

A MODEL DESCRIBING ENDURING BUSINESS AND EDUCATION  
PARTNERSHIPS USING CRITICAL EVENT NARRATIVE ANALYSIS

by  
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## **Abstract**

Educators and private businesses share an interest in preparing students to be successful, productive community members. Public/private partnerships offer opportunities to accomplish this goal. However, these partnerships often fail to meet their objectives. The research used narrative inquiry and critical event analysis to study two partnerships that demonstrated an enduring quality. Combining the results of document analysis and the lived experiences of key participants interviewed for the study provided thick descriptions of these partnerships. Common critical events and structures that support endurance were identified. A model is presented using these events and structures that offers a new perspective on characterizing the endurance capacity of partnerships between business and education.

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## Acknowledgements

The three-year journey that culminated in the writing of this dissertation would not have been possible without the help and support of many individuals. I am deeply indebted to the people who searched through electronic and physical documentation, when they had other day jobs to attend to, so they could help reconstruct some of the important partnership moments that are examined in my research. I am also grateful for individuals that agreed to be interviewed to share their own lived experiences. I am fortunate to have known many of them prior to this study, earlier in my career, and to have had the privilege to watch them work.

The study of the partnerships presented here is about endurance. But it is important to not lose sight of why endurance matters. The partnerships studied were founded by organizations that have important societal missions. People in these organizations take that work seriously and the world is a better place because of it. These organizations, and the leaders who have cycled through them over time, show what can be accomplished by working together for a greater purpose than one can accomplish alone. I regret that these organizations, and the people in them, are described with fictitious names. I wish I had a more personal way to say thank you and provide the recognition you all deserve.

I began my doctoral studies when I was 58 years old, after retiring from a very fulfilling professional career that began as an engineer and concluded in the corporate world as a philanthropy director. It was during that time that it was my great fortune to meet, and ultimately partner with, Dr. David Andrews. David and I worked together on

several entrepreneurial education endeavors. Those experiences would ultimately lead me to the Johns Hopkins University School of Education where he served as Dean until several months ago. I learned much from David about the complex world of higher education and university operations. It was vastly different than my corporate management experience. I am grateful that David took time with me, and ultimately encouraged me to join a new education doctorate program he was spearheading at Johns Hopkins University.

I want to thank the three members of my dissertation advisory committee. During the presentation of my dissertation proposal defense, members of the committee inquired if the literature research I had conducted to that point had surfaced anything new for me based on my experience as a partnership practitioner. My answer was yes from several perspectives. These perspectives serve to frame my appreciation for the mentorship and encouragement I received from each of the members.

Dr. David Ferrero, whom I had previously worked closely with during my corporate career, was interested to see the stories I would ultimately write about endurance. In his work as a senior program director in several of the world's most respected foundations, Dr. Ferrero's objectives were to fuel education partnerships with the hope that some would reach scale. The deeper stories about what he helped initiate through critical early funding often did not emerge while he was involved with the organizations he funded. Dave was very helpful in articulating what he wondered about and would like to see uncovered in enduring partnerships. This helped frame the research questions to guide me in a better direction than where I had started.

Dr. Steven Ross is a professor and senior research scientist with the Johns Hopkins University Center for Research and Reform in Education. Dr. Ross is the consummate qualitative education researcher with deep experience and pattern recognition. I had the pleasure to watch him work as I was beginning my own journey learning to be a researcher. I benefited from watching how he framed questions and postulated answers. His open mind and informed curiosity was inspiring as it served as one role model for what I hoped I could accomplish with the benefit of academic training.

During my dissertation defense, his encouragement was a helpful push for me. Dr. Ross expressed his curiosity and interest to see how the narrative inquiry methodology would play out, because he had not seen a study done this way in the past. I was anxious about being an insider to the partnerships I was about to study. My initial mindset was to be cautious and to keep a distance from the partnerships under study to remain objective. Dr. Ross had a different perspective. He encouraged me to dive deeply inside of these partnerships and leverage the relationships I had. It was rare, he said, that a practitioner would have both the interest and the time to learn how to do a study of this kind.

Dr. Stephen Pape, my adviser from the very start of my journey in the JHU doctoral program, played pivotal roles in more ways than I can describe here or that he is even aware of. Dr. Pape was patient, offered extraordinary feedback and help with my methods and thought process. Sometimes in our discussions, after I would spend way too long on something in a way only an engineer can, Dr. Pape—or “SP” as I would refer to him—would say, “Is there a question in there somewhere? I’m not sure that I’ve given you much help.”

My research is about partnerships. Being able to talk out loud about ideas that are percolating without a fear of being judged as unprepared is critical to building trust in a confidant. SP typified the characteristics of the adviser partner I would want to have for my doctoral journey, if I were writing the job description without knowing him first. He took an interest in me—not only as a student, but as a whole person. Tackling a doctoral program to gain the discipline of an academic researcher has been a goal of mine for many years. It was a way to see the other side of partnerships, and ultimately be part of teaching and research teams that could transfer this knowledge beyond only those that become good at it through the hard lessons from on-the-job experience. SP made me feel better in times when I was at the extremes of doubting myself, and questioning my capacity to actually complete this milestone. His confidence and coaching was always what I needed, in the appropriate doses, at the right times.

My parents, Shirley and Bernie, sadly did not live long enough to see this portion of my own journey play out. But they are always with me in my heart. My mother always gave me strength through her constant encouragement and confidence in me, even when it was totally undeserved. My dad taught me everything I know about being a relationship manager, treating people with respect and kindness, and the power of optimistic thinking. He instilled that in me, and how wonderful it is to make new friends. This program gave me many.

Although a virtual program would seem to provide little opportunity for the social contact that comes from students learning in the same room together, I have grown close to many of my colleagues in the inaugural cohort of this program. It was an honor to

study with them and learn from them. As the program progressed, many late night texts, phone calls, and video chats provided both the humor and encouragement I needed to stay with it. I am so thankful to have been a student with all of them.

I was inspired to pursue a doctoral degree from my long time mentor and friend, Barry Brownstein. He hired me for my first “real” job, some 36 years ago. Barry was trained as an engineer and he is an extraordinary thinker and human being. Ten years my senior, his journey is the very definition of lifelong learning. He has successfully moved through several careers, and at the age of 58, he returned to college for a third time, to obtain a Physician Assistant degree. That led him to join a cardiology practice continuing to help people. Barry is now an instructor in a new Physician Assistant program, where he will undoubtedly leave a mark with his students as he has done with me.

I had the privilege to give a commencement speech at a local high school a few years ago. I used that time to talk about Barry as a role model for lifelong learning and making things count. I was thankful that he was in the audience that day to hear those remarks. After the speech, Barry wrote to thank me and said of his own journey, that no one should leave this earth with their best music still not played. As I write about him again in these acknowledgements, Barry is midway through treatment for a lymphoma discovered by chance during a hernia surgery. He is taking this on challenge like every other project he has successfully accomplished. I am confident he will win this one too. He has more music in him that we need to hear.

I close my acknowledgements thinking about the most important people in my life and what they mean to me. My family has been incredibly supportive throughout my studies at Johns Hopkins. My son, Michael, is a gifted musician and humanist, and a member of our family business. I love him dearly and it is uplifting for me to go through these experiences with Michael as a constant cheerleader for my success. Equally important, Michael reminds me that just because I am a doctoral candidate at one of the most prestigious institutions of higher education in the world, I do not know everything. He is so right.

Words are inadequate to express my deep love and admiration for Karen. We have known each other for 42 years, and have been married 36 years and counting. Karen's support for me in this program—and in life—has been nothing short of remarkable. As I took time off to do the work, she was not only accommodating to my lack of being part of the normal flow of things I was previously responsible for, Karen also helped me stay organized and accountable to the various course deadlines. She unselfishly changed her schedule and life routines, even when it made her life more complicated. Everything we have done in life, we have done together. This doctoral effort is no different. Karen's support and confidence inspired me, and was the primary reason that I could even consider entering, let alone, completing this journey. I know that when I hold my graduation diploma up to the light, Karen's name will be seen as a watermark on my certificate. I dedicate this entire work to Karen, my wife, best friend, and my soul mate.

## Table of Contents

Abstract.....	ii
Signature Page .....	iii
Acknowledgements.....	iv
Table of Contents.....	x
List of Tables .....	xvii
List of Figures .....	xviii
Executive Summary.....	1
Partnership Success.....	1
Research Questions.....	3
Method .....	3
Recommendations for Further Study .....	7
Chapter 1- Beating the Odds: The Promise of Partnerships .....	9
My Story as a Partnership Practitioner .....	10
Problem of Practice.....	17
Research Questions.....	18
The Elusive Nature of Success in Business/Education Partnerships .....	19
Influences on BaEP Actors from the Perspective of Institutional Theory.....	20
BaEPs Viewed Through the Looking Glass – An Education Lens .....	21
BaEPs Viewed Through the Looking Glass – A Business Lens .....	25
Summary .....	28
Chapter 2 - Perspectives on Partnership Success and Endurance.....	30
Organization of Findings .....	31
Factors Associated with Partnership Success .....	32
BaEP Founders and Joiners .....	34
Founders' motivating factors .....	37
BaEP continuation: successfully adapting to leadership turnover.....	40
Influence of BaEP Management Processes and Structure .....	42
Identifying what matters for cross-sector organizing structures.....	43

Benefits of formal structuring approaches over experience .....	44
Improved decision-making processes .....	48
Inclusion of start-up community and R&D emphasis in BaEPs.....	50
Challenges facing cross-organizational teams .....	52
Supportive physical environments for collaboration .....	54
Summary .....	55
Maintaining a Supportive Partnership Environment.....	56
The art of negotiating agreement: conflict management .....	56
Distribution of power in BaEPs .....	57
Goal setting and negotiating joint purpose .....	60
Measurement and analysis of partnership performance.....	61
Variations in how partnership progress is assessed .....	64
The boundary spanner.....	66
Establishing a high-trust environment. ....	68
Closing Commentary about Partnership Functioning Over Time .....	71
A Prototype Model Offering a New Perspective on Partnership Endurance.....	76
Hypothetical Example: The Orion Partnership.....	77
Prototype Model to Characterize Endurance.....	83
Conclusions.....	84
Chapter 3 - Method .....	86
Critical Events, Narrative Inquiry and Treatment Theory: An Overview .....	90
Critical Event Analysis .....	90
Narrative Inquiry.....	91
Treatment Delivery Systems.....	96
Method .....	97
Partnership Selection and Description .....	97
Partnership #1 – Research-One and Midwest State University .....	98
Partnership #2 – Health-1 Research: RSLA .....	99
Selection of Participants for Interview .....	101
Description of Participants.....	102

Data Sources and Procedure for Data Collection .....	104
Partnership field texts .....	104
Formal agreements.....	105
Correspondence.....	106
Minutes from meetings .....	106
Reports of metrics and measures .....	106
Websites.....	106
Media coverage and independent reports .....	106
Grant applications and proposals .....	107
Miscellaneous .....	107
Field notes.....	107
Researcher reflexive journal .....	107
Summary of Field Texts Collected .....	108
Procedure .....	113
Field Data Acquisition .....	113
Document coding and de-identification.....	115
Document Analysis.....	117
Content and structure analysis .....	119
Latent content analysis.....	120
Intertextuality .....	121
Narrative Inquiry Interviews and Selective Transcription.....	126
Construction of the Partnership Story and Plotlines .....	128
Determination of Critical Events .....	129
Identify of Common Events and Structures that Enhance Endurance.....	130
Revision of the Endurance Model Based on the Analysis.....	130
Discussion of Research Integrity Applied to this Proposed Study .....	131
Trustworthiness.....	132
Credibility .....	133
Member Checks .....	134
Confirmability.....	135

Instrument Validity .....	135
Transferability.....	135
Research Subjectivity Statement.....	136
Researcher-as-Insider Participant .....	137
Protocols followed .....	140
Chapter 4 - The Partnership Stories .....	143
BaEP1: Midwest State University and Research-One.....	143
Partner Descriptions.....	143
Midwest State University.....	144
Research-One.....	144
BaEP1 Partnership Purpose and Structure.....	145
Purpose.....	146
Structure .....	148
The Beginnings .....	150
Put the past in the past .....	150
Exploring possibilities is encouraged .....	151
Trusted relationships blossom.....	152
Advancing Scope and Scale: Imagining a Larger Footprint.....	153
Focus first on topics of mutual interest.....	154
Capitalize on external funding opportunities.....	154
Maintaining Momentum: From Relationships to Partnerships.....	155
Memorandum of understanding.....	156
A defining project emerges.....	156
BaEP1 moves to a new level.....	158
Reflection on Current Status and Result Created .....	161
BaEP1 Partnership Stresses .....	162
React to an urgent opportunity.....	162
Cornerstone projects with outside funding ended.....	163
New people joined .....	163
Separate R1 education business subsidiary was established.....	163

Founders leave .....	164
Unplanned departure of key personnel .....	164
Mayor leaves office.....	164
Business downturn at R1 .....	164
Data scandal in the public schools.....	165
BaEP2: Health-1 Research and the Rural Science and Literacy Advancement .	165
Partner Description .....	165
Health-1 Research.....	166
BaEP2 Partnership Purpose and Structure.....	167
Purpose.....	167
Structure .....	168
The Beginnings .....	169
In the right place at the right time.....	169
H1-R early career scientists get a surprising assignment.....	170
Establish the Health-1 Research graduate school.....	171
New policy and procedure needs .....	173
Embracing community curiosity.....	174
Advancing Scope and Scale: From Ad-Hoc to Intentional Design .....	175
Defining the outreach vision: RSLA.....	175
It is time for a RSLA full-time leader.....	176
Community laboratory: a public window into why research matters .....	177
Establishing the legitimacy of RSLA .....	178
Maintaining Momentum: Institutionalize What Works.....	178
Sorting out roles, responsibilities, and procedures .....	178
The advisory board .....	179
Building advocacy .....	179
Accelerating progress with external funding .....	180
Partnership Stresses .....	181
The president's pet project.....	181
Unintentional consequences: H1-R research progress slows.....	182

Rapidly increasing management complexity .....	183
Internal confusion about scope and what is included in RSLA .....	184
Reflections on Current Status and Results.....	185
Chapter 5 - Characterizing Endurance in the Studied Partnerships .....	186
Cross-Partnership Comparison of BaEP1 and BaEP2 .....	186
Similarities .....	187
BaEP idea activated with arrival of new leaders. ....	187
Began with coalition of the willing.....	188
Practice of maintaining records and documentation.....	188
Implementation of accountability .....	189
Feedback mechanisms and self-regulation .....	190
Episodes of role confusion among participants .....	190
Early wins establish legitimacy .....	191
Public announcement of early intentions.....	191
Differences .....	192
Focus of power.....	192
Management structure, organizational setting, and funding.....	193
Degree of reliance on external funds .....	193
Cross-Partnership Comparison Summary.....	195
Systems Identified Through Intertextual Analysis .....	195
Intentional Capture of Data and Experiences .....	196
A Culture of Participative Continuous Improvement .....	198
Coordinated Communication .....	199
Operation of Partnership Conforms with Formal Agreements .....	200
Reference to the Partnership Members as a Dyadic Pair.....	201
Summary of Intertextual Analysis .....	201
Identifying Common Critical Events .....	202
Urgent Opportunity .....	204
Cornerstone Partnership Project Ends .....	205
Key Personnel in New Organizational Position.....	206

Reaction of Internal Publics.....	207
Diversion of Key Personnel from Primary Organizational Assignment .....	208
Exit of a Partnership Founder .....	209
Unplanned Departure of Key Personnel .....	209
Involvement of a Key External Champion Ends .....	210
Change in a Partner's Primary Business Environment.....	211
Postive/Negative Public Story .....	212
Summary of Critical Events.....	213
Supportive Structures that Enhance Edurance.....	213
Proactive Structures Contributing to Partnership Endurance .....	215
Reactive Structures Contributing to Partnership Endurance .....	222
Discussion.....	226
A Proposed Model of Partnership Endurance.....	226
The model elements .....	227
Applying the model to the studied BaEPs .....	229
Comments about the use of the model.....	231
Limitations .....	231
Recommendations for Further Study .....	234
References.....	235
Appendix A – Literature Search Strategy.....	254
Appendix B – Informed Consent Form .....	256
Appendix C – Critical Event Interview Questions .....	260
Curriculum Vitae: Richard David Rosen.....	261

## **List of Tables**

Table E.1 - Common critical events and supportive structures .....	6
Table 2.1 - Constructs associated with BaEP success .....	75
Table 3.1 - BaEP1 participants interviewed .....	103
Table 3.2 - BaEP2 participants interviewed .....	103
Table 3.3 - Categories of field texts acquired during study.....	110
Table 3.4 - Number of field texts acquired per category .....	111
Table 3.5 - BaEP1 participant data utilized from field texts.....	112
Table 3.6 - BaEP2 participant data utilized from field texts.....	112
Table 3.7 - Sample index showing participant, data source location, and theme .....	118
Table 4.1 - BaEP1 partnership purpose and commitment (2004).....	147
Table 4.2 - BaEP1 engagement approach based on scope of effort.....	149
Table 4.3 - BaEP2 mission from public announcement (2010).....	168
Table 4.4 - BaEP2 collaboration intentions by community .....	169
Table 5.1 - Similarities and differences among BaEPs.....	187
Table 5.2 - Common critical events across both BaEPs .....	203
Table 5.3 - Common structures supporting endurance .....	215

## **List of Figures**

Figure 2.1 - Partnership logic model with five phases of progression.....	81
Figure 2.2 - Supportive and destructive aspects of a BaEP treatment delivery system....	82
Figure 2.3 - Prototype partnership endurance model from research constructs .....	85
Figure 3.1 - Procedural flowchart of data collection and analysis steps.....	114
Figure 3.2 - Timestream screen capture showing field texts and milestones .....	124
Figure 3.3 - Timestream screen capture with "boundary spanner" filter applied .....	125
Figure 5.1 - Partnership endurance model .....	232

## **Executive Summary**

Educators and private businesses share an interest in preparing students to be successful, productive community members. Public/private partnerships offer significant opportunities to accomplish this goal. However, the management of partnerships is challenging. The majority of partnerships within education and across industry sectors in general fail to meet their stated objectives (Acar & Roberston, 2004; Gajda, 2004; Googins & Rochlin, 2000; Hodge & Greve, 2009; Rosenau, 1999). Partnerships are also situational, and even when starting out with essentially the same resources and modeled after a partnership that realized success, a new partnership can easily fail (Bainer, 1998; Bryson, Crosby, & Stone, 2006; Jenkins, 2001).

Some partnerships, however, defy these odds and operate robustly over long periods of time. This study refers to these relationships as “enduring partnerships.” In this dissertation research, the definition for an enduring partnership is a collaborative relationship involving business and education stakeholders that demonstrates three essential features: (a) results: it has produced results continuously over a period of more than five years; (b) adaptation: it has successfully adapted in response to significant environmental changes such as leadership transition, funding perturbations, unanticipated results, and policy shifts, among others; and (c) engagement: the business and education actors have remained meaningfully engaged for more than five years.

## **Partnership Success**

Success alone is not equivalent to endurance. A partnership can be successful and accomplish all objectives and the partners can move on once the work has been

completed. However, partnerships that have endured likely have experienced their share of successes to compel participants to stay involved over long periods of time. That said, the success dimension of partnerships is challenging to evaluate. The review of partnership research revealed that no agreed upon measure of success was determined, because it depends on who values what, and when the measurement is taken. Setting aside these complications, it can generally be safe to assume that success is in the eye of the beholder. Success is characterized as satisfying the expectations of stakeholders in the moment.

A synthesis of the research literature identified 12 constructs that are associated with success. These constructs ranged from self-efficacy and expectations of mission success (Sims, Harrison & Gueth, 2001) to understanding differences among the organizations involved (Selsky & Parker, 2005; Elbers, 2004; Jamali & Keshishian, 2009). Formal partnership management processes and training were also associated with success (Acar & Robertson, 2004; Babiak & Thibault, 2009; Bryson et al., 2006; Kale, Dyer, & Singh, 2001; Prashant & Harbir, 2009).

With the above in mind, consider the relationship between success, sustainability, and endurance. Sustainability is a characteristic of a partnership. It refers to the predictability of sufficient resources available to the partnership to allow it to continue to exist. Sustainability and endurance are not the same. Endurance is a characteristic that relates to how well a partnership operates in the midst of perturbations. Put succinctly, the three terms are related and may have an effect on one another—but they are not equivalent:

- Success means a set of stakeholders are satisfied;
- Sustainability means predictability of resources available to the partnership; and
- Endurance means that capacity of the partnership to productively function in the presence of perturbations.

This study sought to understand endurance by collecting data from active partnerships. Perturbations occur as a result of some turning point—referred to as critical event in this study—that is experienced by the partnership. This was the basis for the research questions and the subsequent methods used.

### **Research Questions**

Two research questions drove the methods for the study:

- RQ1: What were the common critical events observed in the studied partnerships?
- RQ2: What common structures were in place to support endurance in the studied partnerships?

The second research question was explored by identifying structures that proactively contributed to partnership endurance, as well as structures that effectively reacted to situations that could threaten endurance.

### **Method**

The current body of literature about cross-sector partnerships emphasizes institutional perspectives about the dynamics, value, and challenges of the relationships. A gap in the present research was identified in that studies did not typically examine

partnerships using a temporal lens to understand partnering over time as actors navigate and make key decisions at critical moments.

This applied dissertation research closed this gap through narrative inquiry methods (Trahar, 2009; Webster & Mertova, 2007; Yin, 2003) and document analysis (Miller & Alvarado, 2005), which were applied to two active partnerships with enduring characteristics. Fourteen participants were interviewed to understand how they handled critical events and turning points. Narrative inquiry explored the lived experiences of participants. More than 500 field texts were acquired. Document analysis examined field texts as empirical evidence of how the partnership members socialized decisions, communicated with internal and external publics, and what they chose to document.

One partnership was between a large urban public research university and a large research and development corporation. This partnership has been operating for 13 years and has attracted more than \$100 million in research and program funding. It supports applied research in areas of health care, security, advanced materials, transportation, and benefits K-12 students with experiential learning programs and a specialized research and demonstration high school.

A large health care research organization anchored the second partnership. This setting was rural and the partner relationships were with communities of practice spanning K-12, post-secondary, and business communities. This partnership has operated for seven years. In that time, it has established a premiere graduate biomedical research program and brought science literacy to thousands of rural K-12 students and teachers.

I was involved in the founding and management of one of the partnerships and serve as an adviser to the second. Therefore, I am considered an insider participant for the described research. This relationship is considered an advantage because knowledge of the context enabled patterns to be seen that would not necessarily be evident to researchers without this familiarity. Researcher-as-participant is a common occurrence in narrative inquiry research. I followed the recommended protocols to maintain the necessary level of research integrity essential for a study of this kind.

### **Analysis of Findings**

The partnerships were brought to life through narrative inquiry in the form of thick descriptions that revealed the lived experiences of partnership actors and how critical events of an enduring partnership played out. Intertextual analysis examined the relationships of documents as a system for the purpose of detecting common structures and processes in the partnerships.

The common critical events and endurance structures that effectively responded to the perturbations are noted in the Table E.1. Structures are further categorized as proactive and reactive to illustrate how they manifest themselves in a partnership. An endurance model was constructed to propose a relationship between these constructs and critical events. A volumetric container is used to represent endurance and its level indicates the endurance capacity. A high level in the container suggests a robust partnership that can endure critical events while a low volume indicates less endurance. Less endurance lowers the likelihood that a partnership can withstand a critical event without experiencing some negative impact.

**Table E.1***Common Critical Events and Supportive Structures*

Common Critical Events	
<ul style="list-style-type: none"> <li>• Urgent opportunity</li> <li>• Cornerstone partnership project ends</li> <li>• Key personnel in new organizational position</li> <li>• Diversion of key personnel from primary organizational assignment</li> <li>• Reaction from internal publics</li> <li>• Exit of a partnership founder</li> <li>• Unplanned departure of key personnel</li> <li>• Involvement of a key external champion ends</li> <li>• Change in a partner's business environment</li> <li>• Positive/negative public story</li> </ul>	
Common Structures Observed that Supported Endurance	
Proactive	<ul style="list-style-type: none"> <li>• Trusted insiders are first to start partnership work</li> <li>• Management accountability in existing organization unit</li> <li>• Relationship management with boundary spanners</li> <li>• Key position transition plans</li> <li>• Risk management</li> <li>• Advisory boards and external critical friends</li> <li>• Direct connection to enlightened self-interest</li> <li>• Portfolio of activities</li> </ul>
Reactive	<ul style="list-style-type: none"> <li>• Boundary spanners as emissaries</li> <li>• Unfiltered feedback channels</li> <li>• Attention to conflicts among internal publics</li> <li>• Attention to conflicts among external publics</li> <li>• Communication channels tailored to audience</li> </ul>

## **Recommendations for Further Study**

The study described in this manuscript has limitations. It is a deep study of only two partnerships. The findings obtained are useful as case studies to inform partnership researchers and practitioners about patterns that may be useful as they go about that work. The limitation of this research is not the plausibility of the conclusions. Rather, it is that the analysis is subjective, and other conclusions from the partnerships studied could be equally as plausible. This limitation is a driver in the recommendation for further study.

The proposed model offers a new way to examine partnerships and to characterize what endurance features are present or absent in partnerships. A benefit of the model as a mechanism for evaluation is that it does not require the partnership work to be completed to examine it from the perspectives that emerged in this study. Applying the model and method to more partnerships would deepen the data set, uncover better articulations of endurance constructs, and validate or refute some of the ideas presented herein. The model approach should also be extended to explore if it is useful in detection of other success constructs.

A second avenue for further study is partnership risk management. Endurance is an important quality for a partnership. However, not all partnerships require the same levels of endurance structures. There needs to be some way to answer the question, “how much endurance capacity does this partnership need?” A recommended way to explore this strand of research would be to consider risk management practices applied in a partnership management context. In the literature review, I addressed risk management

processes in the context of sound project management. The direction for new study is to address how to determine the level of endurance that is needed. The proposed model detailed in this dissertation is a point of departure for that research.

## **Chapter 1**

### **Beating the Odds: The Promise of Partnerships**

The management of partnerships is challenging. The majority of partnerships within education and across industry sectors in general fail to meet their stated objectives (Acar & Roberston, 2004; Gajda, 2004; Googins & Rochlin, 2000; Hodge & Greve, 2009; Rosenaau, 1999). While both businesses and educators share a common desire for students to be prepared for fulfilling lives and careers, partnerships between these two sectors are difficult to start up and sustain.

Partnerships are situational, and even when starting out with essentially the same resources and modeled after a partnership that realized success, a new partnership can easily fail (Bainer, 1998; Bryson, Crosby, & Stone, 2006; Jenkins, 2001). Some partnerships, however, defy these odds and operate robustly over long periods of time. I refer to these relationships as “enduring partnerships.” In this dissertation research, my working definition for an enduring partnership is a collaborative relationship involving business and education stakeholders that demonstrates three essential features: (a) results: it has produced results continuously over a period of more than five years; (b) adaptation: it has successfully adapted in response to significant environmental changes such as leadership transition, funding perturbations, unanticipated results, and policy shifts, among others; and (c) engagement: the business and education actors have remained meaningfully engaged for more than five years.

I have specified a timeframe of five years or more in the definition because this spans several budget cycles in the public and private sectors. Researchers that study

partnerships identify budget approval and committing organizational capital as a proxy for partnership commitment (Amey, Eddy, & Campbell, 2010). A five-year timeframe likely requires resource commitments and partnership advocacy to have been reexamined and approved by organizational leaders new to the partnership multiple times.

Throughout this dissertation, the reader will find the term “partnership” used frequently. The literature on cross-sector partnerships is abundant although an actual definition of partnership is not common (Appleton-Dyer, Clinton, Carswell, & McNeill, 2012; Dowling, Powell, & Glendinning, 2004; Head, 2007; Hodge & Greve, 2009). In the present study, terms such as collaboration, alliance, and partnership will be used interchangeably to mean actors working together in an institutional setting in the interest of benefits that cannot be achieved by one organization acting alone. Because of the frequency of occurrence in this text, I will often be abbreviating the concept of business and education partnerships with the acronym BaEP. The remainder of this chapter introduces my problem of practice, how it is situated in my professional career, and the research questions that guided the study. The chapter concludes with an overview of why BaEPs with enduring qualities are rare.

### **My Story as a Partnership Practitioner**

An overview of the arc of my career experience from its research and development business roots to this applied dissertation sets the stage for my research interests. It foreshadows the deeper storytelling of stakeholders’ experiences that will emerge in later chapters.

I spent the latter part of my professional career responsible for the operation of a corporate foundation that was part of the world's largest independent contract research and development organization, Research-One (R1). The foundation has a focus on education and workforce development and was established by the Last Will and Testament of the organization's founder in 1923. R1 operates as a charitable trust, and the source of the foundation's resources is derived from the organization's contract research revenues. In 2014, R1 had consolidated revenues of more than \$6 billion.

I received a Bachelor's degree in electrical engineering from Kettering University (formerly known as General Motors Institute) and a Master's Degree in biomedical engineering from The Ohio State University. Prior to leading R1's corporate community relations, I held a variety of executive management positions in its research divisions. This included the oversight of medical product development partnerships with the clients we served. When I was assigned responsibility for corporate community relations and its associated philanthropic assets, we focused our efforts on impacting education and workforce development through operating partnerships with our grantees. These partnerships would connect R1's core science and engineering talents by using science, technology, engineering, and mathematics (STEM) as the educational emphasis. Our philanthropic funds were used to fuel partnerships between educators and business to establish STEM experiential learning programs for students in K-12 settings. Our goal was also to help grantees attain partnering skills that would help their peer organizations over time.

In my business experience, partnerships were essential, and they required constant attention and adaptation to make sure mutual objectives were being achieved. For R1, as with all contract services organizations, the operating relationship with another organization involves paying a fee in return for professional services. A satisfied client was vital to R1's longevity since it was the source of revenue that supported the professional staff in each of the corporation's divisions. Staff training in partnership and relationship management was a core element of R1's competitive advantage.

When I was appointed to the position of corporate vice president overseeing community efforts and philanthropic giving for our global sites, I had accumulated 20 years of program and general management experience. This included assignment as relationship manager for some of R1's most significant commercial client accounts. Personally, my family and I were passionate community volunteers. I had no experience in philanthropic giving, but I felt my knowledge of the corporation, my personal interest in community improvement, and my experience in building lasting institutional relationships would be a valuable combination in my new assignment. I would ultimately spend 11 more years at R1 in this position.

At the outset, I embarked on a learning tour to meet with corporate leaders outside of R1 that operated similar philanthropic foundations. I also sought ideas from education and community leaders about the types of efforts an organization such as ours could address. My bias was not to simply write checks for worthy causes, although there is nothing inherently wrong with that. Partnerships between business and education were of more interest because they aligned with our mission. My learning tour conversations

confirmed that establishing business partnerships was a worthy pursuit. It could bring a deeper understanding of the challenges that educators face and reveal the opportunities where management techniques and resources of the private sector could be of benefit.

Time and again during this tour, the individuals with whom I spoke identified the need for businesses to work more closely with educators to bring real-world relevance to the classroom curriculum. This notion of businesses bringing real-world relevance was seen as one answer to the student question, “why would I ever need to know this?” Beyond the opportunity to show the applied relevance of a sound education, researchers at the time also noted other expected benefits from BaEPs including smoother transition from K-12 to college and career, new school approaches for fiscal management, achieving efficiencies through shared resources from public/private partnerships, and informed advocacy for improved education policies geared to a 21<sup>st</sup> century world (Googins & Rochlin, 2000).

All of this took place during the period between 2001-2011, a time when a renewed<sup>1</sup> national emphasis on STEM education was attracting many technology companies to get involved in education reform. As this direction for my own organization began to unfold, conversations with business and education leaders provided a sobering counterpoint to my optimism about the promise of partnerships. While a good idea in principle, the consensus advice was to curb my enthusiasm because success in these types of partnerships was rare. There were too many hurdles in the way – differences in culture, continual changes in leadership, and volatile political landscapes, just to name a few.

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<sup>1</sup> I refer to a “renewed” interest, in the shadow of earlier calls to action over more than 50 years, beginning with Sputnik, and continuing with federally-commissioned reports such as “A Nation at Risk,” (Gardner, 1983) and “Rising Above the Gathering Storm” (2007).

Yet despite the low yield of success, partnering endeavors led by business were quite active especially among Fortune 500 organizations. The belief in the value of partnerships during this time was also seen in publicly funded procurements that encouraged, and sometimes mandated, that business partnerships be part of the proposed education reform plan (ARRA, 2008; Eberts & Erickcek, 2002). Some of the more prominent business-led initiatives at that time were IBM's Pathways in Technology Early College High Schools (P-TECH) launched in 2006 (Baker, 2012), Time Warner Cable's "Connect a Million Minds" (Time Warner Cable Annual Report, 2009) initiative to connect one million young people to STEM, and the "Educate to Innovate" initiative launched in 2010 by 100 U.S. CEOs to improve the sharing of STEM education best practices (The White House, 2010). My organization was part of this founding group.

The intent of R1's philanthropy was to build networks of collaboration between business and education with the goal that businesses could become more aware of the constraints and realities that educators face. This would allow businesses to be helpful problem solvers, not just advocates from the sidelines. At the same time, from the educator's perspective, the systematic nature of program planning and management decisions in business would be a positive addition to the education administrator's toolkit.

As I learned more about business/education partnering and attended numerous workshops and gatherings sponsored by organizations such as the National Academies, National Science Foundation, McKinsey Corporation, National Governors Association, and the Gates Foundation, I found that information about partnerships was abundant. I

gathered how-to guidelines that emphasized trust, shared goals, and careful planning (for example, see Griffiths & Cahill, 2009; National Governors Association for Best Practices, 2010). These were familiar partnership management fundamentals from my previous management experience, and I was eager to observe them in action in an education setting. Visiting sites where business/education partnerships were underway was illuminating. My business career gave me an observational bias that shaped how I examined these partnerships. Through that lens, a sense of whether a partnership was successful or struggling could be established during the initial dialogue with the key actors and walking tours of their sites.

At the time of these learning tours, my subconscious “sense making” filter was seeking signs of how well the partners knew and talked about each other, real-time knowledge of problems they were facing, how the partnership operated on a day-to-day basis, and the degree of commonality in how the partnership members at all levels talked about their work priorities<sup>2</sup>.

The nuance of the partnership functioning was gained through this first-hand dialogue and observation. The leaders would describe how the partners found each other or how a seemingly small contribution of talent or funds by a business was the key reason the partnership moved from nearly shutting down to flourishing. They described how personal relationships allowed a problem to surface without fear of consequence and ultimately be solved through reinforcing actions of the partners. The contextual nature of what made partnerships function through these dialogues was rare-to-nonexistent in the

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<sup>2</sup> Looking back with the benefit of deeper review of the research literature and the passage of time, my point of view today remains consistent with those original biases.

literature. The bulleted lists of factors leading to success included consistent themes, but the deeper story about how key actors in partnerships actually navigated through unchartered waters was missing.

Ultimately, our community relations operation and the associated foundation spearheaded a variety of partnerships with schools, universities, and other businesses. Several of these have now hit the 13-year mark and are still operating, long after I retired from the corporation and other leaders have cycled in and out as managers of these relationships. What I learned from deeper discussions with successful partnership leaders and participants was that little things matter, and access to these stories would be valuable to others.

After I retired from R1, I founded a small firm to facilitate partnerships between educators and business and serve as a coach to leaders engaged in these efforts. I entered the doctoral program at Johns Hopkins University motivated professionally and personally to learn how to systematically research what allowed a partnership between businesses and educators to endure. Of particular interest was the ability of partnerships to continue in the midst of the natural cycle of leadership changes. In the Doctor of Education (Ed.D.) program, I became aware of critical event narrative analysis as a branch of qualitative research (Webster & Mertova, 2007), and the power of the storytelling developed by researchers trained in naturalistic inquiry. Stories of lived experiences had a profound and positive impact on me in my professional work, and I had already been an insider of numerous education partnership programs. For my dissertation research study, I brought two lines of inquiry together to establish a new

perspective on enduring partnerships. I synthesized extant literature to conceptualize a model of how key factors interact to enable endurance to happen. I also applied critical event narrative tools to selected enduring partnerships to tell the story in the voices of the key BaEP stakeholders. “A critical event as told in a story reveals a change of understanding or worldview by the storyteller” (Webster & Mertova, 2007, p. 75). These events, and the interrelationship of narrative data from which the events occurred, were used to refine a model I first developed using only the research literature. Examining an individual’s lived experiences and the partnership documents in the context of the model aims to bring a new perspective to a partnership topic that has not been studied deeply.

My career journey has allowed me insider access to two enduring partnerships whose participants have important stories to tell. This dissertation follows that path, being mindful of the careful approach and ethical standards that must be followed when research observers are also insider-participants of the story. In the remainder of this chapter, I will expand on the problem of practice and introduce the nature of BaEPs through the theoretical framework of institutional theory.

### **Problem of Practice**

Educators and private businesses share an interest in preparing students to be successful, productive community members. Public/private partnerships offer significant opportunities to accomplish this goal. In practice, however, these partnerships are difficult to implement and operate. They typically lack robustness to adapt to changes, such as leadership turnover, funding reductions, and policy change. BaEPs frequently crumble when these situations are encountered.

## **Research Questions**

Once a partnership has been formed and work has started under its first leadership team, the subsequent leaders inherit and must reinterpret the partnership within the constraints and priorities of their environment. The present study characterizes the issues concerning process, infrastructure, and conflicting operational constraints and how they contribute to the effectiveness of education/business partnerships. I was interested in two research questions:

- RQ1: What were the common critical events observed in the studied partnerships?
- RQ2: What common structures were in place to support endurance in the studied partnerships?
  - RQ2-a: What structures contributed to proactively achieving partnership endurance?
  - RQ2-b: What structures contributed effectively to reacting to situations that could threaten partnership endurance?

There were two aims of the research. First, common factors cited in the extant BaEP literature were brought to life through naturalistic inquiry in the form of thick descriptions that revealed how critical events in the history of an enduring partnership played out. These illustrations established instrumental case studies (Stake, 1995) intended to deepen a reader's understanding of BaEP factors through an integrated narration of the lived experiences of people in partnerships. Second, the research brought

a new perspective to the body of BaEP research knowledge through the introduction of a model of the characteristics of enduring partnerships.

### **The Elusive Nature of Success in Business/Education Partnerships**

The success of cross-sector partnerships in industries other than education is associated with specialized processes, training, creative sharing of resources, and accountability by the participants (Dowling et al., 2004; Kale, Dyer, & Singh, 2001). The formal partnering practices linked to success in other industries<sup>3</sup> are largely lacking in business/education relationships (Abowitz, 2000; Bryson et al., 2006; Elbers, 2004). Despite the shared interest in the outcome, interventions involving business/education partnerships are difficult to initiate, implement, and sustain (Boswell, 2000; Selsky & Parker, 2005). Moreover, the situational nature of partnerships means that similarly designed partnerships can have dramatically different trajectories, with some able to sustain themselves in the midst of change—planned and unanticipated—while others collapse (Bainer, 1997; Jenkins, 2001).

The poor track record of BaEPs has seemingly not deterred participants from forming partnerships or their popularity as a potential reform intervention. Googins and Rochlin (2000) reported that, by 1990, over 140,000 cross-sector partnerships for education improvement had formed. Despite their popularity, there is little evidence connecting the existence of the business/education partnership intervention with outcomes produced. For example, Dowling et al. (2004) noted the lack of performance data in a meta-review in which they identified 491 articles claiming an evidence-based

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<sup>3</sup> A summary of success factors based on the synthesis of partnership research can be found in Chapter 2.

conclusion about performance. Dowling et al. found only 38 had primary data. In studies looking for a causal link between partnership and outcomes, “the findings tended to be inconclusive rather than irrefutable” (p. 314).

Although Dowling et al. (2004) reveal a lack of evidence for a causal link about outcomes, other researchers argue the positive benefits of bringing business and education together as an imperative to construct relevant curriculum content for a student’s life in the 21<sup>st</sup> century. Economic and regional workforce development programs benefit when educators can connect classroom curriculum to real-life situations through the involvement of business (Abowitz, 2000; Acar & Robertson, 2004; Austin, 1998; Boswell, 2000; Bullough & Kauchak, 1997; Langworthy & Turner, 2003; Symonds, Schwartz, & Ferguson, 2012).

The nature of what is valued about partnerships also depends on when the value judgment takes place. It may take years for the work of a partnership to actually affect the outcome it set out to achieve (El Ansari, Phillips, & Hammick, 2001). By that time, the partnership may have long been disbanded. There may be no one left with sufficient knowledge of the partnership able to connect an observed outcome to an intentional action of the original partnership. This reinforces the general lack of causal data in the literature.

### **Influences on BaEP Actors from the Perspective of Institutional Theory**

Institutional theory posits that actors within an institution have a shared understanding of “the way things are and/or the way things are to be done” that is not questioned (Scott, 1987, p. 496). Institutional theory also posits strong social forces at

play that resist change. In essence, the “way things are” is the way things will continue to be. Making sense of the observations I had as a partnership practitioner from business entering the environment of educators is consistent with this institutional theoretical framework. I offer it as a foundational perspective to understand why partnerships are difficult to sustain.

Educational and business/industrial institutions have dramatically different histories that shape the culture that drives their actions. It is no wonder that business and educators speak different languages and work on behalf of different rewards. Institutional theory’s dominant concept—a resistance to change the way things are—offers a plausible explanation for the challenge of cross-sectional partnerships (Hanushek & Rivkin, 2010; Pache & Santos, 2010; Rosenau, 1999).

Although the discussion below is presented largely from a “glass half empty” perspective, I am not a pessimist. Illuminating the hurdles that lay in front of BaEP leaders embarking on partnership journeys using an institutional theory framework is illustrative of challenges faced by business and educational institutions. This perspective lays the groundwork for why enduring partnerships are worthy of deep naturalistic inquiry to understand how these actors overcame institutional theory’s resistance to change that would otherwise stall these efforts.

### **BaEPs Viewed Through the Looking Glass – An Education Lens**

Partnering with industry as a vehicle to bring real-world relevance and resources that help teachers and students is a change in the way schools and K-20 educators do business. It is important to appreciate that BaEPs are just one of an abundant supply of

new methods encountered by teachers as they go about their daily lives. Within this crowded field, the issue is not what ideas are best or have been shown to work (Elmore, 2010), rather, it is who is demanding them and why. It is essential to consider what motivates a teacher to seek out a new innovation and what elements make the innovation relevant to their world. If a BaEP is to be considered important by educators, the actors in the partnership must understand “the conditions under which people working in schools seek new knowledge and actively use it to change the fundamental processes of schooling” (Elmore, 2010, p. 4). One of these conditions from the educators perspective is the motivation of business to be involved (Amey et al., 2010). Educators have reason to question the motives of business people that publicly criticize the fundamental institution known as the school system if they believe the attack is directed at teachers. Such a scenario is not only possible, there are incidences of it happening in large forums with influential people who approve or deny grant applications from educators.

For example, funding organizations attending the Philanthropy Roundtable’s 2013 National Forum on K-12 Philanthropy<sup>4</sup> were told, “the traditional urban school district is broken. It can’t be fixed. It has to be replaced” (Smarick, 2013, para. 5). Such statements can dramatically influence a shift in funding policies among organizations that share interest in similar causes, such as education, because mimetic isomorphism—or mimicry—enhances a funder’s reputation when they behave similarly to respected philanthropic leaders (Galaskiewicz & Burt, 1991). With this logic, educators have reason to be concerned about a ripple effect influencing their local funders.

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<sup>4</sup> In this dissertation, philanthropic funding is considered a part of BaEPs.

Even if business motives are pure there is still considerable challenge for meaningful engagement with schools. The “nested layers” of school governance and control has resulted in a system of institutional rules, called “ritual classifications,” that define and limit teacher actions (Berends, Goldring & Cravens, 2010, p. 307). The time constraints of the modern day teacher’s schedule make it difficult for them to be closely engaged in a partnership with business. Using the institutional theory lens again, engaging with business will not be a high priority if it competes with a teacher’s time in the classroom. This is a disadvantage for an emerging BaEP if it is attempting to put new innovations into teachers’ hands. Teachers will use innovative materials if they see value to their classroom and it responds to a real teacher demand, rather than changes being levied upon them (Cuban, 1990). It follows that teachers should be central to an innovation process because they have critical insights, although they have largely been disconnected from the innovation process (Bidwell & Kasarda, 1980). For BaEPs, the general body of research has established that teachers must be considered critical stakeholders (Cuban, 1990; Elmore, 2010). It was important to examine if the stories captured through the narrative research illuminated how partnership leaders engaged and adapted to teacher stakeholder needs, and whether these adaptations contributed to enhancing the endurance of the partnership.

If BaEPs are introduced with the promise that resources will enable new practices not possible only with school-level funds, teachers are more likely to take notice and participate. For example, a review was conducted in 2008 of 315 new and existing STEM schools that had received supplemental support from business (Peters-Burton, Lynch,

Behrend, & Means, 2014). Teachers at these schools noted that receiving specific STEM training and having informal contacts in business improved their confidence and motivation to teach at their schools. Related research conducted earlier by Kirst and Meister (1985) showed that well-funded innovations that created durable changes motivated specific teacher cohorts in positive ways. As an example, these researchers found that in-service teachers were motivated to use innovations aimed at training them to help underserved students in their schools. However, teachers view innovations with some skepticism. Engagement with BaEPs may be impeded if teachers believe that claims about benefits of the innovation are overstated, impossible to achieve, or short-lived only to be replaced by the next urgent public issue (Kirst & Meister, 1985).

Beyond general trends, some education policy researchers question the benefit that business brings essential experiential learning opportunities to teachers and students. These researchers argue corporations have no place being involved in the business of schooling. Corporations exploit the pressure to close education budget shortfalls by bringing resources to schools, thinly veiled as opportunities to increase critical thinking, that do far more harm than good to students (Molnar, Boninger, & Fogarty, 2011). “It is not in the interest of corporate sponsors to promote critical thinking. Far from it: their interest is in selling their products or services or telling their story” (p. i).

In sum, the role of teachers as critical insiders makes them central to defining the direction and purpose of a BaEP. Yet the institutional theory perspective describes why such participation is difficult to achieve and approached with healthy skepticism. Elmore (1996) makes a bleak prediction on this point, “institutional theorists argue that the

institutional environment of American schooling is so strong that significant changes in instruction are likely to be rare or short-lived” (p. 20).

### **BaEPs Viewed Through the Looking Glass – A Business Lens**

Institutional theory also supports an argument that businesses do not generally see deep and long engagement with educators as beneficial to their bottom line. However, increasing attention is being paid to corporate social responsibility (CSR). CSR is associated with improved performance and morale of front-line employee performance because they have pride in what their company stands for (Korschun, Bhattacharya, & Swain, 2014). It also increases the credibility or reputation of a business as benefitting civil society (Jamali & Keshishian, 2009). These trends support business engagement with local education institutions when the scope is associated with the mission of the business.

Not all researchers concur that community or other public stakeholders view involvement of business in education positively. Business can be perceived as using public money to train students for their company (Abowitz, 2000). Abowitz further notes that educators receive a mixed message when a business supports schools with money and assistance with training students, while the same business is sending its jobs overseas. “There is, in sum, increasing evidence that business interventions into education are not motivated by public interest, but private gain” (p. 315).

Enlightened self-interest is a strong motivator for businesses. Institutional theory would support profitability and efficiency as the focus of business. Linnehan and De Carolis (2005) argue that businesses are more inclined to engage in school-to-work

partnerships when education systems are performing well, not when they are in trouble.

The authors posit that this is motivated by straightforward, economic return-on-investment. It is more efficient to find talent at low cost when schools are graduating students ready to work. If this is not the case, employers will invest in creating their own training programs to prepare workers for their industry instead of dealing with an unpredictable partnership with schools to do this for the employer. Symonds (2012) addressed this predictability requirement in the coordinated regional pathway called Pathways to Prosperity. This is a coordinated program from high school through completion of an associate degree that is designed to directly service a defined, local industry skill gap, where employers with common needs share in the partnership to create economies of scale. The Pathways to Prosperity initiative is underway in multiple states (Schwartz, 2011; Symonds, 2012).

One of the main purposes of collaboration is to address problems with more resources and talent than could be accomplished by one organization alone. In these types of collaborations, a shared interest in a problem to be solved can set the stage for inter-organizational collaboration to be a catalyst for creating new institutions (Lawrence, Hardy, & Phillips, 2002). Lawrence et al. offer an adaptation to institutional theory by differentiating between the macro agency behavior of institutions—traditional institutional theory—and the motivations of individuals disaggregated from the organizational institution. Termed “institutional work,” these authors conceptualize that “individuals actively engage in processes of institutional creation, maintenance, disruption, and change” (p. 53). This research posits that individual actors interact with

one another and continue with the base work of the institution while enabling new processes and ideas to emerge in nonlinear ways.

Entrepreneurial behavior inside a company can lead to entirely new business ideas when an employee observes a problem and envisions a solution. For example, an individual worker's observation of a HIV/AIDS treatment center shifted the medical profession's care treatment protocols to be centered on patient compassion rather than explaining therapeutic drug effects (Lawrence, Suddaby, & Leca, 2011). An engineer frustrated with the limitations of a computer language he was using for an internal company project invented a new approach by necessity, and Java was born as an internet computing standard and the basis for many internet service companies (Lawrence et al., 2011). Drawing a connection to potential benefits of BaEPs, the above-mentioned concept of "institutional work" could help explain how actions of individual employees in a corporation illuminate entirely new and deeper ways their entire corporation engages educators (such as employee-driven initiatives such as Connect a Million Minds described earlier). The results of actions by ground level participants in the partnerships addressed in my study are an example of this theory in action.

Institutionalized language can also be found in business regarding common terms to describe metrics of performance such as net income, percent market share, research and development (R&D) spending, and return on investment, among others. The levels of R&D activity within a company are an important signal about its focus on innovation and commitment to bringing a continual flow of products to market. Smith and Petersen (2011) view R&D spending in an industry as a key system that "identifies the most

pressing problems of practice, invests quickly in promising innovations and ideas, provides small spaces for experimentation, and engages entrepreneurs and other innovators to ensure continuous improvement and learning” (p. 26). Leading companies spend significant dollars to create products that meet new user needs. In biotechnology, for example, established companies with annual revenues of more than \$50 million disclosed R&D expenditures ranging from 8% to 20% (Hall, & Bagchi-Sen, 2007). In start-up companies—defined as less than \$10 million in revenue—these authors found R&D expenses averaged 45% of revenue.

In contrast, Smith and Peterson (2011) cite that less than 0.1 percent of K-12 education expenditures are in R&D. They also characterize that research in education as misaligned and not following positive innovation characteristics found in other industries. “In a sense, education actually has historically had the opposite of a virtuous learning cycle, where a combination of nostalgia for tradition, misalignment of resources, and the tendency for ideology to trump evidence have together inhibited effective R&D” (p. 27).

### **Summary**

The problem of implementing significant education reform is supported by compelling evidence that there is a “systemic incapacity” (Elmore, 2010, p. 1) of educators and practitioners to bring new ideas beyond only a small percentage of schools. For the most part, institutional theory helps explain momentum and resistance to change at the organizational level in the interest of maintaining bureaucratic hierarchies, social processes, and structure within the institution (Scott, 1987). These factors reduce partnership motivation when the institutions involved have little in common.

In the next chapter, a review of literature is presented that focuses on success factors associated with BaEPs. The discussion explores techniques that seem to assuage the hurdles of institutional theory.

## **Chapter 2**

### **Perspectives on Partnership Success and Endurance**

In this chapter, prior research is examined using a qualitative literature review approach (Noblit & Hare, 1988; Randolph, 2009). The foundational element of this approach is a synthesis of multiple qualitative studies to establish a “holistic interpretation” (Noblit & Hare, 1988, p. 10). The approach was iterative and constructivist in nature as information from successive searches shaped an evolving interpretation of relevant theories about enduring partnerships. The literature search strategy can be found in Appendix A, which outlines how the ambiguous term “partnership” was researched to surface relevant material for this study.

Admittedly, the review and selection of central articles relevant to partnership endurance was influenced by my own subjectivity and experience as a partnership practitioner. Randolph (2009) argues this subjective topical knowledge is critical to a qualitative literature review because it enables connections among disparate concepts that someone unfamiliar with the field would not likely make. The resulting synthesis offers a new perspective on partnership endurance theory and the associated qualitative research techniques that could be used to effectively describe them. The chapter concludes with a prototype model for explaining partnership endurance. This model informs the narrative research and critical event methodology described in Chapter 3 and is revised based on subsequent data collection and analysis.

## **Organization of Findings**

The synthesis of published literature used two lenses to inform current understandings about enduring partnerships. This chapter begins with a lens that discusses partnership factors and underlying causes that have been associated with success. The situational nature of partnerships means that a practice essential to the success of a partnership in one circumstance may be unimportant, or even counterproductive, to a partnership operating in another circumstance. Therefore, a survey of research literature that compared partnership outcomes against one another was not a useful strategy for the proposed applied research. Instead, the research was interpreted for dominant themes about motivations of key actors to initiate or join partnerships, management processes, and topics such as trust and resilience in a context of why they matter in partnership endurance. This discussion also incorporates counterarguments about partnership success factors, where such debates surfaced in the survey of research.

The literature review then moves to the second lens. This lens is the synthesis that offers a new perspective about what enables partnerships to endure. BaEPs operate within a broader treatment delivery system that has an influence on how a BaEP functions. This discussion is informed by the work of Leviton and Lipsey (2007). This may explain why some partnerships succeed and others fail, even when they use nearly identical designs. and offers a new framework for observing how the effects of a partnership's ecosystem (e.g., its organizations, the communities where it operates, overarching policies, a

diversity of cultures) may influence the strength or weakness of partnership interventions themselves (Banks, 2015).

The dissertation aimed to better understand the characteristics of endurance and how these arrangements might be modeled. A prototype model incorporating the relationship of success factors is presented that situates the findings from the literature search within a conceptual framework that explains endurance.

### **Factors Associated with Partnership Success**

Partnerships can be designed for a specific purpose, successfully accomplish all their goals, and then dissolve, with the involved partners going their separate ways satisfied with completion of the work. A successful partnership does not necessarily equate to an enduring partnership. Partnerships are situational, and even when starting out with essentially the same resources and modeled after a prior partnership that realized success, a newly replicated partnership can easily fail (Bainer, 1997; Bainer, 1998; Bryson et al., 2006; Jenkins, 2001). There are, however, instances of partnerships that have faced and overcome obstacles, such as change in leadership, elimination of funding, or unanticipated policy changes, and continued to thrive. In this dissertation, such partnerships are called “enduring partnerships” as defined previously.

The body of literature on enduring partnerships is quite small compared to the overall research published about cross-sector partnership more generally. It stands to reason that constructs and underlying factors that have been associated with partnership success would likely be relevant to some aspects of endurance. For that reason, the research synthesized in this chapter begins using a partnership success lens. Theories and

specific research about endurance are addressed in the latter portion of the chapter. It is here that the elements of partnership success will be connected to the context of endurance.

More often than not, cross-sector partnerships fail to reach their goals or claims of success are not supportable by evidence (Gajda, 2004; Googins & Rochlin, 2000; Hodge & Greve, 2009; Rosenau, 1999). In one study, Kale, Dyer, and Singh (2002) estimated that 30% to 70% of partnerships failed to meet the goals they set for themselves. Because partnership success has such a low yield, there needs to be a compelling reason for people to put the energy into pursuing them. The dominant reason is that partnerships are aimed at providing benefits that cannot be achieved by the organizational participants alone (cf. Kale et al., 2001). While collaboration is generally viewed as positive, it should be examined with an eye toward opportunity cost (Hansen, 2009). That is, Hansen notes that the energy put into collaboration needs to be weighed against other alternatives that could be accomplished with the same resources that might yield a higher return on investment.

In the next section, the relevant theories associated with successful start-up and continued operation of partnerships is discussed with emphasis on the human-centered aspects of partnering. A discussion of success factors associated with management, general environmental factors, and endurance is then provided including the ways performance has been measured. A summary of the factors found in this discussion is provided in Table 2.1.

## **BaEP Founders and Joiners**

Partnerships are intentional. The body of research about BaEPs includes numerous theories about why they form and the types of motivations that drive individuals to embark on the challenging work of starting collaborative relationships. The partnerships that realize success are typically comprised of organizations that have methods and supportive management that can assign personnel to key roles and manage the work against definitive program plans.

In this discussion, the term founder refers to an initial stakeholder who was passionately engaged in starting the partnership. Founders are an important group to examine. They have “a profound personal connection” to the program or venture they want to start (Forster & Jansen, 2010, p. 2). These individuals are also important because they “have impacts on organizations because the values, structures, and routines they imprint on the organization often endure for years after the founders are gone” (p. 2). It is important to note that the person with the idea to explore a partnership—no matter the positional level of this individual—is not considered a founder in the context of this research.

Partnerships need a purpose, and it follows that identifying and communicating an aligned purpose during initial partnership formation is good design practice (Bryson et al., 2006). The purpose or intent is formulated by the founders. In fact, establishing the common problem definition to be solved among initial stakeholders is seen as a cornerstone in successful partnerships (Gray, 1989). Success is also commonly associated with situations where the problem is publicly communicated by credible actors in the

community—usually referred to as the partnership founders—where the partnership functions (Amey et al., 2010; Bryson et al., 2006, Bainer, 1997; Gray, 1989; Greve, 2003; Hill, Wise, & Shapiro, 1989). These individuals are essential for establishing the legitimacy of the problem and its importance to the stakeholders (Bryson et al., 2006). BaEPs also provide a platform for credible voices in the community to become familiar with complex education issues (e.g., reconciling a need for more funding in the midst of declining student performance or high teacher turnover) and assist in case making to community leaders and policymakers (Bryson et al., 2006).

Although the founding partnership actors may not be operationally involved after this problem definition stage, the public articulation of the problem by credible and aligned community leaders' voices sanction the mobilization of resources from within the community that can be brought to the problem. Austin (1998) notes in a Cleveland, Ohio case study that engaging business in a public/private partnership enabled these leaders to see the complexity of problems Cleveland was facing in the 1970s from the inside. What appeared simple to these business people from the outside was now revealed to be much more complex. They saw first-hand the real complexities and sometimes arcane policies that shaped how public and civic organizations operated and what they could or could not do as a consequence of their own institutional environments.

The businesses that joined the Cleveland partnership mobilized managers and funding to respond to these gaps and advocated for policy changes. The prominent and credible business community voices aligned with community leaders and helped influence the mobilization of resources, such as the passage of bond levies, which aided

in the storied turnaround of the Cleveland economy that occurred between 1980 and 2000. Businesses perceived that educational quality and economic prosperity were tightly connected. A RAND study of business involvement in education supports the notion of influence seen in Cleveland. While business can provide important funding for new ideas, “perhaps their greatest contribution lies in raising educational problems to the top of the local public agenda” (Hill et. al., 1989, p. vi).

A common condition for BaEP formation arises from private philanthropic interests in community improvement, such as neighborhood improvement, crime prevention, and education improvement. In 2012, the largest fraction of grants (22% of grant dollars) from private foundations in the U.S. went toward educational causes (Lawrence et al., 2002). Partner selection and intensive operational collaborations are not a core competency of school district, educational institutions, or most public sector organizations (Guo & Acar, 2005). As Porter and Kramer (2002) point out in their research regarding corporate philanthropy, the parent corporations that own these foundations often have a core competency in selecting business partners. Therefore, when corporations have a philanthropic arm, Porter and Kramer consider it a best practice for corporations to use this expertise to help grantees mitigate deficiencies in partnership formation for programs that the corporation is funding.

Sometimes, a BaEP is created to step outside the policy constraints that may accompany the use of public resources (Greve, 2003). This includes an opportunity to share risks among multiple organizations, or use private funds to support activities disallowed by public funding agencies (e.g., sole source procurements, travel

reimbursement, special equipment, enhanced compensation for high-skill jobs). An illustration of this is seen in one of the BaEPs examined in this dissertation. H1-R, through its Rural Science Literacy Advancement (RSLA) partnership, provides transportation support for professional development by bringing teachers and students from across the state to the H1-R headquarters. The funding for buses and lodging is out of reach for small rural districts and would become a barrier for access to teacher professional development if not for H1-R.

Although not typically a core competency, non-profit organizations are increasingly becoming the initiator of partnerships in response to public pressures to do work more efficiently by reducing redundant funding among organizations with similar missions. Foster and Meinhard (2002) studied 645 non-profit organizations involved in partnerships in Canada and found the structures were catalyzed by “organizational characteristics, environmental pressures, and organizational attitudes” (p. 344) rather than a natural desire to partner.

In sum, the initiating condition for successful BaEPs is alignment around a problem where founders have developed a deep contextual understanding of the conditions surrounding the problem and willingness to publicly commit to addressing it. The partnership structure that forms in response to the problem is determined by a variety of institutional factors and momentum. What motivates a specific actor to get involved in the first place is described next.

**Founders' motivating factors.** All leaders play a role in the conduct of partnerships, but the founding leaders—when they have high credibility among civic and

business leaders—signal the importance of the effort and encourage others to join. As noted earlier, BaEPs typically begin with a triggering event that motivates the key actors to work together toward a common cause. These triggering events range from mandates in publicly-funded procurements that require business and local community members to work with school districts (Eberts & Erickcek, 2002), to self-organized collaboration among business and education stakeholders to advocate for policy reform in their region (Paletta, Candal, & Vidoni, 2009), to specific program initiatives to co-design and launch a new STEM-based school (cf. North, 2011). Business participation has also been encouraged in federal procurements as a competitive priority to bring specific expertise to a program, such as for STEM curriculum inclusions found in the U.S. Department of Education’s Race to the Top initiative (American Reinvestment and Recovery Act, 2009). A school or school district may also have particular professional development needs that compel it to reach out to the community for assistance and participation (Bullough & Kauchak, 1997).

Some researchers argue that business/education partnerships are not motivated directly by public good but rather by private gain and enlightened self-interest (Abowitz, 2000, Googins & Rochlin, 2000). For example, a shortage of skills in a workforce sector might compel a manufacturer to collaborate with local secondary and postsecondary institutions to accelerate the training of new qualified workers (Symonds et al., 2011). These authors’ work led to a program entitled Pathways to Prosperity (Schwartz, 2011). Local businesses participating in the Pathways program provide educators with job qualifications that were needed in their industry and the forecasted timing of the hiring

demand. Educators translate these skills into coordinated secondary-to-postsecondary curricular pathway intended to equip students with the requisite skills. Businesses in these partnerships establish expedited recruitment processes to hire qualified workers when they complete their education.

It is important to consider how market supply and demand influences a business decision to participate—or not participate—in partnership programs such as Pathways to Prosperity. An argument can be made that businesses operate from their own enlightened self-interest. If a system of secondary and post-secondary institutions is supplying qualified candidates with specific skills at sufficient rates for the employer demand, it is more efficient for the business to simply hire from the available pool. This is true even if the schools in the area are not doing well overall (Linnehan & De Carolis, 2005). In fact, a business has no economic incentive to help a failing school district in its area if the local job market is sufficient for a business to hire to their needs.

That said, there are scenarios where enlightened self-interest of business becomes a reason to partner with school districts that are in trouble. Consider again the case of the Cleveland turnaround, discussed earlier (Austin, 1998). Cleveland businesses found that its regions' reputation had become toxic to recruiting talent from other geographic areas. The poor record of the Cleveland schools was cited as a common reason people would not relocate to the area. In this case, the situation compelled businesses to assist in the management and turnaround of its local schools as part of rebuilding the reputation of the region (Austin, 1998).

Another perspective on motivating factors is the consideration of the customers or beneficiaries intended to be served by the partnership. This is fundamental to the purpose of the partnership in the first place. Consider, for example, that a student's motivation to enter a program developed by a BaEP is influenced by the student's knowledge of the available careers that might await them when they complete the course of study (Scales, Foster, Mannes, Horst, Pinto, & Rutherford, 2005). Inclusion of experiential learning from real-world settings outside the classroom prepares students for careers and life (Brown, Collins, & Duguid, 1989; Langworthy & Turner, 2003; Scales et al., 2005). These settings are more cost effective for schools when business is a participant and establishes the experience at their facilities in a way that aligns with the realities of school-day scheduling constraints. Scales et al. (2005) reported that a student's repeated exposure to a BaEP through mentorships by business had a positive impact on the student's development and academic performance in school.

**BaEP continuation: successfully adapting to leadership turnover.** Change in the leadership of a BaEP is natural and an expected characteristic of these arrangements for a variety of reasons. Leaders of BaEPs are typically educational leaders (e.g., superintendents or building principals) and senior management of businesses. These senior positions have many demands on their time, and they experience natural turnover rates (Elbers, 2004; Head, 2007). Some BaEPs are initiated with grants or seed money from benefactors such as foundations (Porter & Kramer, 2002). The funds are for a specific scope or pilot activity and not intended to fund the BaEP in perpetuity. In these cases, a stipulation of the grant application often includes the need for a sustainability

plan that asks how the applicant team will continue the work beyond the grant period (cf. State of Ohio, 2014). The Pathways to Prosperity grant in Ohio was founded on multiple BaEPs that would establish career paths for students beginning in high school. Grant evaluators cited the BaEPs as the main reason for funding the program (State of Ohio, 2014).

A superintendent's involvement is important in BaEPs as a proxy for commitment by their district. Businesses cite concern about continuity of school leaders in BaEPs (Amey et al., 2010). Reports of low superintendent tenure—some citing less than three years—reinforces a sense of instability, but this general sense of high turnover rates of superintendents is not supported by an extended study by Byrd, Drews, and Johnson (2006). These authors examined data from the Texas Education Agency (TEA) to identify a sample set of superintendents over a five-year window. The researchers then determined the tenure of that group. These data suggest that the actual tenure is more in the range of six-to-seven years, regardless of district type. While this is still a short period and only a sample from Texas, as it relates to BaEPs, it is not the length of tenure so much as the formidable demands on the job that limit the attention that a superintendent can be expected to pay to a BaEP (Austin, 1998; Boswell, 2000; Bullough & Kauchak, 1997).

A companion issue to turnover is the ability to recruit replacements. Some of this is proactive and planned by the partnership managers. Urgency also plays a role. BaEP participants can also be recruited to join a transformation initiative triggered by crisis. Citywide collaborations to address educational improvement often include committees

that bring business, educators, community, and political leaders to the same table to advise or even govern an improvement plan (Austin, 1998; Bornstein, 2011; Gray, 1989). The Strive Together initiative in Cincinnati, Ohio and Northern Kentucky is an example of a long-term partnership that added new members on a continuous basis as the program evolved (Bornstein, 2011). Initiated in 2006 following a report noting the region's poor college attainment rates, the scope of the effort expanded from college attainment rate to include a full spectrum of K-12 and early childhood attention. This expansion recruited a full range of partners, including early childhood educators, business leaders, non-profit services, foundations, college presidents, and school superintendents.

Turnover creates gaps in capacity and involvement. The partnerships need to have compelling reasons for new individuals to participate. There are also considerations that will negatively impact whether a new actor will join a BaEP if invited. This is the paradox of collaboration because “the potential for advantage is rooted in the varying resources that organizations bring to the table, which inevitably also implies that they are seeking different things in return” (Vangen & Huxham, 2003, p. S69). Further, the partnership leader faces a complex task of convincing new partnership members to join and commit to assignments when often only the leader sees the entire picture (Vangen & Huxham, 2003).

### **Influence of BaEP Management Processes and Structure**

Organizations with processes tailored for managing pooled finances, suitable institutional and legal structures, effective monitoring and accountability processes (including audits), and techniques to monitor levels of engagement are all associated with

partnership success (Dowling et al., 2004). There are unique layers of complexity that are not present in organizations working alone. The effective management of a partnership requires attention to the cultural and operational differences between organizations, leading and influencing resources in other organizations that do not fall under the manager's direct authority, processes for project planning and tracking and communication, mechanisms for gathering evidence around the effectiveness of collaborations and engagement of its people and early warning systems, and effective conflict resolution mechanisms for negotiating agreement (Dowling et al., 2004). This section weaves together theories and constructs found in the research literature associated with these factors as they are tied to effective partnering practices.

**Identifying what matters for cross-sector organizing structures.** In education, formal partnering structures are not present in the design of the institution (Bryk & Gomez, 2008). This is important because these practices are linked to success in other industries but they are largely missing in the general nature of business and education relationships (Abowitz, 2000; Bryk & Gomez, 2008; Elberts & Erickcek, 2002). Where they are necessary, such as dual enrollment, or early college pathways, deliberate systems are often put in place and managed within the industry. However, the cross-cultural nature of a business and education partnership operates essentially as a unified entity requiring an approach to organizational structure that is not familiar to either partner. For these reasons, partnerships in education may be abundant when considered in aggregate, but for the individual organizations involved, they are often transient, one-off events that are in response to grant proposals or other incentives that stimulate the formation of a

partnering activity. However, this uniqueness does not contribute to the creation of lasting infrastructure or processes.

Turning back for a moment to patterns across all industries, the likelihood of success of an individual partnership is acknowledged to be low, even by those that partner often (Gajda, 2004; Googins & Rochlin, 2000; Hodge & Greve, 2009; Rosenau, 1999). In industries where partnering success is critical to the overall livelihood of the business, process and individual expertise are relied upon to increase the odds of success. Leaders with pattern recognition acquired from prior experiences can keep a partnership on track during its fragile stages, such as during startup, or in specific situations that can threaten the partnership itself. These actions make these organizations more robust overall.

**Benefits of formal structuring approaches over experience.** It would be logical to assume that having prior partnering experience results in better outcomes when the same organization participates in another partnership, but this is not supported by research. Without a formal partnership process, prior experience alone does not significantly improve subsequent performance (Kale & Singh, 2002). Factors such as management of cultural differences, systems for shared risk management, governance and decision-making structures, mechanisms to learn about each other's priorities, and methods to track progress versus plans are important elements of a well-managed partnership. Prior experience can build capability in these areas, but it needs to be institutionalized for the tacit knowledge to be translated into formal structures that guide new partnership operations.

In support of arguing the importance of formal structures on partner success rates, Kale, Dyer and Singh (2002) conducted an empirical study of 78 public firms that collectively had entered into 1,572 alliances. The analyses examined the relationship between prior alliance experience, formal alliance processes, and stock market value. Key informants gave yes/no responses to two questions: (a) does the organization have prior experience with alliances?; and (b) does the organization use a formal alliance management function? The dependent variables of “alliance success/performance” were determined by an incremental value theory. This involved observing market responses following the alliance announcement to determine if abnormal stock price increases occurred. This incremental value creation approach was based on methods used by economists to evaluate alliance performance (see Kale et al., 2002, p. 755).

A strong correlation was observed between existence of a formal alliance management structure and long-term performance as measured by the key informant's survey response about meeting the alliance's intended goals two years after announcement. Organizations with a previous partnering history fared only five percent better than those that have never tried one before. Organizations with a partnership management structure, however, had a success rate that was 50% higher. In addition, a strong correlation between incremental stock market value increase and

alliance experience was also observed. The authors concluded that the public markets place values on alliances (Kale et al., 2002).

Eli Lilly and Company has a formal alliance management structure and is famous for its positive treatment of its supply chain partners (Kale et al., 2002). The alliances are public knowledge and the investors value the pairings with strong pharmaceutical service organizations. These types of alliance structures allow companies to have shared processes in risk management and investment analysis, among others. Kale et al. note that companies with dedicated alliance management structures use these mechanisms to share knowledge with each other. Critical attention and focused resources can be applied to partnerships when needed to maintain the health of the relationships (Sims et al., 2001). The structures themselves establish the corporate memory, and lessons learned can be efficiently translated to other alliances within the company's portfolio (Kale et al., 2002).

An example of how knowledge is captured and shared among partners can be seen in Lilly's alliance management practices. Participants in Lilly alliances complete surveys multiple times per year that are designed to surface where gaps exist in how each organization views each other's strengths, weaknesses, and areas where partners can help each other on behalf of the alliance goals. Maintaining a trusted environment<sup>5</sup> is critical to the success of this process itself because honest responses without fear of retribution are considered key to surfacing and mitigating impending problems (Sims et al., 2001).

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<sup>5</sup> Trust is a dominant factor in successful partnerships, and it is discussed in a later section.

Jenkins (2001) has offered observations about what is common in partnership effectiveness across a range of implementations. She reports a commonality in formalized structures that support agreement on goals, level of personal interaction among members, a sense of equality among members, and commitment of time to the partnership. Further, Jenkins observed, “role, relationship, and activities seem to evolve in partnerships in four specific development stages” (p. 145). The first stage—initiation—involves introductions, defining the problem, setting of goals, establishing expectations about the partnering process, and identifying the information needed to allow the partnering process to begin. Planning is the next stage, and it includes the design of the program, committing and allocating resources, scheduling, and identifying roles for specific personnel. Implementation is the third stage and involves action plans and feedback methods to modify the plan based on results. The fourth stage—reporting—is the summary documentation and presentation to the stakeholder community. Jenkins contends that partnerships are more effective when stakeholders remain involved throughout all four of these stages because they are better problems solvers with an understanding of the context. This continuity was another element watched for in the data collection and analysis.

This notion of participation is echoed in other partnership research. Participation in an orientation and an explanation of goals is considered a foundational element to start a partnership with aligned goals and an understanding of how it is intended to operate (Googins & Rochlin, 2000). Because cross-sector members speak different languages, gaining an appreciation of differences in cultures and operating constraints is difficult. “It

is important in creating partnerships to design projects that both understand the strengths and weaknesses of the participating institutions” (p. 136). Further, partnerships that are not functioning well at the outset will find it more difficult to ultimately reach a trust level with each other, as compared to partners who already have prior experiences in productive and mutually beneficial relationships (Abowitz, 2000; Appleton-Dyer et al., 2012; Cohen, Rogelberg, Allen, & Luong, 2011).

Partnerships are not only situational in their formation. Once in operation, a variety of unexpected events can occur that require thoughtful analysis and decision making by the participants. The differences in the cultures that were previously discussed can compromise the quality of how decisions are reached and what factors might be more important than others. As the next section describes, deliberate attention to decision processes is an important contribution that businesses can bring to BaEPs.

**Improved decision-making processes.** Process diligence is a factor in the business contribution to BaEPs. Side-by-side collaborations among business and education leaders enable business leaders to gain appreciation for complex constraints faced by educators and can incorporate this knowledge when business is providing executive decision and resource planning advice (Austin, 1998; Langworthy & Turner, 2003). Expertise from private business can add new management decision techniques (cf. Vroom, 2003) to the education leader’s toolkit.

As important as decision making is to the operation of an enterprise, some management researchers find that management decision discipline is lacking. One research study estimated that more than half of management decisions fail (Nutt, 1999).

The study examined the decisions made by 356 managers in U.S. and Canadian companies. The study methodology involved staying in contact with decision makers for a period of two years. The information was obtained through interviews.

“The primary indicator of success was whether a decision was put to use” (Nutt, 1999, p. 77). The definition of a good decision was sustainability (i.e., decision logic remained in effect in the organization for two years) and use (i.e., decision still in full use after two years). Interviews with the persons responsible for the decisions revealed that their decisions were flawed. In this study, two out of three decisions were designated as failures.

To understand what contributed to the failure, the interviews asked respondents about the assumptions they had made about the decision at the start. The researchers also inquired about the process steps that were used to determine what decision was to be made, how the decision was reached, and how it was subsequently implemented. In decisions defined as failures based on the definition of the study, respondents were asked what went wrong. Among this set of managers, factors beyond the decision makers control—such as customer preferences or budget constraints—were not a primary determinant of failure. On the contrary, the primary problems were far more likely to be self-inflicted. Predominant themes from the interviews included imposed solutions by managers, limited examination of alternatives, and executive influence. On the other hand, determinants where good decisions were made involved clear objectives, disciplined development and comparison of alternatives, and involvement of key stakeholders who would support would be central to implementation of the solution.

Vroom (2003) builds on the research about management decision errors in his development of a methodology for “deciding how to decide” (p. 970). Vroom considers the urgency, consensus building, culture, and technical aspects of a decision situation faced by a leader. In Vroom’s methodology, these aspects are depicted in a flowchart of yes/no questions that determine how involved stakeholders need to be. For example, if stakeholder buy-in is essential for successful implementation of a decision, then Vroom’s method directs the leader to a participative decision-making process with stakeholders. On the other hand, if subject matter expertise is the most critical element for a high quality decision, Vroom’s method directs the leader to delegate the decision to the person or persons having the deepest knowledge. These situations apply to the complex nature of BaEPs with many stakeholders and illustrate the managerial prowess that can contribute to a BaEPs success.

**Inclusion of start-up community and R&D emphasis in BaEPs.** Another factor in raising the likelihood of partnership success is conducting the work within a community where others are doing similar projects and working to translate research knowledge into practical applications. Bryk and Gomez (2008) suggest that BaEPs could benefit from borrowing practices from the venture capital and commercial industries. In the venture capital industry, incubator facilities provide offices and labs for start-up companies that group together companies by stage of development and type of industry. This provides an ecosystem with mutually reinforcing support to these fragile start-up companies. While an individual company may fail, there is a higher likelihood that others in the facility will succeed as they operate in a community infrastructure that enables

organizations to learn from each other. The Learning Accelerator (<http://thelearningaccelerator.org>) is a venture organization transferring these practices to the education industry. The organization uses a virtual incubator setting to design and implement blended learning applications and assigns experienced coaches to the blended learning companies as a means to accelerate promising start-up activities.

In addition to the potential of new start-up companies becoming industry change agents, Bryk and Gomez (2008) bring forward the argument for university educators, policymakers, and commercial education sector companies to systematically harness research and development:

Ironically, important new knowledge is being generated across the social sciences that has salience and *could have* significant effects on improving schooling were this practical task viewed as central to the work of universities. To the point, we have more useable knowledge than ever, but little capacity to exploit it systematically. (p.2).

Feedback from users in the market, so important to commercial industries, is also not robust. “There are no extant mechanisms to test, refine and transform this practitioner knowledge into a professional knowledge base” (p. 2.). Commercial sector education companies are almost non-existent in research and development. They place their emphasis instead on products the market has already shown it will buy, such as curriculum materials and professional development.

Bryk and Gomez (2008) call for “use inspired” (p. 6) education laboratories where practitioners and researchers work together and dramatically increasing attention

to research and development spending as a percentage of the overall sector to rival that of the medicine and engineering sectors. These sectors spend 5% to 15% of revenues on research and development. The education sector, on the other hand, is a 500-billion-dollar enterprise that spends much less than one percent on research (Bryk & Gomez, 2008).

The opportunity for BaEPs to catalyze an increase in research-based product development practices is another potential value of these relationships. Businesses have shown their value in transferring strategic resource and management skills to education partners.<sup>6</sup> Interorganizational collaboration on domain-specific problems has been shown to be effective (Gray, 1998). Gray posits that this is because the problem solving effort tends to involve process-oriented collaborations that unite the organizations toward a goal. A solution to domain-level problem can be valuable to each organization. Project management and leadership influence across organizational boundaries are critical to carrying out this type of work.

**Challenges facing cross-organizational teams.** In their article about “influence without authority,” Cohen and Bradford (2003) outline a common issue for managers. Managers are frequently accountable for tasks that require the cooperation of people that are not within their direct line of managerial authority. It is necessary to use alternative mechanisms to gain the needed influence. The key to this is understanding what is valuable to the partner that can be reliably provided by the manager. This might include, for example, public advocacy for a partner’s cause.

Management expertise resident in a BaEP also impacts how well it can function.

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<sup>6</sup> For example, see Austin (1998) for an account of how Cleveland business leaders helped train regional school leaders in problem solving and project management.

The participants of a BaEP must function in an environment with many different organizations, boundaries, and opinions. Managing in these environments benefits from specialized training. The research methods employed by Harbour and Kisfalvi (2014) to examine how leaders manifest the trait of managerial courage offers a creative mixed-methods approach that informs how cross-sector partnerships might be studied. Harbour and Kisfalvi synthesized leadership research and established categories they called “critical moments” (p. 502). These were declarative behaviors indicative of managerial courage in the context of group decision-making processes. The authors used a coding schema to record team interactions and tallied when a critical moment was observed.

The researchers coded the topics of subject matter and the persons involved in the discourse. The researchers also subjectively coded the intensity of the communication on a Likert scale, largely based on the observed emotions of the persons involved. After these data had been collected, the research team compared their own observations for commonalities. Through discussions, the researchers arrived at a set of 57 critical moments. An example of a managerial courage “critical moment” would be observed when a person in a meeting departed from groupthink and provided a contrary view of a decision that others clearly supported. These events were time coded, connected to the circumstances and the personnel involved, and used later for team training purposes.

Participants largely resonated with two types of managerial courage, “the courage to act” and the “courage to be” (Harbour & Kisfalvi, 2014, p. 510). The courage to act referred to situations that are traditionally thought of as risky. For example, the courageous act of expressing an opinion to move ahead with a program in the face of

budget uncertainty while peer pressures for others on the team is in favor of slowing down to see how the financial situation resolves itself. The type of courage the participants selected as strongest by far was “the power to be.” The researchers explained this as the inner strength to overcome “a condition of inferiority and that it is difficult to maintain” (p. 510). The power to be was describing a participant’s resilience to control their fears about staying involved.

**Supportive physical environments for collaboration.** A large part of partnership work takes place in a meeting setting. The logistics for meetings may seem like a small matter in examining partnership success but there is a compelling argument that meeting settings should not be trivialized. On the contrary, researchers that study team dynamics have found that early impressions formed solely on physical environments establish a bias—favorable or unfavorable—that has a lasting effect on participant attitudes. The work of BaEPs is cross-sector in nature, and the location of the partnership meetings do not coincide with the normal workplace of all the participants.

An empirical study set out to examine the design of meetings (Cohen et al., 2011). The authors identified 18 design characteristics—in categories of temporal, procedural, physical, and attendees—associated with team meetings. An online survey was provided to participants that attended regularly scheduled team meetings within 48 hours of each meeting. The survey asked the participants to rate the perceived quality of the meeting using a Likert scale. The survey also asked participants to rate their perceptions of each of the 18 design characteristics.

Cohen et al. (2011) found that physical environment characteristics were strongly associated with attendee perceptions of meeting quality. The researchers concluded that a pleasing meeting experience as perceived by participants set a positive tone, and participants viewed the future work with optimism and a desire to participate. Leading factors of this perception were temperature of the room, lighting, and quality of the refreshments. This implies that the physical setting needs to be considered as part of the partnership tool set. For example, choosing a location simply because of the logistical convenience of the participants—reasonable driving distance for the attendees—could have unintended consequences.

In BaEPs, agile problem solving is crucial to responding to unanticipated situations. The positive impact of a pleasing physical environment raises perceived meeting quality. This is an important consideration in partnership operation because a participant's satisfaction with a meeting influences their attitude toward future meetings. If it is negative, Cohen et al. (2011) notes that participants may find reasons to not attend, or attend with pre-conceived negative attitudes about the meeting's value. On the other hand, the authors note that a positive perception of a meeting correlates to higher job satisfaction. This suggests that a positive impression of a cross-sector partnership meeting could heighten the anticipated value of future meetings.

**Summary.** The members of BaEPs decide to participate for a variety of reasons but common to all is enlightened self-interest. This is not to say that participants are only in it for themselves. Rather, the reader should take away from the discussion that a BaEP needs to provide benefits to its members and pure altruism will only go so far as a

motivator. The operation of a BaEP benefits from structured management and resource allocation processes. Finally, the basis for making sound decisions in BaEPs is complex due to the interests of the multiple public and private organizations involved in a common project. The next section explores the social and interpersonal elements that surface in cross-sector partnering work especially in the areas of unresolved conflict.

### **Maintaining a Supportive Partnership Environment**

This section presents a synthesis of the research regarding factors important to establishing supportive environments within which partnerships operate. This includes methods to address conflict, power, goal setting, the value of managing relationships across boundaries, and trust.

**The art of negotiating agreement: conflict management.** Negotiating agreement on partnership goals is complex (Eden & Huxham, 2001). It involves establishing a “common sense of purpose” and overcoming “collaborative inertia” (p. 374) that fights against change in an organization when working with a partner. Reaching a decision on what a partnership wants to do together is needed before assignments can be made regarding who will do it. Eden and Huxham’s (2001) research points to three tensions that each person in a partnership faces: (a) the individual’s own skills that are contributed to the work, (b) the representation the individual makes about their organization that are beyond their direct authority, and (c) the public participation of the individual in areas that are on behalf of the entire set of stakeholders. Eden and Huxham’s work illuminates an important element of the managerial “courage to be” discussed earlier. An individual that is immersed in a partnership faces a dilemma when

they are faced with a conflict among these three tensions. Consider, for example, the following scenario.

A BaEP is focused on implementing experiential learning settings in the business environment. The BaEP program goal might call for students to have weeklong internships in the business partners' manufacturing facility. A business participant in a BaEP planning meeting would see the broader team rallying an idea of dozens of students per semester flowing in and out of the manufacturing facility. The business participant experiences Eden and Huxham's tensions directly especially if they are the only representative from the business on the BaEP team. The businessperson may have no authority to approve an internship idea—part “b” of the tensions described earlier. Further, the person may know it is not feasible in their company—an expression of part “a.” To speak up in opposition of the internship idea requires the “courage to be” in the face being perceived as a non-team player. Finally, imagine that a public event is held to announce the BaEP intentions and the press interviewed the businessperson. All of the tensions are now in play.

**Distribution of power in BaEPs.** A commonly cited factor that creates conflict in partnerships is the diversity of operational constraints and values among the participants. Babiak and Thibault (2009) note that much of published partnership research acknowledges these differences in operating constraints but neglects the issue that partnership power is rarely equally shared. This creates conditions of autonomous decision making and “wasted resources” (p. 120) spent in negotiating compromise or dealing with differing priorities among the members. Partnerships that generate results

over time have key actors that understand how to recognize these differences and not create expectations that pull organizations, particularly non-profits, in directions that are incompatible with their own missions.

Conflicts are inevitable in any partnership (Bryson et al., 2006; Eden & Huxham, 2001; Vangen & Huxham, 2003). The conflicts in BaEPs can occur due to differing views on goals, approach, perceived lack of follow through on commitments, and use of resources, among others (Bryson et al., 2006). In addition to the content of the conflict, the process by which the conflict is raised and the inclusiveness of groups charged with resolving the conflict are also important to proper partnership functioning.

Bryson et al. (2006) identify that, because conflict is common, partnerships are more likely to be successful when there are processes in place that equalize power among the partners. There is debate, however, about whether the Bryson et al. view of equalized power among all participants contributes to successful resolution of problems. Conflict resolution was examined in the context of collaborative work teams and individual member's perception of power and control. In one study where the specific construct of interest was "perceived decision-making power" (Walden, Javdani, & Allen, 2014, p. 855), the investigation attempted to test whether equilibrating perceived power among the members would improve conflict resolution outcomes.

The collaborative teams were associated with a judicial task force council that participated in policy setting and arbitration of specific domestic cases. A survey using a four-point Likert scale from *never* to *often* was provided to participants asking them about participation and prior task force experience. Example topics included how often

they spoke up at meetings and their involvement level of task force work in between meetings. The authors posited that constructive conflict was an important characteristic of the teams for creative problem solving especially in settings where the problems were new and without precedent. If power was perceived to exist in only a few members, trust bonds would be broken and decision quality and performance would erode.

Interestingly, in environments where the participants felt that there was a constructive conflict resolution process in place, the members also felt that only a few select members—the stewards of the process—held the most power. In the cases where the members believed that there was no formal conflict resolution process, the survey results revealed a belief that all members held roughly the same perceived power. These members also believed that the environment was generally conflict avoidant and ineffective.

Establishing a structure where a select few leaders proactively manage conflict provides a safe environment for team participants to disagree because the rules are understood about how conflicts will be resolved (Walden et al., 2014). This can also mean that perceived equality in decision-making power is not necessarily a healthy situation for collaborative teams. Conflicts also arise in situations where partnerships have a diverse set of operational constraints and values among the participants. Partnerships that generate results over time have key actors that understand how to recognize these differences and not create expectations that pull organizations, particularly non-profits, in directions incompatible with their missions (Babiak and Thibault, 2009).

**Goal setting and negotiating joint purpose.** The importance of articulating a common goal is a well-established starting point for partnerships (Gray, 1989). The action research experience of Eden and Huxham (2001), however, points to a common flaw in believing this process is “simply a matter of those involved remembering that *deciding what they are there to do* is a preliminary activity that must be carried out before trying to do it” (p. 374). Eden and Huxham used videotape and field notes to document the interactions of cross-sector team in Scotland working on child poverty issues. The researchers observed that effective leaders of cross-sector partnership teams demonstrate special facilitation skills tailored to negotiate agreement of the members. This involves the laborious “process of *negotiating joint purpose*” (p. 374).

Rather than focusing on the overarching goal of the partnership as the starting point, the researchers observed that effective leaders often began by inviting each organization to describe its own goals first. Once the organizations had articulated their goals, a comparison was made with the overarching partnership goal to determine where reinforcement or conflict could exist for any member. This process set the stage for “episodes of negotiation” (p. 378) with each of the organizations that consisted of iterations between reframing the overall partnership goal with different terms and identifying ways to solve the apparent conflicts to the satisfaction of the organization involved. This process took days or weeks to accomplish. But when finished, the researchers observed that goal ownership was strong and “wasted time” and misunderstandings were minimized as the partnership continued (p. 379). Part of this research used video to replay “episodes of negotiation.” The facilitator helped the group

discuss examples of disruptive behavior, conflicting goals, hidden agendas, and disinterest. As a result, the participants learned strategies to detect and mitigate the impact of these behaviors. The ability for these interactions to take place constructively relies on more than effective facilitation. It also requires effective ways to assess progress and some way to convey metrics of interest to stakeholders. The research on how this can be attained is addressed next.

**Measurement and analysis of partnership performance.** A general consensus about metrics relevant for success in BaEPs is also evasive in the literature, and rigorous tracking of results has been a challenge in partnership evaluations (El Ansari et al., 2001). Sometimes, “partnerships may be seen as ends in themselves” (Dowling et al., 2004, p. 311). In these cases, the theory is that the community optimism rises as a result of seeing previously unrelated groups unite on behalf of improving a recognized problem. In terms of outputs and outcomes, a temporal perspective is important. Partnerships may produce results that do not have the overall intended impact until years later. When results are evaluated at a later date, the partnership itself may have been dissolved. Therefore, understanding the role that partnerships played in an observed outcome is difficult (El Ansari et al., 2001; Gray, 1985). The lack of standard practices in partnerships and the variations in how evidence is collected also supports why comparing data between partnerships is not typically useful (Butterfoss & Francisco, 2004) and why my proposed research examines partnerships on their own merits.

For example, elected officials often use their public advocacy for a new public/private partnership to appeal to voters. Political cycles are much shorter than the

timeframe required to truly evaluate the results of most partnerships. Hodge and Greve (2007) note “the rhetorical power of the partnership notion must be acknowledged” (p.553) and officials often cite the existence of the partnership as the proxy for success (Googins & Rochlin, 2000). Unfortunately, a political contender may seek to unwind an opponent’s partnership because they had no hand in creating it. Actors in enduring partnerships appreciate these realities and take steps to tie the partnership goals to the contemporary public policy agendas of elected officials so attribution of success can be tied to multiple leaders over time (Amey et al., 2010).

When a partnership is the result of a grant, a portion of the grant is often allocated to evaluation. From the point of view of the evaluator, the partnership itself is an intervention. The partnership is formed to achieve a goal, and the evaluator attempts to determine the degree to which the goal was attained.

Examining a partnership as an intervention poses a variety of challenges. “We don’t know” (Zwarenstein & Reeves, 2000, p. 1022) was the opinion of health care collaboration researchers in their experiences asking stakeholders whether collaboration mattered or how it could be improved. In an ideal circumstance, understanding the causal effects associated with a partnership would require a treatment group and a control group (El Ansari et al., 2001). Enacting a randomized control trial approach in partnerships, however, is not practical, and while there may be conditions where there is a natural control group, attributing positive or beneficial observations directly to the existence of a partnership is not valid (El Ansari et al., 2001; Lunnan & Haugland, 2008).

An examination of the literature to gain a sense of elements that matter in partnerships was tied to the aims of the present study. El Ansari et al. (2001) summarize this wide range of choices in their work on developing a base to understand effectiveness of partnerships. It is a matter of whether the interest is on the people in partnerships (i.e., their motivations to participate and the role of trust and other interpersonal elements play), or the partnership process itself (i.e., management methods, roles and responsibilities, goal setting, etc.).

The scope of the research team's partnership performance study was "influenced by the diversity of perspectives and conceptual facets, and difficulty in measurement of the notions involved" (El Ansari et al., 2001, p. 215). These facets of collaboration vary considerably and could include measureable outcomes (e.g., improvement in student reading scores, number of students completing a business internship, percent of teachers completing professional development), collaboration satisfaction among the stakeholders, and financial metrics (e.g., reductions in budget from shared services), among others.

Other aspects of partnership dynamics can also confound the metric used for measuring performance. Consider a logic model perspective for evaluation. A logic model is a tool used to "conceptualize the relationships between short-term outcomes produced by programs, intermediate system impacts and long-term community goals" (Julian, 1997, p. 251). Within a logic model that illustrates the aims of the partnership, the focus of measurement could vary from proximal impact (e.g., employee satisfaction in the collaboration), to distal impact (e.g., community-level results), timeframes (e.g., immediate results or the long-term effects on a population of interest), and/or focus on

the individual level or the collective results that may have arisen from partnership.

Finally, El Ansari et al. (2001) describe the “moving target” (p. 220) conundrum in examining partnerships. A researcher’s findings will depend on when, over the time span of collaboration, the data are collected. A barrier may be a centerpiece of findings when a partnership is examined early on, while overcoming that barrier may be the headline results if a partnership is examined after it has operated for a period of time.

**Variations in how partnership progress is assessed.** The lack of standard practices in partnerships and the variations in how evidence is collected raises questions about the validity of the variables and data examined (Butterfoss & Francisco, 2004). Dowling et al. (2004) note that in their surveys of partnership functioning, much more attention is paid to the “doing” (p. 315) than how to measure outcomes or progress. From these research texts, one can be led to conclude that observable partnership activity is considered a proxy for progress, even if that activity is not productive or directed toward the aims of the partnership itself.

As previously mentioned, Eli Lilly and Company use an alliance management survey tool with its partners that largely focuses on collaboration satisfaction and knowledge of the partner’s limitations and capabilities as a primary indicator to determine partnership health (Sims et al., 2001). The survey itself was a source of data, but it was not used in isolation to evaluate institutional-level partnership progress. Rather, the dyadic pairs of responses were analyzed and provided back to the full group to enable sense making by the very people who contributed the data. On a quarterly basis, participants in joint projects completed an independently administered survey to gather

perceptions directly from the participants in the project, and they met as a group to discuss differences in perspectives and to establish action plans to address areas most important to progress.

The STRIVE partnership of business and educators in Cincinnati used a public dashboard that tracks the year-to-year change in key indicators, such as kindergarten readiness and third grade reading scores (Butterfoss & Francisco, 2004). STRIVE data were captured using a process established by one of its founding partners, General Electric (GE). This rigorous process was based on quality control procedures GE used in its own company to assess and compare performance across departments. Attempting to use similar methods with STRIVE partnerships proved to be a challenge for these GE researchers in comparing the performance success of partnerships. The lack of standard practices used in partnership management writ large, and the variations in how evidence was collected nullified the ability to compare partnership dependent variables and independent variables (Butterfoss & Francisco, 2004).

Another example of the variations in determining partnership value was seen in a Midwest state BaEP. Rather than measuring results generated by the partners on the organizational stakeholders themselves, this partnership sought to transfer management and pedagogical methods that can be used and improved upon by other BaEPs in other communities. In the goals articulated by the memorandum of understanding executed by business and education stakeholders for the formation of a highly personalized high school, the motto of “small school, big impact” was adopted (North, 2011, p. 1). The BaEP involving Midwest State University, Research-One, and an urban school district

utilized the high school as demonstration laboratory. The desired impact was achieved when a practice initiated at the demonstration site migrated to another district in the community. The founders of this partnership recognized that there could be unintended consequences of this design philosophy. It assumed that migration of a practice that worked in the pilot setting would also work in the new setting. The risk was that a practice could spread quickly and later be found to be detrimental to learning and teaching in the new environment.

This discussion reveals the diversity in measurement methods and the value drivers for the measurements themselves. In cases where it is important to demonstrate cooperation between the public and private sectors, counting the formation of partnerships can signal cooperation is occurring, although the level, content, or depth are not apparent. Collaboration satisfaction is another measure that is gleaned from surveys and interviews. It is not uncommon, however, to find participants satisfied with their counterparts while at the same time unable to recount any tangible outcomes that have arisen from that same collaboration.

To balance the challenges of measurements as the feedback method to understand progress of partnerships, research shows that there is a particular partnership role that is more critical than others. This role is pivotal to understanding the ground truth about the work in progress and adapting the plans to the needs of the partners. This role is described next.

**The boundary spanner.** While senior level individuals play a key role in putting the partnership in place, it is logically infeasible for these leaders to have the time to be

on the front lines on a continuous basis. A solution to the day-to-day demands of partnerships is to assign individuals who “provide the linking mechanism across organizational boundaries, namely boundary role persons” (Currall & Judge, 1995, p. 152). These are individuals who know their organizations well, are widely trusted, understand the aims of the partnership, and have established inroads to the partner organization through their counterpart boundary person. Together, this dyadic pair establish the basis to negotiate boundaries, shape the evolving partnership activities to adjust to realities on the ground, and add efficiency in monitoring the progress of the work because they have deep access to the information. Where boundary spanners are present in an organizational partnership, there is evidence that surveillance and control is more efficient, less costly, and more agile to unforeseen circumstances resulting in a more effective partnership (Currall & Judge, 1995; Jarillo, 1988; Williams, 2010).

Williams (2010) makes another important distinction about the importance of boundary spanners in the success of partnerships. While much of the partnership research by academics addresses institutional and corporate level actions, the individual actors’ roles in success cannot be overstated. The author points specifically to boundary spanners’ ability to work across boundaries as a key to shaping the day-to-day activities of partnering. Boundary spanners are known by other names or roles such as alliance managers or relationship managers (Bamford, Gomes-Casseres, & Robinson, 2003; Sims et al., 2001).

In a meta-analysis of research associated with partnership leadership structures, the published literature was separated into teams with formal boundary spanners and

teams without this function (Burke, Stagl, Klein, Goodwin, Salas, & Halpin, 2006). The literature was further screened to include only those articles that reported on team performance and satisfaction. The meta-analysis found that when boundary spanners are part of the management structure, positive perceptions of team empowerment behaviors, coaching, timely feedback, and team learning were attributed to the existence of the boundary spanner (Burke et al., 2006). Support for the importance to these dimensions is reinforced by the Gallup Q12 workplace climate survey that identifies timely feedback and empowerment as key factors associated with wellbeing in the workplace (Harter & Schmidt, 2003).

It follows that narratives captured from boundary spanners for the purpose of partnership evaluations will yield important stories about how the work really gets done. Using Likert-scale partnership satisfaction surveys, Burke et al. (2006) found that satisfaction indices were a factor of three higher where autonomous boundary spanners were present as compared to partnerships where no boundary spanner was involved. The synthesis from Burke and colleagues included a framework describing the feedback system between leader function and team behavior. This system emphasizes that sensing the needs of the team influences the leader's actions. This research suggested that the boundary spanning link to team empowerment behaviors (e.g., coaching, monitoring, feedback, team learning, etc.) was a likely element that would surface for inclusion in the partnership endurance model.

**Establishing a high-trust environment.** Trust is essential in effective BaEPs and the associated levels of satisfaction among its members (Bainer, 1998; Currall & Judge,

1995; El Ansari et al., 2001; Kleiner, 2002; Nooteboom, 1996; Rempel, Holmes, & Zanna, 1985). Personal relationships and trust among senior individuals in partnering organizations has been shown to not only streamline the establishment of agreements but also a way to overcome obstacles when they arise as the partnership unfolds (Amey et al., 2010). When partnerships encounter unexpected challenges, trust among the participants enables new avenues to be pursued, or forgiveness for mistakes, allowing the partnership to continue to advance on behalf of its goals (Rempel et al., 1985).

Trust is necessary when sharing power or relying on others to deliver on key promises. Trust is also a factor among the observers or potential benefactors of a partnership in terms of the degree of trust these individuals have in the partnership organizations. This includes whether participants believe they will act honorably and in the interest of doing the right thing (Currall & Judge, 1995). This is especially essential when for-profit organizations become involved in partnerships. There are some who believe that these corporations have ulterior motives that drive participation, such as a way to shift costs, gain relatively free labor, or establish pathways to secure talent for their organization (Googins & Rochlin, 2000; Guo & Acar, 2005).

It follows also that when trust is not present or when events establish a situation where trust is eroded, partnership functioning becomes harder. Activities move from collaborative to transactional, with individuals taking action only when certain conditions are met. Once a trust bond is broken, it is difficult to repair. Further, in partnerships, the perception of trust is a combination of factors, and past history has a strong influencer of

how a current relationship is perceived (Jamali & Keshishian, 2009; Hodge & Greve, 2009; Nooteboom, 1996).

Trust is a key factor associated with BaEP members' satisfaction (Bainer, 1998; El Ansari et al., 2001; Rempel et al., 1985). The visible and continuous role of boundary spanners has an impact on trust. Organizations that rely on partnerships often have boundary spanners that operate at the interface of the organizations (Perrone, Zaheer, & McEvily, 2003; Williams, 2010). Because moving through unanticipated challenges and uncharted territory is common, boundary spanners who have been granted high levels of autonomy from their organizations are able to make decisions that take into account the real-time context. In contrast, boundary spanners with strict limits on decision authority do not have this flexibility.

Perrone et al. (2003) surveyed 119 dyadic pairs of business partnerships using a trust survey developed by Rempel et al. (1985) and compared responses between two groupings: those with high autonomy boundary spanners, and those where the boundary spanners were prohibited to operate beyond the authority documented in their job description. The researchers used regression analysis to examine control variables with the trust index score. The group with high autonomy boundary spanners yielded significantly higher trust index scores than groups where boundary spanners had limited autonomy. Perrone et al. (2003) posited that a boundary spanner's level of autonomy has a positive relationship with the trust levels of partnership members and they are highly valued.

Change in direction is common for BaEPs as they encounter unanticipated situations. Resiliency of partnership teams is likely an important component that leads to successful operation in response to changing circumstances. No specific research on BaEP team resiliency was found in the present review, although the term “resilience” is frequently used to describe a characteristic of successful BaEPs. Resiliency has been studied in other team environments. Research into team performance where attention to safety and precision is crucial has uncovered training factors that allow teams to be resilient when a situation requires the team to respond to unanticipated events (Furniss, Back, Blandford, Hildebrandt, & Broberg, 2011). Training scenarios improved an individual’s self-awareness and increased their attention to balancing workload and collaborative activity in times of stress (Furniss et al., 2011). This suggested that scenario training for BaEPs using real stories derived from successful and unsuccessful BaEPs could be an important contributor to BaEP endurance.

### **Closing Commentary about Partnership Functioning Over Time**

Some partnerships are designed to only carry out a single project to its completion. There is no expectation for anything further to happen. Beyond aligned purpose, a factor associated with partnerships that continuously generate results in multiple projects is the ability to mobilize engagement of leaders for protracted periods of time (Babiak & Thibault, 2009; Hill et. al., 1989). Frequent interactions set the stage for the building of trust and for a deeper contextual understanding and appreciation for each other’s work environment and constraints.

When cross-sector partnering is not part of the normal daily work of the participants, using training or mentoring to overcome the lack of familiarity related to starting is an element linked with success. The ability to get partnerships underway and to actively manage them with consideration of the cultural differences between public and private sectors is also cited as a factor in successful partnerships (Babiak & Thibauk, 2009). Once started, when the stakes are high, the consequences directly impact those involved, and the goals are made visible to the public, there is a natural tendency among the partnership managers to stay closely involved because the consequences of failure are deemed unacceptable (Linden, 2002).

At some point, the initial funding used to start the partnership will come to an end. While this situation is inevitable, it does not have to signal the demise of the partnership. The notion of partnership continuance is examined in detail in the narrative sketches of the partnerships selected for the present study. The research on partnerships with this quality is limited as compared with articles on partnerships in general. The work of Jenkins (2001) is important to highlight in this context. Jenkins' methods were not explicitly focused on the mechanics of endurance. Rather, the research examined what happened to a set of partnerships after the original funding that established them was exhausted. These partnerships were among business and education organizations but their scope of work varied and was not a control variable.

Jenkins (2001) examined the status of partnerships one year after funding had been discontinued. Sixty-two partnerships were identified and stakeholders were interviewed about the endurance of the partnership and factors that sustained partnership.

For partnerships that continued operations beyond the funding period, the most frequently mentioned reasons included:

- existence of an enthusiastic, prepared, and motivated resource professional from the business partner;
- committed partners that take the program seriously;
- members who willingly volunteer to assist in the legwork of the program;
- collaborators who are trustworthy and enjoy working and learning from one another;
- a shared commitment to the success of the students and to serve as role models for them;
- positive relationships among the partners, often leading to friendships. (p. 13)

Interviewees characterized partnerships that had disbanded in the following terms:

- lack of commitment by any one of the partners;
- change in jobs for one or more of the partnership's key members; and
- lack of a relationship among the members. (p.13)

Regarding the latter item, a frequent comment was that “the partners *just didn't click* (emphasis added)” (p. 13). The resource professional mentioned above is roughly equivalent to the boundary spanner. However, it is not possible to make the direct comparison because the depth of the resource professional’s role was not detailed.

It is important to note that some of the factors that were present among the disbanded groups—such as the change in a lead member or incompatibility of a team—were also experienced in the partnerships that endured. Jenkins (2001) surmised that,

while both groups faced similar internal and external barriers over the course of the work, the unsuccessful group was unable to adjust to change. The partnerships that were still functioning were more resilient and maintained a focus on their vision.

The longevity of the partnership and close relationships among the organizational leaders—seemingly positive factors for a relationship—can also confound gathering truthful information. Anderson and Jap (2005) conducted one of the largest examinations of partnership relationships. Over a two-year period, they surveyed 1,540 partnerships among businesses and suppliers, with the aim of uncovering latent or lingering problems. In their work, the researchers used detailed, confidential questionnaires with dyadic pairs of respondents from each partnership and selected informants “down in the trenches” (p.76) that were most knowledgeable about their counterparts in the other company. Because of the sensitive nature of the questions, the researchers asked executives in each company to encourage their employees to participate. Relationships among companies could be lingering in a deteriorating state for years without either side taking action because personal relationships had become close and conflict avoidant behavior superseded corrective actions and complaints (Anderson & Jap, 2005).

The prior discussion surfaced a set of partnership success themes. The endurance discussion transitioned from success alone to the research that applies to enduring characteristics and example practices. It stands to reason that participants in enduring partnership would claim that successes have occurred along the way. Otherwise, the partnership would likely not have the momentum to continue operation. Table 2.1 is a summary of the research attributed to success in the form of constructs.

**Table 2.1***Constructs associated with BaEP success*

Construct	Research Reference
SC1: Self-efficacy and expectation of mission success	(Sims, Harrison & Gueth, 2001)
SC2: Existence of mutual trust and personal relationship among organization leaders involved in the partnership	(Lunnan & Haugland, 2008; Jenkins, 2001)
SC3: Partners commit to project achievement of a greater good	(Abowitz, 2000; Amey, Eddy, & Campbell, 2010)
SC4: Common definition of the problem	(Austin, 1998; Gray, 1989; Hill, Wise, & Shapiro, 1989)
SC5: Goals of partnership consider enlightened self-interest of the members	(Googins & Rochlin, 2000; Amey et al., Eddy & Campbell, 2010)
SC6: Members understand and appreciate differences in operating constraints among organizations in partnership	(Selsky & Parker, 2005; Elbers, 2004; Jamali & Keshishian, 2009)
SC7: Existence of boundary spanners with autonomy	(Currall & Judge, 1995; Nooteboom, 1996)
SC8: Understanding of my role and how well supported I feel	(Harter, Schmidt, & Keyes, 2003; Jenkins, 2001)
SC9: Metrics to measure progress are used; process for partnership management; active problem solving is apparent	(Acar & Robertson, 2004; Bryson, Crosby & Stone, 2006)
SC10: Partners receive orientation to partnership purpose and context; on-boarding and training of new members	(Appleton-Dyer, Clinton, Carswell, & McNeill, 2012; Cohen, Rogelberg, & Luong, 2011)
SC11: Conflict resolution processes are formalized	(Babiak & Thibault, 2009; Bryson et al., 2006; Walden, Javdani, & Allen, 2014).
SC12: Existence of formal alliance management structures; compliance is overseen by governing board or similar	(Babiak & Thibault, 2009; Kale, Dyer, & Singh, 2001; Prashant & Harbir, 2009)

## **A Prototype Model Offering a New Perspective on Partnership Endurance**

The research literature regarding partnerships has offered numerous explanations for successful partnership operation and the array of factors that establish foundations for selecting partners, aligning goals, and the importance of sound management. Researchers who address leadership in the context of partnerships offer insights about leadership styles that are effective. What is missing from the extant literature is a model that incorporates the dynamic nature of “partnerships as a system” and the system feedback loops that seem essential to model endurance as a phenomenon. A conceptualized prototype model developed from the research literature is presented here.

I have previously noted that a confounding characteristic for those who attempt to use models to inform the design of their emerging partnership is that identical design attributes can result in one partnership thriving while another fails to start altogether. Therefore, while an examination of the factors associated with successful partnerships is important to inform this research, these factors alone appear incomplete in describing the characteristics of an enduring partnership.

Since BaEPs are interventions—treatments—examining research associated with treatment delivery systems was an important element of the framework for my applied research. Leviton and Lipsey (2007) establish a theory of treatment argument and describe two interrelated elements at play in their research: (a) the logic of the treatment theory and (b) the strength and fidelity of treatment implementation administered through a treatment delivery system. The concept of a *treatment delivery system* was the stimulus for how to model enduring partnerships and supports our understanding of what could

make them different from other partnerships. I believe that exogenous factors greatly impact the delivery of treatment, including explaining factors associated with endurance. My working theory is that a plausible explanation for differences in performance of partnerships with nearly identical design elements is the influence of the environment where the partnership is situated and the feedback that links partnership to ecosystem.

The next discussion builds this model using a hypothetical BaEP incorporating the success factors synthesized exclusively from the literature review.

### **Hypothetical Example: The Orion Partnership**

For illustration, consider that a set of founders identify a common need to increase employment levels among recent community college graduates in their community. The founders establish the Orion Partnership and serve as Orion's original designers. These designers had a set of objectives in mind for Orion's purpose, and they documented the problem definition and objectives of the partnership agreements, memorialized in the Orion Statement, a document following the guidance of, for example, Amey et al. (2010) or Bamford et al. (2003). These authors note the importance of commitments of resources, people, data, curriculum alignment, and training, among other things. The partnership founders for Orion did not articulate a specific program plan for its implementation (i.e., the treatment). Rather, the founders decided to empower participants (i.e., organizations and people) to develop a responsive plan to implement Orion, allocate the resources, carry out the various functional responsibilities, and report on the partnership's progress.

For Orion, a measure of fidelity of implementation is the degree to which the

design of the Orion Partnership aligns with the plan and functioning of the partnership tasks carried out by the assigned participants. A synthesis of the success factors described earlier in this section with Leviton and Lipsey's (2007) model for treatment theory establishes a new conceptual framework for enduring partnering relationships. That is, enduring partnerships operate within a treatment delivery system that has a supportive effect to protect the fidelity of the partnership program when exogenous factors threaten its operation such as a change in funding or policy shift (Jenkins, 2001).

There are several key elements involved in the fidelity of the treatment—the partnership. There are shared intentions of the partners that must translate into specific resources available to carry out the partnering functions (Gray, 1989). If formal agreements are not established or are ambiguously defined, then the actors in the partnership might have insufficient resources to implement the partnership plans as designed, such as professional development or enhanced curriculum (Vangen & Huxham, 2003). From this, it also follows that another fidelity factor is the assignment of roles and accountabilities (Currall & Judge, 1995). A partnership does not just happen because leaders declare it. The people in the partnership need to know what they are being asked to do and their level of authority to do it (Bryson et al., 2006; Googins & Rochlin, 2000). Because partnerships are not business as unusual, the nature of the key roles needs to be widely communicated to pave the way for those accountable to carry out their work with minimal impedances (Wettenhall, 2003).

Building on the treatment fidelity discussion, a logic model is shown in Figure 2.1 for Orion. The example is focused on workforce development relationship and how it would be situated in a treatment delivery system. In this example, the implementation steps to form a partnership represent the partnership treatment. Partnerships can be envisioned to move through five general phases: (a) identification of need and activation of the partnership to establish goals, (b) design and project planning, (c) pilot activities and prototyping, (d) first “live” operations, and (e) continued operations. In the context of a BaEP, treatment theory can be blended with a temporal flow model of the above-noted partnership phases.

Figure 2.2 is an illustration of supportive and destructive aspects that could exist in the treatment delivery system for Orion. Leviton and Lipsey (2007) note that the treatment delivery system contains:

The important steps, links, phases, or parameters of the transformation process that the treatment brings about, the intervening or mediating variables on which the process is contingent, and the crucial interactions with individual differences, timing, mode of delivery, and other relevant circumstances. (p.36)

For example, existence of public champions in a community (Austin, 1998) and motivations to support the partnership (Greeve, 2003) are not part of the BaEP operating plan, *per se*, but they bias the community to publicly encourage the continuation of partnering work. Other example aspects are also shown. Additionally, Figure 2.2 shows a sample of destructive aspects in the treatment delivery system that could potentially lead to BaEP demise. For example, lack of trust due to perceived ulterior motives (Molnar et

al., 2011) could create a vocal opposition to a particular partner causing them to move away from the work. A change in priorities of the stakeholders due to an acquisition or policy shift could establish a situation where the partnership goal conflicts with stakeholder goals (Vangen & Huxham, 2003). These elements are not part of the BaEP operating plan, per se, but they bias some members of the community to retreat from supporting the BaEP. These situations potentially lead to partnership demise.

Jenkins (2001) adds weight to the argument that a treatment delivery system modulates endurance factors:

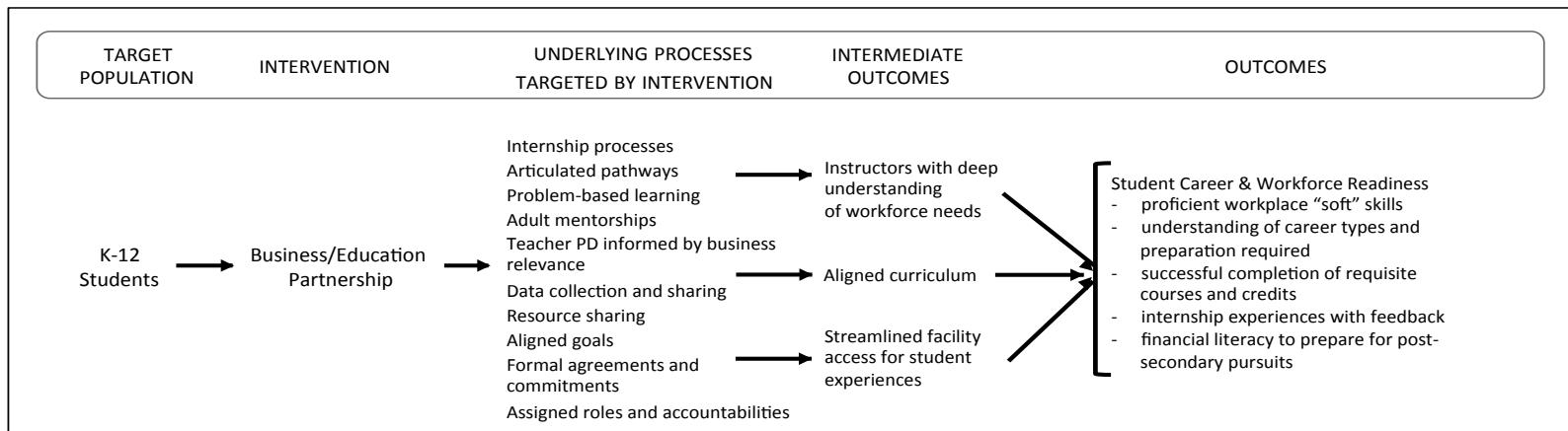
In nearly a decade of working with educational partnerships, we observed that some partnership efforts were dynamic and active from their inception, while others never got off the ground. Some partnership teams suffered trauma to their membership or context, yet endured, while others disbanded when faced with moderate or sometimes imagined stress from their environmental context. This led us to wonder what characterizes partnerships which endure. (p. 5)

My proposed response to Jenkins lies in the interrelationship of a well-founded partnership design and a supportive treatment delivery system environment. The starting point is found in a prototype described in the next section.

**Figure 2.1**

*Partnership logic model with five phases of progression*

#### TREATMENT THEORY

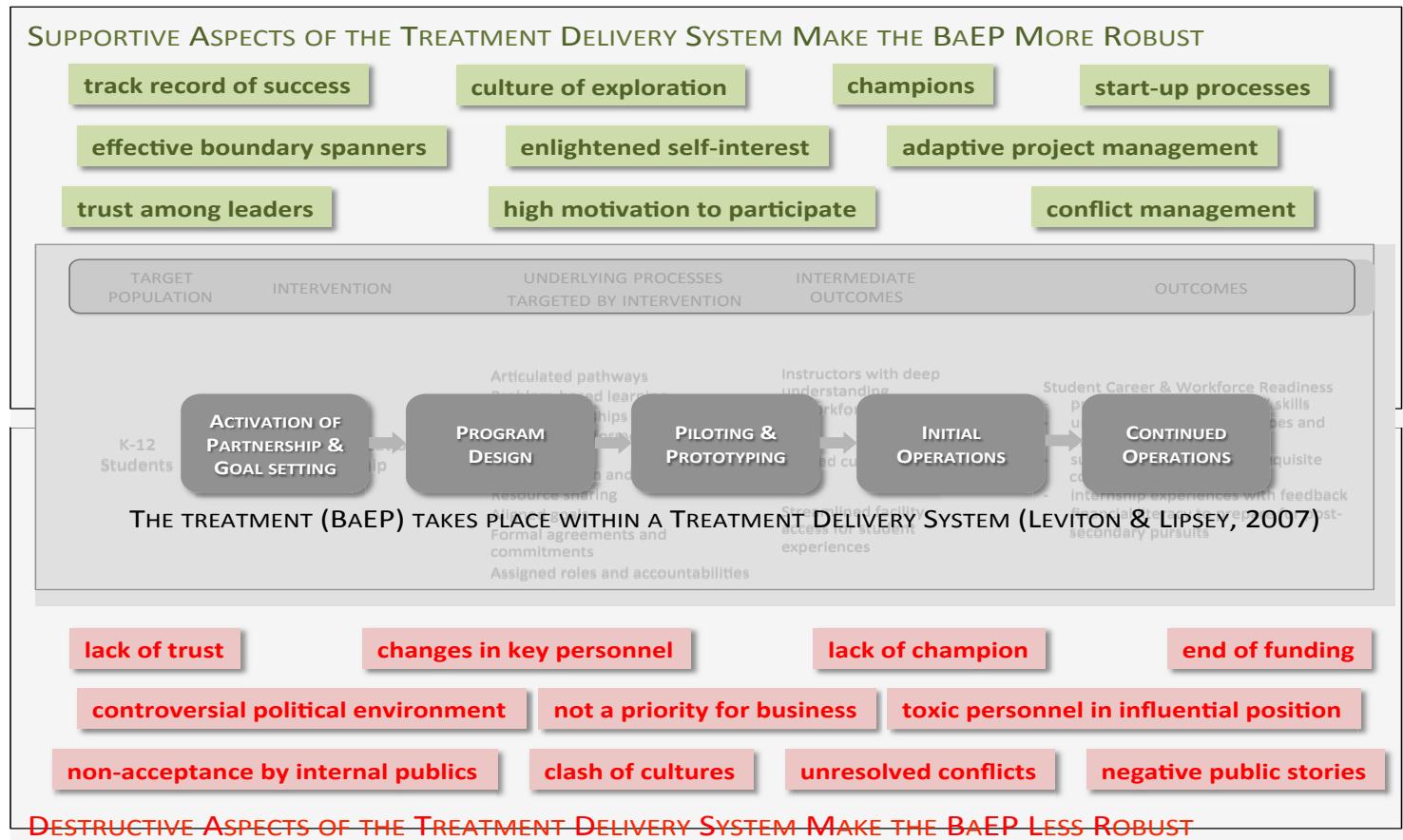


IS IMPLEMENTED IN A SERIES OF STEPS



**Figure 2.2**

*Supportive and destructive aspects of a BaEP treatment delivery system*



## **Prototype Model to Characterize Endurance**

Figure 2.3 is a flow model that incorporates the success constructs in Table 2.1 and their inter-relationship to endurance. Success constructs are found in the model section “A.” Endurance may be increasing or decreasing and is determined by a system of feedback loops. In this prototype, endurance is modeled as the level in a volumetric container “B.” A useful analogy for this volumetric container is a common battery used to power a smartphone. The capacity of the battery is its level of charge. When fully charged, the battery has capacity to power the smartphone for several hours. If the battery charge is low, it may only be able to power the smartphone for several minutes. Likewise, a zero volume in container “B” would represent a BaEP with no endurance capacity, while a full container would be a highly robust BaEP.

A positive contribution fills—or, in the battery analogy, charges—the volumetric container. Absence or opposition to a construct in a partnership drains the container. The presence or absence of each success construct—section “A”—is sensed by a function noted as section “C.” The mechanism by which the function establishes the condition of each construct is not determined in this initial prototype. The model contemplates that there is a feedback loop, labeled “E,” which would be present in an enduring partnership. In such a case, when a success construct is absent or ineffective, feedback to the partnership would cause actions to improve the condition of the construct.

Clearly, each of the constructs in the prototype do not have equal weight. The impact of time and time delays are also not accounted for. The main goal of the prototype was its application to stimulate new thinking about data collection and analysis with the

selected partnerships. This prototype helped shape the direction of the research methods described in the next chapter.

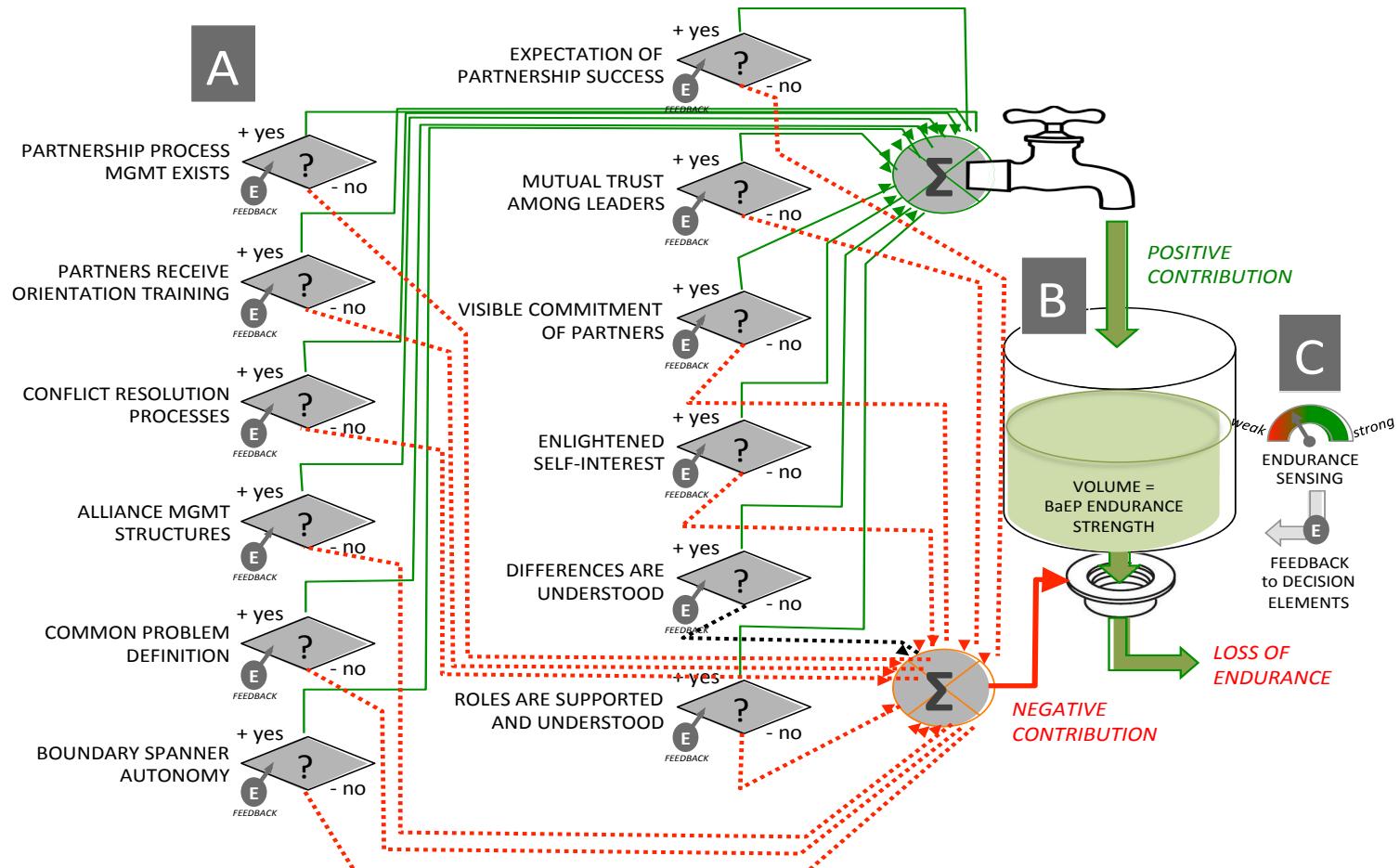
## **Conclusions**

The current body of literature about cross-sector partnerships emphasizes institutional perspectives about the dynamics, value, and challenges of the relationships. Constructs were identified that support key factors associated with success, including roles and attributes of key actors involved in partnerships. There is a gap in the present research; these studies do not apply this research of partnerships using a temporal basis to examine partnering over time as its actors navigate and make key decisions at critical moments in the partnership's operation.

This applied dissertation research adds to the current body of knowledge by filling this gap through narrative inquiry methods and document analysis. Using these approaches, and examining partnerships in the context of treatment theory, a new perspective has been offered that attempts to unpack a partnership model and how relationships operate at critical transitions. This qualitative examination of the people in partnerships was informed by the existing partnership research that formed a starting map for the questions and factors considered important to observe. However, the methods in the next chapter do not focus only on generally agreed upon factors. Instead, the narrative research that follows formed the foundation for a new model characterizing enduring partnerships that considered both institutional and interpersonal interactions.

**Figure 3.3**

*Prototype partnership endurance model from research constructs*



## **Chapter 3**

### **Method**

A new perspective that helps explain BaEP endurance was established from a synthesis of partnership literature and led to the model introduced at the end of the previous chapter. Sociological factors such as commitment, goal setting, trust, influence without authority, and conflict management, among others, are facets of a partnership that can strengthen—or undermine—a partnership’s functioning. In the present study, I collected data from two enduring partnerships and used the findings to refine the proposed model. Interpreting the processes and themes found through individual case studies can be useful for general sensemaking about what is happening in situations similar to the examined case (Rae, 2005, p. 332). Endurance, as considered in this study, is a quality relating to a partnership’s ability to successfully navigate planned and unanticipated changes.

Grounded theory (Bold, 2012; Ruppel & Mey, 2015) was selected as the overarching approach to guide data collection and analysis methods described in this chapter. Grounded theory methodology is common in qualitative studies because it allows the researcher to follow defined data collection and analysis steps while “being sufficiently open to provide the researchers with room to maneuver in its application” (Ruppel & Mey, 2015, p. 175). In the present study, data from interviews and existing documents were contextualized as the study progressed. This “iterative grounded theory” (Bold, p. 133) allowed themes to emerge that guided subsequent analysis. It also informed a targeted examination of additional data—from the research literature and the

partnerships under study—to help confirm or refute emerging ideas about partnership endurance.

This theory as applied to narrative inquiry was designed to establish a “thick description” (Geertz, 1973, p. 312) of enduring partnerships using analysis of relevant documents and interviews to capture participants’ experiences during critical moments. Thick descriptions are detailed ethnographic accounts of perceptions as described by the participants under study. These descriptions are not a full account of the complexities of a situation. Rather, thick descriptions are aimed at “optimizing the readers’ opportunity to learn” (Stake, 1995, p. 42) through a deep account of individuals’ perceptions and lived experiences. In the context of my study, the experiences of partnership leaders in transition are of particular interest because, once a partnership is formed by its first leadership team, subsequent leaders inherit and must reinterpret the partnership from the perspective of their personal beliefs and within the constraints and priorities of their external environment. The potential influence of these personnel transitions and changes in environment has been a gap in partnership research. Changes in circumstances are inevitable for partnerships operating over long periods of time and, therefore, it was important they be considered in an endurance model.

To inform the model, document analysis and narrative inquiry was the primary data collection approach. “Documents are preserved traces, which persist beyond the local context of their production” (Miller & Alvarado, 2005, p. 349). The documents created in association with the operation of an enduring partnership enable the reconstruction of its history. Informed by the reconstructed history, narrative inquiry

methods were then used to capture experiences of key BaEP stakeholders. Examined as a whole, analysis of these stories illuminated the critical events that shaped the partnership over time. “Critical events are ‘critical’ because of their impact and profound effect on whoever experiences such an event” (Webster & Mertova, 2007, p. 77).

The methods used in this study were designed to address two research questions:

- RQ1: What were the common critical events observed in the studied partnerships?
- RQ2: What common structures were in place to support endurance in the studied partnerships?
  - RQ2-a: What structures contributed to proactively achieving partnership endurance?
  - RQ2-b: What structures contributed effectively reacting to situations that could threaten partnership endurance?

The second research question required two sub-questions to be addressed.

“Structures,” in the context it is used in this research, means behaviors, policies and procedures, and elements that generally exist in the partnership ethos that impact the social world of partnership actors. Based on the synthesis of the literature, some constructs associated with success may be designed into a partnership at its beginning. There are also cultural and business practices that describe the agility skills of successful partnership to react to unplanned changes. Examining proactive and reactive situations in the studied partnerships would help understand this at a more granular level commensurate with the thick case descriptions.

To address these questions and how an enduring partnership “happens,” I applied Miller and Alvarado’s (2005) guidelines to historical document analysis in combination with critical event narrative analysis (Webster & Mertova, 2007). As will be described later in this chapter, the extensive documentation acquired for analysis included first person accounts and third-party evaluation reports complete with stakeholder interview transcript summaries. These data were acquired from the key informants that were initially recruited for the study. Analysis of these data was conducted to establish the general partnership story and first-order approximation of major milestones. This also captured the strategic themes and purpose of the partnerships, along with the social groups involved early in the partnership formation.

Queries based on the narrative inquiry were used in interviews to prompt participants to tell their own stories about stages of the partnerships that surfaced from the document analysis. The collection of documents grew over the course of the study as participants contributed new material to close gaps as the stories unfolded. These interviews provided information for thick descriptions about pivotal moments that shaped the partnership operation. Examining two enduring partnerships with these methods also provided an opportunity for a comparative understanding of endurance in different communities where similar issues are at stake.

Prior to describing methods and procedures in detail, a brief overview of critical event analysis, narrative inquiry, and treatment delivery systems is provided to introduce the reader to these concepts in the context of this study. Data collection procedures and analysis methodologies are presented next, followed by a discussion of trustworthiness,

reliability, and researcher subjectivity. My role in the research was to interpret the data from documents and also serve as the interviewer in data collection with stakeholders. As previously noted, I had an insider role to the selected partnerships during a portion of the time they operated. This insider perspective is not uncommon in narrative research (Nastasi & Schensul, 2005), but it is nontraditional and a topic of debate. I have a shared experience with key informants about the partnerships that were studied. This type of familiarity gives researchers an advantage through greater access and an appreciation of the cultures of the groups involved (Labaree, 2002). “Each of these advantages also has concurrent challenges that the insider participant observer must negotiate and come to terms with” (p.103). I close this chapter with a synthesis of the relevant literature regarding cautions, ethics, and benefits of “researcher as insider participant” (p. 103) that I followed during my conduct of the study.

### **Critical Events, Narrative Inquiry and Treatment Theory: An Overview**

This section provides a background on three methods and theories that are central to the enduring partnership research. The intent is to establish a bridge between the topic and its application to this endurance research.

#### **Critical Event Analysis**

Critical event analysis has its roots in the critical incident technique (CIT), a teaching tool developed after World War II as a way to train aviators using scenarios to describe how complex—and often disparate—sets of pilot actions could come together to cause, or avert, an aviation accident (Flanagan, 1954). These human stories established lasting memories for the trainees, and the use of the technique as an educational tool has

expanded over the years to professions such as medicine, law, first responders, and teachers, among others (Webster & Mertova, 2007). Providing rich human descriptions of how critical events happened significantly accelerates the understanding and preservation of concepts in a way that trainees can retain (Woods, 1993). These events “have enormous consequences for personal change and development” (p. 356).

Critical events, as defined by Webster and Mertova (2007) are not knowable in advance. The stakeholders recognize critical events only after the fact when multiple data points define critical incidents that ultimately challenges and changes a worldview (Flanagan, 1954; Webster & Mertova, 2007; Woods, 1993). Woods (1993) provides an extended review of the literature about critical event analysis and its use as an educational tool, as well data collection, iterative interview techniques, and analyses. In the present study, an event was characterized as critical if it caused a perturbation—negative or positive—on the operation of the partnership. It was not required that an event be considered critical only if it changed a worldview as described by Webster and Mertova. The detection of critical events was incorporated into the analysis methodology and described later in this chapter.

### **Narrative Inquiry**

Narrative inquiry is a qualitative research approach that studies the human experience (Clandinin, 2006; Martens, Jennings, & Jennings, 2007; Polkinghorne, 2007; Trahar, 2009; Webster & Mertova, 2007). It takes the reader through an interpretation of “the ways humans experience the world” (Connelly & Clandinin, 1990, p. 2) or the “study of stories” (Polkinghorne, 2007, p. 471). Gathering and interpreting data is not a

linear process. Participant interviews and observations are iterative and nonlinear (Polkinghorne, 2007). The field notes from interviews capture how people experience a situation, their views of themselves in these situations, and their perspectives of others. The researcher must integrate the multiple participant voices to weave the whole story of an experience. As a result, narrative research reveals the personal meaning of social situations and the way people make sense of their environment (Polkinghorne, 2007; Trahar, 2009; Webster & Mertova, 2007).

Much has been published about partnerships, their attendant structures, key actors' roles, and factors associated with success. The relevance of capturing stories told by the participants is that narrative research is an avenue to new insights about how people interact and embody evidence-based partnership success factors as they approach their tasks. Narrative researchers are quick to point out that stories are not necessarily historical facts (Webster & Mertova, 2007). The practice of narrative inquiry attempts to understand the personal meaning from an event, not to gather metrics. Therefore, it is as important to consider for whom the story is constructed to establish the kinds of meanings that are relevant to the intended audience (Clandinin, 2006; Trahar, 2009). Said another way, "a conclusion is valid when there is sufficient evidence and/or reasons to reasonably believe it is so" (Polkinghorne, 2007, p. 474).

Since narrative inquiry occurs through a guided interview process, it is valuable to examine how researchers have applied it successfully in collaborative settings involving participants that come from different operational, social, and cultural environments. Individuals may have stories to contribute that are critical of the topic of study, and they

could believe that sharing such a viewpoint poses a job security risk or reflects poorly on the organization they represent.

This dynamic informs the approaches that should be considered when examining the BaEPs. In addition, the degree of openness to narrative research within the targeted BaEPs sectors may be different depending on the trust in the researcher and the sensitivity of information being disclosed. The researcher must be sensitive to interpreting the circumstances in the moment, the influence his or her presence has on the participants, the sociocultural environment, the individual's disposition relative to the larger context, and the timing of the interview (Labaree, 2002; Taylor, 2011).

When narrative research is used to understand multiple stakeholder groups' lived experiences, as is the case with the enduring partnership research in the present study, care must be taken in the design of the study protocol. This protocol must establish a coherency of data collection across multiple individuals and cohorts in a way that the collected information can be interpreted and integrated to establish the bigger story of human experience within which the participants exist (Dodge, Ospina, & Foldy, 2005; Martens et al., 2007).

For example, Martens et al. (2007) used narrative inquiry methodology to examine the experiences of entrepreneurs during the stages when they were attempting to raise money for their young companies. Raising capital is inherently a storytelling process. Martens and colleagues' interest was to use content analysis to compare written investment proposals and the oral presentations that entrepreneurs used to "pitch" their ideas to investors. Data were collected from 196 firms in the midst of initial public

offerings (IPO's) during the period 1996 to 2000. This sample size is unusually large for a labor-intensive qualitative study. However, the standard process of documentation and presentations required by IPO investors enabled an efficient research process. The opportunity to acquire the large sample set was also aided by the historic levels of IPO's during the period.

The authors read business proposals and used "latent content analysis" (p. 1111) to interpret the texts for existence of ideas that matched the entrepreneur's presentations. A coding mechanism was developed to detect and capture the story lines from each entrepreneur's investment pitch. This information was organized into an integrated story based on the specific language used in these pitches and the degree to which the entrepreneurs were successful in attracting investment funds. This approach ultimately enabled the narratives to be used in creating "illustrative story maps" (p. 1116) that connected the categories of funding pitch approaches to risk factors identified by investors.

Another example of narrative inquiry methodology use was in a cohort training context for public administrators (Dodge et al., 2005). Interviews were periodically conducted with focused groups over the life cycle of their education program. Early on, the interviews were open ended. This allowed the discussions to be cooperative in nature with the intent of having the cohorts identify topics of improvement that would be most meaningful to the participants. Researchers used the collected interviews from field notes to create "analytic memos" and "leadership stories" (Dodge et al., 2005, p. 288). These summaries were shared with the participants to ensure accuracy of interpretations.

Ultimately, the stories collected over time were integrated to establish themes and patterns. The leadership stories created from voices of the study participants were written in a fashion targeted to public administration practitioners and subsequently published as training guides.

Partnership research also involves understanding how individual stakeholders identify themselves with the overall partnership as a concept or mission. Narrative inquiry can capture these types of lived experiences as well. For example, Fournier (1998) used narrative inquiry to discover insights about how consumers identify with companies and their brands. Interviews captured consumers' lived experiences with brands, and the resulting stories were also valuable to compare consumer perspectives with the company's intended value proposition for that brand. A purposive sampling of participants with a high likelihood of frequent interaction with the brand was a core element in the study design. This approach was used so that deep experiential descriptions would result from the participant interviews. The findings from this study helped to illustrate the power of marketing products that establish personal relationships with customers. "The consumers in these studies are not just buying brands because they like them or they work well. They are involved in relationships with a collectivity of brands so as to benefit from the meanings they add into their lives" (p. 361).

The above examples illustrate that the value of narrative inquiry relies on intentional design of the research protocol and is not simply the result of a skilled narrative interviewer that can relate to people. The aforementioned examples illustrate a range of narrative inquiry scope, from the individual to cohort groups, and situations that

change across time. This strengthens the value claim for narrative research in enduring partnership study.

### **Treatment Delivery Systems**

BaEPs are interventions and they do not exist in a vacuum. They operate within larger environments. Leviton and Lipsey (2007) call these environments the treatment delivery system and postulate that a delivery system influences the fidelity with which an intervention can take place. To illustrate, consider these potential relationships between environment and a BaEP. Stakeholders from business may be assigned to the partnership full time but these individuals are still part of their host company. They may receive health and retirement plan benefits. They participate in the cultural systems of their host organization and adhere to its employee policies. A change in these systems can be totally unrelated to the BaEP but may have an impact on individual's wellbeing. These changes – positive or negative – can impact the way the business stakeholder engages with the BaEP. A similar logic can be applied to every stakeholder and their host organization in a BaEP.

In addition to impact on individuals, consider the ripple effects of environmental changes on the BaEP operation. A change in property tax law could reduce a school district's budget and place a strain on the way it views the BaEP priority. At the other extreme, a new business moving into the region could buoy the optimism about a regional economy leading to increased opportunities for students to work in local companies. An unanticipated change in public policy can enhance BaEP operations, or alternatively, severely limit its flexibility to operate. A public scandal about school

district data alteration unrelated to the BaEP could sour a board of trustees about endorsing its employees to engage with educators for fear of reputational risk it cannot control. A trusted friendship between a CEO and a college president could establish an “invisible hand” that makes sure worthy community endeavors (such as BaEPs) receive the support they need in times of uncertainty. The list of possible environmental impact scenarios on a BaEP is endless.

The BaEPs selected for the present study operate within a treatment delivery system. The degree to which these systems are associated with endurance or agile operation of the BaEP was a specific component of the document analysis and interview process with stakeholders. These methods were successful in identifying how the delivery system affected the lived experiences of the stakeholders.

## **Method**

The method used to select partnerships for study is introduced. This is followed by a description of the participants selected and procedures for data collection.

### **Partnership Selection and Description**

It is common that participants in BaEPs connect with formal and informal networks of similar organizations to share lessons learned, access resources, and share stories (cf. [www.stemx.us](http://www.stemx.us)). In my professional practice, I have access to some of these networks. The networks provided the starting point for identifying a potential set of partnerships that could be studied. BaEPs that involved businesses, one or more K-12 schools or districts, post-secondary institutions, and community organizations were identified. To select the partnerships for study, I initially spoke with several partnership

leaders from industry and education to screen the population of candidates. This identified a subset with characteristics that these leaders believed would have stories of relevance to the broader field. Program directors from the Noyce Foundation, Samueli Foundation, STEM Funders Network, and Education First, were especially helpful as a sounding board for identifying a pool of potential BaEPs to be considered.

From this set, I chose two BaEPs as suitable partnerships that I had access to and could be studied within the time constraints of the dissertation research. Each partnership displayed enduring qualities<sup>7</sup>, key stakeholders were accessible, preliminary discussions with them indicated a willingness to participate in interviews, and a variety of documents and artifacts about the partnerships were available. A detailed narrative of these partnerships is found in the next chapter, and an overview is provided below. Throughout the remainder of this document, organizations and people involved have been de-identified and replaced with pseudonyms to preserve confidentiality.

**Partnership #1 – Research-One and Midwest State University.** Research-One (R1) is one of the world's largest research and development corporations with more than 20,000 employees. Opening its doors in 1929, and operating as a non-profit, part of R1's mission is to advance education causes that are associated with workforce competitiveness and quality of life. The Midwest headquarters of R1 is located adjacent to the main campus of Midwest State University (MSU). MSU is a four-year public research university with more than 50,000 students. MSU was established in 1870 as a result of the Morrill Act (1862), also known as the Land Grant College Act. Although

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<sup>7</sup> As defined in Chapter 1, the candidate partnerships must exhibit multiple years of “results,” “adaptation,” and “engagement,” in the midst of leadership changes.

they have been neighbors for nearly 90 years, the organized partnership between the organizations is a recent phenomenon with its beginnings in 2003. The organizations share an interest in advancing scientific research into practical applications that benefit society and the economy. A wide range of collaborations are underway between the two organizations.

Changes in the external environment (Leviton and Lipsey's [2007] treatment delivery system) have placed stresses on the partnership, including revenue reduction due to state-mandated tuition freezes, a downturn in the contract research economy, and high profile ethics violations in a local school system to name a few. Over the 13 years of operation, the partnership has experienced numerous leadership changes, including two R1 CEOs, three R1 executive liaisons to the partnership, three MSU College presidents, and two college of education deans. The flagship BaEP1 project with local school districts has seen three changes in leaders, the expansion to a second school site and addition of a feeder middle school, a 50% turnover of the 16 area district superintendents, and three State Superintendents of Public Instruction.

### **Partnership #2 – Health-1 Research: Rural Science Literacy Advancement.**

The Rural Science Literacy Advancement (RSLA) program connects communities in rural states with new frontiers in science and research with the support of Health-1 Research (H1-R). Health-1 was initially established in 1999 through a gift from the foundation of a billionaire healthcare philanthropist with a passion to help people in rural communities have healthy lives. Today, Health-1 is a multi-state healthcare system that includes a major biomedical research laboratory. In addition to operating a system of

health care providers and facilities, Health-1 has a research division (H1-R), established in 2008. H1-R conducts biomedical research with a public mission to help advance science literacy, increase community understanding of science in rural America, and raise awareness of role of research in society. In contrast to the urban Midwest setting for the partnership of R1 and MSU, H1-R operates its partnership against a rural and frontier community backdrop. (The U.S. Census categorizes frontier communities as counties where the population per square mile is less than six people.) Health-1 resembles a hub-and-spoke format in its partnership arrangements. This encompasses a range of collaborations with public educational institutions across the K-20 spectrum, and partnerships with Native American educational groups.

This partnership met the requirements for a study of endurance. The formalization of relationships noted above began in 2008. Since inception, three different H1-R corporate leaders have had the operational and fiscal responsibility for the partnership, and H1-R's executive team annually approves the budget. The state has seen three changes in K-12 statewide superintendents and two changes in public university provosts. All partners in a BaEP play important roles and partnership researchers have noted that uncertainties in a business environment can be a prominent reason for the business partner to exit a BaEP. The business environment for H1-R has changed substantially with the passage of the Affordable Care Act and the uncertainties created for managed care organizations as the national program unfolds.

## **Selection of Participants for Interview**

Selection of participants for interview was a two-stage process. One tipping point connector (Bryson & Patton, 2010) was selected for each BaEP to both participate in the first interview as well as retrieve an initial set of documents about their partnership. The tipping point connector held administrative roles in the BaEPs and had a primary responsibility for coordination and program management support. As such, these individuals were among the most likely to have documents readily available and they would also have contact information for other participants to be recruited for the study.

The document analysis aided in identifying the set of candidate interview participants. Specifically, the acquired documents were reviewed for actors that, collectively, participated across the timespan of the partnership in one of two ways: (a) individuals who had a substantive task responsibility in the partnership such as boundary spanners (Burke et al., 2006) or tipping point connectors (Bryson & Patton, 2010), and (b) individuals from groups that were intended to benefit from the partnership but were not associated with the partnership's task or program management. I also used the document analysis to identify individuals from the BaEPs treatment delivery system (Leviton & Lipsey, 2007) that had awareness of the BaEP and held positional authority regarding a material policy or resource. Identifying these participants was especially relevant in Partnership #1 between R1 and MSU, where a legislative act passed by state policymakers established a highly favorable public funding environment aimed at catalyzing economic development through partnerships between the public and private sector (Geiger & Sá, 2005).

As noted earlier, once the initial candidate pool of participants was identified, the approach used for securing interviews began by first speaking with tipping point connectors (Bryson & Patton, 2010). These were individuals typically at lower levels of the organization that could connect and have credibility with higher-level people in the same organization. Outsiders frequently depend upon tipping point connectors to learn about an organization (Bryson et al., 2010) because they often have first-hand account of how the work actually unfolded during their time with the program. I found this to be the case with the program administrators from the business side of the BaEPs who were enthusiastic to help me connect to others involved in the work.

### **Description of Participants**

To be included in the present study, stakeholders needed to agree to participate in recorded interviews and be open to talking about their personal experiences and opinions about critical events. No one that was contacted for the study declined to participate. All participants signed an informed consent form for this study (see Appendix A) that was approved by the Johns Hopkins University Homewood Institutional Review Board ([www.hirb.jhu.edu](http://www.hirb.jhu.edu)). Tables 3.1 and 3.2 provide a description of the participants from BaEP1 (MSU and R1) and BaEP2 (H1-R). Each table indicates the role each participant played in the aforementioned partnerships, and the duration of their involvement. A high priority was placed on accessing participants that were involved in the founding of the partnerships, as well as interviewing participants that are currently serving in a leadership capacity. In addition, it was desired to gather narrative stories from participants that represented a range of positional power and responsibility for each BaEP.

**Table 3.1***BaEP1 participants interviewed*

Pseudo Name (initials)	Role	Organization	Time Period
Kate Higgs (KH)	President	MSU	2003 – 2008
Gail Trainer (GT)	General Counsel	MSU	2001 – 2005
Mary Walls (MW)	Assistant Dean	MSU	2005 – 2015
Don Hayes (DH)	Professor	MSU	2003 – 2009
Brian Mills (BM)	Project Manager	Joint BaEP1	2003 – 2010
Charles King (CK)	CEO	R1	2001 – 2009
Sam Kelvin (SK)	Project Manager	R1	2007 – 2012
Herb Gains (HG)	Project Manager	R1	2004 – 2012
Elsie Plum (EP)	Project Coordinator	R1	2004 – 2015

**Table 3.2***BaEP2 participants interviewed*

Pseudo Name (initials)	Role	Organization	Time Period
Don Price (DP)	President, Research	H1-R	2008 – 2015
Paul Vindel (PV)	Senior Scientist	H1-R	2009 – 2015
Emma Mayes (EM)	Project Director	H1-R	2010 – 2015
Tanya Lemon (TL)	Project Coordinator	H1-R	2008 – 2015
Jill Jameson (JJ)	CEO	State Bio	2013 – 2015

Note: Time period refers to years that stakeholder was associated with partnership, and not necessarily their total time with organization. “Joint BaEP1” means that the individual had an assignment that had a dual reporting responsibility in the BaEP.

## **Data Sources and Procedure for Data Collection**

A variant of “snowball sampling” (O’Leary, 2012, p. 190) was used to identify key documents for this project. Generally, snowball sampling is used in a context of a specific study respondent providing recommendations about informed others who could be useful to be included in a study. I refer to a variant of snowball sampling in the sense of how this technique was applied to the document analysis. Miller and Alvarado (2005) argue that some documents are social artifacts that serve as social actors in the study. I applied this reasoning to documents acquired over the course of data collection, and it was valuable to help identify the existence of other documents and people that would be important to include.

**Partnership field texts.** Field texts—primarily formal documents—provided the primary source material to establish the foundational story of each selected BaEP. Miller and Alvarado (2005) note the primacy of documents:

Documents are not simply containers of meaning. They are actively and collectively produced, exchanged, and consumed. The production of documents indicates many decisions, by multiple people, about what to write, in what style, for what audience, and for what purpose. Documents are produced in and reflect specific social and historical circumstances. (p. 349)

Some of the written documentation about the selected partnerships was stored or linked in a database called Basecamp (<https://basecamp.com>). Basecamp is an online project management tool that allows documents, calendar coordination, progress tracking and accounting, and archival storage of documents. The tool also features chat and

dialogue functions that enable asynchronous communication among team members through email, message alerts, and discussion boards. Basecamp was actively used for the both the MSU/R1 and the H1-R Partnership, and the server for Basecamp was maintained by the Kinnear Road Group. Basecamp information was mostly used in this study to establish overall timelines for partnership milestones and to acquire links to where documents could be acquired. It also served as a repository for some definitional documents, such as the projects mission statements.

The types of documents collected include the following: formal agreements, correspondence, minutes from meetings, reports of metrics and measures, websites, media coverage and independent reports, and grant applications and proposals. Collectively, these types of written and digital materials are referred to in this manuscript as “field texts.” A definition of the content in these materials is outlined below.

***Formal agreements.*** These data included partnership agreement documents that contained the signed commitments and time frames over which stakeholder partners were accountable for certain types of contributions and oversight activities. The creation of these data required the contribution and review from multiple stakeholders at high levels in the organizations. Both partnerships included numerous agreement documents that detailed items such as roles, responsibilities, and governance authority. This was found in the literature review to be a practice associated with successful partnerships (Acar & Roberston, 2004). It is also relevant to note that the documents acquired were in the public domain as one avenue to communicate the existence and purpose of the partnership to communities of interest. The information in these agreements provided a

rich source of cultural and social information about the partnering organization.

***Correspondence.*** These data include memos, letters, and e-mails from a single BaEP participant that communicate issues of interest to other members of the BaEP.

***Minutes from meetings.*** These data include information captured from formal meetings of organized groups associated with the partnership. This information was useful to ascertain how action items were framed, as well as documentation of issues that may relate to critical events.

***Reports of metrics and measures.*** These data included documents and electronic sites that contained performance information as reported to the external authorities, such as a state's department of education, as well as other funding organizations to which the partnership was accountable.

***Websites.*** Using the tool Internet Wayback Machine (<https://archive.org/web/>), versions of websites for the aforementioned partnerships were obtained as they existed in 2006 through 2015. The purpose of these data was to capture potential changes in the partnership's public messaging as it unfolded during the timeframe when the stakeholders being interviewed were involved with the partnership.

***Media coverage and independent reports.*** These data were acquired from searches of local news websites as well as published and unpublished reports authored by other organizations. To third-party research reports and one draft book chapter required for BaEP1. These reports were especially useful in identifying candidate critical events that would be later incorporated into interviews with participants. In addition, since the reports were written when the partnership was in its early stages, it was possible to

examine the partnership in its present status and determine which, if any, of the structures deemed important in earlier reports were still in place.

***Grant applications and proposals.*** Two important documents were acquired in this category. For BaEP1, a scale-up grant to a national philanthropic organization was authored by R1. This proposal outlined the basis of a proposed partnership extension strategy. For a BaEP2, a proposal by its rural members to the U.S. Department of Education's Race to the Top competition (ARRA, 2009) included a summary of Health-1's mission and commitment to collaboration. In both cases, the documents contained useful information about the way the partnerships intentionally declared a strategy and proposed milestones. This information was used in the intertextual analysis as a baseline for how stakeholders described the events of a partnership as they evolved.

***Miscellaneous.*** This category included retrieval of presentations, written communications, personal communications, reports, multimedia files, and other artifacts identified as important during the initial document analysis regarding the partnerships. For example, this category included relevant legislation and policy documents that pertained to the partnering environment.

***Field notes.*** These data consisted of my own notes taken during participant interviews and review of documents for the purposes of efficient recall later.

***Researcher reflexive journal.*** Bias within qualitative research is a common topic, in terms of whether it is acceptable, whether or not it needs to be mitigated or controlled, or how it should be accounted for in the researcher's final analysis (Orlipp, 2008). I kept date-coded personal notes in a reflexive journal to establish a degree of

transparency including a basis for self-reflection about how my views changed as the interviews and analysis progressed.

### **Summary of Field Texts Collected**

In total, more than 500 items were collected and catalogued during the course of the study. Peräkylä (2008) notes that qualitative researchers often do not use a rigid process in their analysis of texts. Instead, an iterative process allows re-examining materials as more is learned about the topic and candidate themes and theories emerge. This informal approach was also useful because the documents helped interpret stories I heard from participants in new ways. The narrative stories acquired from participants represent the primary approach to understanding how endurance happens. The documents are an important confirmatory supplement.

In the prior section, documents were described by their content. This was an efficient way to ask participants for documents that may be in their possession. However, these same definitions were not particularly helpful in organizing the documents for further analysis. This is because the titles do not reveal the context for the document within the partnership setting. Peräkylä (2008) describes another way to view documents:

Membership category analysis (MCA) is one effective method for examining text materials. In this approach, organizing the data collected from documents is not from the perspective of what is being conveyed, but rather the descriptive apparatus that makes it possible to say whatever is said. (p.82)

Member categorization analysis served as the guideline for organizing the partnership documents. A memo from the partnership manager with instructions for a

new task could belong to multiple categories, such as: a “R1 letter”, a “project plan,” “meeting results,” or a “public media release.” My research method used Peräkylä’s (2008) MCA technique to organize the documents as the first step in the document analysis.

Using grounded theory approaches, the texts that were acquired were examined to organize them into sets that were relevant to the context of partnerships. After examining the collective set of documents acquired, there were eight categorical themes for documents that emerged: (a) design, planning, and role description; (b) proposals; (c) public communications; (d) communications intended for inside dissemination at one BaEP organization; (e) communications intended for cross-organization dissemination; (f) third party evaluations; (g) social media and journalistic articles; and (h) texts authored by a single individual. These categories are further explained in Table 3.3. The number of documents per category is found in Table 3.4.

Miller and Alvarado’s (2005) approach to document analysis treats “documents as actors” (p. 352). The authors argue that the act of production of document is a “socially important fact” (p. 352). This aspect of the document analysis is particularly relevant to the BaEP endurance model development. The categories above are essentially describing various scenarios for how a document might be socially situated. By organizing documents in this way, Miller and Alvarado’s (2005) concept that documents act as social actors is revealed rather clearly. Tables 3.5 and 3.6 provide a list of participants that were substantively represented in the documents. I considered these individuals as secondary participants in the study.

**Table 3.3***Categories of field texts acquired during the study*

Field Text Category	Characteristics	
	Definition	Example
Design, planning, and role description	Texts that contain organizational instructions, program plans, assignment, and the like, for existing BaEP programs	A strategic plan for a BaEP developed at the beginning of a new effort; a job description
Proposals	Texts that respond to request from proposals (RFP), grant proposals to third partners, texts that requests approval for funds or organizational power	Grant proposal for Race to the Top
Public communications	Text that are used in public settings or available on BaEP web sites and press releases authored by the BaEP	Board minutes; public presentations at open houses
Communications intended for inside dissemination at one BaEP organization	Texts that provide information intended to be read by only internal publics	A memo from the CEO issuing guidance or clarity about the BaEP
Communication intended for cross-organization dissemination	Texts providing information intended to be read by all members of BaEP	A memo issued by the BaEP manager outlining progress
Third party evaluation	A text describing a project of the BaEP, or the BaEP itself	A commissioned report from a qualified organization that documents the results of an evaluation
Social media and journalistic articles	Text in media that describe or discuss the BaEP and authored by members not in the BaEP	A newspaper article with a story about the formation of a partnership
Texts authored by a single BaEP individual	A communication (formal or informal) authored and expressing the viewpoints of a single individual (these can serve as a "participant")	A memo written from a person; a speech transcript; testimony

**Table 3.4***Number of field texts acquired per category*

Field Text Category	Number Acquired	
	BaEP1	BaEP2
Design, planning, and role description	76	36
Proposals	16	7
Public communications	70	47
Communications intended for inside dissemination at one BaEP organization	73	18
Communication intended for cross-organization dissemination	45	25
Third party evaluation	10	1
Social media and journalistic articles	19	5
Texts authored by a single BaEP individual	60	24
TOTAL DOCUMENTS	369	163

Documents may include information that is relevant to several categories. In such cases, the document is only counted once in the primary category. This table is included to display the total number of texts that were acquired to give the reader a sense of the magnitude of data collection results and the representation of various categorical themes considered in the findings.

**Table 3.5***BaEP1 participant data utilized from field texts*

Pseudo Name (initials)	Role	Organization	Time Period
John Damon (JD)	President	MSU	2015 – 2016
Greg Grimes (GG)	President	MSU	2003 – 2009
James Adams (JA)	Provost	MSU	2003 – 2014
Dwight Able (DA)	Dean, Education	MSU	2005 – 2009
Cindi Ames (CA)	Dean, Education	MSU	2009 – 2015
Frank Smith (FS)	Dean, Medicine	MSU	2003 – 2008
Ben Thomas (BT)	Project Manager	Joint BaEP1	2003 – 2010
Jim Wellman (JW)	CEO	R1	2010 – 2015
Macy Red (MR)	Principal	Joint BaEP1	2005 – 2009
John Ball (JB)	General Counsel	R1	2001 – 2006
Gail Trainer (GT)	General Counsel	MSU	2001 – 2005

**Table 3.6***BaEP2 participant data utilized from field texts*

Pseudo Name (initials)	Role	Organization	Time Period
Sara Taft (ST)	Vice President	H1-R	2008 – 2011
Jan Black (JB)	Senior Scientist	H1-R	2011 – 2013
Fran Wilson (FW)	Director	Health-1 Foundation	2009 – 2014
Dave Green (DG)	Director	Central Valley	2012 – 2015
Marie Smith (MS)	Teacher	April City Schools	2010 – 2015
Sheila Simon (SS)	Trainer	KHL Incorporated	2008 – 2015
Sally Port (SP)	Superintendent	State Department	2013 – 2015
Alice Cohen (AC)	CEO	KHL Inc	2013 – 2015
Deb Wallace (DW)	Project Coordinator	KHL Inc	2013 – 2009
Janice Green (JG)	Research Intern	Rock State U	2014 – 2015

The time period refers to years that stakeholder was associated with partnership, and not necessarily their total time with organization. “Joint BaEP1” means that the individual had an assignment that had a dual reporting responsibility to a manager in each BaEP organization.

## **Procedure**

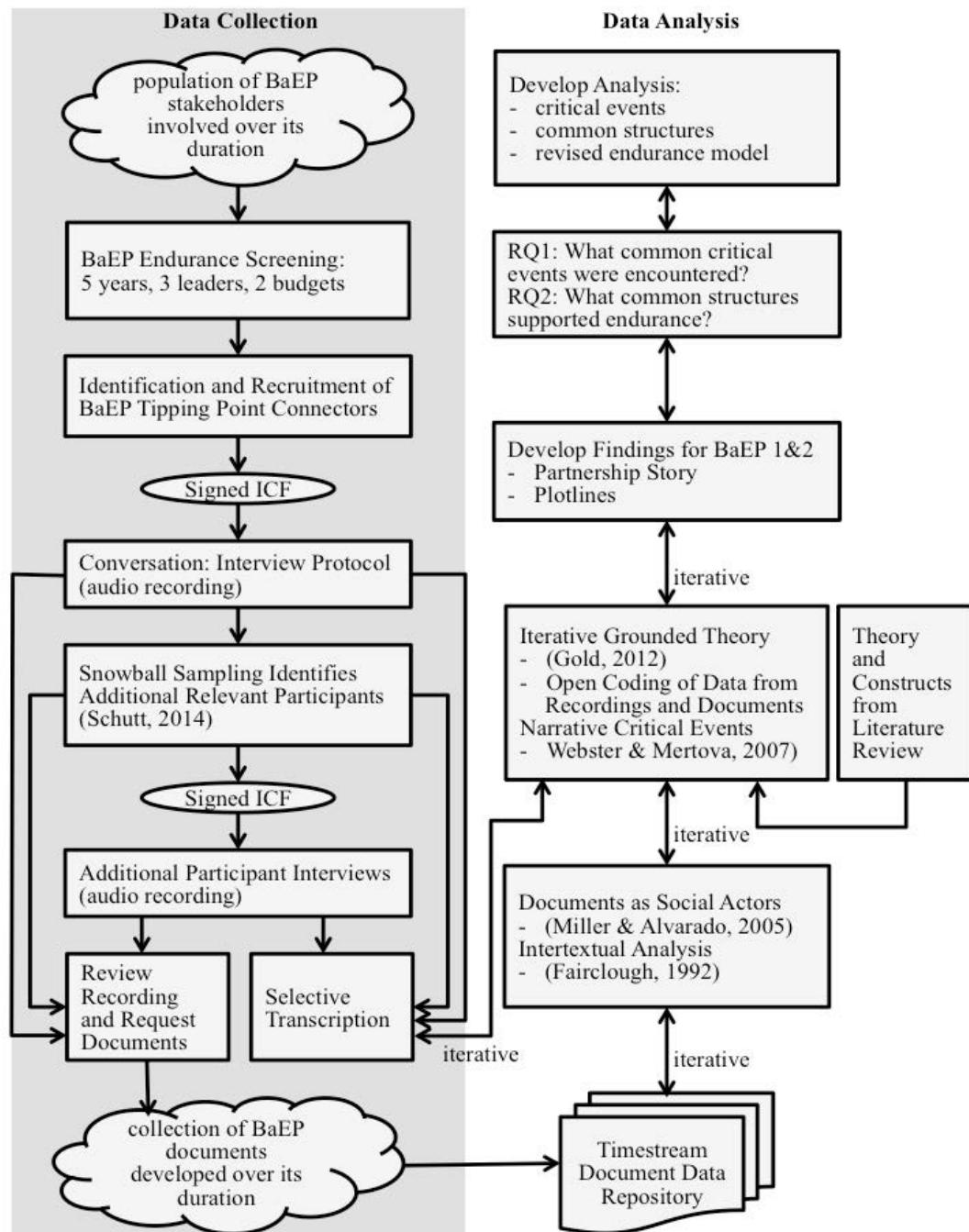
- The procedure for the study is depicted in Figure 3.1 The study was essentially comprised of seven activities, which were guided by iterative grounded theory. As such, the activities are not sequential and it was common that document analysis, additional document acquisition, and interviews were taking place in parallel during portions of the study. The seven procedural activities included:
  - field text acquisition;
  - document analysis;
  - narrative inquiry interviews and selective transcription;
  - construction of the partnership story and plotlines;
  - determination of critical events;
  - determination of common events and structures that enhance endurance; and
  - revision of the endurance model based on the results of the analysis.

### **Field Data Acquisition**

Primary data were collected from the institutional and personal files that existed among the partnership members. An initial meeting was held via telephone with the current manager of each BaEP to discuss the overall objective of the research study and the data collection needs. Each person signed the Informed Consent Form and enthusiastically agreed to include their partnership in the research. I also asked these individuals to identify additional participants that had relevant documentation in their possession and permission to acquire it.

**Figure 3.1**

*Procedural flowchart of data collection and analysis steps*



To facilitate the acquisition of documents, I sent an email to these individuals requesting documents or other field texts and included a statement indicating approval from the BaEP's point of contact to release these materials. The message also invited each recipient to call or email with any questions so that I could address and accommodate sensitivities they may have. They were also told that no information associated with privacy or proprietary information would be gathered in this process. At this stage, none of the participants raised substantive questions or objections. In total, including the snowball sampling approach mentioned earlier to find additional field texts, more than five hundred items were obtained.

**Document coding and de-identification.** It should be noted that for the purposes of this study, information found in the field texts has been de-identified to preserve confidentiality and document references are not included in the references. In subsequent chapters of this dissertation, quotations are used when text or data have been directly excerpted from a document. All partnership documentation was treated as confidential material. Pseudonyms replace actual names of people or organizations. Two of the evaluation documents used for the analysis have been published and available in the public domain. These are not included in the references section because the documents would reveal the identities of the partnership participants. Instead, they are citation numbers only and treated as confidential.

An example of a citation to a data source is as follows: A BaEP1 participant recalled, “I needed to be careful how I introduced the partnership priority, since I was new and didn’t want to appear pushy” [1001-083]. The citation numbering scheme

indicates the participant code number (“1001”) and where the quote can be found in the confidential database (the 83<sup>rd</sup> item for this participant). Table 3.7 illustrates the cross-reference table that was populated as field texts were analyzed, interviews were transcribed, and citations were linked to participant code numbers.

Recorded interviews were maintained as individual digital files. Information that was already stored in Basecamp was not downloaded but rather linked by an index number to the specific individual or topic as appropriate. Larger documents were stored as individual files. The remainder of field texts were scanned and stored as a collection and attributed to a specific part of the partnership. The resulting scanned collections are noted below:

- MSU scanned field text collection - the items that were obtained from the MSU participants or publicly available from the institution;
- R1 scanned field text collection - the items that were obtained from the R1 participants or publicly available from the institution;
- BaEP1 Basecamp – links to the relevant portion of the cloud database;
- H1-R scanned field text collection - the items that were obtained from the Health-1 Research participants or publicly available from the institution;
- H1 history collection – links to manuscripts written about the history of Health-1;
- BaEP2 Basecamp - links to the relevant portion of the cloud database; and
- Researcher reflexive journal – the author’s ongoing intermediate analysis notes and reflection commentary developed during the study.

As field texts were obtained from participants or public sources, they were scanned into a digital files following the schema noted above and given a reference code of “800X-XXX.” A code beginning with 8000 indicates that the item is a field text from the partnerships. A code beginning with 8001 indicates the item is from the author’s reflexive journal. Table 3.7 is an examples with identities obscured. The acquired and coded materials were entered into the Timestream database. Timestream is a software tool is able to plot documents on a timeline, code documents with attributes of interest, and subsequently filter the time-based views to see only those documents that were consistent with the filter was of significant value in the BaEP analysis.

From an instrumentation validity standpoint, there is face validity of Timestream as an acceptable secure analysis tool for the current research based on Timestream’s acceptance by law enforcement users across the country (Timestream, 2016).

### **Document Analysis**

Analysis of documents is interpretive in nature (Clandinin, 2006; Lincoln & Guba, 1985; Webster & Mertova, 2007). For the purposes of this research, it is important to note the distinction I used for official records and documents. Records attest to a transaction such as an automobile registration or accounting statement. Documents are prepared to convey or contextualize an interpretation that a party wishes to declare to another party about a specific issue (Hodder, 2003). This definition of documents matches the type of field texts that accumulated for this research. To accomplish the aims of the study, three document analysis techniques were used as described below: (a) content and structure analysis; (b) latent content analysis; and (c) intertextual analysis.

**Table 3.7**

*Sample index showing participants, data source location, and theme*

Citation Number	Initials	Identity	Pseudoname	Filename or Collection	Representative Theme / Excerpt	Time	Doc
8000-027	JC		Field Texts	MSU scanned field text collection	MSU faculty "so many good decisions were made"	na	p. 250
8000-028	DW		Field Texts	BaEP1_diss_JWC_12-01-10.pdf	R1 "better than money"	na	p. 265
8000-030	JC		Field Texts	BaEP1_diss_JWC_12-01-10.pdf	the joint appointment of BM to link education with econ improvement	na	p. 242
8000-033	RF		Field Texts	BaEP1_diss_JWC_12-01-10.pdf	shy of millions of dollars, do anything to make it work	na	p. 246
8000-036	RR		Field Texts	R1 scanned field text collection	MSU boundary spanner "it is the right thing to do for R1"	na	all
8000-038	KH		Field Texts	03003 - 071303-E.pdf	KH to students "MSU couldn't have a better partner than R1"	na	all
1001-002	KH		Kate Higgs	2016-04-29 - HOLBROOK.wav	president doesn't mean I can order anyone to do som	00:09:35	na
1002-001	GT		Gail Trainer	2016-04-04 - Tretheway.wav	recollection of R1-MSU mistrust	00:30:49	na
1105-052	RF		Ron Franklin	BaEP1_diss_JWC_12-01-10.pdf	don't go up against MSU and R1	na	p. 242
2001-001	CK		Charles King	PIBI interview 03233016 - Carl.wav	"why do R1 and MSU hate each other?"	00:26:19	na
2004-001	EP		Elsie Plum	R1 scanned collection	Obtains parking passes for MSU and R1	na	all
4001-001	DP		Don Price	2016-04-11 - Dave Pearce.WAV	Recruit young scientists	00:22:48	na
4001-010	DP		Don Price	2016-04-11 - Dave Pearce.WAV	H1 corp: "why are you so focused on education?"	00:14:33	na

**Content and structure analysis.** The purpose of this analysis was to provide a basic framework for the story by surfacing the general timeframe and circumstances surrounding key milestones of the partnership. This information informed the narrative inquiry activities to be focused on those milestones. Participants were then asked to tell the story of their experience and what types of critical events they observed by uncovering what happened, how participants experienced those events, and any new events that came to mind. For example, the impact from a change in leadership may have been the primary topic of discussion, but it caused the participant to also describe another event involving morale decline due to interim leadership while a new leader was being recruited.

Rapley (2008) describes document analysis as a way to uncover the “history of our present” (p.112). The examination of something that has been in existence for some time has the inherent challenge that what is observed today does not readily illuminate how a present situation came to be. An analysis of text and descriptive materials (e.g., written, audio, or video) about a circumstance under study allows us to “understand and describe the (historical) trajectory of the contemporary ideas, practices and identities we all currently just take for granted” (p. 112). Rapley emphasizes this analysis often reveals that the observed present has non-obvious beginnings. The journey from past to present includes nuances, shifts in understandings and assumptions, and changes in people and beliefs. All of these elements contributed to understanding the endurance phenomenon of the selected partnerships.

Miller and Alvarado's (2005) framework uses content analysis to attend to the "key patterns, themes, and categories" (p. 351) that appear in the collected documentation. The 12 success constructs found in the literature (see Table 2.1) were used as the tags for content analysis when entering field texts into the Timestream database.

**Latent content analysis.** Martens et al. (2007) describe "latent content analysis" (p. 1111) as interpreting texts for the existence of ideas. Familiarity with the subject matter is especially important in detecting the nuances of a situation (Clandinin, 2006). Although there were numerous documents acquired in this study, they do not comprise the totality of activities or background for the partnerships. I used the Miller and Alvarado (2005) framework to conduct a context analysis that focuses on the meaning of documents and how they are "socially situated" (p. 351) in the BaEP. Using their framework, my document analysis addressed the broader strategies and social commentaries that appear in the documents.

For example, in the H1-R partnership, documents describe a new community laboratory that was proposed as a centerpiece of the partnership's community outreach. This document is more than just a floor plan. It is an illustration of commitment. It illustrates the idea of how H1-R is implementing its interest in making science more accessible by providing direct contact between the community and H1-R researchers. Martens et al.'s latent content examination would result in this document being viewed as an expression of partnership commitment by H1-R. The document serves as a

springboard to interview participants familiar with the laboratory about their own experience using it.

Timestream has the ability to visualize the time sequence of documents and filter the result based on tags. These tags began with the 12 research-informed success constructs. Filtering a view by one of the constructs, for example “boundary spanner,” helps to reveal the potential for latent content. As an insider researcher, viewing the all of acquired documents that incorporate boundary spanner concepts allows a re-examination of these documents as a set.

**Intertextuality.** Documents make sense because they have relationships to other documents. Silverman (2010) calls this “intertextuality” and a competent reader familiar with the systems and contexts can connect documents as a system. “Intertextual analysis has an important mediating role in linking text to context” (Fairclough, 1992, p. 213). It draws attention to how stable the social domain is in terms of the creation and reference to plans, goals, what is discussed, how texts are produced and agreements are reached. Fairclough notes that, in essence, intertextual analysis can shed light on the predictability of normative ways a social group interacts. At the other end of this spectrum are texts that illustrate discontinuity, ranging from different styles and formats, presentation of goals or progress, or in different ways that documents are produced and socialized.

The data collection methodology in this study surfaced hundreds of documents and a wide array of formats. The magnitude of information was large but there is no way to determine how comprehensive it is. There are undoubtedly many events that did not surface during the texts acquired data collection phase. This is not a limitation in a

narrative inquiry study. Documents are collected to deepen a contextual understanding.

Clandinin and Connelly (2000) stress the importance of including this material because researchers can otherwise become preoccupied with relationships, and fail to see other patterns.

If the purpose of this study was, instead, to determine the effectiveness of a partnership on a problem, comprehensiveness of the documents would be a valid issue. Characterizing the before and after conditions would necessitate that documents collected comprehensive enough to assess how if the problem continued after treatment (i.e., the partnership).

In the present study, examining document data was provided context. In partnerships, the system of documents examined helps construct an important element of the story. They can be used to spot check the systems of thought and how they evolved over time. To explore the documents for the aforementioned system features, a data visualization tool called Timestream (<http://www.ntrepidcorp.com/timestream/>) was used. Tools like this are used to mine “big data” to visually examine a graphical representation of information in ways where our grasp of large spreadsheets and lists are ineffective (Chen, Mao, & Liu, 2014, p. 171). The approach is more common today in other fields, like medicine and finance, than it is in education.

All of the field texts acquired in this study—the digitized documents, videos, web sites, pictures—were entered into Timestream based on the date the items were created, and the attributes associated with the document. The attributes were chosen from among the 12 success constructs found in the literature review. Using this approach, a job

description for a partnership manager would be entered with the date it was created, and the attributes would be “SC07 - boundary spanner,” “SC09 - management processes and metrics in place,” among others that might be interpreted from the text. This process was done for every document acquired in each BaEP. BaEP1 had 369 documents entered into Timestream. BaEP2 had 163 documents entered into Timestream.

Figures 3.2 and 3.3 are screen captures from the Timestream tool and are annotated to identify the specific features used in the partnership study. In Figure 3.3, as an example, a filter for boundary spanner attributes revealed 15 documents. Clandinin and Connelly (2000) stress in their research that relentless rereading is needed to reveal new understandings as more dots are connected in the story. The Timestream filtering assists this process. It enables a glimpse into how boundary spanners were involved in the partnership story. It can also inform directions for deeper exploration.

For example, if an earlier document is a formal agreement among the partners and describes certain persons as responsible for meetings or approvals, then documents at subsequent dates should illustrate consistency of actions. This would be an example of stable social process. On the other hand, documents that are random, or do not exist when they would appear to be instructed to do so, would be an unstable social process. During participant interviews, for example, if an agreement included governance, I would ask if there were documents created from those processes. If the answer was, “no we didn’t do that,” this would suggest an unstable social context.

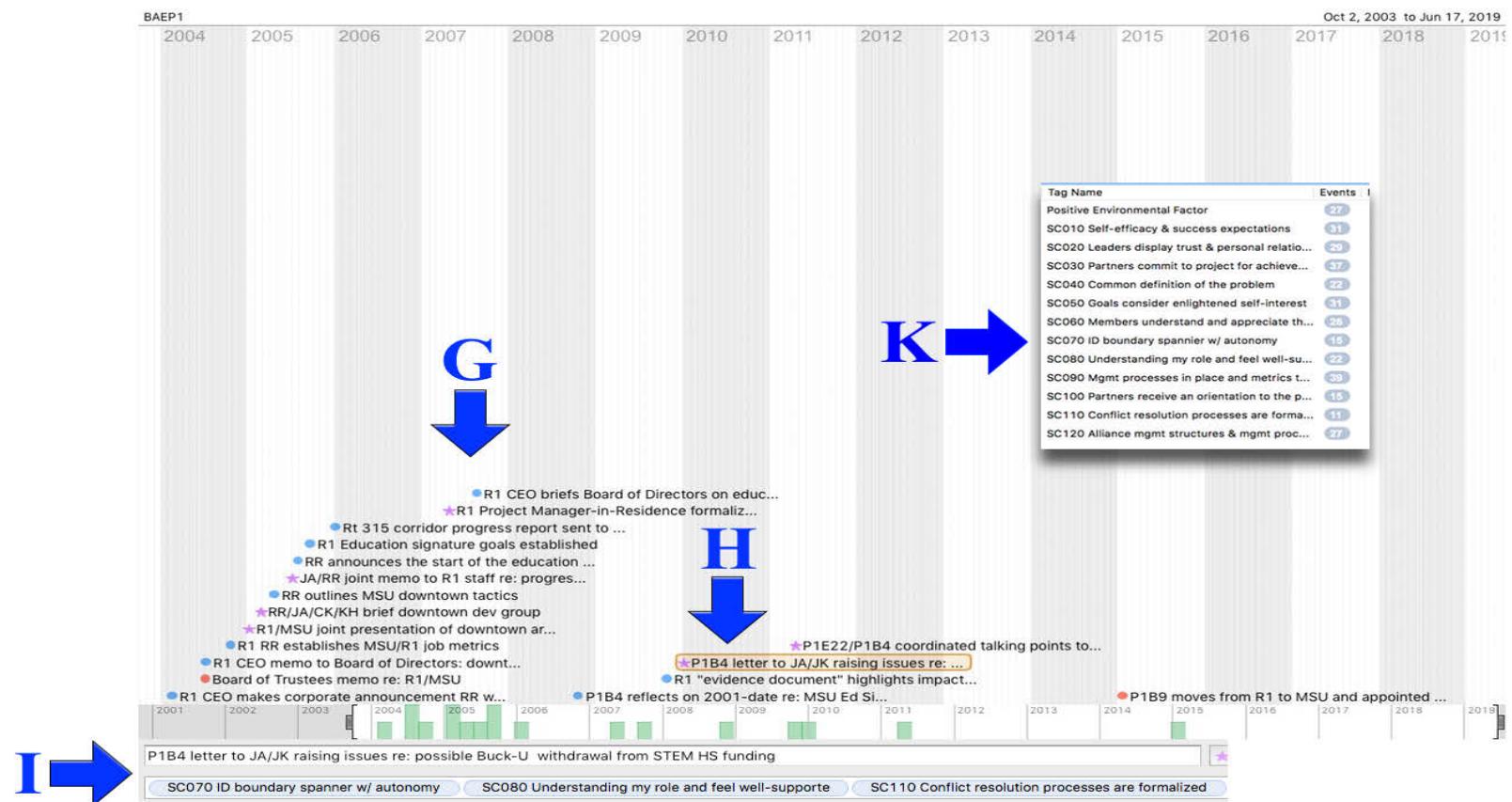
**Figure 3.2**

*Timestream screen capture showing field texts and milestones*



**Figure 3.3**

*Timestream screen capture with “boundary spanner” filter applied*



## **Narrative Inquiry Interviews and Selective Transcription**

Interviews were the basic method to interpret the data obtained. Once the documentation analysis was completed and initial partnership stories were developed, a first version of milestones and potential critical events for each partnership was created. These events served as the basis for interviews with the key stakeholders. Participants were not asked to prepare in advance for the discussion. Interviews were audio recorded and I kept researcher field notes.

I used guidance from Strauss and Corbin (1998) to provide a framework for conducting narrative inquiry interviews. These authors suggest constructing three categories of questions to help build a complete story: *sensitizing* questions, *theoretical* questions, and *practical/structural* questions. Sensitizing questions enable the researcher to understand the larger picture of what is going on, who the key players are, and what they do. Theoretical questions delve into relatedness and how one element of a story connects to or influences another element. It surfaces causes and effect as perceived by the interviewees and those being observed. Finally, practical questions address how fully formed an idea or concept is in the mind of the storyteller. For example, after hearing a stakeholder describe how something is supposed to work in the partnership under study, a structural question would be, “does ‘x’ actually exist the way you describe it?”

All interviews took place during the period February 2016 through April 2016. In some cases, multiple interviews were conducted with the same individual. This was necessary if information arose as the study unfolded where a second interview with the participant would likely add new information not previously addressed. Polkinghorne

(2007) emphasizes multiple data collection steps with the same group to enable the researcher to assimilate what is being observed, what is changing over time, and what seems to be influential to the stakeholders. This process also allows the description of critical events to deepen and new ones to be added over time.

The interview questions are found in Appendix C. These questions were used with each interviewee in the context of themes that were identified through the document analysis. The questions in Appendix C were established by Webster and Mertova (2007) and reflect what these researchers have found to be effective in encouraging recall of an individual's experience with the event of interest. I used an open-ended approach to the interview sessions so that a participant could tell their story from their point of view. As would be expected, the scale at which these stories were described varied because the respondents operated at different levels in the organization and within their BaEP. Overlaying Strauss and Corbin's (1998) framework in my interviews was especially valuable for its theoretical dimension. This is because it prompted follow-up questions about how respondents would view their story in relationship to other elements of the BaEP that might not have been obvious to them at the start of the interview. After each interview, I also entered my own impressions and analysis notes into my reflexive journal.

Audio recordings were part of each participant interview. The recordings were time-coded and noted in researcher field notes regarding the correspondence of time codes to specific topics from the interviewee, as well as where the emergence of themes could be heard in the participant's stories.

“Iterative grounded theory” (Bold, 2012, p. 133) was used with open coding of the data to provide the filtering screen. This aided in determining what portions of each interview should transcribed for inclusion in the dissertation text, as well as what portions of documents were relevant for analysis. The iterative grounded theory allowed for additional participants to be identified based on what was surfacing in the narratives, or referred to in the documents. In addition, the familiarity I had with the two partnerships provide the contextual understanding of when it was likely that acquiring another document was necessary to fill in a story gap, or to confirm an emerging theory about structures of important to endurance.

### **Construction of the Partnership Story and Plotlines**

A narrative sketch of each BaEP was developed using a combination of the interviews and the document analysis. A story can be told from many perspectives and for a variety of purposes depending on the intent of the author. For this research, an initial emphasis was placed on story elements that aligned with the three partnership qualification criteria: time in operation, leadership changes, and budget approvals. A partnership story should also convey the facts of the case. This consisted of the intended purpose of the partnership, what happened as it continued to operate, when certain events happened, and what kind of results are being produced by the partnership.

The construction of these partnership stories are not third person accounts. Rather, consistent with the practice of narrative inquiry research, the story is narrated and I am the narrator. The goal is to tell the story, attending to the aforementioned questions, through the lived experience accounts of the participants.

Part of the telling partnership story is conveying the key plotlines. “Plot is seen as the arrangement of the incidents, or as the relationship both among incidents and between each incident or element and the whole” (Egan, 1978, p. 455). The plotlines selected for this research are those that are relevant to endurance in some way. Plotlines were not immediately obvious as the data was being collected. I found that the researcher’s reflexive journal was especially critical to balance pre-conceived notions and to resist the urge to construct what Clandinin and Connelly (2000) call “the Hollywood plot,” “the plot in which where everything works out well in the end” (p. 181). These authors caution against the tendency of the writer to smooth out a story’s rough edges in the interest of telling a cohesive tale. Doing this eliminates what it felt like to be in that story. In the case of endurance research, it is exactly these nuances that would allow a reader to experience how endurance happened.

### **Determination of Critical Events**

Critical events can only be detected in retrospect by gaining perspectives of people involved (Gremler, 2004; Webster & Mertova, 2007). These events often create a change in the worldview and the understanding of the involved actors. The relevance of critical events to the notion of enduring BaEPs is twofold. The first is how partnership actors—or the treatment delivery system—enabled successful navigation through a critical event that threatened the continuance of a partnership. The second are critical events that positively affected the partnership such as the appearance of a new leader with expanded influence.

## **Identify Common Events and Structures that Enhance Endurance**

This portion of the analysis sought to find themes that were present in both partnerships. This was an iterative process. As themes emerged, they were documented in researcher field notes. This included reflections about my own changes in perspectives as stories I had never heard were added to my experience in these partnerships. Tags were added to the Timestream data for later filtering when that was appropriate.

The themes were then used to re-examine the document library in Timestream as well as the interview notes. The purpose was to look for confirming evidence of the proposed themes and their relationship to endurance. In addition, this part of the analysis sought to find circumstances in field texts or interviews that conflicted with the emerging themes. Throughout this process, I found that the initial themes were very granular and highly context-specific. As this process unfolded, I experienced that the themes gained clarity and dominant themes emerged. They were specific enough that a proposed theme could be directly tested to see if it could be detected in activities described by interview transcripts or sets of field texts.

## **Revision of the Endurance Model Based on the Analysis**

The theoretical model outlined in the last chapter was revised based on the results of analysis steps described above. Informed by the research literature, an aspect of the endurance model is the channels for feedback mechanisms that sense and adapt to changing circumstances encountered by partnership actors. I specifically explored these themes as the basis for understanding the enduring partnerships as a system: (a) comparison and contrast of the two partnerships at similar phases, such as during start up

and periods of leadership transition; (b) the existence of similar threads of leadership strategy or action that paved the way for results (or problems) by leaders and followers later in the story; (c) examination of the narrative for evidence of how it aligns/refutes with research-based constructs associated with partnership success or partnership demise; and (d) examination of the narrative from leaders in enduring partnerships for new constructs that should be the topic for further research.

### **Discussion of Research Integrity Applied to this Proposed Study**

The nature of narrative inquiry and interpretative methods for document analysis warrant rethinking the traditional standards for validity and credibility applied to research studies (Polkinghorne, 2007; Webster & Mertova, 2007). Narrative research is intended to examine human-centered situations that are in constant change (Polkinghorne, 2007). The method places the researcher in observational situations and interviews that reveal the personal perspectives of participants that unfold over time. The intimate engagement of the researcher with participants in this data gathering for the proposed research places trustworthiness foremost in establishing the credibility of the data and its use in analysis.

Narrative inquiry is subjective by its very nature, but it is considered a valid research technique when it is important to capture the relationship and meaning of variables as they occur in a natural context (Baxter & Jack, 2008; Nastasi & Schensul, 2005; Stake, 1995; Yin, 2003). In this applied dissertation, narrative inquiry and critical event analysis is a method guided by intentional protocols to collect and synthesize interview notes, interpret data from collected artifacts, and incorporate independent observations. Critics of narrative inquiry methods—and qualitative research in general—

point to challenges in reliability and validity of the data collected. Quantitative research focuses on consistency and stability as key factors for reliability. “Qualitative study has everything wrong with it that its detractors claim” (Stake, 1995, p. 45). Narrative inquiry scholars have established guidance on the core issues to attend to for attaining high research integrity in studies of this kind. In this section, I describe how this study addressed trustworthiness, credibility, member checks, confirmability, and transferability.

All collected data and analysis work products that resulted from this research were stored securely in locked filing cabinets. Digital data was stored with password protection in secure files on my computer. Secure backups were performed daily. To protect against loss of data, these files were encrypted and uploaded to a cloud-based digital archive using the Mozy file backup service.

### **Trustworthiness**

In narrative research, the lived experience of the study participants is documented and told by the researcher. The reliability attributes are embodied in the trustworthiness and plausibility of the collected data from field observations and interviews (Nastasi & Schensul, 2005; Webster & Mertova, 2007). The primary focus in this case is trustworthiness of the field and interview notes (Lincoln & Guba, 1985; Polkinghorne, 2007).

It is up to the researcher to develop the themes of the story that are relevant to the research questions. In that process, the narrative researcher makes decisions about what elements of the participants’ stories will be incorporated, and what is left out. A primary issue therefore is the trustworthiness of the data elements extracted from the inquiry

process (Polkinghorne, 2007; Nastasi & Schensul, 2005; Webster & Mertova, 2007).

Readers of narratives must also make judgments about the plausibility of the story being told (Polkinghorne, 2007). It is also up to the researcher to use a transparent process for both explaining the research process with participants as well as describing the logic of how the data were interpreted in the research findings. It is this process transparency that is essential to building a plausible case for the narrative data in the minds of the reader (Dodge et al., 2005).

### **Credibility**

Credibility refers to how findings relate the reality of the situation being examined. I have synthesized from the literature 12 constructs that researchers have associated with partnership success (see Table 2.1). As expected, new interpretations of success in the context of endurance were uncovered during the open-ended inquiry. When that occurred, I followed a two-level protocol prior to inclusion of a new interpretation in my subsequent analysis<sup>8</sup>. First, I examined the research literature to determine what published information might exist about this interpretation. If a connection was established, the supporting research was cited in the analysis section in the relevant locations. If corroboration was not readily found, I note this as a possible new concept associated with endurance that resulted from this study. These items serve as potential topics to be studied in future research.

To validate empirical procedures, data triangulation was used to combine data sources examined at different times, from different sources, and different places, to

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<sup>8</sup> For example, importance of perspectives among internal publics arose during exploration of conflict resolution. This aspect of conflict was not examined in the first literature review.

correct subjective bias of the observer (Campbell & Fiske, 1959; Mathison, 1988). Early field notes and proposed coding results discussed with my dissertation advisor. As the study evolved, these procedures were reviewed again for credibility and compliance with the established protocols.

### **Member Checks**

To strengthen the data collection and analysis, I used member checking at several points in the study. First, during interviews, I described certain documents that I was using as the basis for constructing the narrative of the partnership. To the extent participants were familiar with these documents, the respondents were asked to confirm or comment on the relevancy of the documents. I also inquired about any limitations that might be present in trying to draw conclusions from these artifacts.

Next, at the conclusion of each interview, I summarized the salient lived experiences I was extracting from the interview. This was done through conversation as well as replaying key portions of the audio recording. The participant was asked whether the recording or paraphrasing was still an accurate reflection of their lived experiences with the benefit of recollections from the conversation. This process often deepened their recollections. Participants were given the opportunity to expand and clarify, and many did. I noted any information that was identified as sensitive to them for any reason, and coded that in field notes to eliminate it from consideration in further analysis.

At the conclusion of the interview, I asked for approval to incorporate the information provided by the participant. I also offered them an option to have a

subsequent review of my intended use of their comments. All participants gave approval during the interview and none requested to use the option for a second review.

### **Confirmability**

My research data is stored in a secure and access-controlled data file structure on my office computer. All hard copy data includes field notes, reflexive journal entries, reviews by independent experts, audit trails for artifacts, interview guides and protocols, and archival storage of all materials. This level of detail allows others to examine the raw data that led to my ultimate synthesis and research conclusions.

### **Instrument Validity**

From an instrumentation validity standpoint, there is face validity of Timestream as an acceptable analysis tool for the current research based on acceptance of Timestream by law enforcement officials across the country.

### **Transferability**

In narrative work, Lincoln and Guba (1985) argue that it is not the responsibility of the researcher to illustrate how the results are transferable to other settings. Rather, the researcher's responsibility is to provide a comprehensive and deep description of accounts to a level where other readers can transfer the applicable portions to their own context. The depth of the narrative accounts, and access to the underlying source material that supported these accounts, will meet the test of transferability from Lincoln and Guba.

## **Research Subjectivity Statement**

Leviton and Lipsey (2007) have said, “nothing improves research design so much as having a clear idea about what is being investigated” (p. 28). My professional experience in this field allowed me deep access to the people in the partnerships because I had substantive involvement in the prior structuring and start-up of these relationships. Since I am also the primary interviewer in the narrative inquiry, clearly, I am not unbiased. This fact did not disqualify me from researching the topics at hand and establishing theories about the nature of endurance in partnerships. Rather, the insider nature of my involvement as participant and observer required that I discuss the limitations, challenges, and guidelines from researchers that have opined on these situations, and how these opinions were translated into my research.

This narrative research relies on a participatory method to enable each participant’s recollection, prompted by their own artifacts and documented statement, to explain their decisions and results. There are no objective observer’s in this style of work. In fact, I am part of the unfolding story, since I have been a participant in these partnerships. There is guidance on the ethics of how to do this autoethnography and it does not require being clinically separate from the work. Rather, it is about being transparent about my own insights and biases, and how that experience influenced the pattern recognition I choose to write about. The reflexive journal I kept throughout the research process documented this transparency.

My goal was to tell a story and derive insights well enough so that readers undertaking partnerships can dive into in a deep example of how another leader planned

certain stages of the partnership, as well as how they processed and reacted to unanticipated events.

Finally, the intent of this study was not an analysis that can be extrapolated to inform what is good or bad about partnerships broadly. Rather, my research methods and the evaluation were aimed creating an accessible story that points out the full picture (e.g., the emotions and behaviors) of partnership participants “in the moment” with the goal to help partnership leaders in similar circumstances see an example of how others in an enduring partnership did it. The retold stories I composed for that purpose are filtered through my perspectives. It is quite possible that another researcher using the same collected data could construct a different, and equally relevant narrative.

### **Researcher-as-Insider Participant**

As noted elsewhere, I am an insider to the partnerships that were studied in this research. This is a familiar situation to narrative inquiry scholars. This section describes guidance I followed throughout the course of the research study. Being an insider requires that the research terrain be carefully negotiated with appropriate cautions and protocols. It also requires attention to the ethical dilemmas and debates regarding insiders and outsiders as discussed in the following section. Scholars who believe the benefits outweigh the risks are the experts that influenced my methodology. Krieger (1985) notes the relationship between the observer and the observed is not expected to be arms-length and totally unbiased in the sociological inquiry methods proposed. Laberee (2002) underscores that an insider’s familiarity is a significant advantage as it establishes a

“deeper understanding of the complex dynamics” (p. 98) of the relationships being examined.

Nastasi and Schensul (2005) discuss the protocols associated with researchers who are participants in the topic under study. In these situations, “the researchers themselves are the primary instruments of data collection” (p. 183). While it is critical to maintain focus on obtaining valid data through triangulation methods, explicit objectivity of the research is not a requirement for narrative study (Baxter & Jack, 2008; Nastasi & Schensul, 2005; Stake, 1995; Yin, 2003). The familiarity of the researcher to the partnership participants enables deeper access to the case, and also enables the partner participants to be engaged in the analysis (Nastasi & Schensul). In my research, this will allow for the inquiry to evolve into new territories as participants see information that triggers other data topics they feel are relevant to the endurance phenomenon under study.

Researchers that use narrative inquiry need to build rapport and trust with the participants (Polkinghorne, 2007; Nastasi & Schensul, 2005; Webster & Mertova, 2007). Over time, this helps the researcher make sense of what is being observed and aids in deepening the inquiry. Especially in studies of extended duration, researchers report that they naturally become insiders. New friendships can blossom during this time as well (Taylor, 2011). Critics argue that this biases the viewpoints of the researchers and hinders their ability to accurately and authentically recount the lived experiences of the participants. Narrative inquiry scholars agree that this shift in relationship occurs as researchers become more familiar with the participants and environment. Rather than

discounting the value of narrative inquiry research, if carefully and continuously attended to, it strengthens the ability to understand context. The researcher understands how a participant's story elements will best fit within the holistic story as it is built up from multiple participants (Stake, 1995; Taylor, 2011; Trahar, 2009).

Narrative researchers must grapple with maintaining appropriate objectivity and ethical behavior when conducting this type of research. Narrative inquiry naturally builds relationships over time where observers tend to become much more closely associated with participants in the work. In addressing the ethical perspectives of insider knowledge, Taylor (2011) gives participants transcripts to review and invites them to correct or delete information that has been misinterpreted or problematic to the informant. While this practice may appear at first glance to contaminate or reduce the value of data, it is important to consider again that narrative inquiry is not intended to be quantitatively accurate (Webster & Mertova, 2007). Narratives recount the story of lived experiences as told by the participants. It is up to the researcher to navigate the line between authentically reporting the participant's voice while respecting the impact of the story's content on that participant (Taylor, 2011).

A more extreme case of caution about bias and subjectivity arises when the narrative researcher is an integral participant in the project being researched. While the researchers' lived experience as a participant in the project is an important element of the story, it must be examined in light of these special circumstances. The advantage of being an insider participant is the efficiency with which narrative research projects can get off the ground. This is because of the access, rapport, and trust-based relationships that exist

with the researcher. Labaree (2002) notes that, “this is perhaps the most universally accepted advantage given to being an insider” (p. 104). Taylor (2011) also notes that the potential for data distortion, insider blindness, and lack of objectivity are high in situations with insider participants.

Researchers do not view insider participants as a strike against objectivity. Rather, the situation signals that more deliberate preparation on the part of these researchers about the strategy to maintain objectivity and accuracy is required (Miller, 1997). In sum, these narrative inquiry scholars advise continuous feedback from multiple sources. This is so that the benefits of insider participation do not erode trust among the participants or inject a situation where knowledge distortion eclipses the actual narrative of lived experiences by the participants. (Labaree, 2002; Miller, 1997; Stake, 1995; Taylor, 2011; Trahar, 2009).

**Protocols followed.** The familiarity I had with these partnerships was the driving factor in selecting them for a study of endurance. There is a gap in the research about partnership endurance that comes from deep case studies. Some of this gap comes about because participants with contextual knowledge do not have the time or academic training to leverage their experience into a credible research product. I was able to have both through the training I received as a doctoral student at Johns Hopkins University.

I am an insider participant to the BaEPs studied in this research. Care was taken in the development or the dissertation proposal to find other works where this situation existed. As noted earlier, objectivity and distance are not requirements in narrative inquiry. In fact, scholars note that familiarity is an advantage because the context is

known, access is increased to participants and knowledge. I read extensively about how other narrative inquirers regulated themselves in the research and followed the guidance they provided in their articles and textbooks. There was ample information about how to approach this, and strong consistency in the type of guidance provided. What is important is that I clearly define the nature of my participation and the safeguards put in place by this research to balance my perspective so that other views are not pushed to the margins. It is also essential that I draw a distinction between where my point of view is contributed as opposed to other participants.

I was one of the founders of BaEP1 and remained involved for its first eight years. Some of the partnership processes described in the next chapter were put in place during my time as the BaEP1 leader. In particular, I stressed project management, documentation, and systems integration methods since these were part of my engineering and product development training. Until conducting this research study, I did not have familiarity with BaEP1's current status or the activities that took place in the five years after I left.

In BaEP2, I am a member of the advisory board and familiar with the current status from that perspective. I was not familiar with the founding activities that occurred in its first five years. I currently serve as BaEP2's advisory board chair. This is an unpaid position and I receive no compensation. As an advisor, I have attended presentations given by H1-R staff involved with RSLA. Along with my advisory board colleagues, I have provided feedback on BaEP2 strategic plans and prioritization of resources.

To maintain balance and integrity for this research, I did not rely on my memory

as part of the data collected for this study. Instead, where I am included in the narrative sketches, the references are from participant's interview responses or from information found in the acquired field texts. Finally, so that it is clear where I appear in these stories, my name is not de-identified. In cases where I provided a specific opinion comment or emphasize the relevance of something from the interviews as the story unfolded, a reference to my own reflexive journal is made as “[8001-001]” so that this is distinguished from other field texts.

## **Chapter 4**

### **The Partnership Stories**

The aim of this chapter is to provide a thick description for each of the partnerships through the use of narrative sketches. Polkinghorne (1988) says that when a narrative sketch is done well, the reader “does not feel lost in the minutia, but always has a sense of the whole” (p. 116). Baurain (2013) emphasizes such stories are created by recognizing patterns and themes and turning points.

The data collected for this research resulted from hundreds of documents and many hours of recorded interviews. The lived experiences described by participants and found in the field texts covered a wide array of topics. The retelling of these stories is composed to illuminate what it looks and feels like to be in an enduring partnership.

#### **BaEP1: Midwest State University and Research-One**

Midwest State University and Research-One have been engaged in active partnership since 2003. The partnership continues to operate for 13 years and counting. The partnership operates in an urban Midwest City with a metropolitan area population that topped two million people in 2015 [8000-001].

#### **Partner Descriptions**

A description of the organizations is presented to establish background information about what these organizations do. Some representative facts are also provided to give the reader a sense of their size relative to other organizations in their peer group.

**Midwest State University.** This public institution was established in 1870 as a result of the Morrill Act (1862), also known as the Land Grant College Act. Today, Midwest State University (MSU) has numerous campus locations across the state. Six hundred buildings can be found on the nearly 1600 acres used by the 15 MSU colleges and their academic medical center and teaching hospital. An estimated 58,000 students attend classes and conduct research in pursuit of undergraduate, masters and doctoral degrees. The campus attracts students from over 80 countries around the world. Approximately 44,000 faculty, administrative, and support staff are employed by MSU and the annual operating budget is approximately \$6 billion [8000-002].

MSU is typical of large public universities. Special purpose facilities and prominent scholars enable MSU to be highly respected in the academic community. MSU's collegiate sports programs are consistently performing among the best in the nation. A home football game will draw 100,000 fans to the stadium and nearly a quarter of them will be traveling from outside the region. For all practical purposes, MSU is a small city and it substantially contributes to the regional economy through services, tourism, and infrastructure. The upkeep of MSU's infrastructure supports thousands of jobs for businesses in the community. For example, at one point several years ago, MSU had more than \$400 million in local construction projects underway [8000-003].

**Research-One.** Research-One (R1) is an independent contract research and development organization that opened its doors for business in the late 1920's. It was formed from instruction in the last will and testament of its industrialist founder who left nearly his entire estate to create the enterprise. R1's legal structure is a non-profit,

charitable trust. This is because the Will instructed that a portion of annual R1 revenues be distributed for charitable purposes that aid in the education of men and women for employment [8000-004].

Contract research and development (R&D) is a common business model (Haour, 1992). Companies that need specialized services often find it cost effective to engage contract research and development organizations rather than developing and maintaining these capabilities in house. In 2016, there were 3,116 registered contract R&D firms in the United States, with an average size of 15 employees and annual revenue of between \$5 million and \$10 million (IBISWorld, 2016). Most of these firms focus on a specific technology expertise (e.g., software development) or a deep market/customer understanding (e.g., the aerospace industry). R1 is an unusual player in the contract R&D industry due to its size and scope. R1 annual revenues exceed \$6 billion from clients that range from small private businesses to large government organizations. This contract work is conducted by more than 20,000 scientific and technical staff involved in an estimated 8,000 separately contracted projects. These statistics make R1 the largest independent contract R&D firm in the world, by an estimated factor of more than 600 [8000-005]

### **BaEP1 Partnership Purpose and Structure**

MSU and R1 formed BaEP1 as an intentional vehicle to explore the art of the possible. Each organization was successful. However, leaders in the community believed the organizations were not realizing the potential that could be gained by working more closely together. Conditions were favorable to initiate explorations in early 2002. The

participant stories that follow illustrate that finding topics of mutual interest was a deliberate, arduous, and systematic process because of the complexity of the organizations involved.

The actors involved in the early days of the partnership did not rush to establish a set of objectives or plans. It would take nearly 18 months of various activities – using early adopters willing to explore the art of the possible – before the first documents formalizing purpose and structure were created. Examining patterns in the results created during that first period informed partnership founders about what kinds of activities were beneficial and not practical to do alone [8001-001]. This deliberate exploration phase in itself illustrates a characteristic of endurance. Prior to a chronological discussion of how key participants experienced the partnership, it is useful to present the purpose and structure that the BaEP1 communicated in 2004 as context.

**Purpose.** Based on field texts acquired in this study, the participants characterized and communicated—through a jointly authored public document—the partnership purpose to internal and external stakeholders. Table 4.1 summarizes several important characteristics that were communicated to the MSU/R1 audiences. First, “intentional purpose” is called out to indicate that the partnership would not be random in its pursuits. This is a direct response to skeptics in both organizations who argued that complexity, size, and culture would make partnership endeavors inefficient. The leaders agreed. This led to the second important element of the original purpose statements.

Enlightened self-interest was directly stated as the reason to work together. Both MSU and R1 are non-profit structures with a public purpose. Accomplishing beneficial

outcomes for society was built into their respective missions. However, the reason to work in partnership was explicitly communicated as a strategy that only made sense when the work made each organization stronger in their own right [8000-013]. Table 4.1 notes the statements that were made about how each organization would benefit, such as increasing research revenues and access to intellectual property.

**Table 4.1**

*BaEP1 partnership purpose and commitment (2004)*

Our intentional purpose: (centric to MSU enlightened self interest)	Our commitment to collaborations: (centric to R1 enlightened self-interest)
Build value for Midwest State University and Research-One through access to infrastructure and funding not accessible to MSU or R1 working alone	Joint programs that offer contract revenue potential to R1
Define MSU as the nation's leading public land-grant university	Formal collaborations that provide access to pipelines of intellectual property relevant to R1's strategic priorities
Proactively bias external research at MSU in directions of strategic future interest to R1 operating divisions	Assist and support building academic research programs that are in areas of relevance to R1 (talent pipeline, over the horizon)
Improve the regional environment for a robust research and technology workforce	Establish and sustain key relationships
Create a compelling location to attract established companies and fertile ground for new companies to start-up, thrive and grow	Attract a significant federal laboratory to locate on our campuses

Finally, the statements included the types of commitments that were to be made so that the purpose could be realized. Being the industrial partner to MSU research grant proposals was especially relevant since sponsors often required letters of collaboration

from industry. R1 was stating a broad commitment to be that collaborator, and the breadth of applied research conducted at R1 made that a credible promise [8000-042].

**Structure.** The MSU president and the CEO of R1 each assigned a senior person from their organization who would be accountable for partnership progress and report directly to them. For MSU, the university provost was assigned. For R1, I was given this assignment<sup>9</sup>. I was a corporate vice president at R1 during this time. My division was responsible for philanthropy, institutional relations, and mission-related educational outreach. BaEP1 was operated from within this existing business unit [8000-036].

The structure for conducting the work was defined by the scale of opportunities being explored [8000-013]. As opportunities surfaced, tailored project teams would form to pursue the ideas and these teams were accountable to the partnership managers. A project plan and budget would be created and approved by both BaEP1 leaders. Costs for all activities in BaEP1 were shared, and accrued at the division and provost level. This was done to mitigate the financial impact to individual department budgets. For the duration of the project, the staff involved from both organizations would be accountable to the BaEP managers. This was important to not create unfunded mandates [8001-001].

Table 4.2 outlines the tactics that were followed in pursuit of projects associated with the MSU/R1 partnership. There were three levels of engagement. Institutional engagements were defined as very large efforts that spanned the functions of both organizations. For example, this would include pursuing the management of a national laboratory. In such cases, the tactics focused on how decisions would be made,

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<sup>9</sup> I held this assignment from 2003-2010. See Chapter 3 Researcher Subjectivity for information regarding the guidance I followed as “researcher-as-insider participant.”

coordinated messaging, and mechanisms for organizational units to be involved [8000-037; 8000-040; 8000-087; 8000-088]

Organizational unit collaboration involved a specific area, such as cancer diagnostics, or the joint management of a new K-12 school concept. These areas would be approved by the partnership in general, and then management responsibility would be delegated to the specific unit leaders. Finally, to be opportunistic, the partnership structure provided a path for ideas to be efficiently explored and funded if there was sufficient potential benefit to both organizations [1002-010].

**Table 4.2**

*BaEP1 engagement approach based on scope of effort*

Level of Engagement	Tactics
Institutional	Establishes common framework for implementation at organizational unit levels Defines and communicates broad institutional intentions Defines key governance and resource policies
Organizational Unit Collaborations	Defines intentions for shared facilities, people, and programs in a specific business or organizational unit context Declares commitments for program areas of mutual interest
Spot Projects	Opportunity-based, “one-off” responses that leverage existing resources to mutual advantage

With the BaEP1 purpose and structure in mind, the remainder of this section returns to a chronological narrative of the partnership, as experienced from the storytelling of key participants and explained in field texts.

## The Beginnings

Both MSU and Research-One are substantive organizations in their respective fields but what they do is not unique. What makes the pairing of MSU and R1 unique is that their campuses are across the street from one another. This situation has existed since 1929. The partnership between MSU and R1 started in 2003. What took so long?

**Put the past in the past.** Despite being neighbors, there was relatively little institutional interaction between MSU and R1 for much of their history. Relationships at the individual level were common [8000-006]. R1 employees and their families often were attending, or graduated from, MSU. Others were advocates of MSU sports teams or attended functions on the university campus. MSU students and faculty had a generally positive view of R1 as a result of philanthropic donations for new buildings, parks, and programs across the region [8000-006].

Gail Trainer (GT) joined MSU as its general counsel in 1998. She would ultimately serve in that capacity in support of four MSU presidents over the next 15 years. GT recalls her earliest days at MSU and her curiosity about the neighbor, R1:

I would ask someone who had worked at MSU awhile, “Well, aren’t we, like, connected with R1? They do research... We do research. They’re four blocks away. What’s this about?” They would whisper. Nobody really owned it. Nobody had a good recollection. It was just, “Oh, there are things you don’t know.” [1002-001]

The observation about the lack of relationship was not limited to insiders at the university. Dr. Charles King (CK) joined R1 in 2001. He became only its seventh CEO in

seventy years, succeeding the previous CEO who had served 15 years [8000-006]. As a prominent company CEO in a new community, CK was invited to many gatherings. He vividly recalls a dinner on his first day:

As we sat down, a woman sitting across from me said, “I have two questions for you.” I said, oh, OK. She said, “What does R1 really do?” “The second question, which I am most interest in, is... How come R1 and MSU hate each other?”

[2001-001]

CK continued, “that conversation stuck with me in a very big way.” He asked the outgoing CEO about it and the answer was “not to trust them, they only want our land” [2001-002]. CK had a multi-billion-dollar organization to run. These conversations might have been reason enough to let sleeping dogs lie, as it is said, and let MSU and R1 continue to go their separate ways. But that is not what happened.

**Exploring possibilities is encouraged.** When CK joined R1, the MSU president was Dr. Bob Kennan (BK). BK was intrigued by research that had concluded great world cities all have great research universities. BK wanted to put MSU that category, and he started bringing up R1 as a conversation with MSU’s leadership. GT spoke about what it was like to be in those meetings. “This great research university theme became a crusade for BK. So his radar was way up about R1. R1 began to loom larger as an unknown, but a positive. It was completely unexpanded, unexploited opportunity” [1002-003].

Like CK, GT was also curious. GT arranged to meet with R1’s general counsel a few times a year. “...just have lunch to talk and see what we know,” GT said. “So we did that. We liked each other, so that made it easier.” They both had a common

understanding that somewhere in the past, maybe something happened. “But that wasn’t my history or R1 general counsel’s history, so we didn’t much care about the past” [1003-004].

When BK retired in 2002, the great university mission continued with the arrival of MSU’s next president, Dr. Katherine Higgs (KH). KH was a passionate scientist and the university’s strategic plan was re-written with a significant emphasis on research. KH also had no emotional connection to the prior MSU/R1 folklore. R1 was referenced as an untapped resource important to MSU’s future [1002-005]. GT recalls a turning point in the opinion about MSU’s neighbor. It went from “there must be reasons we can’t do anything, so let’s not try very hard...” to “there’s probably a world of possibilities” [1002-006].

**Trusted relationships blossom.** KH was installed as MSU’s new president one year after CK joined R1 as CEO. Unlike the prior and infrequent interactions of prior leaders, CK and KH instantly bonded as friends after their first meeting. [1001-001; 2001-004]. “Their trust in one another was obvious. It really helped to break down real and imaginary barriers that might have existed,” said GT [1002-007].

The arrival of a new university president often coincides with the arrival of other people as new organizations are built around the new leader’s vision. This was the case at MSU. KH recruited a new head of university research and several world-class medical researchers. KH and CK made it a priority to make sure these new leaders were acquainted with R1 when they came to town [2107-002]. CK realized that while his

relationship with KH was essential, the relevance of the organizations needed to be realized deep within the R1 operating divisions [2001-003].

Travels across the road that separated the MSU and R1 campuses became common. Although MSU and R1 are across the street from one another, arranging meetings had logistical challenges. This is where small things mattered in establishing positive relationships between MSU and R1. Anyone who has visited a bustling university campus understands the significance of convenient parking. “GT arranged for several R1 employees to get Level A faculty parking stickers so they could park anywhere on campus,” recalls Elsie Plum (EP).

EP was my administrative aide at R1 and she was involved in the MSU/R1 partnership from the very beginning [8001-001]. R1 is a secure facility and visitors must adhere to requirements established by the Departments of Energy, Defense, and Homeland Security [8000-071]. This could have a chilling effect on impromptu meetings at R1. EP arranged for frequent MSU visitors to obtain unescorted access badges to R1 [8000-031]. The net effect was that more people from MSU and R1 had unimpeded access to each other. The complexity of the organizations was being reduced as more people became familiar with each other. Irritations like not finding a parking space were not obstacles. While not obvious at the time, another potential threat to endurance—personal inconvenience—was being mitigated [8001-001].

### **Advancing Scope and Scale: Imagining a Larger Footprint**

CK’s tenure at R1 took place during the greatest growth period in its history. Revenues more than doubled, international expansion occurred, and staying competitive

as a world-class research organization had CK seeing a new possible value of its university neighbor and their commitment to increase their reputation in academic research [2001-003]. More revenues at R1 also equated directly to more capacity for charitable giving [8000-022]. This fueled BaEP1 with more resources and the ability to pursue concurrent projects as a portfolio.

**Focus first on topics of mutual interest.** The most immediate common interest of MSU and R1 was in health and life sciences. Prior to my time in the R1 corporate offices, I had spent 20 years in medical device development starting as a research engineer and ending as the division general manager. Staff from my group at R1 and the MSU medical school was already meeting regularly on their own. CK saw this as a way to build momentum by capitalizing on the enlightened self-interests of both organizations [8000-042].

KH responded by asking the Dean of the Medical School, Dr. Frank Smith (FS), to take the lead role for the university in advancing work between MSU and R1. “Being the president doesn’t mean you get to tell anybody what to do,” said KH. [1001-002] “But a Dean has influence” [1001-002]. FS and I had established a strong relationship and frequently making joint presentations that highlighted the MSU/R1 relationship at conferences [8000-007]. R1 senior researchers also wrote letters of support for university research grants [2107-001].

**Capitalize on external funding opportunities.** In 1998, four major tobacco companies and 46 states entered into the Master Tobacco Settlement Agreement. This landmark settlement included the payment of \$206 billion over a 25-year period (Cutler,

Gruber, Hartman, Landrum, Newhouse, & Rosenthal, 2002). Each state received a share of these dollars and they were to be used for public health programs and the conduct of research for diagnosis and treatment of tobacco-related diseases. In MSU and R1's home state, \$1.1 billion was set aside by the legislature in 2003 to fund the Biomedical Research Technology Transfer (BRTT) program [8000-007].

As the world's leading independent contract research organization, R1 was well versed in writing large competitive proposals. In 2004, R1 provided resources to help MSU win the first competitive awards from the BRTT. The MSU medical school received more than \$20 million in funding for cancer imaging research. Over the next three years, with R1's assistance, MSU would receive a total of \$48.5 million from state programs [8000-008; 8000-049]. KH was absolutely determined to make research the reputation, the core, and the differentiation of MSU and this funding would help make significantly headway toward that goal [1002-008].

### **Maintaining Momentum: From Relationships to Partnerships**

In a span of three years, the relationship between MSU and R1 had "shifted from the Hatfield and McCoys to Batman and Robin" [2107-002]. By mid-2004, a variety of explorations were underway. Joint presentations were being made by the BaEP1 [8000-015] and nearly 40 efforts were being tracked and reported on by the end of the middle of 2005 [8000-016]. KH recalled the momentum that this created and how she used it to focus on yet bigger goals:

CK and I had established three concrete goals. We wanted to create a downtown incubator to encourage live, work, learn communities; we wanted to jointly

design, start-up and jointly operate a public STEM K-12 school with area school district, and we wanted to attract a national laboratory to our campus that would be managed by R1 and MSU [1001-004].

**Memorandum of understanding.** In July of 2004, the boards of MSU and R1 each adopted a formal Memorandum of Understanding (MOU) that laid out the principles of a strategic relationship between the organizations. Working to maximize the potential of working together, the MOU encouraged "shared staff arrangements," "collaborative programs," and "shared facility planning and optimization." The commitments also were intended to ease the navigation of partnership boundary spanners. The MOU read, "Each party intends to take steps to enhance access of the other Party's point of contact to its key internal networks to increase efficiency and effectiveness of communication" [8000-072].

**A defining project emerges.** The results achieved with BaEP1 up to this point were largely associated with helping each organization win larger grants. The proposition of working together now had a track record that researchers in the organizations were paying attention too. KH and CK turned their attention to bigger social policy issues and specifically education improvement at K-12 levels. This was an area of mutual interest. For R1, it was integral to its charitable purpose and a coherent strategy to carry out that purpose did not exist. I was in the room with CK, KH, and her university cabinet when the topics of science, technology, engineering, and math (STEM) were discussed as the next aim for BaEP1 [8000-073].

KH and CK wanted to explore what would happen if a world class university and business would deeply engage in the design, start-up, and continued operation of a new

type of learning environment for K-12 students based on STEM [8000-019]. MSU's highly collaborative Dean of the College of Education and Human Ecology, Dr. Dwight Able (DA), had the notion of designing a public STEM high school that was non-selective and lottery-admission based. It would use a mastery-based design and students would receive credit in a course only after they had demonstrated content mastery at the 90% level or better.

Demonstration of mastery would replace the traditional Carnegie units of seat time. The school would use block scheduling and engaging problem-based learning in close cooperation with R1. Once a student accomplished mastering of the core high school content units, the student would be able to attend MSU – tuition free – and receive college credits while still in high school. [8000-019]. STEM was used as a language of learning. The goals were not to graduate a pipeline of budding engineers and scientists. Rather, it was to raise the odds that students – regardless of their academic progress prior to entering ninth grade – would graduate from high school with STEM literacy sufficient to pursue any course of life.

The idea was consistent with one of CK and KH's big goals, and the proposal to move ahead was accepted. A current and former MSU school of education faculty, Dr. Don Hayes (DH) and Dr. Brian Mills (BM), developed a detailed design for the STEM HS. In September 2006, a little more than a year after the concept was first proposed, STEM HS opened its doors to the first 100-person freshman class. The school remains open today, follows a philosophy espoused by the Coalition for Essential Schools (2016) and has expanded to a second downtown site, and added a middle school [8000-074].

BM transitioned from his role with the STEM HS project to become the first person to hold a joint MSU/R1 appointment. He was employed by MSU, and reported to the provost and to me while I was with R1. His goals and performance reviews were jointly developed [8000-022]. BM left this position after three years. The position has been sustained as several individuals have cycled through it.

**BaEP1 moves to a new level.** The STEM HS project was a turning point for BaEP1. Other projects in the BaEP1 portfolio involved a handful of participants from MSU or R1 for concentrated, short durations. STEM HS required deep and sustained engagement from all partners. Mary Red (MR), the founding principal for the high school, estimated that MSU faculty devoted several thousand hours developing curriculum and training [8000-034]. R1 committed staff time for mentors and provided more than \$5 million and [8000-075].

The project involved continuous problem solving. For example, securing the participation of 16 separate school districts, including the main urban district, was necessary for success of the concept. R1 and MSU used significant political capital to rally support. “In this town, you’re hard pressed to go up against MSU and R1,” said Dr. Ron Franklin (RF), an MSU faculty member on the project team [1105-052]. The design of the school enabled students, when ready, to begin taking college classes free of charge on the MSU campus. Students would intern at R1. The procedures to carry out these activities were not established when the school was announced since the time from announcement to opening was so short. When they heard about it, staff in MSU’s admissions department felt disenfranchised by the idea of bypassing MSU’s selective

admissions process to admit STEM HS students. Free tuition would also not really be free; it would need to come from someone's budget [1003-002].

When "theory met reality" at R1, similar logistical objections were raised immediately about STEM HS [2002-003]. "How would we handle minors on our campus? What would we have them do? Where will we find the time?" said Sam Kelvin (SK) when he talked about how the school idea was viewed by his colleagues at R1. SK was an optics engineer and a staunch education volunteer. SK would transfer from the optics area to join the R1 education team about a year later.

The negative reaction from the internal publics at both MSU and R1 was not unexpected according to BM, a former MSU faculty member [3001-003]. Once the idea for STEM HS was public in the community, turning back was not an option. "Short of committing millions of dollars, KH would have done anything to make STEM HS a success," said Ron Franklin (RF) [8000-033]. It was not a matter of facing public embarrassment by reversing a decision, "this was the right thing to do by companies like ours," said CK [2001-006].

This was a turning point in the demonstration of endurance for BaEP1. Attending to urgent problems was gratifying to the participants interviewed for this study. DH said it helped him understand the intentions of the people that represented the partners. Mary Walls (MW) was an associate dean at MSU and a member of the STEM HS design team:

Since few of MSU's admissions procedures were designed for this situation, the opposition wasn't surprising. People were just doing their jobs. They shouldn't feel guilty. So we formed a group that met each week. It was ad hoc and I'm not

sure anyone even knew we were doing it at first. Our job was to look at what STEM HS needed, and to make the case for how it could be done at MSU. Over time, instead of opposing ideas, problems were just automatically sent to us to solve. They trusted us because we never made anyone out to be the “bad guys.”

[1003-002]

A similar self-organizing problem solving dynamic was experienced at R1. The people that were given access badges by EP used them frequently during the design stage of STEM HS. R1 had no experience in school design or the politics that were involved. But R1’s primary business was solving technical problems for customers, and that often involved first learning about systems that were unfamiliar. R1’s experience in relationship management was essential to becoming an informed partner to STEM HS. The R1 team—of which I was a part—showed respect for the complex set of problems faced by school districts. STEM HS was a good idea but also caused problems for participating districts. Similar to the team led by MW at MSU, the team at R1 came to be seen as an ally, not a critic waiting to expose their problems [1004-006].

The high school opened in 2006 and operates today as a public charter school. A second downtown site has been added along with a middle school. R1 remains involved with mentors and STEM HS is financially stable. On average, the STEM HS student body accumulates nearly 2,000 college credits from MSU each year at no cost to families. R1 no longer needs to provide operating funds. Early college credit has become a major policy plank in the state’s education policy with all districts encouraged to follow the example from MSU and R1 [8000-060].

## **Reflection on Current Status and Result Created**

Many leadership changes have occurred over the 13 years this partnership has been underway [8000-077]. None of the founders, including the author, CK, KH, DA, DH, FS, MR, BM, JA, are involved with either MSU or R1. The relationship between MSU and R1 continues to be active and positive as of the writing of this manuscript. CK from R1 in 2009, and was succeeded by Dr. Jim Wellman (JW) [8000-023]. KH retired from MSU in 2007. A local newspaper editorial noted that among her accomplishments, the relationship she forged with R1 would be remembered as part of her legacy [8000-025]. Joint proposals between MSU and R1 are commonplace and the activities are still regularly reported on board meetings [8000-026].

The establishment of STEM HS was a cornerstone of BaEP1. By the time STEM HS was in development, MSU and R1 had an established track record of results and a high level of trust at multiple levels in the organizations. Each had seen that they could count on the other to follow through on commitments. Developing STEM HS, and staying engaged in its operation, required constant adaptation. It would likely not have been possible without earlier research projects activities coming first, said DH [8000-031].

JW was appointed to the MSU Board of Trustees in 2012 [8000-024] and led the search team for the university's latest president. The joint position for MSU/R1 collaborations still exists and co-funded by the partners. A former principal of STEM HS is now on staff at R1 responsible for education and philanthropy [8000-078]. It was estimated that during the period of 2008-20011, R1 attracted \$4 from outside public and

private sources for every \$1 of R1 funds spent. This equated to nearly \$60 million in education support. [8000-020] Approximately one-fifth of this went to MSU over that period. This experience led R1 to transition from education projects to a formal business unit that operates education outreach as its own business unit.

Academic research grants at MSU associated with the partnership have exceeded \$100 million. No longer does the concept of MSU and R1 exploring a new idea together meet with skepticism because there is a track record of visible accomplishments that have benefitted each organization. There are probably many more projects that failed or never got off the ground. The focus of the partnership has shifted over these same years. A center of gravity for the partnership in its earliest days was on STEM education. In 2016, it is associated with biomedical sciences, clean energy, and cyber security [8000-079].

### **BaEP1 Partnership Stresses**

This section of the narrative sketch provides a glimpse into stories from the interviews that were associated with stresses on the partnership as recalled by the study participants. I have chosen to separate these from the earlier storyline so as not to interrupt the flow of the partnership progress description. The following highlights what happened in the evolution of BaEP1. This information substantially informed endurance characteristics described in the next chapter.

**React to an urgent opportunity.** The writing of the BRTT grant and the Race to the Top proposal all had time-bounded constraints and high stakes. The personnel required were doing other things and had to find ways to reassign key personnel. Budgets were not worked out. This also meant that some people were taken out of other roles

temporarily and that had negative effects on the other projects and created some animosity of the people who had to fill in.

**Cornerstone projects with outside funding ended.** Leveraging external funds was a significant part of the MSU and R1 work. The BaEP1 used some of those resources to support teams for specific projects. Some staff positions in the MSU/R1 team were eliminated, and many more were eliminated when external funding ended [8000-030].

**New people joined.** The successors to the founders were unfamiliar with MSU and R1. They did not have established networks and had new agendas. This disrupted the trusted relationships.

**Separate R1 education business subsidiary was established.** R1 formed a specific business to manage portions of the education outreach program that was previously incubated within R1. This was done to insulate the education work as much as possible from the revenue ups and downs in the R1 laboratory business units. It allowed the board to approve special funding to this unit that was not associated with the performance of the corporation as a whole. The decision to take this step, instead of dissolving the education projects altogether at a time when that was an option, was an indication of “mission taking priority over short-term financial woes,” [2005-003]. This step created an unintended stress on the MSU/R1 partnership. The separate division was a different legal entity and none of the arrangement between MSU and R1 flowed to the new subsidiary. The steps taken to make it easier to do business with each other, such as that found in the MOU’s, did not apply.

**Founders leave.** As noted, every individual considered a founder is no longer involved. This has the effect of some of the people who joined later needed to scramble to form new relationships in the interest of self-preservation. It distracted from the mission if the reshuffling put position ahead of project goals.

**Unplanned departure of key personnel.** This is not related to founders but to people who had been critical to tailored processes used by the partnership. For example, an administrative aid that was well networked, or a person in admissions who had become familiar with handling exceptions, both retired. A new person had to be trained, and in some cases, convinced that the work was allowed or worth doing.

**Mayor leaves office.** The long-serving urban city mayor had been helpful in the work of BaEP1 from the beginning. After leaving office, new relationships had to be formed because this city champion was also important to other work. The situation took time and competed for the new mayor's attention. The situation causes upsets beyond BaEP1, because the mayor also had influence with the missions of the individual partners.

**Business downturn at R1.** The first decade of the 21<sup>st</sup> century was a time of unprecedented revenue growth for R1. The second decade was not as kind [8000-029]. The net result was a significant decrease in charitable funding capacity with annual funding declining to 10% of the high points in 2008-2011 [2004-002]. The downturn also resulted in elimination of staff positions across most divisions at R1. At the same time, R1 continued to invest funding in MSU/R1 projects. This created stresses within R1 because the perception was that those dollars could have been used to support positions

that were being eliminated instead of spending it on outside projects. This was not feasible because one was funded through philanthropic dollars while the operating areas of R1 were from the operating budget. The distinction was not obvious. It put some members of the R1 team on the defensive with their peers across R1.

**Data scandal in the public schools.** BaEP1 had a significant focus on helping the urban school district. Many of the K-12 projects were directed to the high poverty and crime areas of the district where low performing schools were located. A federal investigation into data rigging was conducted and several leaders in the district were found guilty of changing attendance records to manipulate the level of federal reimbursement dollars entitled by the district [2005-007]. While there was no involvement with BaEP1 programs or its people, the public nature of the scandal caused the boards of both organizations to reexamine real and reputational risks to their organizations [8000-031]. This was unfamiliar territory for MSU and R1.

### **BaEP2: Health-1 Research and the Rural Science and Literacy Advancement**

The Rural Science and Literacy Advancement Partnership (RSLA) effort has been underway since 2009. The founder and operator of this effort is the research division of the Health-1 enterprise. A historical and structural overview of Health-1 Research is presented to provide the context for understanding the relevance of participant stories that follow.

#### **Partner Description**

Health-1 is a comprehensive healthcare delivery network that serves a rural five state area covering an estimated 220,000 square miles. The area had been served for more

than 100 years by individual community hospitals and clinics. In the mid-1990s, a billionaire health care philanthropist with rural roots gave a \$400 million gift to merge these various health care providers into one comprehensive health care system [8000-009]. The billionaire's interest was to address the unique needs of rural communities. In particular, a goal was to address health care for marginalized population, such as Native Americans, that had very unique care needs.

The billionaire was already well regarded for his generosity to the rural communities for prior grants through his family's foundation. The comprehensive system was renamed with a new brand, Health-1. The system was well-regarded by the communities it served because there was already long history of community support and all the sites remained active in the new Health-1. The initial philanthropic gift of \$400 million—there would be more to come—expanded the scope of services and reached more patients with more healthcare options. Communities, political leaders, and the business community embraced Health-1 with excitement [8000-010].

**Health-1 Research.** The research division was formed in 2007, with funding from Health-1's founder, and the division's purpose was to conduct health studies primarily in children's research. At roughly the same time, Health-1 completed the purchase of an existing facility to serve as Health-1 corporate headquarters and the site for the budding research division. The building purchase was serendipitous.

The facility was custom designed by a company to manufacture laptop computer magnetic disk drives. The company was recruited to a remote rural area by the community with the hope that new jobs would provide much needed rural economic

development [8000-011]. However, in the brief two-year time period between groundbreaking and completion, the high technology industry had moved to flash memory and disk drives were being phased out [8000-012]. An enclosed facility the size of several football fields, with a clean manufacturing infrastructure required for precision electronics assembly, would not be needed.

Although obsolete for the computer industry, the facility was a perfect design as a research laboratory because the infrastructure needs for biomedical research is similar to electronics assembly. The building became the new home for Health-1 Research (H1-R) and represented a significant recruiting tool for the research scientists that H1-R needed to attract. Rural regions are unlikely homes for advanced biomedical research enterprises. Scientists are attracted to rich funding resources along with access to colleagues with similar interests.

H1-R was starting from scratch. A research director, Dr. Don Price (DP), was recruited from a successful research lab at a prominent academic medical center to build the H1-R capability. DP had his own pediatric research interests funded by the National Institutes of Health [4001-003].

### **BaEP2 Partnership Purpose and Structure**

The Rural Science and Literacy Advancement Partnership (RSLA) was started by H1-R and publicly announced in 2009. The rural nature of BaEP2 made it difficult to find a single partner of the size and scale of H1-R. The outreach mission of H1-R was implemented as a hub-and-spoke style portfolio of partnerships.

**Purpose.** H1-R took the initiative to publicly announce its intentions, and use the

public forum to raise awareness that it was seeking a variety of partners that saw value in the H1-R mission, Table 4.3 outlines the key points that H1-R communicated [8000-014].

**Table 4.3**

*BaEP2 mission from public announcement (2010)*

Rural Science and Literacy Advancement Partnership (RSLA)
Our mission is to increase the community's understanding of science and their awareness about the benefits of research to our society.
We are targeting science outreach programs in the same communities that Health-1 serves which will raise awareness about our dedication to biomedical research.
Ultimately, this program will provide the framework to engage and excite communities, thus providing the atmosphere to support and inspire our next generation of scientists.

**Structure.** A full-time partnership manager is responsible for RSLA within the H1-R administrative division. This individual reports to a senior vice president of H1-R. Research scientists with specific areas of interests lead specific RSLA projects organized by the type the partner institution or type of engagement. This is most typically: K-12, undergraduate, academic medical centers, postdoctoral studies, communities, and conferences. Regardless of the H1-R department they are employed by, individuals that manage these efforts do so at the direction of the RSLA manager [8000-013].

The RSLA conveyed a series of “promises” to the communities of practice it intended to serve [8000-070]. The promises are found in Table 4.4.

**Table 4.4**

BaEP2 collaboration intentions by community

Community of Interest	H1-R Promise from RSLA
Schools/Educators: Teachers/Counselors/Administrators	Provide teachers and schools the skills and resources to promote opportunities in STEM, connect classrooms to authentic science, and produce students who identify themselves as scientists and have the skills to pursue careers in STEM.
Community	Directly connect communities to science and research through lifelong education programs.
Scientists	Offer support, training, and audience for scientists to share their current efforts and train the next generation of scientists. Mutually beneficial.
Non-Health-1 Industry	With a common need for qualified employees, we will work to develop synergistic goals and share successes and best practices to avoid redundant programming and enhance quality and reach.

### The Beginnings

As will be seen as the BaEP2 narrative sketch continues, the confluence of DP's arrival, his young research team, and a large flexible facility would all play pivotal role in the creation of H1-R's rural science and literacy advancement efforts [4001-002].

**In the right place at the right time.** In his former position, DP was a candidate for the medical center's director of the graduate research programs. He was "interviewed and summarily dismissed as being too young" [4001-0003]. After some soul searching, DP recounts a conversation with one of his mentors:

My mentor said, “There’s this place I know about and they’ve just given a lot of money, and they really don’t know what they are doing or what they want. You would be perfect for them!” They wanted to build programs in children’s research and that was completely in my wheelhouse. [4001-004]

DP visited H1-R in October 2008. “My mentor was right,” DP continued. “They knew how to manage and deliver health care, but they wanted to go to the next level in terms of research reputation” [4001-005]. DP met with several of the corporate people and, in DP’s view, these individuals did not understand research. He was not sure they ever would. The contrast between living in a large metropolitan area and a sparse rural region was daunting. But he would return several times. In the end, DP’s wife said. “It seems like you really want to do this. Let’s move; we’ll all be fine.” DP became the director of H1-R in July 2009, and he brought 10 members of his researcher team with him. [4001-006]

**H1-R early career scientists get a surprising assignment.** RSLA is characterized by deep engagement from researchers within the company. Dr. Paul Vindel (PV) is a toxicologist and the first scientist recruited to H1-R by Don Price. Paul worked in Don Price’s lab when DP was in his prior position. DP recruited PV to join H1-R. As PV enthusiastically told his story of joining H1-R as the first scientist, he described it as an entrepreneurial experience [4003-002]. PV’s decision to join H1-R was an avenue to push his research interests forward with a leader he trusted. He had no conversations about education or outreach. When he arrived at H1-R ready to advance his research, PV

soon found himself in a role as one of the founders of what would become RSLA, at the request of Don Price [4003-003].

The early path of RSLA was driven entirely by enlightened self-interest. H1-R wanted to build its own research base. As a young organization, they were an unknown quantity to seasoned researchers. PV approached DP with a strategy called the “Science Action Plan” [8000-069]. The strategy outlined a phased, ten-year plan that began by engaging graduate students at academic medical centers through a H1-R intern program. This would establish a recruiting pipeline to build the H1-R research staff over time [4003-005]. The Science Action Plan would evolve to become H1-R’s partnership: the Rural Science and Literacy Advancement.

The scientists enjoyed being part of this work and appreciated that it was allowable by management. There are downsides to this that will be covered as the story unfolds, but it was—and is—good for morale. It was not an expectation that every researcher would be engaged, but those who wanted to were encouraged to do so. Not every H1-R scientist was “good” at engaging with teachers or students [4006-011].

The BaEP2 narrative sketch began by outlining some of the challenges to starting a biomedical research center in a rural region with few in-place assets to rival a New England city dense with universities, research, and assets. RSLA has been a “huge asset in recruiting,” says human resources specialist, Tanya Lemon (TL) [4006-011].

**Establish the Health-1 Research graduate school.** Corporate executives at Health-1 did not immediately understand the idea that a research division would have a

formal education component. DP recalls them asking why he was so focused on education:

Well, I'm going to be here for 15 or 20 years, and there's no foundation to build on for developing research here. ... We need technicians, we need students, we need graduate students, we need post docs. And there's absolutely nothing here that would attract them to do that. The colleges with pre-med are the only places where anybody goes to do that now, and we can't just take one of their students for a year here so that a college researcher can pad their CV's. [4001-010]

DP already had an established base of research in pediatric rare diseases. Starting up a graduate biomedical research program required attracting faculty, and faculty need the right resources and research themes. "There's not much here, Don. What would we be doing?" was a typical response to his recruiting discussions. DP would offer that his programs would serve as the foundation to the graduate programs and other themes would build over time. [4001-007]

DP was able to attract faculty "largely on trust about what we were building." The H1-R graduate biomedical program launched in 2010 in association with a local public university [4001-008]. When the faculty joined the university with a joint appointment at H1-R, they now needed students. The arrangement that H1-R established with the university was that once accepted academically to the university, interested students would apply and interview with H1-R research scientists. If accepted, the graduate students would conduct the bulk of their graduate studies and research at the H1-R facility with a H1-R scientist as their advisor. [8000-068]

**New policy and procedure needs.** Tanya Lemon (TL), a human resources specialist who transferred from Health-1 to H1-R, played an instrumental role in working out the details for this step in the evolution of H1-R. TL is modest in the description and contribution of her role. Virtually everything that H1-R wanted to do had no precedent in the organization. TL's knowledge of how things work, a respect for existing systems, and a knowledge of what was or was not acceptable had come from her years of experience in Health-1. In addition, TL worked with each project and researcher so she saw a connected system, where others focused only on their own project. When I asked TL how she would describe her role, she replied, "Oh, I'm just behind the scenes. The others—EM, JW, DP—are the face of RSLA." When asked what guided her work, TL replied, "I just want things to run smoothly. I want their fantastic ideas to come into play." [4006-008]

TL recounts the early days in the intern program, "we didn't have any experiences with graduate students." The H1-R scientists did not know how to hire interns. And TL did not know exactly what H1-R did at first. "So I worked on getting to know our scientists to get a better idea of what they really did in Research. Then I could figure out what the interns did, where they would be, or shouldn't be, in our building." It became TL's job to go the H1-R legal and HR to determine what policy needed to be developed. [4006-001]

"I had done that in my previous Health-1 work on the healthcare side, they knew me, and I knew how to work with them," said TL. TL's value in making the education programs, including students regularly on the H1-R premises, run smoothly was brought

up by several of the H1-R interview participants [4001-010, 4003-005, 4004-007, 4005-006]. The expertise that TL had in drafting policies and procedures is also seen in field texts, such as the job descriptions for advisers [8000-009].

**Embracing community curiosity.** DP was new to the rural community where Health-1 made its headquarters. He was frequently in situations with an opportunity to discuss why he had come to a small town from a prestigious academic medical center to lead H1-R. “The community here loves H1-R, and when they ask me what I’m doing here, they are so excited to hear about it” [4001-009]. DP went on to tell his corporate colleagues:

You may not want me to focus on education, but I’m going to push it even harder. We have an opportunity to educate the community about what we are doing. And maybe even develop the workforce. In ten years’ time, if we have a young person walk in here and say, “My first experience was at H1-R while I was in middle school...” we will have started something major here in this region for everyone [4001-009].

From the beginning, RSLA was very visible during employee recruiting as an integral way to highlight “their work and how important research is,” said TL [4006-011]. As more researchers joined, the communities—especially near the corporate headquarters—became more curious about research and what was going on in there, says DP. This raised awareness that a graduate program also needed feeder systems, and this should extend to K-12.

DP also believes that trust from his colleagues was key to getting RSLA started. “The corporate person at Health-1 that recruited me would say now, ‘At the time, I didn’t get this connection between education and research, but DP seems to get everything else right about what we wanted.’ So they allowed us to move ahead.” [4001-009]

### **Advancing Scope and Scale: From Ad-Hoc to Intentional Design**

The H1-R partnership with educators was thoughtful, but at first it was not a formal plan. The graduate program was getting off the ground. In that process, the H1-R staff most deeply involved could also see that there was nothing below the graduate level that was fueling a pipeline of interest. PV and JW were the most engaged of the H1-R staff in education efforts and they believed it would be a constant challenge to recruit quality students into a program that was, essentially, in the middle of nowhere.[4005-002]. This challenge put in motion a series of actions that would ultimately use H1-R’s education pipeline weakness as the impetus for a more robust plan [4001-011].

**Defining the outreach vision: RSLA.** DP broadened the coalition at H1-R regarding the importance of education as an integral part of H1-R’s ability to build a quality reputation in pediatric research. This raised awareness that a strong graduate program would need to be fueled by connecting H1-R to undergraduate biomedical research as well. This area was one of was Jane White’s (JW) passions. A neuroscientist who also happened to be DP’s first graduate student at his previous job, took the lead on applying for National Science Foundation grants to support these programs [4005-001].

Continued conversations among the H1-R education teams surfaced that the connecting theme of all their work was raising the awareness of the importance of

research as a crucial element in how societies advance [8000-010]. This articulation resonated across all of Health-1 and reinforced the vision of its billionaire healthcare philanthropic founder. It connected why research mattered, the research themes of H1-R in pediatric diseases, the establishment of a captive graduate school in association with local medical schools, and the support of a continuum of science and technology education. The continuum began with the earliest science interest in K-12, the involvement of communities, and built from there to post-secondary programs. H1-R could be involved in all of these. This became the foundation for the Rural Science and Literacy Advancement effort [8000-011].

**It is time for a RSLA full-time leader.** The original science action plan addressed the recognition that a full-time leader would be needed to take over from Pete and Jill. The plan also indicated that the ideal person would need to be an educator [8000-069]. The original thinking was that the person should have knowledge of research and have teaching experience. PV envisioned that this person would be a professor from a university. That changed in a chance meeting with Emma Mayes (EM), a middle school science teacher attending one of the community outreach sessions being led by Pete and Jill. EM attended, had won a raffle that included Health-1 branded items. EM went to thank PV and JW, struck up a conversation with JW. EM inquired about whether she could come to H1-R and shadow a H1-R scientist so she could update her research skills to be a better teacher for her students [4004-004].

JW encouraged her to apply for the RSLA position. She did, but did not think she would be selected because she was under qualified according to the job description. From

JW and PV perspective, EM was the perfect choice, and better than a professor. EM was hired as the first educator at H1-R and also RSLA's full-time leader. EM had some research experience through her graduate degree in biology and this gave her credibility in the eyes of the H1-R researchers. However, EM was self-conscious that she did not have a Ph.D. while all the others in H1-R seemed to. "I had to get over that," said EM. When I interviewed EM, she said that she had moved on as the good progress of RSLA replaced the void in experience she felt when compared to her peers. [4004-001]

RSLA began with a broad mission of raising science literacy and helping the public understand the importance of research. As more programs were being contemplated, the realities of resource scarcity forced choices to be made. The next iteration of the RSLA plan focused the scope to biomedical research.

**Community laboratory: a public window into why research matters.** An advantage of the new facility acquired by H1-R was that it had plenty of space. Touring the facility was logistically challenging. The work of the bench scientist is not always exciting to a novice observer. PV and JW had the vision to create a community laboratory that had glass walls to observe the expanse of research benches, equipment, and collaborating researchers. The intended purpose of the lab was to give the community—of all ages—the opportunity to be a part of the research experience. The community laboratory was equipped with supplies for simple experiments. Researchers from H1-R would regularly walk from their benches to visit the community lab and help the visitors carry out an experiment. Splicing strawberry DNA was a particularly engaging task because it could be done with common materials found in the kitchen. More than a

thousand visitors experience the laboratory at H1-R each year [8000-070].

**Establishing the legitimacy of RSLA.** RSLA was gaining visibility. Interview participants my research each mentioned this, and they had a common perspective about an unspoken topic. RSLA was seen as taking resources away from other research endeavors. Moreover, the effort was not just using precious money, it had the full time attention of two of the respected scientists that were not even hired to do that work in the first place. The stresses this had on the early days of the RSLA partnership will be discussed in more detail later in this narrative sketch. [4006-009; 4004-006; 4001-013]

The resource situation resolved itself through a combination of visible results created by RSLA and time. H1-R had staff turnover in its early years. The scientists that had objections about RSLA's preferential use of funds were leaving and new researchers were joining H1-R [4004-009]. To these new researchers, for all they knew, RSLA had always been a part of the organization.. RSLA became a recruiting tool. While the competition for internal resources still continues at H1-R, the debate is much different today. It is the challenge that managing budgets and choices about allocation creates.

### **Maintaining Momentum: Institutionalize What Works**

RSLA was not a side business or a hobby for H1-R. It was serious business and as it gained momentum, there was a need to move from ad hoc to more formalized management of the operation.

**Sorting out roles, responsibilities, and procedures.** The RSLA moved to a new business division at H1-R, and the vice president in charge brought a new era of accountability. In the beginning, it was important to just get things started. As more

activities were added, there was a need to add accountability, goals, and active management [4006-015]. Procedures were added as they encountered activities that were going to continue but had no precedent in the organization. This also provided more discipline about the way decisions were to be made, “so we could pick the things we can do, and do them well” [4006-016].

**The advisory board.** “We were doing everything,” TL said, “and we needed to make choices” [4006-016]. Now H1-R’s division president, DP wanted an external viewpoint to bring accountability and perspective to RSLA. He recruited individuals with experience elsewhere to help examine the choices H1-R was making. “It has made a huge difference, and helped us set priorities.” EM also indicated that the advisory board was helping her “think through things” [8000-080].

The advisory board also brought new strategies to H1-R. As they became more familiar with the operation of RSLA, the outside perspectives of the advisory board members created a turning point for RSLA to raise the profile and create ways to add resources. I joined a group of individuals on the new advisory board that had a wealth of experience with politics, biomedical research, rural K-12 teaching, outreach experience to Native American communities, industrial marketing, and economic development. One year later, I became the advisory board chairman, and held that position while I was conducting this dissertation research. [8000-080]

**Building advocacy.** Although the H1-R RSLA effort was an example of what could be accomplished by a passionate company, their efforts were not well known outside of the headquarters unless a person was directly connected. Employees in the

parent company, Health-1, often did not know about the work. TL said, “I will be at one of the Health-1 clinics and mention the work going on at H1-R, and the people will say, ‘I didn’t even know there was a research division,’ so I would explain it to them” [4006-010]. “We are proud of what is going on, but we’re not very self-promotional. “Maybe we should be more self-promotional,” DP remarks, understanding that the impact of their work could be broader [4001-012].

Although H1-R was not comfortable with self-promotion, the advisory board encouraged RSLA to recruit others to talk about what H1-R was doing. Soon after, a program began that sought out teachers that had experienced training through RSLA to become “RSLA Ambassadors” [8000-064]. EM drafted the program plan that included a small stipend, and the first team of ambassadors was announced in late 2015.

The outside perspective of the advisory board again brought a new perspective to RSLA management. One of the members contacted a colleague from the National Academies of Science, Dr. Jeff Larson (JL), to be the keynote speaker at an annual RSLA summit meeting. JL was a national advocate for the importance of STEM literacy and the increased engagement of communities to raise the profile of science professions. JL spent a day at H1-R before the keynote speech. “I was amazed at the scale of what H1-R was doing with some of the hardest to reach populations. It completely changed my ideas about what was possible in rural regions.” JL began to talk about H1-R’s RSLA as part of his advocacy lectures across the country. [8000-091]

**Accelerating progress with external funding.** Early on, RSLA was primarily supported with H1-R funding. Several small grants from local foundations supported

specific efforts like transportation of teachers to the laboratory or stipends for graduate interns. Over time, the communities of practice that were addressed by RSLA, gained sufficient track record to compete for external funding. H1-R researchers were awarded a National Science Foundation grant to enable “undergraduate students to receive hands-on research experience and mentoring in social-behavioral research in American Indian community-based projects” [8000-066]. RSLA used its new ambassador program as the basis to win a U.S. Army subcontract to Army bases to gain STEM experiences [8000-067]. The prime contractor for the Army program was R1 from BaEP1.

### **Partnership Stresses**

This section of the narrative sketch provides a glimpse into stories from the interviews that were associated with stresses on the partnership as recalled by the study participants. As with the BaEP1 narrative, these are described separately from the earlier storyline so as not to interrupt the flow of the partnership progress description.

**The president’s pet project.** RSLA is funded primarily from H1-R budgets as a line item, like other departments. From a funding perspective, the partnership efforts need to be viewed as valuable from the corporation itself. Funding is largely a zero-sum game for the overall organizational budget. Choosing to run RSLA is balanced against other activities. It does not have operate with blank check, even though it is clearly a priority for the most senior executive of H1-R, DP. [8001-001]

I asked several participants about whether they had perceived any animosity about funding received by RSLA and whether it would be better spent on another topic. “I know people think it sometimes, but they don’t come right out and say it,” TL replied

[4006-009]. As mentioned at the start of the BaEP2 story, education outreach was a passion of the recruited H1-R director, DP, “and everyone knew that going into this,” TL said [4006-009]. I detected no animosity in these comments. TL continues, “in the beginning there seemed to be a lot of money going into this, and what are we getting out of it? But as RSLA has continue to grow, and more people get involved both at H1-R and in the communities, people understand why we are doing it and they support it.” [4006-011]

It was more a case that there are more good causes and research topics than there was internal funding. This made the primary stress about striking the right balance. EM, the current RSLA director as of the writing of this story, joined the effort several years in. To EM, RSLA is not an extra “thing” going on in the company. Many employees joined H1-R after the effort had been underway. “To them,” EL said speaking of her colleagues, “this is just what we do” [4004-001]. Positive visibility of an effort with internal publics is an important ingredient for endurance. “If we weren’t located in the same building as corporate, it would be more difficult to let people know what we are doing,” say TL [4006-010].

**Unintentional consequences: H1-R research progress slows.** The need for the RSLA founding scientists to return their primary attention to research triggered the need for a full-time manager. The founding scientists, JW and PV, were conflicted about the transition. “I loved what I was doing in RSLA, but I had to return my attention to my research team. I felt I was letting them down,” said PV. DP, still a staunch champion for RSLA, understood this tension because he felt some of it as well. DP knew that JW and

PV wanted to continue their promising research careers at H1-R. He said to JW and PV, “we are forever grateful that you got this going. No one will forget that. Now we need to let this (RSLA) run its course and you can turn your attention back to your research.” DP continued, “but you don’t have to walk away entirely. Pick one part of the RSLA that you still want to pursue and do that while you lead your research” [4001-013].

As my interview with DP was wrapping up, he closed with a heartfelt comment about PV and JW, career choices, and trust. “I’m so proud of both of them. They are young faculty members that have a great future. I asked them to set that aside for a moment to help build this program. I’m forever grateful for the trust they put in me to do that” [4001-013].

**Rapidly increasing management complexity.** The array of activities that fall under the RSLA umbrella are increasing in both scale and complexity. The RSLA director has gained most of her training on-the-job. This has created confusion about what is in the RSLA program, what is outside, and who was in charge of what. The founding scientists in RSLA had returned to their primary jobs, but they still had a role in RSLA. As the new director of RSLA, EM was excited about the role. But she was learning about H1-R while she was learning about RSLA. She had no management experience. H1-R leadership understood this but they were not well-prepared to help orient new people unfamiliar to the corporate culture. “We did a disservice to EM when she came on,” said TL [4006-014]. Everyone tried to help and made time for her when they could, but H1-R was still a young organization and had no formal process for the new RSLA line of business.

**Internal confusion about scope and what is included in RSLA.** As the RSLA built momentum, additional projects were initiated with other partners that were service providers. These were not the traditional communities of practice that H1-R had been set up to serve as RSLA took shape. Inside H1-R a distinction was drawn between these types of efforts and the RSLA work, even though it was all related to the same outcomes, and served the same beneficiaries. This caused confusion inside H1-R about who was responsible, and how it should be supported. This generated conflicts about the budget because funds needed to be committed. [8001-001]

A facilitated meeting of the key H1-R actors was held to sort out the various roles and to provide clarity about the projects. Meeting minutes indicated that the meetings were useful but did not fully establish the clarity that some H1-R and partner staff were seeking. [8000-051].

The surfacing of a significant program that initiated outside the RSLA umbrella, but with a consistent scope, was a critical event. It forced the H1-R team to embrace how it would handle a new opportunity generated from the outside., There was discussion about handling this extracurricular opportunity separate from the RSLA. The group also recognized that doing so was inconsistent with the careful planning that took place within RSLA. Ultimately, all of these efforts were integrated; but reaching this consensus took months and created considerable strife. RSLA's newest leader, EM, had little training in sorting through these conflicts, and it was occurring with people she had respect for [8001-001].

## **Reflections on Current Status and Results**

Since the program's inception in October 2010, the H1-R RSLA has produced important results. The overall approach started by H1-R in 2010 to reach rural communities has gained national attention. Science camps, workforce development workshops, and laboratory tours have been given to 2,700 K-12 students.

The community laboratory has recruited 400 science-minded community members to teach hands-on science in their own neighborhoods. A yearly science summit has been held for the last three years, with each year drawing nearly 5,000 teachers and students from across the rural state. All of the programs offered by H1-R are provided at no cost. The graduate school has grown from a start of several students and a single H1-R faculty adviser to a program where H1-R researchers are each able to recruit and advise graduate students. The degree is awarded through participating academic medical schools, and designates the graduate as a H1-R research fellow.

## **Chapter 5**

### **Characterizing Endurance in the Studied Partnerships**

Partnerships are situational. This dissertation began with that premise, and the study of two partnerships that have endured over time is consistent with that statement. The initial conditions that put these partnerships in motion were very unique to their context. However, the larger premise of this research is that, although unique, there are lessons that can be learned from the lived experiences of people in these partnerships. When experiences are combined and retold as a whole narrative, these stories can inform how to set up a partnership—or revise one—in the interest of making it more resilient.

This chapter analyzes the partnership narratives at several different levels of granularity. The results are used to summarize important characteristics of the studied partnerships and to propose a model for endurance. The chapter is organized as follows:

- Cross-partnership comparison;
- Identify systems of partnership action through intertextual analysis;
- Response to research questions; and
- Discussion including proposed partnership endurance model

#### **Cross-Partnership Comparison of BaEP1 and BaEP2**

The two partnerships in this research were enduring while they were quite different in their scope and partnering approaches. This section highlights the main similarities and differences. This comparison was conducted to help triangulate common structures and critical events by examining the partnerships at a high level. As a reminder to the reader, citations in this chapter follow the coding scheme described in the Methods

chapter. The use of citation “8001-001” refers to the researcher reflexive journal I kept through the study. These notes often included intermediate analysis and perspectives I made immediately following the review of a field text or observations from an interview. Eleven themes emerged in the comparison as shown in Table 5.1:

**Table 5.1**

*Similarities and differences among BaEPs*

Similarities
<ul style="list-style-type: none"><li>• BaEP activated with arrival of new leaders</li><li>• Began with coalition of the willing</li><li>• Practice of maintaining orderly records and documentation</li><li>• Implementation of accountability</li><li>• Feedback mechanisms and self-regulation</li><li>• Episodes of role confusion among participants</li><li>• Early wins establish legitimacy</li><li>• Public announcement of early intentions</li></ul>
Differences
<ul style="list-style-type: none"><li>• Focus of power</li><li>• Management Structure, organizational setting, and funding</li><li>• Degree of reliance on external funds</li></ul>

**Similarities**

**BaEP activated with arrival of new leaders.** The seeds that established BaEP1 and BaEP2 were associated with the arrival of new senior leaders in the involved organizations. This included Charles King, the new CEO at R1; Kate Higgs, the new president of MSU; and Don Price, recruited to run the new research division at H1-R. During their interviews, all commented that the earliest partnership ideas surfaced as they

were becoming familiar with the local communities where their organizations were operating [8001-001].

**Began with coalition of the willing.** Most of the individuals that took part in moving an idea to the point of relationship building volunteered to be part of the work when they heard about it. I found no cases where an individual spoke about being assigned to a partnership project without first being asked if they would be interested to do it [8001-001]. In both partnerships, the similarities did not end with finding interested people. Leaders selected people who had prior experience in other roles within those organizations to carry out the earliest work. This meant they were familiar with how things work in their organization and a general understanding of how to get things done. Consider, for example, BaEP1 and MSU. Inside the university, a team self-assembled to work through complex implementation issues of admitting high school students to college level programs. MW commented, “the work that I and others in administration do is almost always based on understanding how the systems work and being able to negotiate with stakeholders to find consensus. It’s not based on power or authority we can exert” [1003-001].

**Practice of maintaining orderly records and documentation.** The studied partnerships were prolific in the creation and preservation of documents. The number of field texts of the kinds described in the Methods chapter was also readily available, indicating there was an emphasis on being orderly [8001-001]. Further, the nature of documentation followed styles that could be found in other parts of the company. As an example, in BaEP1, R1 was the primary partner that held the records. In addition to

archival files, both organizations used cloud-based digital project communities as common locations for storage and editing of documents, plans, meeting minutes, and the like. A popular tool was Basecamp. As new participants joined a partnership project, they were given accounts and access privileges to the electronic project areas. I was the BaEP1 manager when the original records management procedures were established. Records management was a required practice at R1 in all of its divisions. These practices were the basis of BaEP1 documentation procedures developed by EP, DW, and SK [8001-001].

**Implementation of accountability.** The organizations tracked the costs of partnership in a manner that was the same as how other operational budgets were managed. Each person with partnership accountability had a documented job description. Periodic management reviews were conducted to compare performance with goals and adjustments were made as necessary. The accountability process was formal and matched practices used in other parts of the organizations [cf. 8000-075]. TL from BaEP2 recalls that the work of RSLA became “much more formalized” and needed to be consistent with “existing operational systems” when the responsibility transferred to the current H1-R vice president [4006-015].

Both partnerships also included separate governance and accountability oversight that included meetings with the most senior executives in each of the partner organizations. These structures were used to surface and work through problems. They also served as a common way to seek approval for plans that required significant resources or presented unusual risk. The need for implementing comprehensive safety

protocols to enable students to work alongside mentors was a result of the oversight process [8001-001].

**Feedback mechanisms and self-regulation.** Project reviews were regularly documented. There was also evidence in both BaEPs of communications seeking feedback from participants about areas for improvement. For example, an integral part of Dee Wallace's performance evaluation was based on collecting process improvement ideas to streamline operations between the partners [8000-055]. There is also evidence in field texts from both organizations that illustrates the evolution of ideas, revision of procedures, and seeking the fresh perspective of individuals new to the partnership. In BaEP1, R1 and MSU sought feedback from each other. In the case of RSLA, H1-R did not have an equivalent peer. It used the advisory board as a sounding board for feedback and to help "identify unnecessary redundancies" [8000-062].

**Episodes of role confusion among participants.** This observation was frequently made when interview participants were describing turning points in the BaEPs that were associated with changes in personnel assignments. For example, EM became the full-time director of RSLA. However, the founders and EM's predecessor, PV and JW, still retained responsibility for some projects. Because the work of the partnership itself was new to H1-R, EM expressed her angst this way, "for a while I didn't know who my bosses were" [4004-009]. MSU/R1 had numerous boundary spanners involved due to the size of the organizations and the portfolio of project underway. BM was often "trying to get on the right page" with his colleagues and "concerned about stepping on toes" [3001-012]. As BaEP1 expanded rapidly in STEM education outreach, DW noted in a

memo seeking clarity from leaders, “I’m not sure what I’m allowed to do” [5102-001].

As participants commented about role confusion, a second common message was that this situation was not toxic to the partnerships. The situation would usually prompt meetings to reach clarity and in some cases it surfaced issues that the broader group was unaware of. It seems that a bit of discontent, when dealt with early and without blame, reinforced trust [8001-001].

**Early wins establish legitimacy.** Early wins were essential to make the partnerships “feel more legitimate” in the eyes of internal skeptics, said EW of BaEP2 [4004-006]. Each partnership had its roots in the life sciences. H1-R was a division of a health care system, and MSU/R1 began with MSU’s academic medical center. Focusing on life sciences was part of the enlightened self-interest of both BaEPs [8001-001]. MSU/R1 started with significant projects funded by the state’s new biomedical research fund. H1-R garnered support for the summer experiences from the National Science Foundation [8000-066]. Although both partnerships evolved to have considerable activities in the general areas of education improvement and outreach, each started in an area where the organizations had something to gain that was valued by the internal publics [1001-004; 4001-008].

**Public announcement of early intentions.** Leaders in both partnerships let others in the community know that they were exploring ideas together, again long before formal agreements were executed. One leader explained that this was a way to “get things moving more quickly, … get beyond analysis paralysis of what we should do” [2107-002]. This approach also established a degree of public accountability and helped the

early participants believe they were doing something sanctioned by their leaders. Participants interviewed for both BaEPs also noted an unintended consequence of these early public declarations. For example, DW of R1 said, “people were excited that we were working together.” The partners were light on details at first because this was an exploration of the art of the possible. DW continued, “the answers sounded like lip service more than action, and I was uncomfortable about what I was really allowed to say” [5002-001].

### **Differences**

**Focus of power.** BaEP1 was comprised of two large institutions, MSU and R1. The focus of partnership management was on building effective relationships with each other that covered the relevant areas of each organization. Boundary spanners were essential in this process [8001-001]. Power in BaEP1 was equally shared by R1 and MSU, although each was influential with a different constituency. R1 carried weight as a voice in the local community and especially with the mayor [2001-006]. MSU was the most significant academic research voice with the state legislature and its board of regents [1002-002]. This was the case because MSU received half of the total state budget for higher education support [8000-045].

In contrast, BaEP2 was anchored by a single organization, H1-R. The nature of the RSLA partnership was establishing relationships with communities of interest. These included colleges of medicine to acquire graduate students, K-12 school districts, teachers, K-12 students, and families, among others. These communities are more akin to beneficiaries of the partnership, rather than integral partners themselves [8001-001]. They

had little funding of their own to apply to the partnership. As a result, H1-R yielded significant influence on these communities because they were in need of scarce resources that H1-R could provide [4006-016].

**Management structure, organizational setting, and funding.** While both BaEP1 and BaEP2 were operated within existing business units, the structure of the partnership management was different. BaEP1 was assigned to an existing senior manager as a primary part of his core job responsibility. I held this position at the start of BaEP1. Two others managers have had this responsibility since 2011. All reported to the R1 CEO. BaEP2 was assigned to a full-time manager who reported to the most senior manager in the division. These differences were largely attributed to the level of resources to be managed. At its peak, in 2005-2010, MSU/R1 encompassed nearly \$40 million in available operating funds from internal and external sources [8000-084]. RSLA core activities operate with an estimated one million dollars per year. The sources of these funds is evenly split between corporate budgets and external grants [4004-007].

**Degree of reliance on external funds.** The size of organizations involved in both BaEPs allowed them to self-fund the core operations of the partnership. These funds supported the manager and administrative aids, general overheads, and support of some projects. However, beyond the small management office, each BaEP approached funding differently.

The RSLA has many in-kind activities with the community. The community laboratory is available free of charge to the people who attend programs. The cost to operate such programs is not significant. It typically requires the participation of an

existing H1-R researcher whose salary is already incorporated in the annual H1-R budget. The larger events supported by RSLA, such as annual science expositions that serve several thousand teachers and students over several days, required significant direct expenses from H1-R. These were built into the annual operated budget. More recently as RSLA has built a track record, H1-R has been able to successfully compete for grants to expand their scope of influence [8000-083].

BaEP2, on the other hand, relied heavily on external funding to advance. This is still true today. Both MSU and R1 have significant internally funded support for the management teams. Over the 13 years they have been working together, it is estimated that R1 has contributed more than \$20 million to the work, and MSU has added another \$7 million. The BaEP has also been effective at attracting an estimated \$60 million from other private and public sources. These monies have been used to fund a portfolio of projects in across a range of research and application fields – from medicine to public schools [8000-084].

The partners often use philanthropic funds from R1 to start up new programs with the intention to establish sufficient track record so that the programs are able to compete for larger external funds. This is not a hands-off process. R1 uses its proposal writing skills as a contract R&D firm to help develop strong proposals. MSU applies a portion of the university's research budget to the core areas of interest to R1. The level is currently estimated at ten million dollars per year. R1 also leverages its own dollars by co-investing with other funders that have similar interests. As an example, during the period of 2006-2011, four dollars of external funds were raised for every dollar invested by R1.

This amounted to nearly \$100 million in funds controlled by R1 during that period [8000-084].

### **Cross-Partnership Comparison Summary**

Although there are substantial differences in the form and function of BaEP1 and BaEP2, basic partnering philosophies are remarkably similar. They each have a high degree of discipline in planning and executing the partnership functions. The BaEPs are firmly established as part of each organization's structure. Setbacks are expected and learning while doing is part of their culture. However, these organizations do not stray far from their core competencies. They have made the partnerships work by combining the strengths of what they already do well—such as academic research, strategic planning, and project management—in areas of social good. They are invested in being good partners. The roads taken by these BaEPs are lined with the minor setbacks that have provided the feedback they use to improve.

### **Systems Identified Through Intertextual Analysis**

The Methods chapter introduced the Timestream data visualization instrument. Iterative-grounded theory (Bold, 2012) guided the examination by using Timestream filters to detect sets of documents that displayed features matching filter characteristics, such as boundary spanning. “Relentless re-reading” (Clandinin & Connelly, 2000; Creswell, 2013) of the documents surfaced new story elements that were applied in subsequent Timestream filters to identify the core systems at work.

The content of the field texts acquired for this study spanned a wide range of topics. These texts are a sample of how the partnerships operate, the nature of the social

systems such as how meetings are organized, what gets documented, how text is used to communicate, the nature of who contributes to creation of documentation, and how ideas evolve over time. This process also revealed some of the ways in which the external world interpreted the partnerships in field texts that were created by people not involved with the BaEPs. The results are noted below.

### **Intentional Capture of Data and Experiences**

Creating a partnership documentation repository was intentional in both BaEPs. Administrative support—assigned to EP and DW in BaEP1 and TL in BaEP2—included data capture as a priority in their job descriptions. For example, DW’s job description included, “create databases, shared information sites, and related tools” to be used for collecting information from BaEP1 activities. The job description also instructed DW to “track the chronology and evolution of this position to generate data and anecdotes to encourage replication” [8000-055]. In BaEP2, EM had similar documentation responsibilities noted in her job description. These included “maintenance and timely updating of the educational websites” and “responsible for student, teacher and administrative surveys and collation of all data” [8000-056].

BaEP1 also had a policy in place that required projects in its portfolio to “document meaningful milestones that are mutually determined by the partners” [8000-054]. One of the reasons for this policy was to establish a level of consistency in data capture. I was among the partnership leaders that put this policy in place. As a corporate philanthropy director, I had worked with other philanthropy directors that were frustrated

by a lack of reporting details available from grantees. Some of this was the nature of the projects whose outcomes might take years to develop.

Project management organizations like R1 and H1-R have experience in managing by milestones. BaEP1 wanted to establish this management practice at the outset. It was believed that this capability would eventually be an advantage when the BaEP was competing for large programs. This turned out to be true—project management excellence was cited as a positive factor for BRTT and education outreach projects funded from external parties [8000-049].

Members of a partnership project were provided training on how to deposit project milestone and progress information into the established databases, such as Basecamp. The file structures created through these processes allowed for straightforward retrieval of archived documentation. For example, it was common during an interview that a participant would recall a document relevant to an experience they were relating and able to quickly retrieve it for inclusion in this study. [8001-001]

Founders of both BaEPs emphasized the importance of maintaining a history of the partnership as it evolved. This is evident in the inclusion of documentation responsibility as a feature in partnership agreements and plans. With the field texts as context while interviewing founders, I inquired about the priority that seemed to be placed on documentation of activities, not just results. “When I visit another partnership that appears to be working well, I always ask how it all started. I want to know what the journey was like,” said CK from BaEP1 [2001-002].

The sampling of field texts from both partnerships provides evidence that maintaining the story of their journey was an important part of the culture that was created. “When people want to hear our story, it makes me feel valued,” said a researcher involved with RSLA [4006-011]. Feeling supported is one of the success constructs identified in the research literature. It is also plausible that respecting the history as noted above contributes to endurance in some way.

### **A Culture of Participative Continuous Improvement**

The intertextual analysis provided a glimpse into how the BaEP members socialized ideas with each other. Among the field texts acquired in this project, interview participants often provided numerous versions of a document. Examining track change features, distribution lists for feedback, and version control, among others, revealed common practices of sharing ideas early with broad audiences. For example, Midwest City Council members were interested to increase R1/MSU’s involvement in a downtown effort. They sought advice from me as BaEP1’s manager because I knew council members and what information could spark a conversation with the university. I circulated a document with draft talking points to MSU colleagues in BaEP1 with the message, “please test the assumptions in these talking points. Edit where you see fit to help city council be as inclusive as possible to our research community. They are also sensitive about appearing to take credit” [8000-062].

After-action communications were also commonly observed in BaEP1 and BaEP2. These documents were different than minutes of meetings. The communications were informal and candid commentaries of what went well and what did not. For

example, following an advisory board meeting for RSLA, in preparing an after-action report, H1-R's DP sent the advisers a note, "please help us identify any unnecessary redundancies and gaps in programming or relationships" [8000-063]. The next advisory board meeting began with a recap of DP's notes [8000-064]. The fact that these intermediate field texts were retained and made available for this study reinforces the BaEP interest in improving over time.

### **Coordinated Communication**

BaEP1 and BaEP2 field texts had multiple instances of coordinated communication. The reasons for coordination included use of common language to minimize confusion, ensuring key public figures were notified personally about important activities of the BaEPs, advocating for specific policies with legislators, and providing guidance to members of the partnerships about standard ways to maintain the partnership brands with the public. The easy recall of these types of documents by the interview participants supported the notion that these materials were useful and informed actions by BaEP1 members.

For example, prior to a major grant award announcement to BaEP1, CK (R1) and KH (MSU) sent messages to their respective boards, and coordinated calls to the mayor, governor, and influential community members about the intended benefits of the grant before the information appeared in the press [8000-0058, 8000-059]. BaEP2 prepared presentations about the biomedical research at H1-R and trained graduate students to use the presentations as a common way to explain the importance of research to members of the community [8000-057]. Science education advocacy "e-modules" authored by Sam

Young (SY), a member of BaEP1's policy team, were uploaded to the partnership's website with instructions for inclusion in speeches, editorials, and newsletters [8000-060].

### **Operation of Partnership Conforms with Formal Agreements**

Intertextual analysis was especially useful in revealing the discipline of the BaEPs in complying with operating agreements. MSU and R1 signed a memorandum of understanding outlining the main goals of the partnership in 2004 [8000-048]. This document included governance and operational instructions, such as the frequency of meetings, level of commitments, and key personnel responsibilities. Documents such as job descriptions and project plans consistently referenced how they related to other documents. Revisions of documents made note that they replaced older versions.

In terms of endurance, the inter-relationship of documents is an example of a social processes at work that establish procedural norms and routines for the group. The “way things are supposed to work are reflected in the documents we created, to reduce ambiguity and make sure that important information were not just in one person’s head,” said SK, a project director in BaEP1. SK went on to say, “we’re using the same configuration management process we apply in engineering projects” [2002-001]. Similar behaviors were seen in BaEP2 with H1-R scientist, PV. “We documented our approach in a phased plan just like we would a research project” [4003-001]. The observation that the partnerships were managed and documented like other projects in these organizations was not by chance. It was essentially the only way they knew how to conduct business.

## **Reference to the Partnership Members as a Dyadic Pair**

This finding applies to BaEP1. Once the partnership had been announced by MSU and R1, media coverage of the arrangement became news in the local community. The intertextual analysis reveals that the organizations increasingly were referenced as a set. For example, consider an article in the local newspaper that described the emergence of a technology corridor bordering a main city highway in the region. A sentence listing the participants described them this way. “The high technology corridor is already home to XYZ hospital, ABC cable television, the science museum, Acme Manufacturing Corporation, MSU and R1, and the Midwest Technology Small Business Incubator” [8000-061]. Community members also began to see the two organizations as one unified group. AK said, “our meeting agendas paired the organizations when we listed attendees, and I couldn’t draw a distinction between MSU or R1 when they were in our building” [2005-002].

## **Summary of Intertextual Analysis**

The amount of records available for both BaEPs was significant. Through the Timestream visualization, it was possible to assemble sets of field texts with common attributes such as risk management. What is evident in the analysis is the emphasis of systems and the degree of access and review that the BaEP participants at all levels had. The social process of creating projects and developing program materials is evident from circulated drafts and track changes found in documents prior to their official release. There is also evidence of conflicting opinions about objectives and priorities.

The overarching conclusion I take away from the intertextual view of these partnerships is the apparent importance placed on maintaining a historical record. This is perhaps an important clue into a character of partnership endurance. Maintaining a history implies, to me, an intention to make information organized and available to future stewards of the BaEP [8001-001]. It also implies that what is being documented is important for others to know, in the view of those doing the documenting. The notion that the BaEP will still exist, and that someone might find portions of the history relevant to their decisions, implies a powerful optimism in my opinion.

### **Identifying Common Critical Events**

An iterative analysis was used to address the first research question—what were the common critical events in the studied partnerships? This began with identifying topics that appeared in Timestream visualizations during particularly active periods, reviewing field texts for items that described circumstances of evaluation or lessons learned, and public documents that described significant news events concerning the partners. Once these events were identified, they were grouped according to themes. This process identified initial candidates for common critical events.

The social nature of how a field text was constructed was considered next. For example, documents that were authored and approved by multiple people indicate the topic—or the targeted internal or external publics—was important. The review of this information was completed prior to the participant interviews. During the interviews, Q4 probed, “do you remember a particularly stressful moment?” and follow-up Q5 asked, “how would you say that influenced you?” triggered the recall of particularly colorful

stories. The data from field texts was helpful to have in hand during these conversations because it allowed me as the interviewer to inquire about the relationships of other activities going on during the times being discussed.

It is important to consider that critical events do not inherently have a specific polarity. They can be positive or negative. Critical events cause turning points or changes in a worldview by a participant. Table 5.2 is a list of the common critical events. As will be seen below, some critical events themes encompass multiple stories; some with positive impacts and some that had detrimental effects. Once the set of critical event themes was established, attention was paid to the naming of the critical event for this study so that, where possible, the title itself is neutral in the direction of the impact. This will be discussed further in the proposed endurance model found later in this chapter.

**Table 5.2**

*Common critical events across both BaEPs*

Common Critical Events Observed
<ul style="list-style-type: none"><li>• Urgent opportunity</li><li>• Cornerstone partnership project ends</li><li>• Key personnel in new organizational position</li><li>• Diversion of key personnel from primary organizational assignment</li><li>• Reaction from internal publics</li><li>• Exit of a partnership founder</li><li>• Unplanned departure of key personnel</li><li>• Involvement of a key external champion ends</li><li>• Change in a partner's business environment</li><li>• Positive/negative public story</li></ul>

## **Urgent Opportunity**

Urgent opportunities were rallying points in the BaEPs. An urgent opportunity is defined in this study as a time-bounded situation requiring a response where the result has high stakes consequences to the participants. In this study, the biomedical research fund was an urgent opportunity for MSU and R1 [8000-007]. Writing the grant proposal potentially worth more than \$20 million to MSU researchers demonstrated the value of the MSU/R1 partnership to a broad audience in these organizations and to the community. The proposal required full-time participation of individuals from both organizations, including the researchers that would directly benefit if the grant was awarded. These individuals saw firsthand that the commitment of MSU and R1 was real [1002-002]. In BaEP1, the interviews revealed at least three such critical events: the biomedical technology transfer fund, the Race to the Top statewide proposal, and the start-up STEM HS [8000-040].

BaEP2 had similar urgent opportunities. JW arranged for H1-R to be the proposal manager for a high-stakes grant opportunity in the state and to apply under the banner of H1-R's RSLA program. The opportunity involved each of the communities of interest to H1-R and the program plan was complex. Organizing a response that included more than 50 other organizations enabled these audiences to work closely together for an extended period and see the value that each could bring to each other [8000-085].

Another example of this type of critical event is mounting a response to an issue that threatened some aspect of what the partnership stands for. BaEP1 did just that when the state funding for STEM education was potentially going to be reduced in a biennial

budget. A coordinated response was organized and an on-line set of materials was provided to stakeholders across the state that tailored the impact of the proposed reductions to each legislative district [8000-060]. Rallying for a public cause brought meaning to the partnership and also signaled that it could wield influence to people in power [8000-073].

### **Cornerstone Partnership Project Ends**

Cornerstone projects are efforts of high significance to the partnership. They may be the first effort that matches the intentions of the partnership. They may also have significance because of where the participants come from. When a cornerstone project ends, the event is critical because how and why it ended is important. In the case of creating the RSLA community laboratory, completion signaled that H1-R could be successful in translating an idea to reality. This was celebrated by H1-R with broad announcements that the project was finished and the lab was ready for visitors to experience biomedical research [4001-009].

The ending of a cornerstone project can also have a negative overtone. In BaEP1's home state, a partnership project was cancelled because the grant sponsor did not continue the support in the next budget cycle. "It was great while it lasted," said SK [2002-010]. Without another project to move to, the participants affected can interpret that the partnership is over. Momentum can be lost if these individuals do not see other signs that the partnership is still functioning [8001-001]. Similarly, the end of cornerstone projects caught the attention of the media in both BaEPs. A community newspaper article

interviewed BaEP1 spokespeople with a primary line of questioning, “is there still a commitment now that the project is over?” [8000-086].

### **Key Personnel in New Organizational Position**

The creation of a new job position with organizational leadership accountability is significant. It indicates there is sufficient need for a dedicated job function and senior management endorsement to fund such a position. Each of the BaEPs studied began with employees already in existing business units. As the partnerships evolved and business plans were created, each BaEP identified the need for new job functions to lead specific parts of the BaEP work. The approval of these positions was a turning point because it signaled the case had been made for a longer-term personnel commitment from management.

An example is the hiring of TL as the human resources representative in H1-R. H1-R did not have a full time representative prior to TL’s arrival. TL was responsible for writing many of the new policies associated with hiring graduate students. Another example of this event was seen in the creation of a partnership manager position requiring the applicant to have an educator background [4004-005; 8000-078].

This type of background did not exist in either organization and meant that the person would have few peers. EM at H1-R said, “I had no experience working in a company and didn’t understand the culture. I was glad to have TL as my mentor” [4004-008]. Likewise, TL said of the same event, “We did EM a disservice when we hired her because we weren’t ready to support and train,” [4006-014]. How the internal support

structure handles the acclimation of new people into new organizational positions is what makes this a critical event.

### **Reaction of Internal Publics**

The partnerships are embedded within much larger organizations and the breadth of their business operations is significant. Only a few individuals from each organization actually have the BaEP work as their primary responsibility. In both BaEPs, significant reactions—positive and negative—were observed. Nearly all of the participant interviews commented on these reactions. As the interviewer, I found it interesting that the topic of others' reactions did not naturally come up in conversation until I raised it as a question [8001-001]. Participants were guarded about these issues especially if the reactions were negative. It was clear that the opinions of employees in their company mattered.

This topic is included in the set of critical events because the reactions of internal publics affect how the partnership participation operates in their company. H1-R participants commented that other researchers felt that the discretionary dollars might have been better spent on advancing research instead of RSLA. Skeptics at MSU were vocal in predicting that MSU and R1 could not work together. Some suggested that the organizations were actually competitors for the same external research funding [2002-002]. EM often felt that she needed to defend the value of RSLA to her colleagues [4004-006].

Reactions from internal publics can also be positive and a motivational power for the partnerships. In contrast to concerns about better uses for discretionary dollars, TL said that RSLA became a “huge recruiting tool” for new scientists and “they love to work

with the students” [4006-011]. My observation about this critical event category is that it was most present when the partnerships were early in their development and before concrete results could be observed [8001-001]. The individuals assigned to the partnerships at these stages expressed awkward moments. The same individuals also describe moments of fulfillment and excitement by internal publics when the partnerships accomplished something that met an enlightened self-interest, like winning a \$20 million cancer imaging grant. Context counts in this critical event and attending to it is important for endurance.

### **Diversion of Key Personnel from Primary Organizational Assignment**

This critical event has two components. First, it involved an individual who has significant functional responsibilities or importance to the organization in another context, such as leading a department or research project. Second, the event involved the visible assignment of that person to take on a role with the partnership. The insider nature of the individual was a benefit for the partnership because they were able to navigate within their organization when the partnership needs were not yet well defined or understood. The unintentional consequence was that it created a void to be filled in carrying out the primary assignment. In the case of the studied partnerships, the individuals involved did not transfer; they were responsible simultaneously for both roles [cf. 4001-013]. This critical event created a situation where priorities were either consciously reevaluated, or simply occur by fiat. Either way, the event perturbed the status quo in the organization.

## **Exit of a Partnership Founder**

The research literature cites the importance of founders and the negative impact when these individuals are no longer involved (Jenkins, 2001). The relationship between MSU and R1 has existed for 13 years. All of the individuals who would be considered founders are no longer involved in any significant way. In RSLA, two founders, PV and JW, have returned to their primary assignment as lead scientists and are still employed by H1-R.

The exit of a partnership founder is considered a critical event in this study largely based on the body of research that addresses it as a factor in partnership demise. Both BaEPs are continuing to function despite the founder exits. Participants interviewed did recall moments when founders left in their responses to Q4 and Q5. They expressed views such as, "It wasn't the same after he left" [2002-010]. Interviewees recounted mostly stories about their relationships with the founders more than concerns that the partnership would end after they left. However, self-preservation did surface. Some of the participants said they proactively moved to new assignments due to the uncertainty of the direction that the next person would take for the partnership [8001-001].

## **Unplanned Departure of Key Personnel**

Movement of key personnel is a topic of several of the critical events noted in this section. In this event, the unplanned nature is important. Unplanned means that the event was a circumstance that the partnership was not ready for. It is an important element in endurance because it is, in a fashion, a test of the partnership strength. Jenkins (2001) reports that the departure of a champion often signals the demise of a partnership. Her

work does not specific the nature of the exit—planned or unplanned—only that it impacted endurance.

In the BaEPs studied here, unplanned departures happened on a few occasions. One participant largely described that the loss of tacit knowledge was what was missed most [2002-011], speaking about EP in BaEP1. EP had an administrative role and responsibility for much of the organization and scheduling. Consider TL at H1-R. TL said humbly, “I’m just behind the scenes. EM is in charge and the face of the partnership” [4006-008]. It was clear to me as I interviewed TL that much of what she did kept RSLA operating smoothly and she was the only one carrying out those functions. An unplanned departure of TL would likely reveal that her value was not just behind the scenes [8001-001]. Finally, participants commented that not all unplanned departures detracted from the partnership. In several cases, a participant mentioned that a colleague involved with the partnership did not mesh well with the team. The departure of these individuals was greeted with relief [8001-001].

### **Involve ment of a Key External Champion Ends**

External champions were key advocates in the communities where the BaEPs operated. The champions were most often political figures like mayors or city council members. These individuals were excited to see the involvement of major organizations working together in their jurisdictions and included advocacy in their public speeches and press interviews [8000-050]. The role of champions was not limited to advocacy. These public figures controlled zoning policies, tax arrangements, and regional master planning, among others. In cases where the partnerships needed public help, as in the medical

science facilities enabled by the biomedical research grants, cooperation from external champions was key.

The critical event nature of the topic related to the uncertainty with transition. For example, in the case of H1-R, a state legislator retired who had been instrumental in advancing research in the state. The new person to fill that role had not been elected yet, and H1-R had to carefully construct its political calculus in reaching out to all the contenders to make sure that the H1-R RSLA agenda was maintained as a priority in the legislature. It should also be noted that the exit of a public champion, whether it is a political leader or a fellow community CEO, has an impact on the staff that served that person. These are the individuals that get things done on behalf of the champion.

When the champion leaves, the ripple effect to their staff is often uncertainty about their future employment. In the case of MSU and R1, the retirement of the city mayor caused a disruption in the city's longstanding financial support of MSU's campus expansion. The new mayor was focused on downtown revitalization. This ripple effect was seen in the decline of MSU resources allocated to BaEP1 because dollars were needed to fill the void created by reduced city funding [8000-043].

### **Change in a Partner's Primary Business Environment**

This critical event category refers to the level of resources available to the partnership, the fit of the partnership mission with organizational objectives, and the impact of external conditions, such as new healthcare or employee pension regulations, on the organization. R1 had a decade of unprecedented revenue growth and this allowed an unusual amount of funds—for R1—to go to the partnership operation [8000-022].

When R1 revenues declined, some of the projects in the BaEP1 portfolio could not be maintained.

This critical event also related to a change in business mission or territories of interest. BaEP2 operates in a rural setting and not all areas can be served by Health-1. Communities where H1-R established an operational relationship coincided with where the Health-1 care system was located . If one of these community's changed, the focus of H1-R's attention moved with it [4004-007].

### **Positive/Negative Public Story**

This critical event is primarily associated with media reporting about large public stories where the topic can be generally associated with the BaEP. In both partnerships, interviewees noted that their boards of trustees were particularly focused on keeping their organizations out of controversial news stories. When a story did occur, even though the BaEP was not directly involved, the larger public controversy placed real or imaginary constraints on the participants as they made daily decisions.

For example, MSU, R1, and H1-R all endorsed common core standards. This was logical since each organization had an understanding of the impact the lack of common and high standards had for students. This aligned with the BaEPs educational outreach endeavors and fueled their longer-term pipeline of prepared students as they move through the K-12 education enterprise.

The governor in the state where H1-R operates reversed his position on common core support. This caused a conflict in how H1-R could support the administration while

carrying out efforts with schools that directly conflicted with the governor's new view on what should be taught. [8000-091]

MSU/R1 were swept up in a different type of public story. A major focus of BaEP1 is educational improvement engagement with the urban public school district where the organizations are located. Midway through the BaEP1's multiyear district support, this school district's top leadership was indicted and ultimately convicted of fraudulent reporting. These school leaders were also closely involved with programs operated by MSU/R1. The situation required careful examination of how to support educational causes and manage relationships with local educational leaders. The research literature identifies that many corporations avoid direct involvement with schools, and place more attention on informal and afterschool support, because of these potential controversies.

### **Summary of Critical Events**

The common critical events uncovered from these BaEPs cut across personnel issues, public perception from events beyond the control of the partners, and changes in funding and advocacy. A change in the BaEP status quo accompanies each event theme. While quite different in scope, each time an event occurred it had an impact on the partnering work in some way. How the partnerships would capitalize on a positive event, or mitigate the consequences of a negative event, relies on structures within these BaEPs. This is the focus of the second research question.

### **Supportive Structures that Enhance Edurance**

A critical event is something that happens to a partnership. The significant ones

create a memorable turning point. As the review of prior partnership research indicated, partnerships may respond to critical events in very different ways. The interest in this research is to discern structures that were helpful in creating the enduring qualities observed in the studied partnerships. The term “structures” is broadly defined here to include behaviors, organizational policies and procedures, environmental factors, or other aspects of the ethos in which the partnership functions. The structures are examples of the treatment delivery systems conceptualized by Leviton and Lipsey (2007).

The analysis of the field texts and participant stories revealed two types of structures that are summarized in Table 5.3. The first type has a proactive quality. That is, these structures revealed themselves more often in the early phases of partnership design and operation. As will be seen in the discussion below, the proactive structures have a sense of order to them. The second structure has a reactive quality. These structures reveal themselves most often when the unexpected happens. For example, some condition poses a threat to the partnership operation. Alternatively, it may cause a significant opportunity to arise. The reactive structures are helpful in sensing the emergence of these conditions and mobilizing a constructive response.

This section explores endurance structures found during the BaEP data analysis in response to two research sub-questions:

- RQ2-a: What structures contributed to proactively achieving partnership endurance?
- RQ2-b: What structures contributed to effectively reacting to situations that could threaten partnership endurance?

**Table 5.3***Common structures supporting endurance*

Common Structures Observed that Supported Endurance	
Proactive	<ul style="list-style-type: none"><li>• Trusted insiders are first to start partnership work</li><li>• Management accountability in existing organization unit</li><li>• Relationship management with boundary spanners</li><li>• Key position transition plans</li><li>• Risk management</li><li>• Advisory boards and external critical friends</li><li>• Direct connection to enlightened self-interest</li><li>• Portfolio of activities</li></ul>
Reactive	<ul style="list-style-type: none"><li>• Boundary spanners as emissaries</li><li>• Unfiltered feedback channels</li><li>• Attention to conflicts among internal publics</li><li>• Attention to conflicts among external publics</li><li>• Communication channels tailored to audience</li></ul>

**Proactive Structures Contributing to Partnership Endurance**

Proactive structures contributed to BaEP endurance. Both BaEPs started with trusted insiders already working in their companies. They were assigned to the partnership tasks and took on the roles willingly. These individuals had substantial experience in the operational settings of the companies and knew how things worked. The appointment of these individuals to the partnership signaled both the importance of the partnership to the organization as well as establishing credibility. They had trusted networks and a track record of getting things done.

While these partnerships were new and untested, the BaEPs were not treated as special projects that operated outside of the established organizational structure. The

responsibility for partnership management was assigned to an existing business unit or academic department. This structure contributed to endurance in a significant way. First, managers of these business units had experience in operations and how these units needed to coexist within a larger organization. The BaEPs had their own operating budgets and they complied with policies and procedures of the organization as a whole just like any other project. Said another way, a BaEP might be new but it was not exempted from existing organizational rules. The placement of the BaEP responsibility within this structure naturally required it to comply with the existing managerial practices and reporting procedures.

This approach avoids what I call the “Initiative Syndrome.” Pilot projects for special initiatives are often separated from the day-to-day operations of an organization because what is being done is seen as substantially different than business as usual. In the process, the pilot project is insulated from long-established cultural and operational norms of the organization. To further mask it from real-world conditions, the senior executives who founded the BaEP often pay close attention to the pilot project. It can receive special services not available to the rest of the organization. Under these artificial conditions it is not surprising that pilot projects demonstrate promising results.

Individuals in the broader organization may believe they have no other choice but to cooperate even if they oppose the effort. Conversely, they may be in favor of the BaEP but frustrated because they believe that the existing rules should still be applied. It is no wonder that after an isolated pilot project shows promise, its integration into the larger organization is arduous. Rules that the pilot project did not need to follow now apply.

The people in the project may have disenfranchised the people whose support the must now rely on. This situation can negatively impact the ability for the BaEP to function successfully inside the organization.

In the partnerships studied, I want to note that placing partnership responsibility within an operation from the very beginning was not a conscious decision to avoid this initiative syndrome. I inquired about this in the interviews. Rather than intentional, it was the natural course of how these organizations started new work. The net result was that once the partnerships were incubated inside an operation, the BaEP responsibilities could smoothly transition to other parts of the organization when restructuring occurred. This happened at least two times in each BaEP [cf. 8000-043].

Boundary spanners were critical to the operation of these partnerships. The boundary spanners were skilled relationship managers and could navigate inside the partnership organizations with efficiency. The attention to relationship management was described in participant interviews about the way these individuals communicated BaEP intentions and connected the work to the best interests of the employees [8000-037; 8000-050; 1004-003].

Intertextual analysis identified numerous presentations authored by boundary spanners and directed to specific audiences in the partnership. There was consistency in the style of the communications and the restatements of BaEP purpose and its benefits to the participants [cf. 8000-045]. The boundary spanners also acknowledged their reliance on feedback from the people in the organizations as a whole, not only the direct participants in the partnership.

BM of MSU commented about deep engagement of relationship managers. BM said, “I initially viewed R1 as an investor. I realized, as we were deep in the work that R1 had no interest in being an investor. R1 was interested in a vested relationship” [3001-008]. DH, a founder from MSU, said the engagement at this level “allowed me to speak accurately about the intent of the partners” [1003-005]. The ability to operate effectively as a relationship manager in this manner requires experience and training. This structure suggests that boundary spanners hired from the outside to start up a partnership experience challenges because they were hired for content knowledge, and have limited familiarity with the partnering organizations themselves.

The leaders responsible for these BaEPs also did not assume that the insiders would stay in their partnership roles permanently. Original planning documents acknowledged transition procedures as an integral part of the partnership design. BaEP2 plans noted that the assignment of trusted insiders—the scientists—would be necessary to start the partnerships but these individuals would need to transition back to their other jobs once the partnership was stable and underway [8000-069]. These insiders brought value to the organization in other important areas. The use of transition plans played out at least five times in the BaEPs as managers cycled in and out over the periods that the BaEPs have operated [8000-023; 2005-006]. Job descriptions document what was expected of them. The new individuals in key positions received concentrated administrative support at the beginning. TL of H1-R is an excellent example of how this philosophy was implemented [4006-001].

TL at H1-R played a key role in supporting EM, and TL's recruiting and human resources background made her a natural choice to be EM's inside counselor, mentor and confidant [4004-12] The educators that joined both BaEP1 and BaEP2 had no experience with corporate cultures. In both cases, administrative personnel—EP at BaEP1 and TL at BaEP2—took on the role of intake, caretaker and coach with the new BaEP managers. TL and EP were confident and well-regarded in their companies [2002-008; 4004-008]. TL's goal was to help the new people "know who to go to" for help [4006-001]. Both of these individuals, because they could not do their jobs without cooperation from others across the organization, had extensive internal networks. Helping the new leaders build their own network was a focus of how on-boarding new BaEP leaders was approached [4004-014].

Another supporting structure was risk management. Field texts and interviews revealed that evaluation of risk was common. BaEP reviews were incorporated into the periodic organization-wide business unit reviews held with senior management. Dashboard style presentations of progress were used to indicate where threats to performance might exist and the mitigation plans that were put in place. These risk management processes closely followed the practices these organizations conducted with other programs.

There is evidence of adjustment and revision to risk processes as more understanding of the partnerships was gained over time. Risks were examined holistically and the education programs in particular were driven by current events. This prompted the organizations to seek advice from external experts to frame potential issues and

suggest mitigation strategies. For example, there was significant attention paid to the safety of students while in BaEP1 facilities, including training of BaEP mentors that would be interacting with minors [8000-089].

The review process included assembling advisory boards. Significant attention was paid to orienting these external bodies to the primary business of the members of the BaEP. The purpose of this was clear. The BaEP management wanted these experts to understand the context of the organization's normal operations as a basis for giving advice to the BaEPs. H1-R participants said that, even though the advisory board has only been in place for a year, "it was a turning point in the strategies we are implementing going forward" [4006-016].

Perhaps one of the strongest contributors to endurance was the presence of enlightened self-interest [8001-001]. The field texts and interview responses were consistent in commenting on why the partnership was important to the organizations themselves. There were specific statements about how it made each organization stronger and more competitive in their field. Participants commented that it took time to become comfortable talking openly about the value of a BaEP in these terms of self-interest. They believed it was self-serving and that the greater good should be emphasized [2002-005]. However, external journalistic coverage of the BaEPs wrote about the important connection between the strength of these organizations and their ability to make bigger social impacts [cf. 8000-025]. Participants interviewed also emphasized that successful partnerships improved the reputation of their brand [2005-008; 4006-011].

In closing the discussion of proactive structures, it is important to note that the

BaEPs studied had numerous projects underway at various stages of maturation. The work was managed as a portfolio. This was intentional as the way each BaEP began its work. Conducting multiple projects at the outset is a departure from how some organizations pursue collaborative ideas with other organizations. A common approach is, instead, to conduct a small test case before moving to larger commitments (Bryk & Gomez, 2008).

MSU/R1 and H1-R had a common perspective about the risk of a single project as a test case [2001-003; 4001-012]. They expressed that operating a single project would not illuminate much about long-term partnership potential for several reasons. If the test case was unsuccessful, determining why it was unsuccessful would be difficult. It might be the test case topic itself, improper chemistry of the members, or the wrong timing, among others. Secondly, having a portfolio of activities meant that there was a higher likelihood that one of the project topics would appeal to broader sets of internal publics. This would increase the chances of finding projects of value to the organization as well as mitigating the distracting effect of skeptics.

The BaEP intertextual analysis showed that a portfolio of activities required periodic pruning to reduce the unbridled addition of new projects. The burden of making choices was placed on the partnership manager. Those interviewed expressed angst about making these choices but indicated that as BaEP focus tightened, such as in H1-R's focus on biomedical sciences rather than science in general, the ability to make informed choices was more straightforward and easier to explain [4004-007].

## **Reactive Structures Contributing to Partnership Endurance**

Reactive means that a structure is effective in mitigating the impact of a critical event that threatens endurance. Several structures were revealed that seemed to accomplish this purpose. Boundary spanners served as the primary ambassadors and they framed problems and challenges to the broader publics. The boundary spanners were skilled relationship managers and understood the perspectives of the organizations. As such, boundary spanners were selected to resolve conflicts [cf. 8000-053]. The review of field texts illustrated boundary spanners as ambassadors. They were commonly listed as attendees at problem-solving meetings and were the authors of organization-wide communications about progress and changes.

Because the BaEPs operated within existing business units, they were immersed in the culture. Unfiltered feedback was encouraged not just from participants in the BaEP. Observers and others in the broader organizations were invited to ask questions and offer opinions. The participants interviewed for this study indicated that action was not the objective for acquiring feedback as much as it was viewed as a general barometer of attitudes [3001-010]. The feedback channels also served as a recruiting tool in some cases. Feedback identified individuals or organizations that wanted to become involved in the partnership but did not know how to do so. This was the route that SK, a ten-year veteran at R1, took to gain a position in BaEP1 [2002-005]. An informal channel to enable these communications was valuable.

The BaEPs also had effective mechanisms to obtain feedback from outside of the partnership members. For example, BM was particularly valuable in bringing ground

truth from the school districts when MSU and R1 were planning their initial education outreach strategies [3001-010]. This information helped MSU during the STEM curriculum development because it put college faculty directly in touch with K-12 classroom teachers. Teachers and districts are sensitive to programs being imposed on them (Amey et al., 2010). The well-intentioned actions from R1/MSU and H1-R had limited experience in the real world of education delivery. It was essential that educators felt connected to the BaEP and knew what the partners were intending to do. These classroom teachers were encouraged to bring ideas forward. “I constantly would take a pulse and bring it to the group. Many times it was not acted on, and that was OK. I still kept bringing things forward because every once in a while, it was critical information in a blind spot,” said BM [3001-014].

The issues and perturbations among internal publics from BaEPs has been noted elsewhere. An important feature of the enduring partnerships studied is that conflicts with internal publics were not dismissed. For example, BaEPs created new tasks for individuals in support groups such as human resources, legal, and accounting. In cases where the work of the partnership required a deviation from normal ways of doing business in these groups, the support group feedback was strongly considered. TL of H1-R proactively sought out these groups to get a sense of what was “easy or hard to do” [4006-012]. In many cases, this approach created a better solution and eliminated the conflicts that often occur by going around people to get things done.

As with enlightened self-interest, this feedback emphasis appears to be an important structure to preserve endurance. Not everyone in these BaEPs wanted the

partnership to succeed. Some of the conflicts related to jealousy or use of discretionary resources. Sometimes it was objecting to doing something in a different way [cf. 2002-003]. The trusted insiders were invaluable to mitigate these issues. Rather than using the power of position—as in, do it because the boss said so—the insider’s approach was essentially to set context. When TL sensed that a change could be difficult for someone in a support position, TL said, “I know we haven’t done it this way before, but is it possible, and how would we help you?” This type of approach engaged internal publics in the work early and it was beneficial that broader groups knew what the BaEP was doing [4006-007].

Listening to external publics and their goals and challenges was equally instructive to the partnerships. This endurance structure provided a feedback channel to understand how the BaEP work was perceived. It also helped forecast what type of cooperation could be expected from organizations that were intended to benefit from the partnerships activities. Attending to external publics involved highly coordinated communication that was typically spearheaded by the communications directors in the partnership organizations.

An aspect of this was becoming more accessible to the public. For example, the H1-R community laboratory was a core asset for the RSLA. It was designed as a way to provide hands-on biomedical science experiences with simple experiments delivered by engaging researchers. The laboratory was located inside the H1-R research facility. It was walled with glass so that the community visitors could see H1-R researchers at work.

An unanticipated benefit of the location of the laboratory was that when several thousand visitors experienced it each year [8000-090], these same visitors walked through hallways with posters of Health-1's history and the communities it served. The hallway journey helped visitors see the enormous Health-1 enterprise as a human enterprise. This ultimately served to reduce the intimidation that some BaEP school and university participants felt when they initially engaged with H1-R.

A similar openness was found at R1 and MSU. After the BaEP1 was announced, "people in the community noticed that we came out of our caves to see them," said CK of R1 [2001-004]. Despite being located in the community for more than 90 years, few people knew what R1 did, let alone had set foot inside the secure facility buildings. All of this changed when the education outreach aspect of BaEP1 gained momentum. Like H1-R and its community, the perception of MSU and R1 friendliness increased when the community saw them working together. This ultimately enabled more meaningful communications with external publics.

The BaEPs interacted with a diverse set of audiences and channels of communication were tailored to these audiences. In the partnership structure, specific individuals were assigned to be the primary liaison and face of the partnership to those groups. The selection of individuals was based on their credibility with the target audiences. The BaEP organizations each had their own public relations and communications departments and they were well versed in working with other professionals in similar roles. Field texts, especially those found in Basecamp, used shared digital folders to coordinate messaging themes. The goal of these messaging strategies was to maintain a

consistency in intent and purpose, with specific details that would resonate with each target audience.

## **Discussion**

Consider the relationship between success, sustainability, and endurance. The literature review revealed no agreed upon measure of success. It depends on who values what and when the measurement is taken. Setting aside these complications, it can generally be safe to assume that success is in the eye of the beholder. Success is characterized as satisfying expectations of stakeholders in the moment.

Sustainability is a second characteristic of a partnership. It refers to the level of predictability that sufficient resources will be available to the partnership to allow it to continue to exist. Sustainability and endurance are not the same. Endurance is a characteristic that relates to how a partnership operates in the midst of perturbations. Put succinctly, I offer that the three terms are related and may have an effect on one another—but they are not equivalent:

- Success means a set of stakeholders are satisfied;
- Sustainability means predictability of resources available to the partnership; and
- Endurance means the capacity of the partnership to productively function in the presence of perturbations.

## **A Proposed Model of Partnership Endurance**

Before describing the proposed endurance model, a discussion of the evolution of thinking from the prototype described at the end of Chapter 2 is important to highlight

aspects that changed and what remained the same. The prototype was developed solely from the research literature and had three primary features. First, endurance was conceptualized as a volumetric container. Second, the volume was determined by the presence or absence of the 12 partnership success factors synthesized from the literature. The presence of success factors increased the volume, while missing success factors drained the volumetric container. Third, the prototype suggested that the rates of inflow and outflow of endurance was modulated by a sensing function related to the treatment delivery system—the ecosystem—within which the partnership operated. What might control the modulation was not specified in the prototype but a feedback channel was surmised as being important to endurance. The in-depth study of two enduring partnerships resulted in identifying common critical events and common partnership structures that appeared to have a beneficial effect on endurance in these two partnerships. This analysis led to a fundamental revision of the theories embedded in the prototype.

**The model elements.** The proposed model of partnership endurance is found in Figure 5.1. The volumetric container representation for endurance remains the same as in the prototype. Endurance is a capacity that expresses itself when critical events create perturbations in the partnership's ecosystem. We tend to have a negative connotation of critical events and perturbations. However, consider that critical events are essentially the spark that creates turning points in a story. In this research and in the proposed model, the nature of the turning points is referred to as perturbations. Perturbations can be destructive or constructive.

Returning to Figure 5.1, the 13 proactive and reactive structures derived from the two partnerships in the present study are found in Section “A” of the model. The presence of these structures adds capacity to endurance volumetric Container “B.” The absence of a structure from Section “A” makes no contribution to endurance and is designated as “N/C” in each decision diamond.

The common critical events detected from the partnerships studied are found in Section “C” of the model. When a critical event occurs it creates a perturbation to the partnership. If the perturbation is negative, then some of the volume of the endurance container is depleted. If the perturbation is positive, this situation adds to the endurance capacity.

Consider endurance in the context of a marathon runner. The athlete has an understanding of what demands will be placed on the human body during the 26.2-mile journey. These demands will depend on pace desired, the terrain, weather conditions, emotional attitude of the runner, the stakes involved, and the interactions of other runners on the course, among others. Not all of these conditions considered by the athlete will be experienced during a specific run. But the runner prepares for them nonetheless.

Preparation consists of a nutritional regimen, exercise, appropriate shoes and clothing, practice distance runs, medical assessments to understand physiological risk, and mental preparation, among others. The day of the race is when the preparation meets reality. Rain and wind would represent a critical event that perturbs the runner and is countered, hopefully, by high traction running shoes. Conversely, improper shoes could result in injury from a fall. The runner recalls the roar of the crowd during the last mile as

the turning point—or critical event—that made it all worthwhile. Months of preparation allowed new strength to be mustered by an otherwise exhausted athlete.

**Applying the model to the studied BaEPs.** The plausibility of the endurance model is now explored using some of the moments of BaEP1 and BaEP2 to determine if it generally responds in a way consistent with the partnership stories. Some level of endurance of BaEP1 was attributed to trusted insiders that started the partnership and their role as trusted boundary spanners. For example, the MSU board of trustees awarded a distinguished service medal in 2009 to a founding member of BaEP1. The announcement read:

Not only has he provided initiatives that the R1 and MSU have partnered on, but he has served in the role of negotiator and advisor for the university as well. As one of the major figures in the establishment of the MSU/R1 partnership, he is a valued friend of MSU. [8000-082]

Interview participants noted that the exit of partnership founders caused significant angst. “When several founders left, I sensed my credibility with the MSU provost disappeared” said BM about his joint MSU/R1 appointment. “I was not as effective as I had been after that” [3001-012]. The model expresses this situation of the exit of a founder as a critical event and a negative perturbation because BM became guarded in how he participated in BaEP1 after that.

BaEP2 required the founding scientists PV and JW to return to their research roles after the efforts had gathered momentum [4001-013; 4003-005]. The original H1-R Science Action Plan anticipated the ultimate hiring of a full time RSLA director [8000-

069]. TL, the H1-R human resources specialist, created the job description with PV and JW. EM was hired in 2010 and the RSLA increased in scope since then [4004-006]. The model expresses this dynamic in the Section “A” structure, “key position transition plans,” and the Section “C” critical event, “diversion of key personnel from primary assignment.” The perturbation on BaEP2 is positive because the researchers remained as credible advocates for BaEP2 when they returned to their primary assignment and EM assumed the full time focus on advancing RSLA.

BaEP2 also experienced considerable critique from researchers about the use of discretionary funds in areas not associated with H1-R researchers. PV and JW were concerned about how they were perceived by these internal publics [cf. 4003-005; 4004-007]. BaEP2 did not have a mature structure to deal with the conflicts during the early days of RSLA [4006-009]. While the structure was eventually established in the H1-R culture through the departure of some of the H1-R skeptics [4006-011; 4004-009], the absence of a structure to attend to internal publics made no contribution to endurance. In the model, this critical event is expressed as a negative perturbation that depleted endurance capacity for a period of time. The BaEP2 interview participants spoke about this as being “put on the defensive” to rationalize why RSLA was being pursued [4004-008].

Finally, the critical event “changes in partner’s business environment” can have positive or negative impacts that are largely related to what Section “A” structures are in place at the time. For example, the significant increase in R1 revenues significantly advanced the MSU/R1 relationship largely because there were already relationship

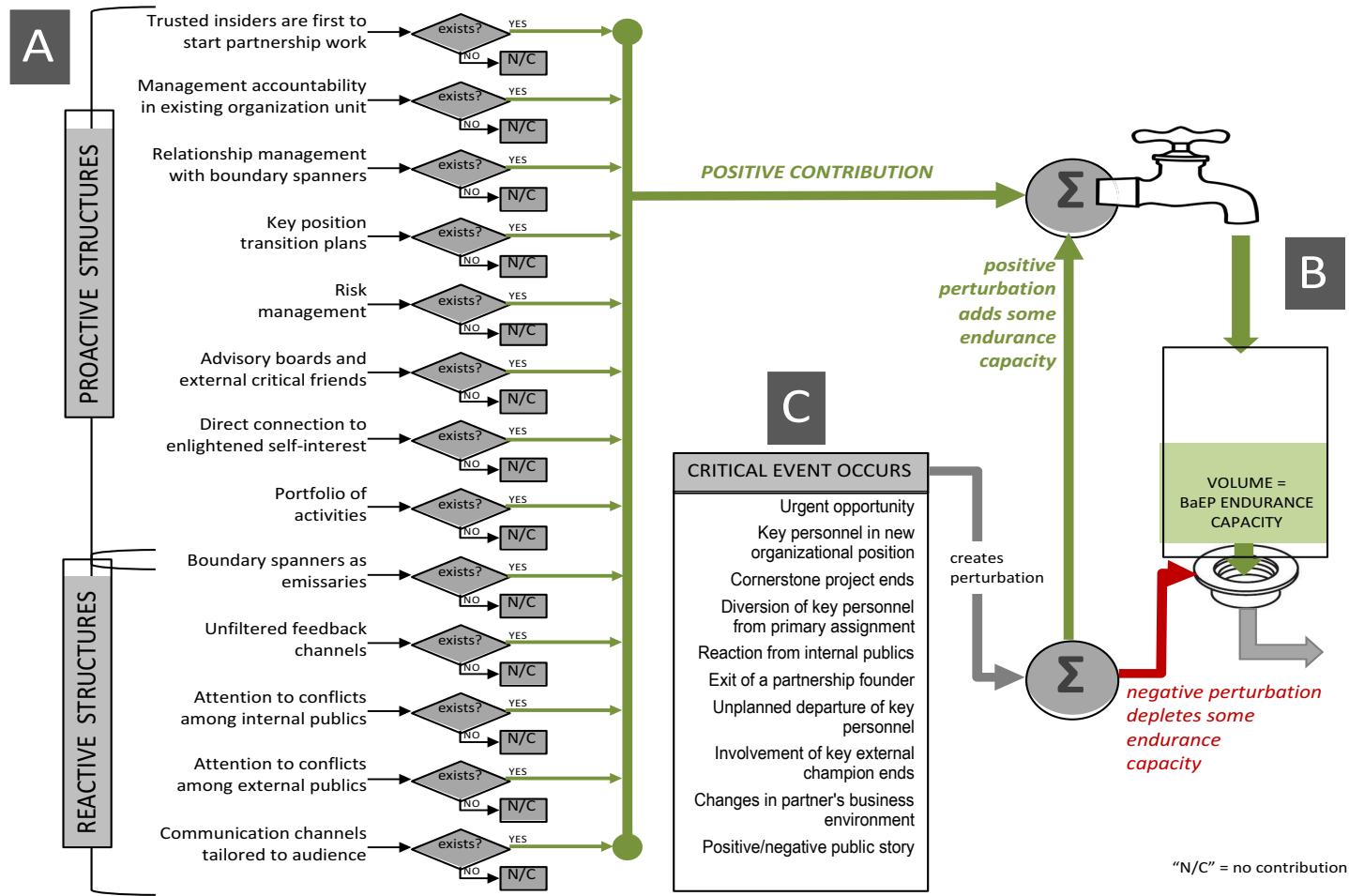
management activities underway in health care areas of shared enlightened self-interest. One can postulate that had this not been in place, R1 might not have help secure the grant awards from the state's biomedical funds that resulted in tens of millions of research dollars for MSU. Other companies experience significant increases in revenue and do not automatically turn to the nearest university as an outlet to use these new resources. A downturn in R1 business later in the MSU/R1 chronology resulted in less capacity and reduction of support for dedicated MSU/R1 team members. That critical event resulted in a negative perturbation and depletion in endurance [2002-010].

**Comments about the use of the model.** The proposed model is able to take what was seen in the BaEPs studied for this research and map these observations onto the pathways in the model. It is important to heed the cautions of Crites (1986) and Clandinin and Connnelly (1990) about causality. The sequence of events in retrospect can "appear deterministically related" (Clandinin & Connnelly, 1990, p.7) when this is not the case at all.

Bell (2002, p.207) elaborates: "we as human beings make sense of random experience by the imposition of story structures." The proposed endurance model is useful to partnership research not because it has any basis in causality. Rather, it offers a disciplined way to examine a partnership and categorically make sense of what is happening. Partnership researchers whose articles informed much of the baseline information expressed the challenge and arbitrariness of evaluation. The proposed model from this study offers different type of measuring stick that might address this problem.

**Figure 5.1**

*Partnership endurance model*



## **Limitations**

A significant amount of information and analysis was conducted on a very small sample of all possible partnerships. They are enduring partnerships and display some unique characteristics not extendable to the broader population. The organizations that made up the core of these BaEPs are themselves unique in their own fields in terms of size and scope. There are undoubtedly other partnerships that could have been explored in detail by other researchers that would have knowledge and access to those situations. Even if these researchers used the same methodologies of narrative inquiry and critical event analysis, other constructs might have surfaced that are different, or perhaps, conflicting with what I concluded in this study.

Considering only this study, there are important limitations to note. The lived experiences of interview participants and the acquired field texts shaped the narrative sketches. These formed the basis for determining what was common and therefore important to model. The partnerships have operated for many years and there is much data and stories that did not surface through this brief research study. That said, my familiarity with the partnerships gave me a sense that what I acquired was a reasonable representation of what actually happened.

Narrative inquiry and the resulting retelling of stories is subjective by nature because the storyteller selects “those elements of experience to which we will attend, and we pattern those chosen elements in ways that reflect the stories available to us” (Bell, 2002, p. 207). Had I interviewed a different set of participants, I might have detected

other constructs. Another researcher with a different point of view would likely have told a different story and drawn different conclusions about endurance.

### **Recommendations for Further Study**

The limitations provide a basis for new directions of study. Endurance is an important characteristic of partnerships. More often than not, partnership leaders would want these qualities to be an inherent part of their relationships if they could choose.

The proposed model offers a way to examine partnerships and to characterize what endurance feature is present or absent. The technique should now be applied to more partnerships, as it does not require the partnership work to be completed to examine it from the perspectives outlined in this study. Applying the model and method to more partnerships would deepen the data set, uncover better articulations of endurance constructs, and validate or refute some of the ideas presented herein.

A second avenue for further study is partnership risk management. Endurance is an important quality for a partnership. However, not all partnerships require the same levels of endurance structures. There needs to be some way to answer the question, “how much endurance capacity do I need?” A recommended way to explore this strand of research would be to consider risk management practices applied in a partnership management context. In the literature review, I addressed risk management processes in the context of sound project management. The direction for new study is to address how to determine the level of endurance that is needed. A marathon runner needs more endurance than a non-athlete, even though both benefit from a level of fitness. This is the case for partnerships as well. The proposed model is a point of departure for that work.

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## **Appendix A – Literature Search Strategy**

Because partnership is a broad and ambiguous term, a layered search and research text discovery strategy was employed to surface research relevant to the proposed dissertation. The search began with examining meta-analyses of partnerships between business and education (BaEPs), through a search algorithm: (“business” or ”industry”) + ”education” + (”partnership” or “collaboration” or “alliance”). Because partnerships are also commonplace in other industries, the search also extended to meta-analyses of these collaborations, using a search algorithm: (“community” or ”civic” or “non-profit” or “cross-sector” or “cross-industry” or “public-private”) + (”partnership” or “collaboration” or “alliance”). The resulting articles were examined to catalog recurring themes commonly cited as success factors and challenges in partnership practices. References cited in these papers became the next wave in the iterative review and primary sources that provided deeper analysis of partnership actors and roles, relationships, process, and policies in place that enhance or subdue partnership effects.

A second search strategy was employed to surface articles using both a theoretical perspective and a contextual lens. In these cases, the above-noted algorithmic terms were concatenated with the following: (“behavioral” or “institutional” or “economic” or “social exchange” or “managerial”) + “theory.” Additionally, the search strategy sought to surface research associated with topic, partnership purpose, or stage of partnership. In these cases, the above-noted algorithmic terms were concatenated with the following: (“school improvement” or “student achievement” or “workforce development” or “teacher professional development” or “start-up” or “sustainable” or “enduring” or

“stages” or “phases” or “measures/measuring/metrics” or “process(es)” or “value of” or “mandated”).

The narrative inquiry method was also a theme for the literature review. Here, the objective of the review was purposive sampling of articles that described interview methods, coding, and how that translated to the resulting stories retold by the authors. The topic of researcher-as-insider was also explored to understand the point of view from the narrative inquiry research field regarding ethics, safeguards, and common practices that would be relative to this research study.

The author’s practical experience provided terms and research strands that were considered central to the endurance phenomenon. The literature search on these topics was incorporated to gain new perspectives on partnership endurance. These additional topics were framed from a management perspective and included concepts such as “managerial courage,” “perception of risk,” “culture issues and team performance,” “trust,” “resiliency,” “influence without authority,” “role autonomy and ambiguity, and “decision quality,” among others.

In addition to what partnerships are and how they operate it was also important to understand the range of ways that scholars have measured partnerships. That said, the review process did not eliminate studies that were vague in terms of methods descriptions. Instead, when reviewing these types of research texts, the focus was on the plausibility of their observations as they might factor into the naturalistic inquiry planned for my applied research.

## Appendix B – Informed Consent Form

Approved November 9, 2015 Protocol Number: HIRB00003550

Instructor Participant Code: \_\_\_\_\_

### Johns Hopkins University Homewood Institutional Review Board (HIRB)

#### Informed Consent Form

**Title:** A Model Describing Enduring Business and Education Partnerships Using Critical Event Narrative Analysis

**Principal Investigator:** Dr. Stephen Pape, School of Education  
**Student Investigator:** Mr. Richard Rosen

**Date:** November, 2015 – June, 2016

#### PURPOSE OF RESEARCH STUDY:

The purpose of this study is to examine the characteristics of business/education partnerships that display an enduring quality. That is, the partnerships under study have continued to operate despite experiencing disruptions such as significant shifts in the funding landscape, a change in leadership, or another unexpected barrier. The actors in enduring partnerships have navigated choppy waters and still continue to make progress. Documenting the stories of these partners in a way that illuminates the challenges and how actors moved through them helps to describe the enduring characteristics of such partnerships.

We anticipate that two partnerships with enduring characteristics will be examined. “Enduring” in the context of this study means that the partnership has been operating and producing results for more than five years, has experienced a minimum of three leadership transitions, and has been approved in at least two budget cycles by the partners. It is estimated that up to ten participants per partnership will be associated with the data collection.

#### PROCEDURES:

Because each participant has a different role in the partnership, not all of the items below may apply. What you may be asked to do in the study:

1. Provide copies of non-confidential documentation about the partnership that you have in your files and provide the contact information of individuals you feel may have relevant documentation about the partnership.
2. Participate in no more than two private interviews sometime over the next 7 months to provide your perspectives on key events that occurred during your time with the partnership. These interviews may be in person or conducted electronically through a format such as Skype or Google Hangout. You will be provided an email in advance with the agenda for the interview. You will also be provided with a written summary of the

Title: A Model Describing Enduring Business and Education Partnerships Using Critical Event Narrative Analysis  
PI: Dr. Stephen Pape  
Date: November, 2015 – June, 2016

interview and be asked to confirm the information to identify errors, omissions, or information you do not wish to include in the final analysis of the interview.

3. Following the interview, you may be asked to submit additional non-confidential artifacts and reports that are associated with the partnership.

**Time required:**

You will participate in up to two, 1-hour interview sessions. In addition, if you have relevant non-confidential documents in your files, it may take an estimated two hours to locate and copy these documents.

**RISKS/DISCOMFORTS:**

There are minimal anticipated risks to participants, primarily the possibility of loss of confidentiality.

**BENEFITS:**

The potential benefit of the study is a better understanding of the factors associated with enduring partnerships. Research shows that partnerships between education and business are difficult to form and sustain and most do not achieve their objectives. Many papers have addressed the theoretical aspects that underpin successful partnerships. However, there are few deep case studies that provide rich context to illustrate how actors in enduring partnerships make decisions, interact with each other, and navigate through unanticipated challenges. The information from the current research will inform a model that will help researchers and practitioners better understand how to create robust partnerships. Further, for your own partnership under study, the case study research will create an organized record of the “story” of your partnership.

**VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW:**

Your participation in this study is entirely voluntary. You choose whether to participate. If you decide not to participate, there are no penalties, and you will not lose any benefits to which you would otherwise be entitled.

If you choose to participate in the study, you can stop your participation at any time, without any penalty or loss of benefits. If you want to withdraw from the study, please contact Richard Rosen by phone or email: (614) 600-8440-7953, rrosen36@jhu.edu.

**CONFIDENTIALITY:**

Any study records that identify you will be kept confidential to the extent possible by law. The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board and officials from government agencies such as the Office for Human Research Protections. (All of these people are required to keep your identity confidential.) Otherwise, records that identify you will be available only to

Title: A Model Describing Enduring Business and Education Partnerships Using Critical Event Narrative Analysis  
PI: Dr. Stephen Pape  
Date: November, 2015 – June, 2016

people working on the study, unless you give permission for other people to see the records.

All videotapes and measures will be examined by the Principal Investigator and research affiliates only (including those entities described above). No identifiable information will be included in any reports of the research published or provided to school administration.

Reports and data developed by the partnerships and obtained for this research will be stored on access-controlled data storage and accessible only to the PI. Interviews may be audio recorded.

All research data will be kept in a locked office. Electronic data will be stored in the Richard Rosen's computer, which is password protected. Any original tapes or electronic files will be erased and paper documents shredded, three years after completion of the study.

Pseudonyms will be used for case study information.

**COMPENSATION:**

You will not receive any payment or other compensation for participating in this study.

**IF YOU HAVE QUESTIONS OR CONCERNS:**

You can ask questions about this research study now or at any time during the study, by contacting Richard Rosen by phone or email: (614) 600-8440-7953, rrosen36@jhu.edu..

If you have questions about your rights as a research participant or feel that you have not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.

Title: A Model Describing Enduring Business and Education Partnerships Using Critical Event Narrative Analysis  
PI: Dr. Stephen Pape  
Date: November, 2015 – June, 2016

**SIGNATURES**

**WHAT YOUR SIGNATURE MEANS:**

Your signature below means that you understand the information in this consent form. Your signature also means that you agree to participate in the study. By signing this consent form, you have not waived any legal rights you otherwise would have as a participant in a research study.

---

Participant's Signature

Date

---

Signature of Person Obtaining Consent  
(Investigator or HIRB Approved Designee)

Date

Instructor Participant Code: \_\_\_\_\_

## **Appendix C – Critical Event Interview Questions**

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Questions
Q1 – Think of one memory you have of [BaEPx critical event]. Tell me about it.
Q2 – Thinking back to [BaEPx critical event], what do you remember or recall?
Q3 – If there was one memory of [the BaEPx critical event], it would be . . . .
Q4 – Within the [BaEPx critical event], do you recall a particularly stressful moment?
Q5 – How would you say it has influenced you?
Q6 – What role did others play in this event? {the identification of critical others}
Q7 – If there was one thing you would say about [BaEPx], it would be . . . .
Q8 – How would you describe or tell of the changing influence and long-lasting effects?

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Adapted from “Using Narrative Inquiry as a Research Method: *an introduction to using critical event narrative analysis in research on learning and teaching*” by L. Wester and P. Mertova, 2007, p. 86. .

## **Curriculum Vitae: Richard David Rosen**

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### **ACADEMIC BACKGROUND**

<b>Doctoral Candidate</b>	Johns Hopkins University - Baltimore, Maryland
<b>M.S.</b>	The Ohio State University - Columbus, OH Biomedical Engineering
<b>B.S.</b>	Kettering University - Flint, MI Electrical Engineering

### **PROFESSIONAL EXPERIENCE**

<b>IMPACT445, LLC</b>	<b>Co-founder and Owner</b>
2013-present	
<b>Indigo Strategies, LLC</b>	<b>Owner</b>
2011-Present	
<b>Johns Hopkins University</b>	<b>Visiting Fellow</b>
2012--2012	
<b>Ohio STEM Learning Network</b>	<b>Executive Director</b>
2007-2011	
<b>Multi-state STEM Network (now STEMx)</b>	<b>Executive Director</b>
2009-2011	
<b>Battelle Memorial Institute</b>	<b>Corporate VP—Education and Philanthropy</b>
2003-2011	<b>General Manager—Health and Life Sciences</b>
1999-2003	<b>Corp VP and General Manager—Medical Products</b>
1997-1999	<b>VP and General Manager, Medical Products</b>
1996-1997	<b>Vice President, Product Development Group</b>
1994-1996	<b>Researcher - Vice President—Defense Systems Group</b>
1981-1994	

## **SELECTED AWARDS, SPECIAL RECOGNITIONS**

“Friends of Metro” Award, by students of Metro Early College High School, 2010  
Distinguished Service Medal, The Ohio State University, 2009  
Lifetime Achievement Award, National Society of Black Engineers, 2009  
Central Ohio Helping Hands Award for Community Leadership, 2009  
BioOhio Leadership Award for Ohio Bioscience Advancement, 2007  
Distinguished Alumni, College of Engineering, The Ohio State University, 2007  
Holds 5 U.S. patents in the area of information security and consumer product technology

## **CURRENT AND PAST BOARD SERVICE AND APPOINTMENTS**

Member and Past-Chair, Board of Trustees, Columbus State Community College  
Board Member, Vice-Chair, The PAST Foundation  
Board Member, I Know I Can  
Board Member, The Mid-Ohio Food Bank  
Advisory Board Chair, Biomedical Engineering, The Ohio State University  
Advisory Board Member, Americanedtv.com  
Advisory Board Chair, Sanford Promise (Sanford Health in South Dakota)  
Board Member (Chair), Metro Early College High School Management Group  
Board Member (Vice Chair), The Wellington School  
Board Member, Oak Ridge Associated Universities  
Board Member, Battelle for Kids  
Advisory Board Member, National Governors Association STEM Panel  
Member, National Academy of Science University & Industry Research Roundtable  
Member, Governor’s Commission on Higher Education and the Economy  
Member, The PTC/MIT Consortium Partnership  
Board Member, Science and Technology Campus Corporation  
Member, Columbus City Council Economic Development Advisory Board  
Member, The Route 315 Research and Technology Corridor Steering Group  
Member (Co-Chair), Columbus Regional Life Science Economic Growth Initiative  
Board Member, The Edison Biotechnology Institute at Ohio University  
Board Member (Chair), Columbus Business Technology Center Incubator  
Board Member (Chair), BioOhio  
Advisory Board Member, Cleveland Clinic Foundation Commercial Advisory Board  
Advisory Board Member, Reservoir Partners Venture Capital Fund  
Advisory Board Member, Foundation Medical Partners Venture Fund  
Board Member, Action for Children  
Board Member, The Southwestern Ohio District Export Council (Federal Appointment)  
Board Member, WaterFire Columbus  
Board Member, The Columbus Chamber Music Society  
Board Member and Secretary, Electrosols, Ltd (Oxford, UK)  
Board Member, Prologue Research Corporation  
Contributing Columnist, Medical Device and Diagnostics Industry  
Editorial Board, R&D Magazine