linking and boundary spanning, the
focus was on collective responsibility and benefit and on creating a trusting environment
to enact collaboration. That participants described collaboration in different ways might
mean more variance than similarity here.

One way in which the focus on social capital could vary across campuses is the
extent to which the emphasis is on “bridging” social capital—aimed at bringing
heterogeneous groups together—or on “bonding” social capital—focused on bringing
homogenous groups together (Putnam, 2002). For example, does the way in which the
idea of collaboration emerged at UMass Medical, with an emphasis on connecting people
with similar interests, mean that this campus’s social capital development was more of
the bonding type? Or does Lowell’s emphasis on creating social capital among and across business as well as community-based partners indicate an emphasis on bridging social capital? More analysis would be necessary, and it would be interesting to delineate the ways in which social capital formation happens on these different campuses, each with its own identity and different kinds of orientation toward their partners and communities.

Activities: institutional action for economic engagement. The features of sensemaking are evident again in the “activities” component of the Intramural EEI (see Table 4). These features were detailed in Chapter 2 (pp. 43–48), and a summary follows this list.

- Enactive of sensible environments, ongoing (Weick, 1995);
- Presumption, action (Weick et al., 2005).

The features listed above all relate to the fact that sensemaking is about both sensing and making. Action is constant and is part of every aspect of the sensemaking process—action triggers sensemaking, then sensemaking happens through a process of taking action, which triggers further sensemaking, and so on. Presumption is part of the chain in that actions are taken to test hunches or ideas about what the appropriate response might be.

The features described above are included in the “activities” component of the Intramural EEI. I asked participants what kinds of activities—in the form of programs and initiatives—UMass was undertaking as part of adapting to an economic engagement orientation. A long list of programs, partnerships, strategic initiatives, and other activities was included across all responses. The more interesting questions related to activities and action, however, turned out to be questions related to how the University’s intentions
with regard to economic engagement were translated into action and how University actions were translated into outcomes. More analysis on these questions is included in the Intention-Action Linkages and Process-Outcome Linkages portions of the next section. Here, I examine the case studies with regard to what action appeared to be most important to create those linkages, based on analysis of participant interviews.

Different kinds of actions and processes for establishing linkages and connections appeared to be important to participants across the three campuses. At UMass Amherst, the most significant needed action that emerged from interviews was the adaptive mechanism described in Chapter 5 as planning and scaffolding. Participants at the Amherst campus regularly noted a need for more designs for and coordination of structures for economic engagement. At UMass Medical, priority setting had been and would continue to be the most important activity that the University could undertake to ensure that the necessary connections would be established and maintained. For participants at UMass Lowell, the most important action needed for facilitating economic engagement linkages was establishment and definition of intended outcomes of such efforts. Defining outcomes in such a way that they were mutually meaningful to the University and its partners, and they were clear, were important aspects of the outcomes focus among UMass Lowell participants.

There is more similarity than difference between the actions identified by UMass Amherst and UMass Medical participants, but the outcomes work identified by UMass Lowell illustrates a departure. UMass Amherst participants focused on planning and scaffolding and UMass Medical participants emphasized priority setting—similar activities in that they provide a starting point to frame economic engagement connections
and activities. The activity given prominence by UMass Lowell participants was also a starting point for framing. The key difference for UMass Lowell is that they were “beginning with the end in mind,” as self-empowerment guru Stephen Covey would say (Covey, 1989). Both UMass Amherst and UMass Medical participants focused on an activity that would be at the input or process end of an economic engagement logic model. UMass Lowell’s focus is at the outcome end, with participants at that campus identifying outcome definition as an important activity for creating economic engagement connections and linkages. Further research and analysis would be necessary to determine whether there is a reason that the Lowell campus would be more focused on outcomes, but it is interesting that the campus with a very practical image was the one with this orientation in terms of action. The nature of the action that emerged as most important at UMass Lowell was, in any case, qualitatively different from the actions that appeared in analysis of UMass Amherst and UMass Medical participant interviews.

**Summary: Sensemaking and the Intramural Economic Engagement Interface**

The economic engagement interface(s) can be examined through organizational rhetoric, structure, and activities. Sensemaking happens through each of these components. A summary of cross-case findings related to sensemaking and the Intramural EEI comprises Table 5, above.

As discussed previously, sensemaking features are related to the components—rhetoric, structure, and activities—of the Intramural EEI. Rhetoric enables identity construction, includes cues that are extracted for sensemaking, and needs only to be plausible (not necessarily accurate). Organizational structure provides the social context in which sensemaking happens and occurs through communication and
intraorganizational evolution. Activities of the organization are relevant because sensemaking is enactive and is based in both presumptions and the actions that are taken based on those presumptions.

The cross-case analysis presented here has provided evidence that sensemaking is happening through rhetoric, structure, and activities at the University of Massachusetts. The evidence shows that institutional identity is important across all three cases, despite their three different institutional identities. Participants at all three case study sites demonstrated through their words that the University is adapting to the external image (expectation) of economic engagement through this identity interpretation.

Signaling (sensegiving) was also an important aspect of University leadership across campuses and enacted sensemaking. In addition to rhetorical signaling, University leaders all employed organizational structural mechanisms to signal. A common theme in discussing organization was collaboration, taking the forms of boundary spanning, interests linking, and social capital development. Further research would be necessary to determine whether social capital development is underpinning all the organizational/structural views at the UMass campuses explored here, although almost certainly different forms of social capital are important at each campus.

With regard to activities, campuses identified different activities as important to adaptation. There were similarities in UMass Amherst’s and UMass Medical’s activities, both emphasizing inputs or processes related to economic engagement—planning, scaffolding, priority setting. UMass Lowell, on the other hand, emphasized outcomes development, suggesting a more outcomes-focused orientation, perhaps stemming from
the institution’s very practical identity. There were similarities and differences across the UMass campuses with regard to sensemaking and the components of the Intramural EEI.

What is clear is that the Intramural EEI is a mechanism through which sensemaking happens at the University of Massachusetts. Through sensemaking, the Intramural EEI builds bridges between different aspects of the University. The Intramural EEI at UMass focuses organizational participants on institutional identity through signaling, shifts organizational structure to emphasize collaboration, and encourages the University to examine both inputs to and outcomes of economic engagement.

**Loose Coupling and the Intramural Economic Engagement Interface**

Loose coupling as a conceptual framework is outlined in depth in Chapter 2 (pp. 49–50). Glassman (1973) noted the broad applicability of the systems theory concept of loose coupling to many different kinds of systems, and Weick (1976) applied loose coupling to educational systems, identifying a number of “coupled elements” (p. 4). Orton and Weick (1990) later developed a theory and model of loose coupling in which they identified multiple types of loose coupling. The Intramural EEI examined in this dissertation builds on these theoretical concepts and explores three types of loose coupling, based on the Weick (1976) coupled elements and the Orton and Weick (1990) types of loose coupling. In the Intramural EEI, *structural* loose coupling refers to linkages between and among individuals in the organization—and also between and among subunits—responsible for economic engagement. *Intention-action* loose coupling signifies linkages amid what the organizations says its goals are with regard to economic engagement and its activities undertaken in service of those goals. *Process-outcomes* loose coupling is inclusive of the connections between what the university is doing with
regard to economic engagement and the intended outcomes of that activity. Table 6
provides a summary overview of the types of loose coupling examined in the cases of this
dissertation.

Table 6

*Summary of Cross-Case Findings Related to Loose Coupling and the Intramural EEI*

<table>
<thead>
<tr>
<th>State</th>
<th>Structural Linkages</th>
<th>Intention-Action Linkages</th>
<th>Process-Outcome Linkages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Flexibility:</strong> telling the University’s story.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System</td>
<td><strong>Stability:</strong> assigning economic development responsibility.</td>
<td><strong>Stability:</strong> incentives.</td>
<td><strong>Flexibility:</strong> President Wilson’s signaling.</td>
</tr>
<tr>
<td></td>
<td><strong>Flexibility:</strong> being a bridge across campuses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amherst</td>
<td><strong>Stability:</strong> scaffolding through organizational structures and policies.</td>
<td><strong>Stability:</strong> need for clear planning and direction.</td>
<td><strong>Flexibility:</strong> social capital—building trust and relationships.</td>
</tr>
<tr>
<td></td>
<td><strong>Flexibility:</strong> building trust.</td>
<td><strong>Flexibility:</strong> public flagship narrative.</td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td><strong>Flexibility:</strong> interests linking.</td>
<td><strong>Stability:</strong> priority setting.</td>
<td><strong>Stability:</strong> priority setting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Flexibility:</strong> bench to bedside to community narrative.</td>
<td><strong>Flexibility:</strong> social capital—building trust and relationships.</td>
</tr>
<tr>
<td>Lowell</td>
<td><strong>Stability:</strong> social capital infrastructure—mechanisms to support relationship development.</td>
<td><strong>Flexibility:</strong> practical, connected university narrative, and outcomes definition.</td>
<td><strong>Stability:</strong> outcomes identification.</td>
</tr>
<tr>
<td></td>
<td><strong>Flexibility:</strong> getting to know partners—the problems and challenges they faced—and building trust.</td>
<td></td>
<td><strong>Flexibility:</strong> social capital—building trust and relationships.</td>
</tr>
</tbody>
</table>
The following analysis of cross-case findings further defines linkages as related to stability or flexibility. As described below, this frame is based in the Orton and Weick (1990) assertion that “coupling produces stability” and “looseness produces flexibility” (p. 205). Both stability and flexibility linkages in the UMass Intramural EEI are examined for each type of loose coupling—structural, intention-action, and process-outcomes.

Before proceeding with this analysis, it is important to make a note about the normative interpretation of loose coupling and the difficulty of speaking with research participants about the relative strength of connections in University structure, between intention and action, and between University activities and outcomes. While I did not speak of “loose coupling” during interviews (though one of my research participants used the phrase regularly in his responses), I did ask participants to “describe the connections” at UMass. In Chapter 3 (pp. 68–70), I detailed the ways in which questions related to connections were asked, and I noted that I changed my interview protocol after the first two interviews to preface these questions with a note to encourage participants not to assume that strong connections were necessarily better than loose ones. In the end, however, participants appeared to want to describe connections as strong—to characterize linkages at the University as tight. Descriptions of weaker or looser connections were treated as less desirable by participants overall (with one important exception, described below). Orton and Weick (1990) noted that many researchers also assume that tighter or looser coupling is related to effectiveness. Despite my efforts not to
apply any kind of normative assumptions about the strength of linkages, participants tended toward aligning descriptions of weak connections with ineffectiveness and stronger connections with better effectiveness.

“Respect the Loose Coupling”: Seeking Both Stability and Flexibility

One research participant, Tony (Commonwealth of Massachusetts), noted that when looking at the University’s role in economic development, one must “respect the loose coupling.” Tony’s implication, as interpreted through other statements in his interview, was that a strong link does not necessarily have to be made between University activities and economic outcomes in order for the University to play an effective role in economic development. To Tony, the loose coupling between the University and the economy was an important aspect of the way in which universities play a role.

Similarly, Orton and Weick (1990) discussed at length the facts that loose coupling does not equate with ineffectiveness and that loose coupling simply denotes the existence of both strong and weak connectivity. Orton and Weick noted that a system “is simultaneously open and closed, indeterminate and rational, spontaneous and deliberate” (pp. 204–205). Scott and Davis (2007) provided a typology of organizations that includes both rational and open systems—rational organizations having a high level of specificity in goals and formal organizational structures, and open organizations being less formal and dealing more in ambiguity than specificity. Scott and Davis, citing Thompson (2003), also distinguished between the technical core of the organization—where a rational systems view is appropriate—and the institutional level—where an open systems view is more relevant. Lawrence and Lorsch (1967) similarly described organizational structures
and dynamics as integrating or differentiating—speaking to closed and open, rational and indeterminate aspects.

Examination of economic engagement linkages through the Intramural IEE “respects the loose coupling” by looking at structural, intention-action, and process-outcomes connections as focused on either flexibility or stability. As noted above, Orton and Weick (1990) asserted that coupling is a stabilizing dynamic, and looseness produces flexibility. These two descriptors are used for the framing of linkages in the Intramural IEE and the cross-case analysis of these linkages at the University of Massachusetts.

**Stability linkages.** In the following analysis, then, “stability linkages” are those connections that could be classified as rational or technical in nature. These connecting elements assume tighter coupling, and they provide for responsiveness of the “system” (which could either mean the campus unit as a “system,” or the university system as a whole). They are integrating rather than differentiating. Looking across cases, participants observed a number of stabilizing connections or linkages necessary for the University’s ability to adapt to an economic engagement orientation.

**Flexibility linkages.** Correspondingly, the “flexibility linkages” identified in the following analysis are connections that could be characterized as open or institutional. These kinds of connections work through more loosely coupled elements of the university, and they contribute to the distinctiveness of different parts of the system (either subunits within a single campus, or each campus as a subunit). These linkages support differentiation, not integration. Throughout the case study sites, participants witnessed an array of linkages of the flexibility type.
**Structural linkages.** First, I examine the participant-observed stability and flexibility linkages related to organizational structure. In the Orton and Weick (1990) typology, these linkages could be between individuals or between subunits (campuses of the system, or departments of each campus). The primary question in my interview protocol that prompted discussion of such linkages identified the possibility of connections between individuals or subunits: “How would you describe the linkages or interactions between people or organizational units that have a role in the University’s efforts to be economically engaged?”

**Structural stability linkages.** Awareness of a need for stability linkages in organization and structure was evident at UMass Amherst, UMass Lowell, as well as at the UMass System Office. At UMass Amherst, participants discussed the need for organizational structures and policies to support economic engagement—which I describe as “scaffolding” in Chapter 5. At UMass Lowell, participants discussed the need for “social capital infrastructure” (my phrase)—mechanisms to reinforce the connections that the university is working to make, inside the organization and out. UMass Lowell participants mentioned the creation of a central database of industry contacts as an example and cited the UMass System Office as an example of organizational infrastructure that supports relationship development. As part of the background interviews, participants at the UMass System Office also noted a mechanism that can be considered a structural stability link—making economic development someone’s responsibility, as they have done at the System Office. Each of these kinds of connections is focused on the technical core and is aimed at assuring the responsiveness of the organization.
Structural flexibility linkages. As Orton and Weick (1990) suggested, the loosely coupled system also has linkages that are more about differentiation. Participants at all three case study sites noted such linkages, and these kinds of linkages were also apparent in interviews from the UMass System Office. As part of discussions about developing relationships and creating social capital with industry partners, UMass Lowell participants talked frequently about simply getting to know their partners well—in particular, the kinds of problems that they faced and challenges they wished to overcome. Evident in these conversations was an interest in building trust between the University and its partners. Trust was also a subtext at UMass Amherst. As participants talked about boundary-spanning activities, they noted that trust is a prerequisite for undertaking such efforts. Similarly, UMass Medical School participants emphasized what I call in Chapter 5 “interests linking”—devices for helping faculty members and others to see affinities across disciplines or functional areas. At the UMass System Office, interview participants frequently talked about the office being a bridge to connect people across UMass campuses. The connectivity and linkages presented here are about differentiation and about distinctiveness. Although the means mentioned in relation to UMass Medical School and the UMass System Office might appear to be more focused on integration and responsiveness, I argue that these mechanisms create system responsiveness as a secondary effect of allowing distinctiveness of units or subunits to be maintained. These are linkages focused on maintaining flexibility in structure.

Intention-action linkages. The second type of connectivity I explore is that between intention and action. Although mention of intention-action linkages happened throughout the interviews, one question in the interview protocol did ask participants to
focus on the connectivity between intention and action: “I’m interested in knowing how the connection is made between what the University says its intentions are with regard to economic engagement and what the University does to address economic development. How does intention get translated to action and what are the necessary connections?” Participant interviews revealed a number of linkages aimed at this kind of translation.

**Intention-action stability linkages.** With regard to connections that focused on stability, interview participants at UMass Amherst, UMass Medical School, and the UMass System Office all mentioned something salient. At UMass Amherst, it was a focus on the need for clear planning to provide direction for institutional action—better planning would clarify the need for, and thereby instigate, action. UMass Medical School participants mentioned a similar dynamic underway—the priority setting undertaken by University leadership. At the UMass System Office, incentives (mainly the President’s Science and Technology Fund for grant-making to faculty) were discussed as the primary translator of the “image” story being told by President Wilson (the University’s intention, manifest) into action. Planning, priority setting, and incentives, then, all serve as connectivity aimed at stability—rational linkages to support system responsiveness—at UMass.

**Intention-action flexibility linkages.** Evidence of intention-action flexibility linkages was harder to find. However, background interviews provided some insight into open-system ways of thinking about connections, as did the interviews at UMass Lowell. In the background interviews, as discussed in Chapter 5, there was a strong interest in the image aspect of identity and image. Commonwealth of Massachusetts participants noted how important it was for the University to tell its story well. UMass System Office
participants regularly mentioned the importance of President Wilson’s mantra—“The path to social and economic development in the state of Massachusetts runs through UMass”—and in general President Wilson’s emphasis on the University as an economic engine. Similarly, each campus had its own identity that shone through in participant interviews (each is described as a preface to the case studies in Chapter 5). In these examples, we see an approach to translating intention and action that leaves interpretation open-ended—participants saw these narratives as important to connections between intention and action, and it was clear that the specific actions that could be taken to fulfill these narratives were less predetermined.

Another example that is less obvious as a tool for differentiation is UMass Lowell participants’ emphasis on determination of outcomes. One view of articulated outcomes might be that they are part of the technical core and determine action, but it was clear from participant interviews that UMass Lowell actors felt that outcomes were another form of a the story that the institution and its stakeholders want to tell, and like the story sought by Commonwealth participants or Wilson’s mantra, room remains even with determined outcomes to discern the exact actions for making the story real. This view was a kind of bottom-up perspective on the value of outcomes as a connection promoting intention-action flexibility. These narrative-oriented linkages were all valuable in their ability to promote differentiation and distinctiveness in actions undertaken to fulfill the university’s economic engagement intentions.

**Process-outcome linkages.** The third and final category of connectivity I examine is that between university economic engagement processes and economic outcomes in the Commonwealth of Massachusetts. My interview protocol included the
question, “How do the University’s economic engagement efforts get translated to economic outcomes in the community or the state?” Importantly, the question was preceded by a qualifying statement: “For this question, note that I am not trying to measure the extent to which there have been outcomes, or the level of impact. Rather, I am trying to get a sense of how a connection is made between the University’s efforts and what is happening economically in the state.” There was a certain level of abstraction necessary to answer this question, but participants were able to identify some connections in response, and evidence of process-outcome linkages was also apparent in responses to other questions.

**Process-outcome stability linkages.** UMass Lowell and UMass Medical School participants named linkages that I classify as process-outcome stability linkages. Interestingly, in the case of process-outcomes, the UMass Lowell emphasis on outcomes development is a stabilizing mechanism, rather than one that encourages flexibility (as it is in the intention-action linkages set). Here, therefore, they play a role in making the system’s processes responsive—a more top-down view of outcomes identification. In the case of UMass Medical School, the priority-setting activity of the University leadership acted a similar part in the process-outcome category—priorities dictated University processes. Outcomes determination at UMass Lowell and priority setting at UMass Medical School, then, are examples of process-outcome stability linkages—connections focused on system responsiveness and integration.

**Process-outcome flexibility linkages.** As mentioned earlier, collaboration and social capital development were important across all three cases as mechanisms for sensemaking through organization, although each campus described these mechanisms
differently. This same emphasis emerged from the interview transcripts as an important link or tool for connectivity between university economic engagement processes and outcomes in the state. UMass Amherst, UMass Medical School, and UMass Lowell participants all noted that building relationships and trust—whether inside or outside the institution—was important to ensuring that University efforts in economic engagement turned into actual outcomes in terms of job creation, economic prosperity, or other indicators.

Since there was a sense that collaboration was necessary to achieve outcomes, and therefore collaborative processes were necessary, an important connection that needed to be in place was the development of social capital. This linkage between processes and outcomes is more about flexibility that it is about stability—more distinctiveness than responsiveness—because relationships are largely local. Whether the relationships that participants described were internal to their institution or between their institution and external stakeholders, it was clear that each institution’s particular identity and view of its mission colored the way in which relationship development was undertaken.

**Summary: Loose Coupling and the Intramural Economic Engagement Interface**

The Intramural EEI is a loose coupling interface. Since loose coupling creates both stability and flexibility, connections within the Intramural EEI can be viewed as stability linkages and flexibility linkages. This section has included an analysis of participant-observed linkages across the three cases included in this dissertation study. The findings underscore Tony’s (Commonwealth of Massachusetts) admonishment that when it comes to universities and economic development, one should “respect the loose
coupling.” For a summary of cross-case findings related to loose coupling and the Intramural IEE, refer to Table 6.

In terms of structural linkages, the cross-case findings show that participants were interested in linkages that allowed for flexibility. The kinds of linkages that supported flexibility had to do with relationship development—building trust among colleagues and with partners, getting to know partners, and linking interests across faculty and administrative areas. There was also recognition, however, that such flexibility required some level of stability, and stabilizing linkages identified by participants included institutional planning and policies as well as mechanisms to support relationship development and social capital creation.

Participants also identified mechanisms for both flexibility and stability in the domain of intention-action linkages. A desire for stabilizing, top-down planning and priorities was evident at UMass Amherst and UMass Medical. Across all three campuses, the institution’s identity narrative acted as an intention-action linkage for providing flexibility because identity is specific enough as to provide a charge to organizational participants but broad enough that interpretation remained open-ended. In addition to each institutional identity, UMass Lowell participants also viewed a focus on outcomes as an intention-action flexibility linkage, in that such a focus did not dictate specific actions based on stated intentions but rather allowed participants at the campus to determine the best actions for the intended outcomes.

With regard to process-outcomes coupling, participants again identified both stability and flexibility linkages. Stabilizing linkages were evident in the form of
identified priorities and outcomes. Across all three cases, linkages that provided for flexibility were related to building trust and relationships.

**Chapter Summary**

In this chapter, I have presented the findings of a cross-case analysis of the three University of Massachusetts campuses that were the subjects of this dissertation study—UMass Amherst, UMass Medical, and UMass Lowell. Observations from participants in background interviews, at the Commonwealth of Massachusetts and the UMass System Office, are also included for additional context. I have illustrated how the UMass Intramural EEI is a mechanism for sensemaking and loose coupling. As a sensemaking device, the Intramural EEI at UMass focuses organizational participants on institutional identity through signaling, shifts organizational structure to emphasize collaboration, and encourages the University to examine both inputs to and outcomes of economic engagement. With regard to loose coupling, the Intramural EEI comprises connections and linkages in university campus’s structure, between intentions and actions, and between University activities and outcomes. As a mechanism for loose coupling, the UMass Intramural IEE creates linkages for both stability (through organizational structures and policies, planning, priority setting, outcomes identification, and other connections) and flexibility (through trust-building and social capital creation efforts, use of institutional identity as a broad narrative within which to identify priorities, and other linkages). In the next chapter, I discuss the implications of these findings for future research and for institutional policy and practice.
Chapter 7
Discussion and Implications

In Chapter 1, I argued that as universities respond to public expectations to demonstrate relevance to the new economy, it is important to understand the organizational mechanisms that facilitate such responses and the concomitant institutional adaptation. I presented two research questions to direct this study toward such an understanding. In Chapter 2, I presented a conceptual framework to further scaffold the study. I briefly revisit the research questions and conceptual framework here as background for a summary of key findings and propositions for further research, recommendations for future research design, and implications for institutional practices and policy.

Research Questions

Two research questions formed the basis of this dissertation study. The questions were aimed at a better understanding of university adaptation to an “economically engaged” orientation.

1. As universities adapt to a policy context and public expectation that anticipates university participation in economic development, what are the rhetorical, organizational, and programmatic shifts that take place?

2. In what ways do rhetorical, organizational, and programmatic shifts encourage linkages across institutional missions and functions?

Based on these questions, I developed the conceptual framework and designed this dissertation study.
Conceptual Framework

In Chapter 2, I presented a conceptual framework, theorizing the existence of an *Intramural Economic Engagement Interface* (Intramural EEI) (see Figure 4, a reproduction of Figure 2). The Intramural EEI is made up of organizational rhetoric, structure, and activities, and it is through this interface that an institution creates connections or linkages across missions and adapts to an economic engagement orientation. I proposed that the interface facilitates this adaptation through sensemaking and loose coupling.

*Figure 4:* Conceptual framework for studying the Intramural EEI.

After describing my methodology and methods and Chapter 3, I presented in Chapter 4 background and contextual information for the case studies, including
information about the history of UMass, descriptions of this study’s research sites, and perspectives of the study participants. In Chapter 5, I presented the case studies.

In Chapter 6, I presented a cross-case analysis, organizing themes and patterns across the case studies within the framework presented in Chapter 2. I presented this cross-case analysis to illustrating how sensemaking happened through organizational rhetoric, structure, and activities; and how connections and linkages were established through loose coupling. Here I summarize the key findings of this analysis and present related propositions for future research.

**Summary of Key Findings and Propositions for Future Research**

Study participants elaborated this study’s conceptual framework by relaying their experiences with the University of Massachusetts’s adaptation to economic engagement. They described how institutional rhetoric, structure, and activities facilitated adaptation (related to this study’s research question #1). They further elaborated on the kinds of connections and linkages that were forming to facilitate adaptation (related to this study’s research question #2). A primary rhetorical element, mentioned by a number of research participants, was President Jack Wilson’s mantra, “The road to the social and economic development of the Commonwealth goes through the University of Massachusetts.” This presidential signal regarding the institution’s image enacted sensemaking, inspiring further rhetorical mechanisms as well as organizational and structural shifts and changes in activities undertaken by UMass campuses. Connections and linkages—between and among individuals and campus subunits, between intention and action, and between institutional processes and outcomes—were developed (or identified as needing
development) to facilitate changes and adaptation. Following are summaries of the key findings for each of these areas, with propositions for future research.

**Rhetoric, Structure, and Activities**

**Summary of findings.** With regard to institutional rhetoric’s facilitating adaptation, the fundamental finding of this study was that rhetoric enacts institutional identity interpretation and reconciliation of identity with image, in particular. President Wilson presented an image to the University community, as well as to external stakeholders, through his mantra. Participants at each campus then sought to reconcile this image with respective campus’s identity—at UMass Amherst, the identity of being the public flagship; at UMass Medical, the identity of conducting world-class bench research while at the same time connecting it to clinical practice and reaching out to make connections with the community; and at UMass Lowell, the identity of being a place where education and research were focused on practical matters. This finding is consistent with the Gioia and Thomas (1996) study in which university leadership enacted sensemaking using rhetorical means.

Participants also discussed institutional structure and organization as part of the University’s adaptation, and a key finding here was that a shift to collaborative models was important, which further required organizational scaffolding. Importantly, participants did not describe such scaffolding as assigning responsibility through positions, titles, or departments as much as coordinating mechanisms to help connections happen across disparate disciplines, departments, and functions. Participants described how, through effective coordination, boundaries could be spanned, interests could be linked and aligned, and trust could be developed. Lawrence and Lorsch (1967) advised
that differentiation and integration are important to determining how an organization addresses complex tasks. This finding suggests that it is indeed important to understand the workings of differentiation and integration in order to understand structural and organizational shifts that happen as part of adaptation to an economically engaged institutional orientation.

The third area explored with participants as part of seeking an understanding of the process of adaptation was the specific set of activities campuses were undertaking, or activities that participants felt were necessary, to facilitate adaptation. An important finding here was that campuses emphasized activities at different ends of the economic engagement logic model (inputs–processes–outputs–outcomes). UMass Amherst and UMass Medical participants emphasized the need for activities at the inputs or processes end of the logic model. UMass Amherst participants focused on the need for institutional planning and organizational scaffolding for economic engagement. UMass Medical participants concentrated on the need for priority setting by leadership. Planning, scaffolding, and priority setting can all be categorized as inputs or processes of economic engagement efforts. Defining outcomes—the organizational activity emphasized by UMass Lowell participants—on the other hand, suggests a focus on the other end of the logic model. UMass Lowell participants were suggesting that in undertaking economic engagement, the campus was beginning with the ultimate goals in mind. While it might be that planning and priority setting are other ways of beginning with goals, the expression of important activities by participants made it clear the goals were most important, not the planning. This finding raises more questions than it answers, but
provides an opportunity to examine how different campuses and campus identities relate to views of economic engagement activities.

**Propositions for further research.** Related to the findings summarized above, I present three propositions for further research. Undertaking research to examine the veracity of these propositions would enhance our understanding of university adaptation to economic engagement.

**Proposition 1a. The extent to which a university’s image and identity include practical purposes affects the ease with which the institution adapts to an economic engagement orientation.** The three campuses examined as part of this study presented a range of emphases in institutional identity and image. On one end was the public flagship, UMass Amherst, where identity was interpreted through the institution’s world-class research activity. In the middle was UMass Medical, an institution that emphasized world-class research equally with its applied purposes in clinical practice and community development. Finally, UMass Lowell tilted in the direction of practicality—emphasizing a concrete, hands-on education and applied research program. In this study, I did not attempt to assess whether one identity or image orientation facilitated adaptation more than another. It was clear that institutional identity played a significant role in adaptation, however, and further research could build on these findings by exploring whether a particular identity focus makes for easier adaptation.

**Proposition 1b. Depending on the ways in which the economic engagement task is distributed and differentiated across the university, different integration mechanisms form.** The key finding related to organizational structure was that coordinating mechanisms—encouraging boundary spanning, linking interests across disciplines and
with economic engagement goals, and trust-building—were more significant to participants than assigning economic engagement responsibility through positions, titles, or subunits. This finding suggests that integration is important with regard to economic engagement, but the mechanisms for integration might be very different depending on how university leadership has differentiated the economic engagement task or distributed responsibility for this task across campus. Further research could examine the ways in which the economic development function is distributed and differentiated and the integration mechanisms that tend to align with different approaches.

**Proposition 1c. Institutional identity affects the university’s emphasis placed on inputs, processes, outputs, and outcomes.** The finding related to activities, with UMass Amherst and UMass Medical emphasizing inputs and processes and UMass Lowell emphasizing outcomes, suggests that there could be a relation between institutional identity and the kinds of activities emphasized in adaptation to economic engagement. UMass Lowell is a very practically orientated institution, with heavy emphasis on hands-on education for students, problem solving for business and industry, and applied research. I found it interesting, then, that when asked what activities were most important for adaptation to economic engagement, that participants at UMass Lowell emphasized the importance of defining intended outcomes of economic engagement. This approach itself seems to imply a view of economic engagement as problem solving—beginning with the intended change. Further research could illuminate whether there is indeed a relation between identity and activities emphasis. This relation would be important to understand because it could help universities and their regional stakeholders emphasize
parts of the logic model that they may be less inclined to emphasize because of institutional identity.

**Connections and Linkages**

**Summary of findings.** Participant interviews were examined for the kinds of connections and linkages identified as necessary for institutional adaptation to economic engagement. In Chapter 6, I discussed cross-case findings in terms of “stability linkages”—those that facilitate integration through rational structures and connections—and “flexibility linkages”—those that facilitate differentiation through open structural connections with less specificity and more ambiguity.

With regard to structural/organizational linkages, an important finding of this study is that linkages should emphasize relationship building and development of trust. This task requires both flexibility linkages, which emphasize bringing people together and establishing trust, as well as stability linkages, which focus scaffolding relationship development (for example, establishment of a central industry contact database so that multiple university participants could see others’ contact activity with the same company). All of the stability linkages identified could be construed as supportive of the flexibility linkages, so overall the emphasis of linkages in the structural domain was on relationship building and trust development.

A key finding with regard to intention-action linkages is that institutional identity was an important facilitator of translating intentions into action. The analysis in Chapter 6 presented institutional identity narrative as a key flexibility intention-action linkage because it provides a starting point for a campus’s charge, but also allows for open-ended translation of that charge into action.
An important finding about process-outcomes linkages is similar to findings about institutional structure and organization described in the previous section and the finding above related structural/organizational linkages. Participants reported regularly that connections could be made between university processes and outcomes only if linkages were established to help build relationships and foster trust. In the Chapter 6 analysis, these connections were categorized as flexibility process-outcomes linkages. Participants also identified stability linkages—identifying priorities and intended outcomes—but these were again in support of the flexibility linkages.

**Propositions for further research.** In the realm of connections and linkages in the Intramural EEI, I include here three propositions for further research. Establishing research questions and undertaking studies related to these propositions could help to better understand how economic engagement can be undertaken across loosely coupled university components.

*Proposition 2a. Stability linkages provide support for more indeterminate flexibility linkages.* Orton and Weick (1990) were clear that loose coupling means that different dynamics in the organization support both the distinctiveness of organizational parts and the responsiveness overall of the organization. The findings of this dissertation study suggest that a primary purpose that stabilizing connections might serve is to provide the freedom required to create flexibility linkages. Stability linkages such as clear priorities or articulated outcomes were what allowed for the more indeterminate flexibility linkages such as relationship building. Further research would be required to better define the relation between stability and flexibility linkages.
Proposition 2b. Institutional identity allows for distinctiveness of approaches to economic engagement. Intuitively, institutional identity would constitute a stabilizing force in universities that are undertaking economic engagement. In this study, identity appeared instead to be a kind of flexibility linkage, allowing for broad interpretation and thereby distinctiveness of responses and activities undertaken in the name of economic engagement. This study pairs identity with image, in the vein of Gioia and Thomas (1996), in consideration of sensemaking. Further research could pair image and identity in the kind of loose-coupling framework used for analysis in Chapter 6 of this dissertation, examining the proposition that image provides for stability while identity provides for flexibility (or vice versa).

Proposition 2c. Social capital is central to building any connections of connections. The idea that trust and relationship development were important emerged multiple times in this study’s findings. Although participants did not use the phrase “social capital” to describe the necessity of creating connections between and among participants in university economic engagement, definitions of social capital are salient to the kinds of activities described by research participants as important. Further research could build on a conceptual framework grounded in social capital theory and empirical studies and examine whether and how social capital development is underway in university economic engagement interfaces.

Recommendations for Future Research Design

As discussed in Chapter 1, little literature exists on what happens inside the university as the institution adapts to an economic engagement orientation. In this study, I attempted to examine more closely such adaptation activities by focusing on the
Intramural EEI—a phenomenon hypothesized in the study’s conceptual framework. I mentioned earlier, however, that it was frequently difficult for participants to distinguish between dynamics happening inside the institution and those that were related to how the institution engages with external stakeholders. The conceptual framework for this study should be expanded, building on the Chatterton and Goddard (2000) framework presented in Chapter 2 (pp. 14–15), to include an Intermediate EEI and an Extramural EEI. Future research should be designed either to look across all of these interfaces or with better mechanisms for separating the interface that is the subject of analysis. This recommendation applies to any future research related to economic engagement interfaces. Other specific suggestions for additional studies follow.

**Recommendations**

**Recommendation 1: Include more data types.** This study relied on participant interviews alone. Future research should include, where possible, other qualitative data types such as documents (university promotional materials, written communications, speeches) and observations of key meetings or events. Quantitative data such as budget allocations, performance metrics, and Likert scale survey responses could complement qualitative data or, depending on the research questions, provide the entirety of the data for a study.

**Recommendation 2: Focus on different aspects of economic engagement and different types of university contributions to the economy.** As part of the analysis in Chapter 6, I presented a typology of university outputs related to economic development. Drucker and Goldstein (2007), citing Goldstein et al. (1995), suggested the typology of eight different categories of university contributions to the economy. A simpler taxonomy
from the APLU (2014) categorizes contributions as talent, innovation, or place. Whatever typology or taxonomy is used, future research should consider examining economic engagement in the context of specific kinds of contributions, and perhaps comparing economic engagement across different types. Future research could also focus on testing the validity of such typologies or developing new ones.

**Recommendation 3: Include institutions across sectors in research designs.**

This study focused on three different campuses of a public university system, including the campus originally established as the land-grant agricultural college in the state. While interesting comparisons can be made across these campus types (urban versus rural, comprehensive versus medical focus, etc.), future research should also examine economic engagement across different institutional types—public and private, community colleges, regional comprehensive universities, liberal arts colleges, and research universities. Further research can make new comparisons by building different institutional types into the research design.

**Recommendation 4: Use a program, department, or initiative as the unit of analysis.** This multiple case study dissertation examined three cases, with a campus-level unit of analysis. Participant interviews included many mentions of specific programs or activities—the Massachusetts Medical Device Development Center (M2D2), the Springfield partnership, incubators, and many more. Future research designs might focus on a more in-depth look at specific program or activity or compare multiple programs and activities. A lower-level unit of analysis is likely to reveal different dynamics or provide a more detailed look at some of the dynamics described in this study.
Recommendation 5: Engage faculty members and students. Research participants in this study included only administrators and staff members at the three UMass campuses, as well as others in state policy roles. While some of the administrators and staff members with whom I spoke may have had teaching roles as well, I did not speak with full-time faculty members. Nor did I talk with students. It would be especially important to include faculty members and students in research that follows recommendation #2 and looks in particular at education and training programs, as well as in research that follows recommendation #4 and focuses on a particular department, program, or initiative. Faculty members and students are central to the university’s role in economic engagement. While this study emphasized administrative leadership because I adopted an institution-wide perspective on economic engagement, lower-level units of analysis would benefit from the inclusion of students and faculty members as participants.

Recommendation 6: Examine other types of loose coupling. As noted by Weick (1976) and Orton and Weick (1990), there is a variety of loose coupling types beyond those that this study emphasized (structural/organizational, intention-action, and process-outcomes). For example, Orton and Weick (1990) described loose coupling between “organizations and environments” (p. 208). Examining the loose coupling between the university and its environment would be particularly salient to a study that follows the broad research design recommendation included in the introductory paragraph to this section—to look across economic engagement interfaces, including intramural, intermediate, and extramural. Loose coupling between interfaces could be examined. Future research designs could also look at loose coupling among hierarchical
levels (Weick, 1976; Orton & Weick, 1990), such as administration and faculty members or between university missions of teaching, research, and service.

Recommendation 7: Examine the relationship between university economic engagement and state economic development policy or between federal and state science and technology policy. This study included interviews with state policy actors. The scope of the research design did now allow for in-depth analysis, however, regarding the relationship between state policy and university economic engagement. As discussed above, examining other types of loose coupling, including that between the university and its environment, could lead also to examining loose coupling between policy and practice. However, future research designs examining the relationship between policy and practice need not focus on loose coupling. A myriad of research designs could explore such relationships, including analyses of the diffusion of university-engaged economic development policy innovation, which could be paired with an analysis of the diffusion of innovations in economic engagement practice.

Recommendation 8: Use social network analysis methods to explore the development of relationships and social capital across economic engagement interfaces. Given the emergence of the importance of relationship development, collaboration, and collective responsibility for economic engagement outcomes in this study, future research designs should be aimed at better understanding how relationships develop and how collaboration happens. As suggested earlier, theories related to social capital can be helpful here, and methods from the burgeoning area of social network analysis could also be useful. By showing centrality of individuals or subunits in
economic engagement efforts, or delineating weak ties from strong ones, social network analysis could provide important insights into how economic engagement happens.

**Implications for Institutional Practices and Policy**

As an exploratory study, this dissertation is best able to inform future research. Research on university economic engagement must, however, seek to improve policy and practice. While the findings of this qualitative study cannot be generalized to the broader population of public research universities, I include here some recommendations for administrators and staff members at the University of Massachusetts and the three UMass campuses that were the focus of this study—UMass Amherst, UMass Medical, and UMass Lowell. Other institutions of higher education may find that these recommendations can inform their work.

**Recommendation 1: Undertake an effort to make explicit a shared understanding of the economic engagement enterprise at each campus and at the system level, including definitions.** Each campus and the system office should gather participants in economic engagement efforts to conduct an institutional or system self-study. Such a self-study should aim to establish a comprehensive picture of what activities are included in the institution’s definition of economic engagement. Definitions for economic engagement and different types of activities within that broad domain should be articulated, and connections should be made between these definitions and the institution’s identity and image, as participants understand these. The APLU and its Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP) can provide guidance here. The APLU CICEP Innovation and Economic Prosperity
University designation program requires a self-study designed to create an explicit snapshot of a university’s economic engagement.

**Recommendation 2: Include activities across the span of talent, innovation, and place in definition of economic engagement.** Again following APLU’s lead, institutions should consider the many different kinds of contributions they make to economic development, including not only innovation and entrepreneurship, but also education and workforce development (talent) and social, cultural, and community development (place) (APLU, 2014). An institution’s own taxonomy or typology of economic engagement activities might have different categories, perhaps following the Goldstein et al. (1995) typology, or developing one unique to the institution. Having some sort of categorization of economic engagement activities will support better definition of this activity, providing direction for establishing appropriate connections between and among individuals and subunits.

**Recommendation 3: Campuses should develop their own economic engagement narrative related to the overall system message and/or economic development narratives in the state.** This study has shown that the way in which an economically engaged image is interpreted is connected to institutional identity. Since different campuses within a system likely exist in very different contexts and settings and have different identities, it is important that each campus develop its own economic engagement narrative. Individual campus narratives should align, however, with the images portrayed by system level and state policy actors.

**Recommendation 4: Mechanisms for coordinating should be emphasized over mechanisms for centralizing.** The organizational and structural findings of this
study suggest that although participants see a need for some scaffolding of economic engagement efforts, including bridging across campuses and across subunits within each campus, mechanisms that attempt to centralize responsibility for economic engagement are not as helpful. In cases where participants mentioned centralized responsibility for economic engagement—the Economic Development unit at the System Office, for example—they also asserted that the primary benefits of such centralizing were signaling the importance of the activity, providing a bridging mechanism between individuals or subunits, or both signaling and bridging. “Respecting the loose coupling” is important in considering how economic engagement efforts take shape.

**Conclusion**

In this exploratory dissertation study, I have sought to understand how a public research university has adapted to expectations that it be economically engaged. I have theorized the existence of an Intramural EEI, linking activities across institutional missions. By examining the rhetoric, structure, and activities that are part of the institution’s adaptation efforts, and by identifying types of connections and linkages that are important to adaptation, I have attempted to describe the phenomena that comprise the Intramural EEI.

Key findings of this research effort help to provide a sense of the most significant characteristics of the Intramural EEI. These findings suggest that institutional identity is an important arbiter of adaptation, framing all aspects of the Intramural EEI. They also suggest that connections aimed at stabilizing organizational efforts must be balanced with connections that seek to provide flexibility, and that the overall development of
relationships and trust building is central to economic engagement initiatives. Research and practice that build on this study should consider these findings.

I have established some propositions toward which further research might be aimed, and I have suggested some considerations for future research design. Propositions detailed above encourage researchers who are exploring this topic further to consider more specifically how identity plays a role in adaptation, and to consider mechanisms for differentiation and integration in adaptation. The propositions also suggest that future research examine how the need for both stability and flexibility affects economic engagement efforts, and in particular how these complementary needs affect the development of social capital within and across economic engagement interfaces.

In general, future research should consider the intermediate and extramural economic engagement interfaces as well as the Intramural EEI. Future research should diversify the subjects and settings of research to include different types of institutions of higher education, multiple economic contribution types, and units of analysis at different levels including specific program or initiatives. Studies should be designed to include more types of data and more diverse participant roles, including faculty and students. Future research designs should look at other types of loose coupling and in particular aim to better understand linkages between public policy and institutional policy and practice. Other research methodologies should be employed, and social network analysis might be a particularly promising way to explore the relationship development that emerged as such an important factor in this study.

The University of Massachusetts campuses in Amherst, Worcester (the Medical campus), and Lowell have ventured into indeterminate territory in making sense of
economic engagement, and in creating a support environment for adaptation to this institutional image. The campuses might consider following the recommendations listed above as they further work to define economic engagement and align the organization with shared definitions. Leaders and other participants on each campus will most certainly develop their own strategies and techniques for undertaking the work of economic engagement. “The path to social and economic development of the State of Massachusetts” may, as Jack Wilson has claimed, run “through the University of Massachusetts.” While the path runs through all of UMass’s campuses, everything about it—the scenery, the surface, the signage, and the twists and turns—likely changes as it passes through each. Each campus will continue to build its portion of the path in its own style, based on its own identity, its own commitments, and its own community. In this way, UMass efforts in economic engagement will surely benefit a diverse state with a diverse history and an uneven commitment to public higher education.
References


Retrieved from
http://scholarworks.umb.edu/cgi/viewcontent.cgi?article=1386&context=nejpp


The Lowell Sun. (1895, June 18). *It has been stated at various times that were are to have a textile school….* Retrieved from http://www.newspapers.com


Appendix A
Introduction Email to UMass Chancellors from UMass System President Jack Wilson

UMass President Jack Wilson sent the following email to the chancellors at the UMass Amherst, Medical, and Lowell campuses on February 15, 2011.

From: Wilson, Jack [jwilson@umassp.edu]
Sent: Tuesday, February 15, 2011 4:05 PM
To: Robert C. Holub; Meehan, Martin; Collins, Michael F., MD
Cc: Williams, Marcellette (Pres Office); Kelly, Susan (Pres Office); O'Sullivan, Virginia (Pres Office); Brancato, Jeff (Pres Office); Dognazzi, Patricia (Pres Office)
Subject: Permission for Penn State Ph.D. candidate to conduct research on campus

Colleagues,

Ph.D. candidate at Penn State University, Jim Woodall, has approached my office to seek permission to conduct research on your respective campuses towards a dissertation prospectively titled: “Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context”. The work is focused on public research universities’ efforts to be “economically engaged” in their regions and states, especially around technology-based economic development efforts.

Mr. Woodall would like to focus on Massachusetts and your respective campuses because: MA is home to one of the most well-known high-tech industry clusters in the world; UMass operates in one of the most highly competitive higher ed markets in the U.S. and the world; state economic development policy, since at least the times of the “Massachusetts Miracle,” has sought to cast MA postsecondary institutions in a significant role in economic development efforts. Mr. Woodall’s research is very well aligned with the work that APLU’s Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP) is undertaking. In fact, he is working closely with Bob Samors at APLU on some additional research related to those efforts. Mr. Woodall has already applied for exempt status with Penn State IRB and will pursue UMass campus IRB procedures as soon as permission has been granted to conduct research on each campus.

Mr. Woodall envisions the research to take the form of comparative case studies and embedded units of analysis (Three UMass campuses, embedded within UMass system, embedded within MA state policy). Data collection will include interviews and document analysis; interviews will include chancellors if possible, as well as campus executives involved in research, engagement activities. Initial participants will be asked to help identify documents and additional potential interview participants on each campus (snowball sampling). In terms of confidentiality, while Mr. Woodall will identify MA, UMass, and the three campuses as the embedded units of analysis in his case study, individual interview participants will not be identified by name.
Upon completion of his dissertation, Mr. Woodall will present his findings to interested UMass personnel and state policy makers/implmenters. It is his belief that the research will benefit the UMass system and state policy makers by helping to identify strategies for effectively encouraging and undertaking university-engaged economic development efforts.

Please notify my office and Sr. Vice President Marcellette Williams if you are receptive to Mr. Woodall’s request.

Thank you,

Jack

Jack M. Wilson, Ph.D.
President
The University of Massachusetts
225 Franklin St
Boston, MA 02110
Appendix B
Recruitment Letter: Commonwealth of Massachusetts Participants

Dear ________.

I am recruiting participants for my dissertation study, “Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context.” My research includes case studies of the University of Massachusetts and the higher education and economic development policy context in the Commonwealth. The University of Massachusetts President’s Office, UMass Amherst, UMass Lowell, and UMass Medical are all participating.

I am writing to you to invite you to participate in my study. In addition to interviewing UMass personnel, my goal is to interview staff within the Commonwealth’s higher education and economic development agencies with direct experience in UMass or other higher education initiatives related to economic engagement in the Commonwealth. I hope to gain a more complete understanding of how public research universities adapt in order to engage in technology-based economic development (TBED) efforts, and in particular institutional adaptation as manifested in rhetoric, organizational structure, and specific activities or initiatives. You have been identified as a potential participant because of your role as ____________________________.

Participation in my study includes one hour-long interview to be conducted sometime in June, 2011. I will also ask you to review the summary of the interview that I write to help me make sure that I’ve characterized your perspective correctly.

This research has received an exempt determination by the Office of Research Protections at The Pennsylvania State University (protocol ID: 35873) and I would be happy to provide a copy of the exempt application for your information or records. All information gathered from participants during the study will be confidential and I will protect the identity of all study participants in all written and oral reports on the research.

I hope you will agree to participate in this study as I believe I can learn much from you about this topic. I will follow up my invitation with a phone call in the next few days, but please do not hesitate to contact me by phone (814.414.3249) or e-mail (jkw168@psu.edu) in the meantime should you have questions or want to discuss further your interest in participating in my research.

All the best,

James K. Woodell
Ph.D. Candidate in Higher Education
Penn State University
**Title of Study:** Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context

**Principal Investigator:** James K. Woodell  
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**Dissertation Co-Chairs:** Dr. Robert Hendrickson, Professor of Education  
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Cheslock: 814.865.9739 | jjc36@psu.edu
Appendix C
Recruitment Letter: UMass System Participants

Dear ________.

My name is Jim Woodell, and I am a Ph.D. candidate in the Higher Education Program at The Pennsylvania State University. I am recruiting administrator and faculty participants for my dissertation study, “Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context” and the UMass President’s Office has agreed to serve as a site for this research effort. I am writing to you to invite you to participate in my study.

My goal is to interview administrators and faculty members with direct experience in UMass initiatives related to economic engagement. I hope to gain a more complete understanding of how public research universities adapt in order to engage in technology-based economic development (TBED) efforts, and in particular institutional adaptation as manifested in rhetoric, organizational structure, and specific activities or initiatives.

You have been identified as a potential participant because of your role as __________. Participation in my study includes one hour-long interview to be conducted sometime in March, April, or May 2011. I will also ask you to review the summary of the interview that I write to help me make sure that I’ve characterized your perspective correctly.

This research has received an exempt determination by the Office of Research Protections at The Pennsylvania State University (protocol ID: 35873) and I would be happy to provide a copy of the exempt application for your information or records. All information gathered from participants during the study will be confidential and I will protect the identity of all study participants in all written and oral reports on the research.

I hope you will agree to participate in this study as I believe I can learn much from you about this topic. I will follow up my invitation with a phone call in the next few days, but please do not hesitate to contact me by phone (814.414.3249) or e-mail (jkw168@psu.edu) in the meantime should you have questions or want to discuss further your interest in participating in my research.

All the best,

James K. Woodell
Ph.D. Candidate in Higher Education
Penn State University
Title of Study: Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context

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Appendix D
Recruitment Letter: Campus Participants

Dear ________,

My name is Jim Woodell, and I am a Ph.D. candidate in the Higher Education Program at The Pennsylvania State University. I am recruiting administrator and faculty participants for my dissertation study, “Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context” and Chancellor [Name] has agreed to [Campus] serving as a site for this research effort. Also participating are the University of Massachusetts System Office, [Other Campus], and [Other Campus].

I am writing to you to invite you to participate in my study. My goal is to interview administrators and faculty members with direct experience in [Campus] initiatives related to economic engagement. I hope to gain a more complete understanding of how public research universities adapt in order to engage in technology-based economic development (TBED) efforts, and in particular institutional adaptation as manifested in rhetoric, organizational structure, and specific activities or initiatives. You have been identified as a potential participant because of your role as ____________________.

Participation in my study includes one hour-long interview to be conducted sometime in April or May 2011. I will also ask you to review the summary of the interview that I write to help me make sure that I’ve characterized your perspective correctly.

This research has received an exempt determination by the Office of Research Protections at The Pennsylvania State University (protocol ID: 35873) and I would be happy to provide a copy of the exempt application for your information or records. All information gathered from participants during the study will be confidential and I will protect the identity of all study participants in all written and oral reports on the research.

I hope you will agree to participate in this study as I believe I can learn much from you about this topic. I will follow up my invitation with a phone call in the next few days, but please do not hesitate to contact me by phone (814.414.3249) or e-mail (jkw168@psu.edu) in the meantime should you have questions or want to discuss further your interest in participating in my research.

All the best,

James K. Woodell
Ph.D. Candidate in Higher Education
Penn State University
**Title of Study:** Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context

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Title of Study: Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context

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Cheslock: 814.865.9739 | jjc36@psu.edu

1. Purposes of the Study: The purpose of this study is to describe how public research universities adapt for “economic engagement”—particularly participation in technology-based economic development (TBED) efforts. Specifically, the within-university organizational mechanisms of rhetoric, organizational structure, and specific programs or initiatives will be explored.

2. Procedures to be followed: Participation in this study involves one, hour-long individual interview that will be digitally recorded for the purposes of data analysis. You will be asked interview questions about your perceptions regarding the university’s efforts in economic engagement.

3. Benefits: This study can benefit university administrators and faculty as well as state-level personnel, including policy makers, by helping to identify strategies for effectively encouraging and undertaking university-engaged economic development efforts. You might benefit through reflection on practices and consideration of what has worked or not in undertaking economic engagement initiatives. You might better understand the ways in which organizational and other strategies support efforts by the university to be economically engaged.

4. Duration of Interviews: The interview will last approximately 60 minutes and will be digitally audio-recorded. Recordings will be destroyed by September 1, 2014.

   (a) All recordings will be stored in the principal investigator’s password-protected computer in password-protected files.
   (b) Only the principal investigator, James K. Woodell, and his Dissertation Co-Chairs, Dr. Robert Hendrickson and Dr. John Cheslock, will have access to the recordings.
   (c) Recordings will be transcribed by the principal investigator or a professional transcriptionist.

___ I authorize the researcher to AUDIO tape my interviews.
___ I do not authorize the researcher to AUDIO tape my interviews.

5. **Statement of Confidentiality:** Your participation in this research is confidential. The data will be stored and secured in either a locked cabinet at the principal investigator’s home office or on his password-protected personal laptop computer in a password-protected file. In the event of a publication or presentation resulting from the research, personally identifiable information will not be shared unless you provide specific permission below. You will be able to review transcripts of your interview as well as a final summary of your participation in this study; you may make changes to the authorizations below after reviewing these materials, as well as at any other time during your participation in this study.

You will be assigned a pseudonym that disguises your real identity. All transcripts and subsequent coding, written description, analysis, and publications will use this assigned pseudonym.

Please choose between the following:

___ I authorize the researcher to directly quote portions of my interviews in publications/presentations (I understand that my name will not be used with quotations).

___ I do not authorize the researcher to directly quote portions of my interviews in publications/presentations (I understand that my name will not be used with quotations).

Please choose between the following:

___ I authorize the researcher to identify my academic or administrative department in his writing.

___ I do not authorize the researcher to identify my academic or administrative department in his writing.

6. **Right to Ask Questions:** Please contact James K. Woodell at 814.414.3249 with questions, complaints, or concerns about this research.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You may stop at any time. You do not have to answer any questions that you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to consent to take part in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below. Signing this form below acknowledges that you read and understand the information in this form and consent to take part in this research project. You will receive a copy of this form for your records and future reference.

Many thanks for your time and participation!

**Participant:** __________________________

**Participant Signature:** __________________________  Date: __________________________
Researcher: James K. Woodell

Researcher Signature: ___________________________  Date: _________________
Appendix F
Participant Interview Guide

Participant # _____ Interview
Pseudonym: __________

Thank you for your time today.

As you know, I am interested in how public research universities undertake economic engagement—that is, how they participate explicitly in efforts to improve the local, regional, national or even global economy. In particular I am interested in science- and technology-based economic development activities, like the Green High Performance Computing Lab in Holyoke, or the new center for innovation and entrepreneurship at UMass Lowell—in general, efforts that are centered around the potential regional or state economic outcomes of UMass research in science and technology.

First, I am interested in understanding what kinds of changes happen at public research universities around economic engagement. In particular, I’m interested in three kinds of changes—changes in how the university communicates economic efforts; changes in organizational structure—departments, reporting lines, and such; and finally programmatic changes—new programs or initiatives or changes in existing ones.

Second, I am interested your view on how economic engagement efforts relate to different kinds of interactions, connections, and linkages within the institution.

Do you have any questions for me before I proceed with the interview?

1. Many of my questions have to do with changes that have occurred at the university, and it will help to establish some parameters. When I say “the university.” I’m talking about system-wide as well as at each campus. I’m assuming that as we talk you’ll be reflecting primarily on activity at the UMass __________ campus. Please let me know whenever you’re talking more about the system more generally, or if you are familiar with activities on another campus, when you are referring to one of them.
   a. What time period will you be speaking to—that is, how long have you been at the university, in your current role and other roles that have given you a sense of the university’s economic engagement efforts?

2. What does “economic engagement,” or university participation in economic development, mean to you?

3. Could you describe for me, during your experience at UMass, how the university as described its role in economic development? I am particularly interested in whether you feel there have been changes in this and how these changes have occurred.

4. Next could you describe how the university’s organizational structure might have changed or adapted to its engagement in economic development activities? Again, I’m interested in your thoughts about how any changes you perceive have occurred.
5. How about changes in specific programs or initiatives central to the university’s economic engagement efforts? What changes have there been and how have they come about?

In this next part of the interview, I’d like to talk about connections that exist within the university—across the system and also within this campus. Let me preface this by saying that the organizational literature on universities notes that there are both loose connections and strong ones within universities, and that there are both advantages and disadvantages to either loosely connected or strongly connected organizations. So first I’d like to talk generally about connections within the university, and then explore three kinds of connections in particular.

6. When I say “connections,” I mean linkages or interaction at the university, between and among people, certainly, but also across institutional purposes, or across programmatic activities. In particular, I’m interested in connections in three areas: first, between the research mission of the university and the engagement or outreach mission; next, between academic disciplines; and/or between faculty and administrators.

Speaking generally, how would you describe the connections within UMass? (Prompt with specifics on connections related to economic engagement activity, if necessary.)

Now I’d like to talk about different kinds of connections, and specifically within the context of the university’s economic engagement efforts.

7. The first kind of connection I’d like to talk about is organizational. How would you describe the linkages or interactions between people or organizational units that have a role in the university’s efforts to be economically engaged? And why would you say that the connections are as you describe?

8. The next kind of connection I’d like to talk about is that between intention and action. I’m interested in knowing how the connection is made between what the university says its intentions are with regard to economic engagement and what the university does to address economic development? How does intention get translated to action and what are the necessary connections?

9. Finally, I’d like to talk about connections in terms of university efforts and economic outcomes in the region or state. For this question, note that I am not trying to measure the extent to which there have been outcomes, or the level of impact. Rather, I am trying to get a sense of how a connection is made between the university’s efforts and what is happening economically in the state. How do the university’s economic engagement efforts get translated to economic outcomes in the community or the state?

10. Is there anything I haven’t asked you about the university’s economic engagement efforts that you’d like to address?

11. Are there any reports, prospectus documents, or other items that address some of the initiatives we’ve talked about, or other UMass economic engagement efforts, that you recommend I read?
Appendix G
Participant Summary Check Email

Dear ________,

Thank you for meeting with me on _____________ to discuss your perspectives on UMass's economic engagement efforts.

As promised, I am sharing with you the text of our conversation (attached). This is simply a cleaned up version of the interview transcript (taking out repeated words, and phrases like "you know"). Please note that the attached text does not necessarily reflect content that will be included in the dissertation, and also keep in mind that your identity will be masked in any reference to our conversation, including direct quotations and paraphrases.

I invite you to review the text and to modify, correct, or omit any of the content that you feel needs to be clarified or removed. If I do not hear from you by _____________ I will assume you have approved the text.

Remember that I will be in touch with you again in a few months to provide for your review the sections of my dissertation in which you are quoted, paraphrased, or otherwise depicted. When I contact you with the dissertation content, I will ask you to confirm that I have accurately represented you and your perspectives as well as whether you are comfortable with the degree to which I have masked your identity.

I am grateful for the time that you provided me for participation in my study, and your willingness to share your perspectives with me. My study will certainly benefit from your participation.

Best,
Jim

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Principal Investigator: James K. Woodell
Penn State University
Higher Education Program
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Appendix H
Participant Member Check Email

Dear ____________.

Thank you again for participating in my dissertation study on university economic engagement at UMass. I interviewed you during the summer of 2011. I am now in the final stages of editing and will defend my dissertation later this summer.

As promised, I have attached for your review the sections of my dissertation in which you are quoted, paraphrased, or otherwise depicted. I have assigned you the pseudonym "_________" and included those paragraphs of the dissertation in which you are quoted or depicted. You are not identified by your given name in the final draft; I have used your pseudonym when writing about you.

Please let me know if I have accurately represented you and your experiences, as well as whether you are comfortable with the degree to which I have masked your identity.

You may provide any comments in a reply e-mail or as comments (e.g., via Microsoft Word’s “Track Changes” feature) in the document itself. If replying in the body of an email, please refer to page and line numbers in the attached document. I can also be reached by phone at 617-501-3823 if you would like to discuss the text.

If I do not hear from you by ____________ I will assume you have approved the language included in the attached.

Thank you again for your participation and assistance. I am very excited to have reached this point in the research and I am very grateful to individuals like you who made this work possible.

Best,
-Jim

**Title of Study:** Public Research Universities and Economic Engagement: Key Factors in the University Response to a ‘New Economy’ Policy Context

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Appendix I
Supplemental Historical Perspectives

The following was drafted as the first section of Chapter 4 of this dissertation. The historical information I ultimately included in Chapter 4 was significantly abbreviated from what follows. This Appendix comprises the complete history as originally written, for readers with a particular interest in this aspect of my research.

Context: Historical Perspectives on the Massachusetts Economy and the University of Massachusetts

Shortly after the Massachusetts Bay Colony was established in 1630, Massachusetts became home to the first institution of higher education in the United States. Harvard University was founded in 1636, and to this day the Commonwealth of Massachusetts is home to many of the country’s—indeed, the world’s—finest colleges and universities. Public higher education is a newer phenomenon in the country, and in Massachusetts, it was 1839 before a public institution of higher education was established. This institution was a normal school—the first public normal school in the United States—and Massachusetts became one of the leaders of the normal school movement. From these early origins to today the Commonwealth has continued to be a higher education axis in the U.S.

Massachusetts is also one of a few epicenters of the knowledge economy. The Route 128 corridor crawling up the western side of Boston is frequently listed, with Silicon Valley and Research Triangle Park, as one of the key examples of how research feeds development of high technology industry clusters. The development of the Route 128 corridor began with an increased demand for consumer technology products in the
1970s, but had roots in post-war research spending by the federal government, and the relationships among universities and industrial firms in the region (Saxenian, 1996). To understand how the University of Massachusetts fits into both these domains—the context of higher education in the state and the growth of the knowledge economy, it is helpful to review the economic history of the state, which has contributed to shaping the higher education landscape.

**Economic History of Massachusetts**

The Massachusetts economy has always relied upon the intellectual and practical ingenuity of its people. Beginning with fur trading then farming in the early years of the Massachusetts Bay Colony, and up through the creation of the high tech economy in the late 20th century, industry and commerce have been shaped as much by the collective intellect as by natural resources. Agriculture was briefly a significant segment of the economy, but this quickly gave way to manufacturing and Massachusetts became a leader of the industrial economy. The way in which immigration affected the economy—through the creation of a largely pluralistic society—is an example of the way in which the economic weal is tied to the collective intellect. When the state later became a leader of the nationwide transition to the new “knowledge economy,” with high technology at its center, it was the intellectual resources of the state that fomented the transition. Massachusetts has been subject to its share of boom and bust cycles as have national and global economies, changing the context of this intellectual ingenuity.

**From Fur Trading to Farming**

When Harvard (“New College”) was founded in 1636 by Puritan settlers, the goal was to develop the workforce of what could be considered a core “industry” of the
time—religion. Harvard’s purpose was to establish a learned clergy for the Puritan settlers (Morison, 1986). Other industries, of the business and wealth creation type, were less connected to the fledgling College, but they were the beginnings of the Massachusetts economy in a way that Puritanism was not. The Puritans had escaped religious persecution in England, but their emigration was also partly inspired by economic conditions. An economic malaise in the country in the early part of the seventeenth century fomented their restlessness. Farming provided sustenance during the early years of the Massachusetts Bay Colony, but there were no profits to share with the merchant company that had sponsored their journey from England. Out of the necessity to get out from under their London creditors, the colony became a corporation with debts to pay their debts (Brown & Tager, 2000). They developed trade in order to pay the debts. With the help of the Wampanoag Indians, the Pilgrims were able to trade furs, fish, and corn throughout the northern coast of the colonies. Farming, shipbuilding, and shipping replaced trading as central to the economy of Massachusetts by the end of the seventeenth century. The economic development that occurred during this time contributed to the beginning of pluralism among the people of the Massachusetts Bay Colony, and a wave of religious revivals that swept through the colony in the first half of the eighteenth century further contributed to the diversity rather than return the population to a single orthodoxy (Brown & Tager, 2000).

The middle of the eighteenth century brought the French and Indian War, which provided a boost to the Massachusetts economy through contracts for supplies. But the colony’s support for the crown during the war was not rewarded with ongoing economic growth. After the war, imperial policy turned toward increased trade regulation and taxes
to raise revenue and help Britain with its economic recovery. From these economic policies rose the tensions that built over the next two decades and ignited the Revolutionary War (Brown and Tager, 2000; Wood, 1993).

During and after the War for Independence, the Massachusetts economy continued to evolve. The war years created economic division. Some regions of the colony were better able to supply the troops with crops, and the farmers in these areas were enriched by the rise in prices, increasing profits. For other farmers, breaking even was all they could hope for, given rising costs. Some merchants also fared better than others—the ones with the right connections to nodes in the supply network, or to military leaders, prospered during the war while others were limited by inflation and taxation. After the war, the divisions that had been created intensified into general discontent with the policies of the newly independent state (Brown & Tager, 2000). The farmers in the western and central parts of Massachusetts felt that the commercially oriented leaders in the eastern part of the state were out of sync with their needs and eventually mounted the Shays Rebellion in Springfield. The merchant political leadership in the state maintained its dominance, however, and the failure of the farmers to achieve their goals through the Shays Rebellion was an indicator of what was to become of agriculture as part of the Massachusetts economy.

Agriculture Gives Way to Manufacturing

Prosperity grew in the later decades of the eighteenth century. Farmers and merchants alike benefited from recovered access to trade markets nearby in the Atlantic and to new trade opportunities across Europe and in other parts of the world. This was a time, though, of a shift away from agriculture toward more commercial and industrial
mainstays for the economy of the commonwealth. By 1800 agriculture was giving way to manufacturing as the primary employment vehicle for the burgeoning population, and over-the-ocean commerce began to wane as well (Brown & Tager, 2000). This economic shift to manufacturing happened across the state—not just on the eastern coast, but in the central and western parts of the state as well. Inland, almost all households were still engaged in some level of farming, but many also participated in cottage industry production of textiles and other goods. The economy survived the impacts of the Embargo Act, prohibiting trade with Europe, and of the War of 1812. Another contributing factor to this change was that by the late eighteenth century, agriculture was already waning because of a lack of productive land—farms had been worked for decades without much thought for replenishment of the soil (Brown & Tager, 2000). In the early decades of the nineteenth century, as the Industrial Revolution took hold, the shift toward manufacturing was complete.

Mills, metalworking forges, and leather goods factories sprung up throughout Massachusetts and an industrial class grew up along with them. The leaders of this emerging industrial elite created a climate of beliefs and attitudes that centered on economic demands (Brown & Tager, 2000). The rise of this ethos was accompanied by an intellectual boom, focusing on the advancement of humanitarian reforms, including voting rights, women’s rights, and the abolition of slavery. As the nation headed into the Civil War, such altruistic stances stood alongside “Christian Capitalism” and other ways of thinking driven by self-interest (Brown & Tager, 2000).

In the rubble of the Civil War, it was the self-interested disposition that was left standing. Competition was the name of the game, and manufacturing drove economic
growth in the Gilded Age of the latter decades of the nineteenth century (Brown & Tager, 2000; Mills, 1956). During this time, immigration to the United States swelled, and the population of Massachusetts became increasingly Irish, Italian, German, and even eastern European, French Canadian, Syrian, and Portuguese. The state became increasingly urban as factory towns and cities instantly sprung from nothing. These trends marked the advancement of a pluralistic turn in Massachusetts society. However, the dominant ethos of self-interest and competition meant that pluralism would not emerge without resistance. “Restrictionists” advocated for constraints on immigration and voting rights (Brown & Tager, 2000). In the early years of the twentieth century, though, pluralism became dominant, partly as an outgrowth of the pragmatist view catalyzed by industrial growth in Massachusetts and throughout the United States.

**Boom to Bust, to Boom and Bust Again**

The Massachusetts economy continued to thrive in the first two decades of the 20th century, but in the years following the Great War the rapid growth of industrialization and urbanization turned toward collapse. The industries that had made the commonwealth strong faced the mounting pressure of low-wage competition in the South. Even before the onset of the Great Depression, the state lost more than 150,000 manufacturing jobs. As the depression settled in, the people of Massachusetts—and in particular Boston—were among the hardest hit in the nation. The depression stirred up ethnic strife, and also contributed to the formation of contemporary Massachusetts politics, which became a source of commonality in the midst of unrest among diverse populations (Brown & Tager, 2000).
As had the Great War before it, World War II brought a temporary pause to the hemorrhaging of manufacturing, but the second world war was to have a much more profound impact by introducing an entirely new economic base for the state. Like the total transformation of the Massachusetts economy from agrarian to manufacturing earlier at the turn of the 19th century, the post-war years in the middle of the twentieth century saw a metamorphosis to high technology research and development. The U.S. government’s wartime policies on contracting and weapons R&D utterly transformed the Massachusetts economy to one heavily based on high tech and collaboration among government, universities, and business (Brown, 2000; Geiger, 2004b). The strong labor pool in Massachusetts, including low-cost skilled as well as semi-skilled workers, helped the commonwealth to capitalize on the postwar shifts in the economy. Government-funded research at Massachusetts universities played a critical role by indirectly supporting the emergence and growth of the high tech industries. From the end of the Second World War through the 1960s, the new industries kept the Massachusetts economy humming.

Nationwide recessions in the U.S. economy—first in 1970 and again in 1973 – 75, meant busts for Massachusetts following the long post World War II boom. For thirty years, the Massachusetts economy would then ebb and flow through periods of great difficulty alternating with prosperity. After struggling through the 70’s, the commonwealth’s economy picked up steam again in the early 1980’s as the Cold War was re-emphasized, resulting in increased defense spending, and as inflation decreased. Service industries became an increasingly significant portion of the state’s economy, and once again the availability of a ready labor pool helped the state to ride the wave of new
industry opportunity. Throughout the 1980s, Massachusetts maintained an unemployment rate well below the national average (Brown & Tager, 2000). The “Massachusetts Miracle”\(^{18}\) economy was attributed largely to the success of the high tech sector, and in particular to those companies residing along the Route 128 corridor, an area of growth for high tech industries, frequently mentioned alongside Silicon Valley. Yet another bust arrived in 1990 when the federal government cut defense spending again. The cost-cutting approach of Republican Governor William Weld, who served as the state’s chief executive until 1997, did not revive state’s economy in the last decade of the twentieth century.

**The Millennial Economy**

The twenty-first century has thus far seen Massachusetts once again reinventing itself economically. The dot-com bubble of the late 1990s and early 2000s likely spurred much of the renewed economic imagination as the Massachusetts business community sought to move beyond reliance on national defense spending and apply high tech know-how to emerging consumer demands. The reinvention included other industries, too, however. Massachusetts has become a leader in financial services and healthcare, for example, and the Massachusetts biotechnology industry is ranked among the top agglomerations of biotech firms, frequently mentioned as second only to California in descriptions of biotechnology clusters (see, for example, DeVol, Wong, Ki, Bedroussian, & Koepp, 2004). Massachusetts has suffered along with the rest of the nation through the

\(^{18}\) “Massachusetts Miracle” is the phrase widely used to describe the dramatic recovery of the state’s economy in the 1980’s. Governor Michael Dukakis frequently claimed credit for the recovery during his run for president in 1988, though Reagan’s corporate tax cuts, along with endogenous cluster growth, were more likely a cause than any state policy (Hogarty, 2002).
economic downturn that began in 2008. It has maintained, however, an unemployment rate consistently lower than the national average. According to the New England Council’s Massachusetts Economic Outlook prepared in May of 2013, the commonwealth should continue, into 2017, a period of growth that began in 2009.

Summary

The economic history of Massachusetts provides insight into UMass’s place in advancing the common good in the state. Several key themes are important to attend to as we consider its role in the state. As described above, the Massachusetts economy moved quickly away from agriculture and shifted to manufacturing, providing the state a chance to play a much bigger larger and more diverse role in the growing nation’s economy than an exclusively farming economy alone would have done. But what could this shift mean for a new college focused on agriculture? Boom and bust cycles have characterized the state’s economy, and this also has implications for the development of UMass—it would be come difficult for the university to get much attention from the state, its primary benefactor, while the state was busy riding an economic rollercoaster. The mix of pluralism and self-interest that marks the Commonwealth’s historical economic development also relates to the historical development of the university. The mix created a special brand of politics in Massachusetts and one artifact has pitted private higher education and elitism against democratic views of broad access. UMass has struggled to find its identity while sitting in the crucible of this amalgam of views. In summarizing some of the key elements of the economic history of Massachusetts, I have established a conceptual lens through which to view some of the key issues in the evolution of the University of Massachusetts. In the next section, I provide details on this evolution.
History of the University of Massachusetts

Two major themes are part of the chronicle of the University of Massachusetts. One is the reality that UMass has rarely had an opportunity to advance through endogenous effort. External forces have played an overwhelming role in the development of the institution, and often these forces have served to limit such development. Second, the university has rarely been on firm ground where its purposes and identity have been concerned. Even when the leaders of UMass have had a clear idea about what the institution’s role should be, and a common understanding of its character, such clarity has often bumped up against differing public or political beliefs. The history of the University of Massachusetts has been a struggle with these forces of control and identity.

Masters of UMass Destiny

The leaders of the University of Massachusetts, throughout the history of the institution, have not been the sole masters of its destiny. Leaders of public institutions are, of course, never alone in making the decisions that affect the growth and advancement of those institutions. But UMass has faced particularly pernicious control by external actors. Political and bureaucratic forces have often limited the development of the institution. These limitations have not only been the general restrictions faced by most state-run organizations (for instance, across-the-board budget cuts, or shifts in ideology), but have also been active, targeted attacks on the university, frequently in the form of questioning why the university should even exist. The robust private higher education sector has also limited UMass’s development. Again, this has not always been passive. Competition would be expected in a state with such a strong presence of many private colleges and universities. However, the private institutions of higher education in
Massachusetts, throughout the history of UMass, have not just competed, but have in fact actively sought to limit the availability of high quality, broad access public university education. With both the state government and its sister institutions in the private higher education sector frequently working against it, UMass has had to fight for its independent identity, for a place at the table, and indeed for its very existence.

**Difficult Relations with the State.** One theme that arises when looking back over the history of the University of Massachusetts is an ongoing refrain of difficult relations between the institution and the state. The source of this contentious relationship can be traced back to Massachusetts’s colonial days, but is also linked to broad and complex issues of state support for public higher education, a question that dates to the origin of higher education in Massachusetts and indeed in the nation. Massachusetts governing bodies were accustomed to influencing higher education from the commonwealth’s earliest days when the Mass Bay Colony was involved in the founding of Harvard College in 1636. The institution was established with mixed public and private governance, including a number of seats reserved on the Board of Overseers for elected officials (Freeland, 1992; Morison, 1986). Funding for Harvard was provided both by the colony and by private supporters (Freeland, 1992; Geiger, 2005).

These practices were similar for the other colleges established during the Reformation—Yale in Connecticut and William and Mary in Virginia. After the Revolutionary War, fully public institutions of higher education began to emerge but funding for these colleges was inconsistent, even though in a number of states, including Massachusetts, state officials served on boards of trustees (Geiger, 2005). The push to clarify public and private control for colleges came to a head in the early part of the
nineteenth century and a Supreme Court case involving Dartmouth College\textsuperscript{19} finally made it clear that the state could not impose control on the private corporations that were the organizational entity for many of these Reformation, Colonial, and Republican colleges\textsuperscript{20} (Geiger, 2005). Following this decision, many of the colleges throughout the eastern part of the country became fully private (Geiger, 2005). A pattern had been established, however, that provides insight into the later relationship between the Massachusetts government and the state university. The state had become used to having control of higher education, but not providing consistent support for it.

\textit{A Public College for Massachusetts.} Massachusetts Agricultural College (M.A.C.) was founded in 1862. The federal Morrill Act instigated the establishment of the college in Massachusetts. As early as 1825, agricultural boosters in the state had called for an agricultural college (Sorber, 2011), and attempts were made at securing state support for such a college for the next 30 years. The Morrill Act finally gave weight to the idea, and after some political battling over location and whether the college should be a new institution or part of the already agriculturally-focused Amherst college, Massachusetts Agricultural College was born.

Nationally, state support for these new land-grant institutions was minimal (Geiger & Sorber, 2013; Lucas, 2006). In Massachusetts, state support would become an issue in the latter part of the nineteenth century, to the point of the near shuttering of the

\textsuperscript{19} In \textit{Trustees of Dartmouth College v. Woodward}, the Supreme Court decided in 1819 that the sanctity of the college’s private charter was paramount, disallowing the New Hampshire state legislature from taking control of the college after a contentious deposition of the president by the college’s trustees.

\textsuperscript{20} Geiger (2005) uses these terms to delineate early periods of the history of U.S. institutions of higher education.
Agricultural College. The college had been established with the state’s expectation that the independently organized institution would be self-supporting after federal funds were disbursed (Freeland, 1992). Low enrollments throughout the college’s first two decades put it in financial danger, but thanks to campaigning by agriculture booster Herbert Myrick and the New England Homestead journal (for which Myrick served as editor), the state committed to an annual appropriation (Sorber, 2011) putting the institution on much more stable footing. Later, in 1918, state support became state control and the benefits of funding were accompanied by disadvantages of increasingly obtrusive oversight, as noted in a history of Massachusetts Higher Education written by Richard Freeland, now Commissioner of Higher Education for the Commonwealth of Massachusetts:

A constitutional amendment in 1918 resolved ambiguities in M.A.C.’s status and brought it clearly under government control. Shortly thereafter, the college was made a subunit of the Massachusetts education bureaucracy. This change so limited institutional initiative that [President] Butterfield resigned, and the college sank into a period of stagnation. (Freeland, 1992, p. 29)

That the Massachusetts Agricultural College did not have a more stable relationship with the government of the Commonwealth from its beginning contributed to meager development in its infancy (Freeland, 1992), and later interventions may have set a precedent for control-support dynamics for decades to come.

**Growth Without Support, Mid-20th Century.** The institution’s thorny association with the state was further displayed during the years between the onset of the Great Depression and the end of the Great War—a period that Freeland calls “The Long Pause.” While the state in 1931 had approved a change in the college’s name to
Massachusetts State College, along with a concomitant expansion of curriculum to include liberal arts, the chief battle of the late 1930’s and early 1940’s would become an effort to garner university status. The General Court of Massachusetts (the state legislature)\(^{21}\) was likely distracted by the war getting underway in Europe, and there were a number of political factors working against the motion for a University of Massachusetts. Still, a lack of solid relations between the state and the college was a contributor to this latest curb on public higher education (Freeland, 1992).

The period Geiger (2005) calls the Academic Revolution (1945–1975) provided further evidence of a disconnect between the state university and the state government. The state legislature finally approved university status for the college in 1947, in anticipation of an escalation in the demand for postsecondary opportunities (Freeland, 1992). But to fully develop, the university would need to get out from under the thumb of state controls. Shortly after assuming the office of President of the University of Massachusetts in 1954, Jean Mather began a campaign to release the university from the administrative bonds of the state legislature and bureaucracy. Mather’s “Freedom Bill” passed in 1956 but by then Mather had raised the ire of much of the state’s bureaucracy and the General Court.\(^{22}\) The university continued to run into roadblocks when attempting to exercise the autonomy provided it in the Freedom Bill legislation. Until his

\(^{21}\) The Massachusetts legislature is identified as the General Court of Massachusetts in the state’s constitution, an artifact of the beginnings of the state in the Massachusetts Bay Colony, when the legislative body also served as a judicial court of appeals.

\(^{22}\) Mather famously remarked in a speech, referring to the state bureaucrats in charge of UMass control, that their “knowledge of higher education could crowd a cufflink.” The remark was reported in the press as referring to the state legislature (Freeland, 1992).
retirement in 1960, Mather continued to spar with the state government, and state policy actors’ resentment against him limited state backing for the university (Freeland, 1992).

**Short-Lived Support.** In a dramatic reversal in the 1960’s, the state provided a tremendous amount of support for the university, part of a larger expansion of public higher education in the state, including development of community colleges and upgrading of the state’s teacher colleges and technical schools. As a result, the 1960’s were a period of significant growth for the institution—both in terms of enrollments and the institution’s mission and reach (UMass Medical School was located in Worcester and built during this decade, and the plan for UMass Boston was approved in 1969). State support for the university, however, turned out to be temporary.

New acrimony blossomed between university leadership and state policy makers and implementers in the 1970’s, and such difficulties persisted for at least 30 years. State and national economic troubles were often) the driver of initial divisiveness. The University of Massachusetts was now a three-campus system, and multiple levels of rancorous relationships soon emerged. Leadership at UMass Amherst grew nervous about a multi-campus university and what that would mean in terms of competition for resources and prestige. The presidency of the UMass System at this point became the focal point for political and public scrutiny, and the presidency did not fare well for most of the next 30 years.

During the latter decades of the 20th century, the historically challenging relationship between the state and UMass continued but finally started to improve just before the turn of the millennium. During this time there were open battles between the Massachusetts governor and the UMass president (mainly over the size of the university’s budget), many
proposals for restructuring public higher education governance, and a few attempts at it, a Commission on the Future of the University of Massachusetts convened by the Board of Trustees to point out the failures of state governance and to recommend improvements, and a boom and bust economy that made for a constantly changing and uncertain appropriations environment. Further details of the relationship between the state and university are provided in a later section (“Precarious Institutional Values”). Here, it is sufficient to say that during this time it was largely more of the same pattern of uncertainty that had attended UMass from its earliest days.

**Dominance of Private Institutions.** Another decisive element has proven persistent throughout the history of higher education in Massachusetts, and has played a significant role in the development of UMass and its fortunes. Since the founding of Harvard in 1636, despite the public role in the origins of that institution and other independent colleges that came after it, the story of Massachusetts higher education has largely been a story of private colleges and universities. The private institutions in the state, today numbering around 90, include both elite and non-elite institutions—three times the number of public institutions. Beyond sheer numbers, however, these private institutions have historically overshadowed public higher education in the Commonwealth.

**Utilitarian and Classical Curricula.** Before the Morrill Act of 1862, twenty-four institutions of higher education were founded in Massachusetts. Four of these were public institutions—normal schools established during the 1820’s amid rising concern about the quality of grade school teachers. Between the Morrill Act and the Great Depression, another 70 institutions were founded, 10 of which were public institutions. These publics,
which included the Massachusetts Agricultural College (1862), a Naval training school (Massachusetts Nautical Training School established in 1891), three textiles schools (Lowell Textile School, New Bedford Textile School and Bradford Durfee Textile School, all founded in 1895), and three normal schools (Worcester Normal School, founded in 1874, and Lowell Normal School and State Normal School, both founded in 1894), were utilitarian in focus.

Nationally, this trend toward public higher education as utilitarian was not unusual, though some publicly-supported institutions established in the early part of the nineteenth century (and before)—notably in Virginia, North Carolina, South Carolina, and Georgia—did emphasize classical curricula rather than professional and utilitarian subjects. In Massachusetts, the private colleges emphasized a curriculum built on the classics and, increasingly, science while the publics emphasized utility. This would lead to another kind of dominance for the privates—institutional prestige—and soon social differences among citizens of the Commonwealth would be connected to prestige because of the classical versus utilitarian curricula offered at these institutions (Freeland, 1992; Geiger, 2000).

The classical/utilitarian contrast in institutional purposes could have served as fuel for the flame of a fiercely competitive dynamic among colleges and universities in Massachusetts, and might even have encouraged a growth and strengthening of public higher education. However, despite the rapid, competition-driven expansion of public higher education throughout other regions of the United States in the post-bellum years of the nineteenth century, the story of higher education in Massachusetts did not unfold in this way to any great extent. Although historians have offered a number of explanations
for this, Freeland (1992) notes that limited growth was due, at least in part, to the fact that the independent sector in Massachusetts higher education mounted active resistance to state support for public higher education. As noted above, Harvard had been supported in part by the state since its founding, and other private institutions successfully followed Harvard in efforts to gain state support (Freeland, 1992).

**Resistance to Public Higher Education.** Private institutions accustomed to benefitting from state funds would naturally resist re-direction of that money to public higher education. Resistance continued into the early twentieth century, when, in 1922, a commission appointed by the General Court (and chaired by Boston University president Lemuel Murlin) found a great need for additional postsecondary capacity in the state, but recommended *against* support for a tax-funded university advocating instead to expand capacity at private institutions. This was in the existing context of feeble state support that was the norm for all of the land-grants during the most of the second half of the nineteenth century (Geiger, 2000; Lucas, 2006), and during this era private philanthropy was much more significant than public funding in fueling what Geiger calls the “New Departures” (Geiger, 2005, p. 53) generation of American higher education.

Massachusetts Agricultural College was not unique among public institutions in having to scrape by on meager contributions from the state, but it did face a uniquely competitive environment in which privates, including the oldest higher education institution in the nation, were actively seeking to keep state money from funding public higher education. The college was doomed to deficient advancement.

Over the years, this domination by private institutions became even more of a norm, extending issues beyond funding. When, in the 1920’s, both external supporters of
M.A.C. and the college itself sought designation as Massachusetts State College (or even university status, as some were pushing for), M.A.C. encountered the same resistance by private institutions to the college’s advancement that had happened years earlier. The designation was finally granted in 1931.

**Faith in the Private Sector.** Even after World War II, an era that appeared to be, at last, the arrival of Massachusetts public higher education’s moment, leaders of the private institutions’ interests dominated. In establishing a committee of college presidents to address the need for expanded public higher education to deal with post-War increase in college enrollment, Governor Maurice Tobin appointed a committee absolutely dominated by private institutions—in addition to M.S.C.’s President Hugh Baker, committee members included president James Bryant Conant of Harvard (who served as chair) and the presidents of Boston University, Boston College, M.I.T., Northeastern, Tufts, Williams College, and Worcester Polytechnic Institute.

Resistance by the private institutions reared its ugly head again in the 1960’s, as discussions were underway to establish a Boston campus of the University of Massachusetts. President Knowles of Northeastern was angered by the discussion, having believed there to be an understanding among members of the Willis-Harrington Commission (created by the state legislature in 1962—forty years after the commission chaired by Lemuel Murlin was convened—to review education needs in the Commonwealth) that no public institution of higher education would be established in the Boston area in the near term (Freeland, 1992). Similarly, private medical colleges were up in arms as the plans developed to build a medical school for the University of Massachusetts in Worcester (Freeland, 1992). Toward the end of this decade of
expansion for UMass, in 1967, the private universities organized, forming the Association of Independent Colleges and Universities in Massachusetts (AICUM) to influence public policy in support of private higher education (and, implicitly, to check the role of public higher education). While the 1960’s were a time of unprecedented growth for UMass, resistance from the institution’s peers in the private sector continued.

In the late 1980’s, the UMass Board of Trustees convened the Commission on the Future of the University (known as the Saxon Commission, after commission chair David Saxon). The Commission’s report repeatedly points to the state’s “fundamental faith in the private sector” (Commission on the Future of the University, 1989, p. 4) as a limiting factor in growing public higher education in the state. Barrow (1991) notes that this dynamic is unique—“it is worth noting that only in Massachusetts has the existence of prestigious private institutions ever been used as a policy rationale for underfunding public higher education” (p. 94). Tandberg and Anderson (2011) note, “Even non-elite private higher education has enjoyed a comparative advantage over public higher education” (p. 572). The fact that private institutions of higher education have historically dominated the state’s postsecondary landscape is clear. What is also clear is that this hegemony has shaped the University of Massachusetts and relevant public policy.

**Summary.** The University of Massachusetts has had to struggle for even a modicum of control over its own destiny. External forces have been particularly active in the state in keeping the university from advancing its goals. These forces comprise mainly the state government, including the legislature and the bureaucracy, and also the private higher education sector in the state. The question of whether public higher education in the Commonwealth of Massachusetts is even necessary, given the strong private
institutions in the state, has been on the tongues of the institution’s stakeholders, including the public, throughout its history. The question, and the assertion of it by various actors, has often limited growth of UMass, and has affected the institution’s ability to establish a clear role and purpose in Massachusetts.

**No Firm Ground**

In addition to battling the state government and the private higher education sector, the University of Massachusetts has historically had internally focused battles (though often driven by external forces). These struggles have been over purpose and institutional values. The classical/utilitarian divide, discussed earlier, has been a theme throughout the history of American higher education, and discord and debate about this divide have contributed to challenges faced by UMass to gain prestige and at the same time demonstrate its relevance and to be a beacon of access. Identity questions are part of a larger set of institutional values—including identity and also organizational culture and norms—and the extent to which the security of these values has fluctuated has also presented a challenge. Throughout the history of the University of Massachusetts, instability has been a central theme in terms of both institutional purpose and the precariousness of institutional values.

**Instability of Purpose and Identity.** First, I examine the instability of purpose and identity. Describing this as a struggle between prestige and access is an oversimplification, but interest by university leaders in both of these of ends has frequently confused the means. Questions about what kinds of curriculum to offer and whom to admit to the institution were perennial at UMass, and answers to these questions varied widely over time, leading to fluctuation in purpose and identity.
A Steadfast Focus on Agriculture. Massachusetts Agricultural College was established in 1862, during a time of shifting aims of American higher education. In the decades just before its founding, the 1840’s and 50’s, the wide-scale growth that colleges had experienced in the prior two decades hit a slump. During that period of economic unease, the pre-professional, classical focus of most colleges was not in demand. However, northeast colleges in particular maintained this classical liberal education focus, serving the small market interested in this kind of education. Partly in response to the declining interest in the classical curriculum, the 1850’s brought what Geiger calls a period of “new departures” (Geiger, 2005, p. 51) for American higher education.

Among those new departures would be the land-grant colleges, like Massachusetts Agricultural College. Although they were inspired by a decidedly utilitarian purpose—to bring education to the agricultural and industrial classes—the land-grant colleges were also designed to unite the classical curriculum under the same roof with more useful subjects, bringing the professional and working classes together as well. Later, all land-grant universities would struggle with these cross-purposes, but M.A.C. location and local context increased the challenges. M.A.C. was a fish out of water from the outset, with purposes very different from those of the other colleges in the Commonwealth, and not immune to the broad challenges that all land-grants struggled against (Geiger, 2000; Geiger & Sorber, 2013).

It is worth remembering that the land-grant movement nationally was not an immediate success in the decades after 1862. In fact, throughout the nation, the land-grant colleges struggled to gain traction. As Geiger puts it, “Reformers simply misjudged the
nexus between farming and advanced education” (Geiger, 2005, p. 52). Lucas (2006) observes:

> Whereas land-grant colleges certainly may have been important for other reasons prior to the 1890s, their contributions to the nation’s economic development during the third quarter of the nineteenth century were apt to be more indirect or fortuitous than has been commonly supposed. (p. 157)

For M.A.C., this reality was even more poignant and challenging. In Massachusetts, the seemingly misdirected agricultural aim of the land-grant mission was coupled with the fact that agriculture had become a much less significant part of the state’s economy, and the portion of the land-grant mission (one-third of the grant) focused on the more prominent part of the economy—industry and the “mechanical arts”—had been assigned to M.I.T. Students from farming backgrounds (mostly from large wealthy farms) did enroll, though few of them followed agricultural pursuits after graduation (Sorber, 2011). Still, largely because of boosterism on the part of the Grange movement, M.A.C. held to the vision of an agricultural focus.\(^{23}\)

At the end of the nineteenth century, with the passage of the second Morrill Act in 1890, agricultural colleges began to come into their own. Federal funding that came with this law gave land-grant institutions a leg to stand on while institutional purposes worked toward a better match with public demand. Around 1890, interest rose in the mechanical and industrial purposes of these institutions. During this decade, three industrially

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\(^{23}\) See Sorber (2011) for a detailed discussion of the role of the Grange and other agricultural boosters in the formation of the Massachusetts Agricultural College.
focused public institutions were established in Massachusetts, all aimed at preparing workers and leaders for the burgeoning textiles industry. In the repeat of a familiar pattern, however, M.A.C., continuing its focus on agriculture, did not reap benefits of the public appeal of these kinds of programs. At the turn of the century, engineering programs were coming to identify other land-grant colleges. M.A.C., however, did not offer such programs (as already noted, M.I.T. was the steward of the engineering element of the land-grant mission in Massachusetts). Although some M.A.C. courses and departments began to focus on engineering in the early years of the twentieth century, it would not be until after World War II, when the institution became the University of Massachusetts that a college of engineering was added. During a time when land-grant colleges were overcoming their challenging infancy and youth, M.A.C.’s narrow focus held it back.

**Becoming a University.** During the first three decades of the twentieth century, issues of purpose and identity became even more central to Massachusetts Agricultural College, which by 1931 would be called Massachusetts State College. Class differences in the state began to fuel battles for social acceptance, which led to interest in academic prestige for institutions serving even families of modest means (Freeland, 1992). Institutions like M.A.C. moved toward curricula that looked like those of the academically more prestigious institutions. For its part, M.A.C., then M.S.C., determined that it would not be held back by holding steadfast to a focus on agriculture and instead began to expand its mission by responding positively to student demands for a liberal arts

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24 As mentioned in an earlier section, these were Lowell Textile School, New Bedford Textile School and Bradford Durfee Textile School, all founded in 1895.
Almost immediately after being renamed Massachusetts State College, institutional leaders began to push for designation as the University of Massachusetts. It was not enough to have a liberal arts curriculum—prestige could only come from adopting the identity of the emerging American research university. The complete adoption of this identity would be a long time coming for the institution, but the goals of what had been Massachusetts Agricultural College became much more ambitious during the first few decades of the twentieth century.

At least in name, the institution became a university shortly after the end of World War II. One would expect that the identity of the University of Massachusetts would be quite different from that of Massachusetts State College. Indeed, the Massachusetts legislature had these expectations and appeared to have very high hopes for the institution. Fueled by a growing public interest in higher education after the war, the General Court not only passed the name change but also appropriated funds for new buildings, including a home for engineering. The university’s trustees did their part by authorizing large increases in enrollment and approving an expansion of the faculty. Ralph A. Van Meter assumed the presidency of the institution in the same year that it became the University of Massachusetts (1947), and then oversaw significant expansion of the curriculum including the establishment of schools of Business Administration, Engineering, and Home Economics, a number of new undergraduate programs (most significantly in the Arts and Sciences), and a reorganization of the graduate school which by the end of Van Meter’s presidency would include over thirty graduate programs. In terms of curriculum, the institution did appear to be taking seriously its emerging identity as a research university. Freeland (1992) encourages us to put these changes in context.
He notes that during this time public universities in the West were establishing schools of law and medicine and enrolling ten thousand and more students. While not as advanced as the western land-grants, the University of Massachusetts was taking much greater strides than it had in the course of its ninety year history in modernizing curriculum and establishing itself as a research institution.

**Access as Identity.** Another important aspect of the institution’s identity came to light during this period. An expectation of public universities is that they are beacons of access, insuring that students who might not be able to afford, or be accepted at, more elite institutions are provided the opportunity of a college education. While Van Meter was interested in removing the income barrier to a higher education, he was more interested in maintaining high standards and selectivity than in providing broad access and expanding the rolls. Freeland (1992) suggests that Van Meter’s conservative approach with regard to expansion was influenced by the institution’s troubled relationship with the state—he feared that growth on the part of the university might not enjoy support in the legislature over the long term. The institution’s identity as a small, discerning university, though, could not likely be sustained in the face of public and political interest in an institution that would guarantee educational opportunity for the commonwealth’s youth.

Van Meter’s successor, Jean Paul Mather, while known more for his antagonistic relationship with the state government, continued to sharpen the institution’s identity as a selective university. He was interested in growth, but enjoyed the benefits of keeping growth on a slow track. The institution maintained its selective quality, and the interests of faculty and others who resisted rapid expansion were satisfied. On the curriculum
front, Mather deemphasized the agricultural part of the institution’s mission and focused on graduate education and research activities. Still, at the end of the 1950’s and Mather’s presidency, the reality of the institution’s identity did not match the image that these presidents’ and their faculty were trying to create. Agriculture was still the university’s academic forte, while social sciences, humanities and professional programs remained underdeveloped. The reach of the university was limited to the western part of the state while Boston’s youth looked upon the institution as a “hick school” (Freeland, 1992, p. 314). Freeland, quoting Jencks and Riesman, underscores the less-than-cohesive sense of identity and purpose at the time: “Up to the present, the University of Massachusetts has not had to decide what its particular educational mission is, since it can continue to battle against the indifference of the public and the undercover jealousy of private competitors” (p. 315).

Identity and image continued to be central preoccupations during the 1960’s and 1970’s. The 60’s were a period of tremendous expansion for the university, with enrollments more than tripling and the physical plant of the institution adding over forty new buildings and facilities. President John W. Lederle oversaw this expansion which realized part of his somewhat contrary vision—a vision that included a commitment to broadly expanding access to the university and at the same time launching the institution’s academic position to a level on par with the finest and most elite private universities. Even with a great expansion in enrollments, however, the institution’s admissions became increasingly selective. Expansion of research and graduate programs happened in tandem with the growing undergraduate rolls. The democratic and elite portions of Lederle’s hopes for UMass could not, in the end, both prevail. Though many
more undergraduate students were enrolled in UMass by the end of the decade, the campus identity was by this time much more focused on the institution’s standing in research and academics, rather than enrollment growth, and selectivity as a concern overwhelmed the importance of access.

**Growth, Complicating Identity.** Beyond the growth in Amherst, the University of Massachusetts also expanded geographically during the 1960s. On the one hand, the addition of two new campuses—UMass Boston and the UMass Medical School in Worcester—would seem to have the possibility of alleviating the pressure on the flagship campus to meet the competing demands of access and prestige. A Boston campus could focus on broader access and the creation of a medical school could help build the reputation of the university’s research enterprise. UMass Boston did indeed enroll students that Amherst would have turned away, bringing a more egalitarian streak to the University’s overall admissions. Oddly, however, the curriculum devised by the founding faculty of the Boston institution was modeled after that of a small, liberal arts college rather than a comprehensive regional university. The UMass Medical School was a feather in the cap of the system’s graduate education and research, but with the state’s decision to locate the medical campus in Worcester it would be harder for the flagship campus in Amherst to claim the prestige. As will be explored in the next section, both the Boston campus and the Medical School became very different places, culturally, from the Amherst campus, and they would quickly become separate administratively as well.

While having two additional campuses could help UMass straddle its elite and democratic visions for growth, the geographic expansion seemed instead to complicate the purpose and identity questions.
In the 1980’s, the Commission on the Future of the University, established by the UMass Board of Trustees, weighed in on the question of purpose. The Saxon Commission asserted that the commonwealth needed a strong system of public higher education to support the economic and social welfare of its citizens. In making this assertion, the commission’s report, “Learning to Lead: Building a World-Class Public University in Massachusetts,” noted in the same breath the importance of such an institution to creating a workforce for the new economy and also to creating new knowledge. While the emphasis of the report is clearly on the workforce and egalitarian aspects of economic and social development, it may have been the first time that a utilitarian role and one that emphasized more the academic and research prestige of the university were united in one statement of purpose. The report recommended that two more campuses be added to the University of Massachusetts, by placing the existing University of Lowell and Southeastern Massachusetts University (institutions that had grown from the three textile institutions established in 1895) under the UMass system, and that the system be unified under a single board of trustees, separate from the governing body for Massachusetts state colleges and community colleges. The recommendations of the Saxon Commission were adopted, and as the case study analysis included in this dissertation describes, this move served as a first stake in the ground that would bring clarity of purpose to the university during the 1990s and into the new century.

**The Public Service Mission and Identity.** Much of the preceding discussion has focused on alternating emphases on undergraduate teaching, graduate programs and research, and the extent to which these focused on practical outcomes or simply the
pursuit of knowledge. The struggle for clear identity and purpose at UMass, and at most universities, does revolve around these issues. The third part of the tripartite mission of the university, however—the “service” in “teaching, research, and service”—is also historically important and of particular salience to this dissertation. Many land-grant and other public universities have a “home” for this mission—a division or office of “outreach” or “engagement.” UMass Amherst closed its Outreach division a few years before this research was undertaken. Prior to that, public service had varying levels of prominence for the university. Robert Wood, the first president of the three-campus UMass System, emphasized the importance of focusing on public service and even reducing the prominence of graduate research and classical undergraduate programs in favor of service (Freeland, 1992). Commissions on higher education in the 60s and 70s (the same period during which Wood was appointed), however, were critical of the public service role of universities (Freeland, 1992). Earlier in the twentieth century, the President’s Commission on Higher Education (known as the Zook Commission) advocated for a “social” role for universities, at nearly the same time another group, the Commission on Financing Higher Education (also known as the Rockefeller Commission), was critical of universities stepping beyond their core missions of teaching and research. Though the literature is not clear on the impact that these commissions had on “public service” as part of UMass’s identity, the debates raised by their reports no doubt affected conversations about mission and purpose at UMass. In the end, the UMass perspective on public service is central to its current identity as an institution focused on economic betterment of the commonwealth, as will be explored in subsequent chapters.
Precarious Institutional Values. Burton Clark (1956), in describing the adaptation of adult education in California, discusses the ways in which an organization's values might be “precarious” or “secure” depending on three factors: 1) the extent to which values are defined, 2) the legitimacy of the organization's functionaries (“those chiefly responsible for the ‘active implementation’ of institutions”) (p. 328), and 3) the extent to which institutional values are acceptable to the organization’s stakeholders. As discussed in the previous section, the definition of UMass’s institutional values, as embodied in its mission and purpose, has for much of the institution’s history been not well defined. Historically, the legitimacy of UMass leaders—in particular the university’s president—has risen and fallen along with economic boom and bust cycles, shifting political winds, and national trends in public support for higher education. A related issue has been the extent to which UMass’s institutional values have been acceptable to stakeholders. This has also oscillated, and was a factor in the presidencies of the organization. Fluctuation between secure and (more often) precarious institutional values has been, along with inconstancy of purpose, a source of instability for UMass.

Asserting Relevance, Maintaining Identity. During the first four decades of Massachusetts Agricultural College, a mission focused on agriculture defined the institution, as suggested by its name. The sole focus on an agricultural mission would, in fact, define the institution’s identity for a long while even after it adopted a broader purpose. During these years in the second half of the nineteenth century, the UMass propensity to precarious values was born. Considering this history through Burton’s

25 Clark used the phrase “host population” rather than “stakeholder,” but meant essentially the same thing—those who are involved in and could be affected by the institution, and whom the institution relies on for support.
criteria for precarious values, it’s fair to say that institutional values could not be called undefined during this period. If anything, the agricultural mission perhaps overly defined institutional values. Other aspects of Burton’s definition of precarious values, however, clearly applied. M.A.C.’s leaders had no legitimacy in the Massachusetts legislature, as evidenced by lack of state support for the institution for most of its first 50 years. The values as defined within the narrow agricultural mission were unacceptable, or at least uninteresting, to most of the institution’s stakeholders, save the agriculture boosters. M.A.C. presidents during these 40 years had little legitimacy in the state legislature, failing time and again to get a commitment of ongoing financial support from the state. The state’s economy had largely moved on from an emphasis on agriculture, making the college curriculum’s emphasis out-of-step and only minimally relevant. Lack of acceptance of M.A.C. and lack of legitimacy of its leaders kept the institution’s values largely precarious.

M.A.C.’s values, under the leadership of Kenyon Butterfield (1906–1924), became more secure. Under his leadership the definition of institutional values was expanded in such a way that the state legislature and the public became more amenable to the institution’s mission. Butterfield was not particularly interested in pushing the institution’s purposes beyond the agricultural mission—rather, he was very much interested in re-dedicating the College—and all land-grants—to agriculture. Butterfield, whose scholarly interests lay in the social sciences, envisioned a more relevant agricultural mission, to be carried out through cooperative extension, establishment of experiment stations, and the creation of a program for women. The message of relevance was well heard by the state legislature, which increased appropriations to the college.
Butterfield brought better definition to the agricultural mission, gained legitimacy, and garnered public acceptance for the institution. M.A.C.’s institutional values became more secure.

Still, a resistance to expansion beyond the agricultural mission left the institution’s values susceptible to non-acceptance by its stakeholders. Butterfield had a progressive view of how the college might carry out its agricultural mission, but he insisted on the institution's continued focus on rural and agricultural issues:

For Kenyon Butterfield's enthusiasm for things rural had partially blinded him to the realities of the industrial and urban society which was rising rapidly in Massachusetts. Although he envisioned a well-balanced curriculum that would yield a liberal education to every student, his insistence that Massachusetts Agricultural College should hew closely to the line of preparation for country life, avoiding temptation to imitate the “old line” colleges or the land-grant universities, set back the growth of the arts and social sciences for a generation. (Cary, 1962, p. 110)

The college’s values had become better able to position the institution competitively for resources, but values remained precarious. Butterfield’s experience is important in foreshadowing experiences of UMass in the past twenty years—an institution asserting its relevance to gain support but at the same time being held back by earlier conceptions of the role of the institution.

Toward the end of the Butterfield presidency, legitimacy once again waned. The legitimacy the institution had won from the state turned into an overreach on the part of the government of the Commonwealth. First, authority over the college was placed directly in the state’s hands. Soon, a state-dictated line budget appeared and usurped the
college’s autonomy in planning. Next the state government decided that college revenues would be transferred to the state budget and then only available to the institution through appropriation. Finally, in what turned out to be a last straw for Butterfield, the state asserted control over personnel decisions.

**Pressure Toward College and University Status.** For the next 22 years, external forces would continue to push on the college for change. Given the state’s complete assertion of authority over the institution, however, presidents during this time period tended to hole up and were insular. The first of these was the college’s tenth president Edward Lewis (1924–1927) whose presidency brought with it the possibility that institutional values might become more secure. His steadfast commitment to freeing the college from the bonds of state control, along with his more liberal stance toward expansion of the curriculum beyond agriculture and rural sociology, appeared to promise more secure institutional values—values that would be better defined, advanced by a leader with more legitimacy, and more accepted by the state government and the public.

However, Lewis maintained the presidency for only three years, not enough time for his efforts to take root. Roscoe Thatcher’s presidency, from 1927 until 1932, was decidedly less assertive. Thatcher made no attempt to take back authority from the state, and he walked a “safe middle course” (Cary, 1962, p. 146) with regard to whether the institution’s curriculum ought to expand into one worthy of the “state college” designation. External forces—alumni, citizens of the commonwealth’s industrial centers, and others—continued, however, to push for the state college, or even university, designation. In the end, though the president remained mostly insular, the external forces
prevailed and M.A.C. became Massachusetts State College in 1931. Institutional values remained precarious, but a tide was turning.

Hugh Baker became the eleventh president in 1932, only one year after the college had won the state college designation. In the first five years of his presidency (which would last through 1946), changes were made at the college to bring it more in line with its new designation, though more in spite of Baker than because of him. As one example, a movement continued to push for a liberal arts degree, but Baker resisted, citing “more important problems in teaching, research, and student life than those related to the liberal arts degree program” (Cary, 1962, p. 158). Still, the Board of Trustees approved the B.A. degree in 1938. Baker also initially resisted the creation of programs in engineering, despite his interest in expanding science and technology education to better prepare students for agriculture. In the end, Baker changed his mind about engineering but the department that was created was merely a clustering of existing courses in rural and civil engineering with very little by way of new instruction. By Baker’s fifth year, calls for a university designation were mounting, and Baker even stepped in to make the case for the name change, but the run-up to war had already begun and in the end distracted the legislature from the proposal for university status. The remainder of the Baker presidency focused on supporting the war effort more than making any changes.

During the Baker presidency, only limited movement was made toward institutional values becoming less precarious, but importantly these years would foreshadow future developments at UMass. The creation of the B.S. and the establishment of an engineering program certainly would help the institution better define values more in line with public demands and interests. Perhaps even more importantly, though, Baker also introduced a
narrative about the college that university leaders three quarters of a century later would echo and that would help the institution finally establish secure institutional values. Baker, who “was the first president of Massachusetts to have held a high position in industry” (Cary, 1962, p. 154) called on the college to focus on the nation’s and the commonwealth’s social and economic needs in the depression. While Justin Morrill had explicitly noted that the land-grant colleges could serve the social and economic needs of the nation, these purposes had not been so directly declared by a president of M.A.C. or M.S.C. before Baker. Butterfield had hinted at the importance of the college’s role in at least the social development of the rural parts of the commonwealth, but his call to action was obscured slightly in the academics of rural sociology and the practical, but still academic, work of cooperative extension. During the Baker presidency, the organization’s values remained precarious, though they were becoming more defined, the institution having moved toward being a state college, not simply having the name.

**Growing Into University Values.** Between 1947 and 1960, the torch of social and economic development was not to be carried by presidents Ralph Van Meter (1947 - 1954) nor Jean Mather (1954 - 1960). Better defining institutional values would be Van Meter’s primary focus, given that M.S.C. was renamed University of Massachusetts the year that he took office. His work was to transform a college administration into one befitting a university. He created a provost position, unified agriculture with horticulture and arts with sciences, and created engineering and business schools out of whole cloth. It was expected that this work, along with the name change, would advance the security of the university’s institutional values. These would be values that emphasized prestige, though there were limits to the extent to which Van Meter could pursue this definition.
Knowing that the university would still have a difficult time accessing resources, Van Meter resisted pressure to create colleges of medicine, dentistry, pharmacy, and law. These could not be sustained in an environment of little support for the institution by the state. The state still maintained significant control in the governance of the university, control that Van Meter’s successor Jean Paul Mather would fight.

Mather developed a “freedom bill” in 1956 and took it to the state house. Despite a contentious relationship with the Massachusetts legislature, Mather’s freedom bill passed and the university president was granted more authority over faculty and staff salaries. Mather also envisioned a doubling of university enrollments by the mid-1960’s and established a master building plan to prepare the campus for growth. That he was able to secure the resources to undertake a number of building projects called for in the plan, coupled with his victory with the freedom bill, speaks to his ability to win more legitimacy with the state government than his predecessors had. Between Van Meter’s work on better defining institutional values for what was now a university and Mather’s work on winning legitimacy to advance institutional values, by the end of the 1950’s, the University of Massachusetts appeared to be at last breaking out of the recurring pattern of precarious institutional values. Nearly 100 years after its founding, the naming of the commonwealth’s land-grant institution as the University of Massachusetts seemed to propel it forward and to secure the values that had been precarious for so long. The institution’s values had better definition than ever before, the leadership had more legitimacy in the statehouse, and the institution’s values were tied to a general surge in public interest around higher education.
A New Day Dawns. Thus were the stars aligned as John Lederle assumed the president’s office in 1960. Lederle was a man who understood how to talk with legislators and he quickly gained legitimacy among them. It was the beginning of a “new atmosphere of collaboration between the university and the legislature” (Freeland, 1992, p. 320). Early in his presidency, Lederle won even greater university autonomy from the state than his predecessors had, and then proceeded to oversee the university’s greatest period of growth in its history. During the 1960’s, undergraduate enrollments at UMass Amherst grew by an additional 1,250 students each new school year, from 6,000 total enrollments at the beginning of the decade to over 15,000 by 1970 (Freeland, 1992). Including graduate enrollments, the student body was over 18,000 by this time. The campus’s physical plant gained 45 new buildings, faculty salaries doubled, and the university’s instructional budget grew by 700 percent (UMass Amherst, 2013c). Graduate enrollments grew along with undergraduate, and 34 new Ph.D. programs were added to the university’s offerings (Freeland, 1992). In the 1960’s, institutional values seemed to move definitively from precarious to secure. They were better defined than they had been in the university’s history; they were being advanced by a president who seemed to have secured more legitimacy in the state legislature than any UMass president had; and with burgeoning enrollments as an indication, they were entirely acceptable to the university’s stakeholders.26

Lederle came to office with two goals that were somewhat uncomfortable bedfellows: “he wanted to enhance the role of UMass in meeting the state’s needs for educational

26 Interest in higher education in Massachusetts, and tremendous growth in enrollments, was part of a national post-war trend.
services, and he wanted to raise the standing of his institution in national academic rankings” (Freeland, 1992, p. 321). In the end, an emphasis on doctoral education and recruiting top faculty led to the institution’s admissions becoming more selective, thus winning out over the goal of expanding access. Importantly, though, Lederle knew that it was critical to communicate the importance of both scholarship and broad access to a high quality undergraduate education. He knew that the state legislature would be more responsive to the latter message than the former. Even though admissions became more selective, Lederle was largely able to communicate a commitment to access and maintain legitimacy with the state legislature and at the same time increase the university’s prestige.

**A Return to Precarious Values.** Institutional values would be significantly complicated in the 1960’s, however, and would return to a precarious position in the 1970’s. In 1965, the University of Massachusetts Boston opened its doors. The founding faculty of the campus pushed for a focus on the arts and sciences rather than professional programs, even though the broader goal was to provide educational opportunity to urban commuting students. In a mirror image of the conflicting institutional values being advocated by Lederle for Amherst, the Boston vision was of elite offerings for a democratic student body. This orientation constrained the urban campus’s growth in its first few years, and complicated the formation of institutional values for UMass overall.

Riding on the wave of public support for higher education, a second additional campus was conceived in the 1960’s and also contributed to returning institutional values to insecurity. This campus, a medical school, was established for the university in Worcester, with planning for the campus having taken place through the early and middle
1960’s. Construction began in 1969, and the first class was accepted in 1970. While a medical school was sure to raise the institution’s prestige, the establishment of the campus raised definitional challenges for the university, which at this point was trying to advance both democratic and elite goals. More importantly, perhaps, the opening of the medical campus created complexity in how the university should be governed.

In the 1970’s, the University of Massachusetts began a new struggle for legitimacy. Institutional values were made unstable again not only because two additional campuses complicated definitions of institutional purpose, but also because a new system of administration was established. The University of Massachusetts now had a system president and three campus chancellors. This meant that institutional values would need advocacy by four leaders, all of whom would need to fight to gain internal and external legitimacy. Further, each campus now struggled for legitimacy not only with government leaders and the public, but also with the system. Robert Wood, the first UMass system president, made clear that he would lead the fight at the state government level. In terms of institutional values, three campuses with distinct missions significantly complicated issues. Wood tried to advance the idea that public service was the key central theme for the entire university, in an attempt to develop a clear definition for moving forward. Part of his definition, though, was critical of emphases on graduate education and an undergraduate focus on arts and sciences—essentially calling into question the recent evolution of the Amherst and Boston campuses. After establishing a Committee on the Future of the University of Massachusetts and hearing its recommendations, Wood encouraged ambitious growth at the Worcester and Boston campuses.
Wood’s interest in advocating for UMass was doomed from the beginning of his presidency, however, and it would be impossible for him to secure the resources for his ambitious vision of growth. Any president at this time would have had a difficult time gaining legitimacy. Public support for higher education nationwide had begun to wane following widespread campus demonstrations in the 60’s, and the economy had begun to slow down significantly. Massachusetts Governor Sargent introduced a conservative budget, with only a small increase for the University of Massachusetts. Institutional values for UMass were suddenly more precarious than ever, thanks to a significantly more complex definitional challenge, lack of legitimacy for the university’s primary advocate President Wood, public skepticism about higher education, recession, and decreased state support.

Within a couple of years, the Wood presidency would be characterized largely by fierce budget battles with Governor Dukakis. Calls for large cuts to Massachusetts public higher education, often incited by the private higher education sector, and for reorganization of public higher education, became constant in the 1970’s. According to Bastedo (2005), “No less than seventeen different proposals for reorganization were made during the decade, but there was little consensus on [the public higher education governance structure’s] proper direction” (p. 52). Throughout the nation, higher education was moving into what Geiger calls a “steady state” (Geiger, 2005, p. 64), but in Massachusetts, public higher education was facing a new tumultuous and unsteady state.

**The Beginnings of Today’s UMass.** In 1978, David Knapp became UMass president and led the university through the 1980’s. According to reports in the Boston Globe during this period, it was a time of continued antagonism with the state legislature. Most
attention during this period was paid to the Massachusetts Board of Regents. A number of scandals across the public higher education system further damaged already weak public support for the sector. For a brief period, UMass enjoyed a surge in legitimacy in the mid 1980’s. The state legislature began to line up in support of the institution that had taken a beating from Governor Dukakis. The “Massachusetts Miracle”—an economic boom attributed by some to the Reagan tax cuts for corporations—led to some additional support for public higher education. But the boom quickly turned to bust and after the collapse of the economy, Knapp and his board of trustees, frustrated with overreaches by the Board of Regents, established the Commission on the Future of the University. As mentioned earlier, this commission is frequently referred to as the Saxon Commission, after former University of California Chancellor David Saxon who chaired the commission. The commission’s report called for bringing the University of Lowell and Southeastern Massachusetts University under the UMass umbrella, and creating a separate Board of Trustees for the university sector. The report helped rebuild the University’s legitimacy to some extent, but not until after Knapp departed the presidency.

That precarious values were maintained for the university in the early 1990’s might be at least partly blamed on a precarious office of the presidency. During the six-year period between the time that Knapp left the president’s office in 1990 and former Massachusetts Senate President William Bulger took over in 1996, there were four UMass presidents, two of whom were interim. William Weld became Governor of Massachusetts in 1991, the first Republican to do so in 20 years. Weld took office on the heels of a bitter decade for public higher education in Massachusetts, and in particular for statewide governance of higher education and the University of Massachusetts. Governor
Dukakis had resisted implementation of the Saxon Commission recommendations, in particular the recommendation that Southeastern Massachusetts University become part of the UMass. Dukakis’s concern was that the regional university would “lose their special identity and their special relationship to the people in the communities in their region” (Tandberg & Anderson, 2011, p. 578), and would no longer be able to play a central role in the governor’s regional economic development strategy. The Saxon report called for a strong University of Massachusetts partly for reasons of economic development, but Governor Dukakis was unconvinced. Weld, on the other hand, saw the Saxon Commission recommendations as opportunity for fixing some of the problems with public higher education in the state early in his governorship. He advanced the recommendations, eliminating the Board of Regents with almost no resistance and establishing a five-campus University of Massachusetts system. Still, after his rhetoric of “reinventing government” in the public higher education sector (Tandberg & Anderson, 2011), Weld remained antagonistic to the state system calling it bloated and inefficient.

In 1992, Michael Hooker took office as UMass President. Hooker would not end up winning legitimacy for the university during his short three-year stay in the office, but he did lay important groundwork for the following two decades in terms of marrying the identity of the institution to the economic wellbeing of the state (Barrow, 2002; Douglas, 2007). Hooker established a vice-presidency for economic development bringing Tom Chmura, an economic developer with whom he’d worked on revitalizing downtown Baltimore while Hooker was president of University of Maryland Baltimore County, to Massachusetts. Hooker co-authored with William Weld “Choosing to Compete: A Statewide Strategy for Economic Growth and Job Creation.” The report called for a
significant role for the university in stimulating economic recovery in the commonwealth. Had Hooker remained through the second half of the 1990’s and the upturn in the Massachusetts economy, he may have won some credit for himself, and some legitimacy for the university’s newly-defined institutional values including economic development. But Hooker had left in 1995 for the chancellorship of the University of North Carolina Chapel Hill. He left UMass an unpopular president, having instituted a new “report card” accountability system for the university’s campuses and promptly declaring in a radio interview that he would give the university a C-plus. Hooker had done little to help the precarious institutional values of the university, but the redefinition of those values—a redefinition of the mission and purpose of the university to include economic development—laid the foundation for an emergence of newly secure values into the turn of the millennium. The presidents that would follow Hooker would be in a better position to lead a university on firmer ground.

Precarious No More. Former state senate president William Bulger would assume the office of UMass president in 1995 and remain for eight years. At this point, the “activist” (Basetedo, 2009) Massachusetts Board of Higher Education (BHE) was winning public and political support for state-sponsored postsecondary education, in particular because of the board’s emphasis on improving efficiency of operations. Bulger came to UMass just as the BHE was beginning this work in earnest. Despite initial skepticism about Bulger’s lack of academic credentials, and concerns that he might bring patronage to the office, his presidency was largely successful and even did much to advance UMass on both the prestige and resources fronts. In a 2007 profile of Bulger, Boston Magazine’s Joe Keohane wrote:
Over the course of his tenure, SAT scores of accepted students rose an average of 36 points across the five UMass campuses, with the biggest jumps at predominantly working-class Boston, Lowell, and Dartmouth. The school’s endowment went from $40 million to $150 million, and revenues from licensing UMass research increased from $754,000 to $20 million. Bulger also helped launch UMass’s online distance-learning program, a national leader. More importantly, say people who worked with him, he brought stability to an often fractious system and bridged the gap between the blue-collar, business, and academic worlds. (Keohane, 2007)

Bulger was well liked by the statehouse, and for the most part brought new legitimacy to the UMass president’s office.

In June of 2003, Bulger testified before Congress regarding his brother James “Whitey” Bulger, then a fugitive mob boss who was on the FBI’s Most Wanted list. Because Bulger’s testimony was interpreted as loyalty to his brother more than an interest in seeing his brother brought to justice, Massachusetts Governor Mitt Romney (who had largely ignored UMass and William Bulger since taking office in January of 2003), demanded that the UMass president resign, contending that the fugitive’s brother had tainted the university. Prior to his 2003 resignation, riding perhaps on the public support created by the BHE’s efforts, Bulger had managed to secure UMass’s institutional values in a way they had not been for many years.

Jack Wilson, Bulger’s Vice President for Academic and Student Affairs was appointed interim president upon Bulger’s departure, and made president seven months later, in 2004, after a national search. Wilson was serving as UMass President when
Interviews for this dissertation research were conducted in 2011, but announced his retirement soon after. As subsequent chapters will discuss, Wilson built upon Bulger’s success in securing institutional values, particularly with regard to the definition of those values in terms the social and economic welfare of the Commonwealth.

**Summary.** The history of the University of Massachusetts is a search for the terra firma of clearly articulated purposes and public acceptance of these purposes. In competition for both prestige and resources with a strong private higher education sector, UMass has tried to both imitate the elite identity of some of its competitors and at the same time make clear its commitment to democratic access and relevance to the state’s goals for growth and prosperity. While identity has remained mutable, so has the extent to which the university’s stakeholders have accepted the overall values of the institution. Leaders of the institution have struggled for the purchase of such acceptance on the slippery ground of institutional identity. Only in recent years has the ground become more firm and the institution able to assert a strong sense of identity and leverage that for support from the state government and the public.

**Summary**

In this chapter, I have presented an historical context for this dissertation study and the findings. Understanding the history is important to understanding the identity that UMass maintains today, and the kinds of organizational dynamics this identity leads to. Identity and organizational dynamics were forged by the history—a history and context by turns supportive, neutral, and antagonistic to the university’s attempts to grow and to demonstrate value. These will be explored in depth in subsequent chapters.
To summarize, I first discussed in this chapter the challenges UMass has faced in having its destiny controlled largely exogenously. In particular, the university has had operated at the whim of the state government and has always had an antagonistic relationship with its reluctant benefactor on Beacon Hill in Boston. The state’s public university has also had to suffer the whims of private higher education in the state, forever resistant to the competition created by an institution that would provide broad access to a high quality education. The UMass situation is not unique—all public institutions of higher education must balance endogenous and exogenous control. External control, however, has been particularly acute in Massachusetts.

Next, I explored the unstable history of the university. One source of instability has been a never-ending attempt to define the purposes or mission of the institution. Definitions have fluctuated between, and often straddled, emphases on both or either prestige and access. The university’s institutional values have also remained unstable, owing partly to the mutable definition of purposes and mission. Precarious institutional values have also been a function of the lack of legitimacy of the university’s functionaries, and the waxing and waning acceptance of university values by its stakeholders. Oscillation of defined purposes and of state and public support for the university has characterized the history of the University of Massachusetts.

Freeland (1992) invokes the concept of institutional values. In Freeland’s interpretation, institutional values—“academic ideas, including conceptions of campus mission…that are rooted in history and have support within the existing university community” (p. 375)—are the second ingredient in an “institutional complex.” The institutional complex is an amalgam of the “multiple forces producing change” at the
university. The first part of Freeland’s institutional complex is the fact that institutions are driven by competition for prestige and resources. The second part is the institutional values themselves. Organizational dynamics make up the third factor of the complex.

Connections between the three elements are important to understand. Freeland raises Clark’s definition of precarious values and notes that the security of values is directly related to the first part of the institutional complex: the extent to which the university is able to compete for both prestige and resources is a function of how secure its values are. This chapter has explored this interrelationship between institutional values, prestige, and resources. Another important connection is between institutional values and organizational dynamics. The remainder of this dissertation will be focused on an exploration of this link.
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