Understanding The Use Of Cost Benefit And Cost Effectiveness Analysis In World Bank Education Proposals

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Department of Leadership, Higher and Adult Education
University of Toronto

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Abstract

This dissertation explores how, why, and under what circumstances cost benefit analysis (CBA) and cost effectiveness analysis (CEA) are being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014. Choices made when allocating limited education funding to unlimited education needs are challenging as they involve a multitude of factors and CBA/CEA tools are intended to help guide these choices. However, the literature shows that the field of education leverages CBA/CEA tools with low frequency and poor quality compared to other social services. The World Bank offers an opportunity to explore and gain insight into the use of CBA/CEA tools in education projects, as they are the largest funder of education projects and a pre-eminent source of applied development economics.

I have adopted a two-phased mixed methodology approach giving priority to the qualitative dimension. I use a lens rooted in the context of an institutional system—including organizational, personal, project, and worldwide dimensions—to analyze data collected via semi-structured interviews revolving around six specific World Bank Education projects.

I found that CBA dominates CEA use, and CBA use swayed upward from 2011—with CBA becoming the norm by 2014. CBA/CEA tools are used for their value well beyond the initial choice decision, with an emphasis on facilitating rich education discussions and refining
project details. Multiple inter-related factors direct how CBA/CEA is used—with data, timeline, and skill set leading the way. However, the systemic organizational norm that roots CBA use in human capital theory has resulted in an overly mechanistic CBA process that is often out of context. This study shows the importance of thoughtful deliberation and concise governance over how CBA/CEA is defined, the triggers that indicate when to use CBA/CEA, and the protocols for authoring a CBA/CEA for an education project.
Acknowledgments

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I would also like to extend a special thank you to my supervisor, Dr. Karen Mundy. Through your wisdom, I have been exposed to many theories, ideas, and information that helped foster this research effort, and offered me an opportunity to grow.

I thank the many individuals who participated in this study for their time and their willingness to share their knowledge, experiences, and insights with me. Without you, this research effort would not be possible.

Finally, I would like to thank my family for their continued support of my academic pursuits and words of encouragement. I would also like to extend a special thank you to my father, for always supporting my ventures and teaching me to believe in myself.
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<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>B/C</td>
<td>Benefit to Cost Ratio</td>
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<tr>
<td>BP</td>
<td>Bank Procedures</td>
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<tr>
<td>CAS</td>
<td>Country Assistance Strategy</td>
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<tr>
<td>CAP</td>
<td>Country Assistance Partnership</td>
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<tr>
<td>CBA</td>
<td>Cost Benefit Analysis</td>
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<tr>
<td>CBCSE</td>
<td>Center for Cost-Benefit Studies of Education</td>
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<tr>
<td>CEA</td>
<td>Cost Effectiveness Analysis</td>
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<tr>
<td>CER</td>
<td>Cost Effectiveness Ratio</td>
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<tr>
<td>CPF</td>
<td>Country Partnership Framework</td>
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<tr>
<td>DC</td>
<td>District of Columbia</td>
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<tr>
<td>EAP</td>
<td>East Asia and Pacific</td>
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<tr>
<td>ECA</td>
<td>Europe and Central Asia</td>
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<tr>
<td>EFA</td>
<td>Education For All</td>
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<td>EKA</td>
<td>Education For Knowledge Economy</td>
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<tr>
<td>ERIC</td>
<td>Education Resources Information Centre</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
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<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IE</td>
<td>Impact Evaluations</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IRR</td>
<td>Internal Rate of Return</td>
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<tr>
<td>ISCED</td>
<td>International Standard Classification of Education</td>
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<tr>
<td>KH</td>
<td>Kaldor-Hicks</td>
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<tr>
<td>LAC</td>
<td>Latin America and the Caribbean</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MNA</td>
<td>Middle East and North Africa</td>
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<tr>
<td>NPV</td>
<td>Net Present Value</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OP</td>
<td>Operating Procedures</td>
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<tr>
<td>PAD</td>
<td>Project Appraisal Document</td>
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<tr>
<td>SIEF</td>
<td>Strategic Impact Evaluation Fund</td>
</tr>
<tr>
<td>SAS</td>
<td>South Asia</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNICEF</td>
<td>United Nations International Children’s Emergency Fund</td>
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<tr>
<td>QALY</td>
<td>Quality Adjusted Life Year</td>
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<tr>
<td>VSL</td>
<td>Value of a Statistical Life</td>
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<tr>
<td>WB</td>
<td>World Bank</td>
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1 Introduction

Public services, like education, are under constant financial pressure as governments around the globe struggle with the challenge of distributing limited public funding against unlimited public wants and needs. Funding of education in emerging nations presents an even more complex and multifaceted scenario due to severely constrained capital and resources—a challenge that several organizations strive to assist with through various forms of financial and technical assistance, including the World Bank (WB) Group (World Bank, 2014a). Given capital and resource constraints in emerging nations, setting priorities for education projects is critical to ensuring the best possible outcome is achieved from dollars spent—especially when developing new educational offerings with one-time and on-going costs that strain and extend beyond education budgets.

The discipline of economics, as a “social science that studies the choices that individuals, businesses, governments and entire societies make as they cope with scarcity and the incentives that influence and reconcile those choices” (Parkin & Bade, 2013, p. 2), has created tools directed at supporting the allocation of funds for optimizing individual and societal returns—including cost benefit analysis (CBA) and cost effectiveness analysis (CEA). While economic analysis is not the sole criteria for evaluating projects that introduce or enhance education offerings, this form of analysis provides one of many views needed to assess education projects in a holistic way.

1.1 Research focus and why the World Bank

In this dissertation, I look at the use and extent of CBA/CEA in WB education projects, from 2010 to 2014, during the assessment stage of the World Bank’s Project Cycle to understand how, why, and under what circumstances CBA/CEA are leveraged. This research consists of two phases and supports an explanatory sequential mixed methods approach
(Creswell, 2014). Phase one entails quantitative analysis of general trends around the use of CBA/CEA in WB education project proposals from 2010 to 2014 and identifies a set of projects for further case study analysis. Phase two entails qualitative analysis of data collected from targeted WB interviews and publicly available WB documents for case studies identified in the first phase of this study. This research is grounded in an idealized framework, rooted in Weber’s theoretical “ideal type” (Weber, 1948) construct, as an anchor for analysis and reflection. The theoretical use of CBA/CEA (Boardman, Greenberg, Vining, & Weimer, 2011), is defined as an ideal type, to explore and explain CBA/CEA use while taking into account the influence of organizational, personal, project, and worldwide dimensions. The analysis is rooted in the “logic of appropriateness theory” (March, 1994, p. 58) and views decisions and actions towards the use of CBA/CEA in the context of an institutional system. The research findings will contribute to the body of literature on CBA/CEA use in education interventions and aims to shed additional light on approaches for utilizing CBA/CEA.

I selected the World Bank as an area of focus for three very important reasons. First, the WB is one of the world’s largest funders of education projects across a diverse and wide ranging number of nations and education initiatives—“During the period 2000 to 2015, the World Bank invested US$40 billion in education” (World Bank, 2015g). In 2014, the WB managed an education “portfolio of $11.1 billion, with operations in 71 countries” (World Bank, 2015a, p. 37). As such, the WB offers a rich array of education projects for study and the WB’s Project Cycle supports the use of cost benefit and cost effectiveness analysis during a project’s assessment stage where a project’s go-forward path is determined (World Bank, 2015a). Second, the World Bank is an organization with a long-standing historical use of cost benefit analysis of education projects that dates back to the 1980s (Jones, 2007)—a history that the Literature Review section of this study reviews closely. The WB is an organization with
well-established policies and procedures for the use of economic analysis in education projects and a supporting culture. As such, the WB presents a rich organization environment for studying how CBA/CEA is employed, to what extent, to what value, and under what circumstances. Third, “what the Bank says and does is so influential, particularly in the developing world” (Weaver, 2008, p. 10)—including economic analysis of projects and CBA/CEA. As a leader of project economic analysis, the WB presents an opportunity to identify findings and insights, both positive and challenging, for using CBA/CEA in assessing education projects. While findings from CBA/CEA use in WB education projects are contextually unique, identifying and assessing the potential applicability of such findings within the field of education is a worthy exercise.

1.2 Research question

The question that this research study addresses is: how, why, and under what circumstances are cost benefit analysis and cost effectiveness analysis being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014. To support this central question, the following high level sub-questions are explored through the use of descriptive statistics and case studies grounded in the conceptual framework defined in the Framework for Analysis section of this study:

1) Organizational Dimension: What organizational policies, implicit norms and rules, and other features of organizational culture guide and influence how and why CBA/CEA is used in education projects (during the assessment phase of a project at the WB)?

   - What established policies, procedures, and methods direct the use of CBA/CEA and how are they governed?
   - What criteria, processes, and resources determine why and how a CBA/CEA is completed?
   - How do organization values and ideologies influence the use of economic analysis
- How is the purpose and use of CBA/CEA positioned in the organization and how is the success of a given CBA/CEA gauged?

2) Personal Dimension: How does the educational background, values and beliefs, and work experiences of project leaders and project members impact the use of CBA/CEA for education projects (during the assessment phase of a project at the WB) and to what extent?

- How does the educational background of project leaders influence the use of CBA/CEA?
- What are the attitudes of project leaders towards economic analysis of education projects and how have attitudes been shaped over time?
- What are the experiences of project leaders in relation to CBA/CEA and how do these experiences factor into the use of CBA/CEA?

3) Project Dimension: Under what unique project circumstances are CBA/CEAs being completed for education projects (during the assessment phase of a project at the WB) and how do these circumstances influence the manner in which CBA/CEAs are completed?

- Is there a relationship between a project’s development objectives and the use of CBA/CEA?
- How is economic analysis related to other project rational analysis; such as social and institutional analysis?
- To what extent does project sustainability and risk impact the use of CBA/CEA?
- How are unique project cultural and historical contexts taken into account when considering and completing a CBA/CEA?

4) Worldwide Dimension: Under what situations do global influences play a factor in the use of CBA/CEA in education projects (during the assessment phase of a project at the WB) and why—including local and state governments, advocacy groups, non-government organizations, scholars, and economic trends?
- What level and kind of involvement do local and state governments have in the use and completion of economic analysis for education projects?
- What kind of input and influence do advocacy groups, non-government organizations, and scholars have on the use and completion of economic analysis for education projects?
- To what extent do global development goals for education in emerging nations guide the use of CBA/CEA?
- How do global economic indicators, such as interest, inflation, and growth rates impact the use of CBA/CEA?

1.3 Significance and purpose

The importance of education to individuals and society has been acknowledged by a multitude of scholars across varying perspectives—including an individual and societal view (Dewey, 1916; Freire, 1998; Noddings, 2012), an economic view (Mincer, 1974; Patrinos & Psacharopoulos, 2010; Schultz, 1961), a political view (Labaree, 1977; Levin, 2009), and a historical view (Mazer, 2004; Burke & Milewski, 2012). Given the acknowledged importance of education across a wide spectrum of perspectives, school funding is a topic that frequently rises to the foreground as societies struggle with the questions of how much money is enough for public schooling, who pays, what the money buys, and how the money is distributed (Levin, 2005). Misguided education funding can result in negative short and long term implications for both individuals and society—adding to the importance of processes supporting education funding decisions. Education funding questions become even more important under conditions of severely constrained capital and resources found in emerging nations.

Extensive literature discusses the impact that money may or may not have on educational outcomes—from academic research, to political propaganda, to personal conjecture. Grubb rightly acknowledges, in his text The Money Myth, that “money alone is usually not sufficient to improve outcomes” (Grubb, 2009, p. 275) in the education arena, which is true of many public
services. Inputs other than money are essential to improving educational outcomes—such as, “vision, leadership, understanding of what practices are effective and what are not effective, collaboration, and often support” (Grubb, 2009, p. 7). However, money is also essential as it is needed to secure input resources in any education system—money acts as the accepted medium of exchange for goods and services. Cost assessment and analysis tools, developed within the discipline of economics, can help ensure financial resources are used to purchase goods and services that foster improved educational outcomes; such as cost benefit and cost effectiveness analysis.

However the use and applicability of CBA and CEA in education project assessments has raised numerous challenges and questions of applicability and viability in the literature (Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Rice, 1997; Tsang, 1997) and in the WB (World Bank, 2010; Jimenez & Patrinos, 2008; Vawda, Moock, Gittinger, & Patrinos, 2003)—reducing the quantity and weakening the quality of CBA/CEA analysis in education projects. While other fields of social study, such as health, environmental management, and transportation embrace, grow, and expand their knowledge through CBA/CEA (Quah & Toh, 2012), the field of education lags behind in the use of CBA/CEA.

As the Literature Review section of this study shows, numerous studies to-date, both inside and outside the WB, itemize, analyze, assess, and critically review the use of CBA/CEA in educational decisions. But, the research has yet to review the phenomena from a lens rooted in decision theory that takes into account the unique social and cultural context of the decision setting and the educational situation—a gap this study aims to address. The purpose of this study is to see under what circumstances, for what purpose, to what extent, and how CBA/CEA are being used in education projects during the assessment stage to support the best possible outcome—while taking into account sensitivity to the cultural and social differences of
context. Commenting or judging the quality of CBA/CEA analysis in education PADs is outside of the scope of this research effort.

1.4 Background of the researcher

I come to this research effort with a rich background in the use of cost benefit and cost effectiveness analysis in the field of education, from the view of an economist and an education specialist. My interest in CBA and CEA use in the field of education rose to the foreground during my undergraduate years as an Economics Major (at the University of Waterloo), blossomed during my Master of Arts, Economics Major (at the University of Toronto), and matured during my Master in Education Policy and Administration (at the Ontario Institute for Studies in Education (OISE), University of Toronto). My passion for the use of CBA/CEA in financial decisions relating to education continued to flourish during my doctoral studies—cumulating in this dissertation in support of my Doctor of Philosophy, Educational Administration within the Department of Leadership, Higher and Adult Education (at OISE).

From the view of an economist, I studied education as a driver of growth in emerging nations and quickly became aware of the numerous and diverse constraints binding education in the developing world—from financing, to skill sets, to cultural norms, to political influences (to name a few). While not the “silver bullet” for growth, I began to view education as an important catalyst for individual and societal prosperity, and was driven to learn more about how the field of economics could assist in allocating limited education funding against diverse and wide ranging education projects. This drive led me to deeply explore the theory, mechanics, and application of CBA/CEA through continued studies and teaching. For example, I co-authored and taught a course dedicated to Cost Benefit/Cost Effectiveness Analysis, at the University undergraduate level and I began to critically review and examine the literature on the use of economic analysis of education projects (with an emphasis on emerging nations). While I had
extensive experience authoring CBA/CEA studies in the private sector across numerous industries (from over 30 years as a consultant and project manager in the corporate arena), my CBA/CEA studies and teachings honed my theoretical understanding of CBA/CEA and its use in the field of education. Through this process, I became acutely aware of how social services, such as health and environmental management, leverage CBA/CEA with great success and acceptance when compared to education. I found this awareness both intriguing and disappointing, and one that prompted me to further study education, educational administration, and education policy in greater depth.

From the view of an education specialist, I studied educational funding decision making from numerous theoretical frames and focused on the use of CBA/CEA in project decisions. I also applied my theoretical knowledge to education in practice by assisting with the development of a CBA for an alternative high school program and by completing a short research effort focusing on how private schools allocate education funding. Through these experiences, I began to better understand and appreciate the complexity and diversity of educational funding decisions. I gained a rich awareness of education funding decisions as a complex web of social, political, economic, cultural, and historical factors, and the role that CBA/CEA could play in the decision making process.

Given my background as an economist and education specialist, I believe I have the skills, knowledge, and ability needed to support this research effort. From the undergraduate to the doctoral level, I have striven to better understand what value CBA/CEA can bring to education funding decisions, why, how, to what extent, and under what circumstances. I postulate that, when answers to these questions emerge, the field of education can enrich and develop the policies, procedures, and skill sets needed to foster wider and more diverse use of CBA/CEA in a way that optimizes individual and societal returns.
1.5 Organization of this dissertation

This dissertation is organized across ten chapters, including this Introduction chapter that provides an overview of the study and research questions, along with significance and purpose.

The first three chapters after this Introduction—two, three, and four—focus on the contextual setting for this study. Chapter two offers a literature review summarizing the theoretical foundation of CBA/CEA and how CBA/CEA can support educational decision making both outside and inside the World Bank. Chapter two also discusses approaches to studying organizational decision making, including the “logic of appropriateness theory” (March, 1994, p. 58)—a theory that grounds this study’s conceptual framework. Chapter three articulates this study’s theoretical and conceptual framework, both of which anchor this research. Chapter four articulates the design and methodology leveraged in this research effort, including the design, rationale, data sources, data collection approaches, data analysis, ethics and considerations, and methodology limitations. Chapter four also provides an overview of study participants.

The next four chapters—five, six, seven, and eight—discuss findings that emerge from the study’s data. Chapter five documents and discusses findings from the first phase of this study, which involves quantitative analysis of WB education Project Appraisal Documents (PADs) from 2010 to 2014. Chapter five also presents PAD case studies, selected through purposeful sampling of WB Education PADs from 2010 to 2014, for further analysis in the second phase of this study. Chapters six and seven documents and discusses findings from the second phase, collected by interviewing targeted WB employees across all PAD case studies, for each dimension of analysis within the conceptual framework—the organizational, personal, project, and worldwide dimension. Chapter eight documents and discusses common themes across the dimensions of analysis, along with a contextual analysis of the case studies in relation.
to the factors shown as most heavily influencing the use of CBA/CEA in education PADs (according to the study’s data).

The final two chapters—nine and ten—focus on analysis and discussion of findings, along with implications and concluding thoughts. Chapter nine brings together findings from both phases and describes linkages, commonalities, and discrepancies across the phases. Chapter nine also revisits the research questions through the data, contrasts study findings with what the literature says, and looks at how far the logic of appropriateness helped explain CBA/CEA use within World Bank education PADs. Chapter ten closes this research by discussing the story the data tells and reviewing the implications for CBA/CEA within the field of education, the WB, and future research. Chapter ten also presents my final concluding thoughts on this research effort.

1.6 Summary: research overview

This chapter has outlined the focus of this research effort, supporting research questions, and its importance. In summary, this research effort reviews the use and extent of CBA/CEA in WB education PADs from 2010 to 2014, during the assessment stage of the WB’s Project Cycle. This research is comprised of two phases and supports an explanatory mixed methods approach (Creswell, 2014). The first phase entails a quantitative analysis around the use of CBA/CEA in WB Education PADs from 2010 to 2014 along with identifying specific case studies for analysis in phase two. The second phase entails qualitative analysis of data emerging from interviews with targeted WB employees in relation to case studies (identified in phase one). The World Bank is an area of focus for this study given the WB’s: depth and breadth of educational initiatives within a Project Life Cycle inclusive of an assessment stage where CBA/CEA can be applied, tenured and rich use of CBA/CEA in education projects, and
leadership role in the use of economic analysis in education projects and subsequent insights that arise from this leadership role.

The research question—how, why, and under what circumstances are cost benefit analysis and cost effectiveness analysis being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014—is viewed from a conceptual framework across four dimensions of analysis (organizational, personal, project, and worldwide) rooted in the “logic of appropriateness theory” (March, 1994, p. 58). What results, is a rich analysis on the use of CBA/CEA that considers the context of education projects and the unique settings that education projects reside within. I believe my background as both an economist and education specialist offers me the skills, knowledge, and ability to complete this research effort.

This proposed dissertation will be the first to present a rich analysis of how, why, and to what extent CBA/CEA is put to use in WB education proposals from a lens rooted in social decision theory. The research findings will contribute to the body of literature on CBA/CEA use in education interventions and aims to shed additional light on the most appropriate way to utilize CBA/CEA, while considering the context of education projects and the unique settings which they reside within to help facilitate the best possible outcome.
2 Literature Review

In this chapter, I review and critically examine the following main strands of literature that inform the research: the theory underlying CBA and CEA and their applicability as decision support tools in an educational policy and project decision making setting, the various approaches to studying organizational decision making that contextually frame the use of decision support tools like CBA/CEA, and the historical and practical use of CBA/CEA in the education arena as decision support tools both inside and outside the World Bank organization. These strands of literature also lay the foundation for justifying and positioning the theoretical and conceptual framework used to analyze research findings. Literature sources come from the fields of education, economics, social and political science, and support the multidisciplinary lens needed to address the research question: how, why, and under what circumstances are cost benefit analysis and cost effectiveness analysis being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014.

2.1 CBA/CEA overview

Cost benefit and cost effectiveness analysis are cost analysis tools, emanating from the discipline of economics, that help facilitate financial decisions within private and public organizations (Snell, 2011). CBA/CEA originates from welfare economics (Brent, 2006) and focuses on securing an efficient allocation of public resources with the goal of optimizing societal returns. As assessment tools, CBA/CEA helps one think about problems of social choice, such as policy alternatives, through an analytical framework that is systematic, rigorous, and empirical in nature (Boardman et al., 2011; Smith, 2008; Townley, 1998). CBA/CEA offers a unique perspective on how to allocate funds among one or more competing initiatives and how to gauge value for money, through cost-output analysis that “explicitly rate(s) input costs to education outputs” (Tsang, 1997, p. 321). Both tools provide a framework for answering the
difficult financial questions related to any educational policy or intervention—including, but not limited to, what does the money buy and how is the money distributed (Levin, 2005).

As Rice (1997) describes, a CBA answers the question: to what degree do the benefits of this project outweigh the costs, among projects with differing or like objectives; while a CEA answers the question: which project should we support among available alternatives with like objectives.

2.2 CBA theory

CBA is a tool that “quantifies in monetary terms the value of all consequences of a policy” (Boardman et al., 2011, p. 2) for identified members of society—enabling direct comparisons across diverse policies with differing objectives. Levin and Belfield (2010) denote that “government units can use CBA to compare the desirability of alternative educational investment, as well as to determine the balance between investing in education and other sectors” (p. 197). CBA can be executed prior to (ex ante), during (in medias res), or after (ex poste) a financial decision is rendered, and each approach carries different requirements, advantages, and disadvantages (Boardman et al., 2011).

While there is no single theoretical approach for completing a CBA, the following major steps are agreed upon within the academic community (see Boardman et al., 2011; Brent, 2006; Gramlich, 1998; Snell, 2011; Townley, 1998):

- identify the alternatives (the options for assessment);
- decide whose benefits and costs count (the standing);
- identify and predict direct/primary and indirect/secondary impacts (the inputs/costs and outputs/benefits);
- monetize impacts (the dollar value assigned to impacts);
- discount monetized impacts to present values (the approach to account for time differences
derive a resulting net present value (or a resulting rate of return, or benefit-cost ratio); perform sensitivity analysis (the approach to account for uncertainty); and make a recommendation (the identification of a go-forward route).

While there is no single theoretical approach for assessing the quality of a CBA, the following set of criteria for assessment are agreed upon within the academic community (see Boardman et al., 2011; Brent, 2006; Gramlich, 1998; Snell, 2011; Townley, 1998):

- establishment of project objectives and alternatives;
- overview of CBA model design, assumptions, and approach used to compare costs to benefits along with the corresponding empirical measure (with net present value preferred);
- reliability and validity of data used to derive costs and benefits;
- identification and rationale for costs and benefits;
- evaluation and comparison of costs and benefits (as per model overview);
- sensitivity analysis against major model assumptions; and
- recommendation based on approach used to compare costs to benefits and sensitivity analysis.

A deep theoretical analysis of each step within a CBA is beyond the scope of this literature review, but it is important to summarize the theory behind CBA steps that are often pivotal and contentious in relation to educational CBAs—those being standing, identifying and monetizing inputs/costs and outputs/benefits, and measurements used to derive a recommendation.

A CBA’s standing identifies “whose benefits and costs should be included” (Boardman et al., 2011, p. 7) within a CBA and establishes the bounds of scope for analysis. Theorists
articulate (e.g., Boardman et al., 2011; Buss & Yancer, 1999; Buxbaum, 1981; Frank, 2000) the importance of standing in a CBA, as final results are directly dependent on standing—omitting an appropriate and/or including an inappropriate standing will lead to distorted results and recommendations. For example, a CBA employing a municipal standing for an alternative high school program focusing only on locally disadvantaged children will differ in results when compared to a CBA employing a provincial standing for an alternative high school program focusing on all provincial citizens. Often politically influenced (Boardman et al., 2011; Levin, 2005), the question of standing is considered “the most difficult value question for analysts (or citizens) to resolve” (Whittington & MacRae, 1986, p. 679) because of ethical and legal considerations revolving around individual rights (Sen, 2000; Zerbe, 1991). Theoretically, the identification of CBA standing requires interaction and alignment among experts, politicians, and individuals involved in the intervention (Whittington & MacRae, 1986) to define and justify contextual questions that bound standing, such as “the jurisdictional definition of society, the exclusion of socially unacceptable preferences, and the inclusion of the preferences of future generations” (Boardman et al., 2011, p. 37).

Theoretically, a CBA involves identifying and placing monetary values for costs and benefits associated with direct (primary) and indirect (secondary) impacts of an intervention, in a manner that is reflective for society as a whole (Boardman et al., 2011). The inputs needed to produce an intervention are considered costs, while the outputs resulting from an intervention are considered benefits. In cases when observed prices for a cost or benefit do not reflect their full value to society or when observed prices do not exist, the methodology assigns a monetary value (Boardman et al., 2011). When market prices for costs/inputs do not reflect their full value to society, the CBA methodology leverages “opportunity cost” to estimate monetary values—with “opportunity cost” defined as “the highest-value alternative that must be given up
to get it” (Parkin & Bade, 2013, p. 2). If two or more alternatives exist for the use of a resource and the resource can only be devoted to one use, then the opportunity cost for using the resource is the alternative with the highest value (Browning & Zupan, 2004). When market prices for outputs/benefits do not exist, the CBA methodology leverages various simple or complex estimation techniques (e.g., tradeoff analysis, regression analysis, shadow prices) or contingent valuation (e.g., surveys) to estimate monetary values—all of which reflect one’s willingness to pay in some manner (Boardman et al., 2011; Levin & McEwan, 2001; Snell, 2011; Townley, 1998).

When CBA inputs/costs are measured in terms of opportunity cost and outputs/benefits are measured in terms of willingness to pay, comparing costs to benefits can determine if an intervention is an allocation of goods “where no other alternative can make at least one person better off without making anyone else worse off” (Boardman et al., 2011, p. 28)—equating to an optimal solution for society known as a Pareto efficient allocation (ibid). However, as the literature articulates (see Boardman et al., 2011; Gramlich, 1998; Snell, 2011; Townley, 1998), in reality securing a theoretical Pareto efficient allocation is problematic because of market failures (e.g., information asymmetry, externalities) that distort value, and the resulting information burden that is both costly and time consuming. In addition, a theoretical Pareto efficient allocation is challenging because of the underlying assumption of equal marginal utility of money for each person. In reality, CBAs are alternatively rooted in the Kaldor-Hicks (KH) criterion (Boardman et al., 2011).

KH criterion is based on the premise that those who gain from an intervention could compensate those who lose from the intervention—resulting in a potential aggregate gain for society (Boardman et al., 2011; Gramlich, 1998; Snell, 2011; Townley, 1998). KH criterion also states that as long as net benefits are positive, an intervention should proceed (ibid). However,
not all interventions with positive net benefits can or should actually proceed in reality—especially when fiscal constraints are at play (which is often the case in public policy). As such, the CBA methodology supports three different empirical measures for refining the comparison and evaluation of inputs/costs against outputs/benefits when deriving a go-forward recommendation: net present value (NPV), benefit to cost ratio (B/C), and internal rate of return (IRR) (Boardman et al., 2011; Levin & McEwan, 2001).

Net present value is calculated as the total present value of benefits minus the total present value of costs for an intervention, where future benefits and costs are brought back to their present value by applying a discount factor over time (Boardman et al., 2011; Brent, 2006; Gramlich, 1998; Snell, 2011; Townley, 1998). The NPV approach states that interventions with a positive net present value should be considered for moving forward, and when comparing mutually exclusive interventions the intervention with the highest net present value should proceed (ibid). The NPV calculation is inclusive of all initial and future financial investments for components of society deemed to have standing within a CBA, each of which are discounted (at potentially varying rates) across time to account for the opportunity cost of money.

The benefit-cost ratio measure divides the present value of benefits by the present value of costs (Boardman et al., 2011, Gramlich, 1998). Interventions should be considered for moving forward if their B/C is greater than one, and when comparing mutually exclusive interventions the intervention with the highest benefit-cost ratio should precede (ibid). While attractive because of its ability to quickly determine if benefits outweigh costs, critics of the B/C approach (see Boardman et al., 2011; Townley, 1998) are quick to note that the B/C measure does not consider scale—potentially leading to unfounded recommendations. For example, a small project could result in a higher benefit-cost ratio than a large project and selected based on B/C, yet the small project could actually create fewer net benefits when compared to the
large project.

The IRR measure conveys the discount rate at which an intervention would equate to a net present value of zero (Boardman et al., 2011, Levin & McEwan, 2001). Interventions should be considered for moving forward if their IRR is greater than a defined baseline rate of return for comparison purposes (e.g., the bank rate, the bond rate), and when comparing mutually exclusive interventions the intervention with the highest IRR should proceed (Boardman et al., 2011). While attractive because of its comparative nature to other rates of return, the IRR is theoretically problematic and not recommended by leading scholars as an approach for selecting among projects (e.g., Boardman et al., 2011; Townley, 1998) because the IRR is not able to take into account multiple discount rates (if discount rates change over time, which is not unusual often over the long run), is biased towards shorter-lived projects and biased against larger projects (as the approach is more sensitive to timing of cash flows and project size), and most importantly cannot provide a unique answer if the net benefit stream changes from positive to negative over time more than once during the lifetime of a project (which is not unusual)—all of which potentially lead to unfounded recommendations when evaluating projects.

Among the three empirical measures for refining the comparison and evaluation of inputs/costs against outputs/benefits (when deriving a go-forward CBA recommendation), the NPV approach is recommended within the academic community (see Boardman et al., 2011, Levin & McEwan, 2001; Townley, 1998) because NPV takes into account the opportunity cost of money, addresses scale, and supports the use of different discount rates and cash flows. While arguably inferior to NPV due to its technical limitations, the IRR measure is frequently leveraged as the resulting percentage comparison is viewed as easy to understand and apply (Townley, 1998). The B/C approach aligns more closely with CEA, and is not often used in a CBA (ibid).
2.3 CEA theory

CEA is a tool that assesses the viability of alternative interventions, as Levin (2001) explains:

Cost-effectiveness analysis refers to a method for combining appropriate measures of outcomes with costs so that program and policy alternatives can be ranked according to their effectiveness relative to resource use. Presumably the alternative with the least cost relative to results (or best results relative to cost) are the ones that are most attractive for adoption. (Levin, 2001, p. 57)

Benefits are not included in CEA other than benefits implied by the intervention itself. While a CBA identifies which intervention to focus on in order to achieve societal efficiency, a CEA identifies which approach to focus on in order to achieve internal efficiency for the identified intervention. As such, CEA is commonly referred to as a comparative tool versus a tool for assessing individual worth (Levin & McEwan, 2003). CEA is inclusive of all intervention costs but focuses on an effectiveness measure based on a specific intervention effect, which differs from CBA which is inclusive of all costs and benefits (Boardman et al., 2011). While a CBA is theoretically more robust and more commonly used for cost evaluations than a CEA (Haveman & Weimer, 2001), a CEA offers an advantageous approach when benefits are difficult to quantify in monetary terms, interventions with like objectives are being compared, and decisions only need to take costs into account (Boardman et al., 2011; Mishan & Quah, 2007). However, as Levin and McEwan (2001) indicate, a CEA carries a limiting disadvantage where “one cannot compare alternatives with different goals” (p. 11).

While there is no single theoretical approach for completing a CEA, the following major steps are agreed upon within the academic community (see Boardman et al., 2011; Chambers, 1999; Levin, 1983; Levin & McEwan, 2001) and is referred to as the “ingredients method” (Levin, 1983; Levin & McEwan, 2001) or the “resource cost method” (Chambers, 1999):
• identify the ingredients (the inputs that produce the desired outcomes);

• value the ingredients (the dollar value assignment to ingredients);

• analyze cost-effectiveness (the defining of an effectiveness measure and gauging the measure by aggregating costs and calculating a cost-effectiveness ratio by dividing program effects by total costs);

• perform sensitivity analysis (the approach to account for uncertainty); and

• make a recommendation (the identification of a go-forward route).

While there is no single theoretical approach for assessing the quality of a CEA, the following set of criteria for assessment are agreed upon within the academic community (see Boardman et al., 2011; Chambers, 1999; Levin, 1983; Levin & McEwan, 2001):

• establishment of project objectives and alternatives;

• overview of CEA model effectiveness measure and assumptions;

• reliability and validity of data used to derive the ingredients (costs);

• identification and rationale for ingredients (costs);

• evaluation of cost-effectiveness against defined effectiveness measure;

• sensitivity analysis against major model assumptions; and

• recommendation based on effectiveness measure and sensitivity analysis.

A deep theoretical analysis of each step within a CEA is out of scope for this literature review, but it is important to summarize the theory behind CEA steps that are often pivotal and contentious for educational CEAs—those being identification and valuation of ingredients/costs, and defining and measuring effectiveness.

The first step within a CEA identifies the bounds of scope for analysis. Theorists note (e.g., Chambers, 1999; Boardman et al., 2011, Levin, 1983; Levin & McEwan, 2001) the
importance of identifying ingredients in a CEA, as final results are directly dependent on the
selection of ingredients—omitting an appropriate and/or including an inappropriate
ingredient/cost will lead to distorted results and recommendations. For example, a CEA that
includes an estimated cost for volunteer hours within a reading recovery program will differ in
results when compared to a CEA that is not inclusive of such costs. It is essential to ensure all
ingredients of an intervention are identified, including costs born directly and indirectly to the
sponsor of an intervention and to others in society—“every ingredient that is used to produce
the effects that will be captured in the evaluation” (Levin & McEwan, 2001, p. 47). Ingredients
must also be identified in a succinct manner that supports downstream collection of data (ibid).
The literature shows (see Levin, 1995, 1998) that ingredients will vary across interventions, so
consistent categorization of ingredients is necessary to support effective downstream analysis
across interventions. Functional categorization of ingredients is commonly found in the
literature when tracking educational spending (e.g., Young, Levin, & Wallin, 2008; Levin &
McEwan 2001), even though many approaches to categorizing educational costs exist. Common
functional categories for ingredients in education, as articulated by leading CEA theorists Levin
and McEwan (2001) are: personnel, facilities, equipment and materials, client inputs, and other.

Once identified, ingredients must be valued in monetary terms. Ingredients can be found
in markets or through other forms of exchange, such as barter (Belfield, 2015; Levin & Belfield,
2010; Levin & McEwan, 2003). In cases when observed prices do not reflect their full value to
society or when observed prices do not exist, the CEA methodology assigns a monetary value
(Boardman et al., 2011). CEA, like CBA, aims to identify the opportunity cost for all
ingredients to support the recommendation of an efficient allocation to secure full social value
(Belfield, 2015; Boardman et al., 2011, Levin & McEwan, 2001). When observed prices for
ingredients do not exist or cannot be easily derived, the CEA methodology leverages various
simple or complex techniques (e.g., standard accounting estimates, meta-analysis, and industry benchmarks) to estimate costs that are one-time or incremental in nature (Boardman et al., 2011; Levin & McEwan 2003). It is important to note that all direct and indirect ingredients must be valued and aggregated—irrespective of whether or not costs are found in a supporting project budget, as many indirect ingredients often do not appear in project budgets (Belfield, 2015; Levin & McEwan, 2001; McEwan, 2012).

The measure of effectiveness is the anchor for CEA recommendations. A poorly designed effectiveness measure can quickly invalidate CEA results. Therefore, a CEA’s cost effectiveness measure should be as theoretically reliable and valid as possible, in relation to the objective for the intervention at hand (Belfield, 2015; Levin & McEwan, 2001). Determining what intervention effect is to be measured (as most interventions have many effects) and what scale of measurement is to be used (such as total effect, incremental effect, or average effect), can become a challenging exercise that requires review and consensus among individuals involved (Belfield, 2015; Levin, 1998; Levin & McEwan, 2001). Once established, an effectiveness measure is gauged systematically and rigorously during an intervention (e.g., randomized control trial), post an intervention (e.g., impact evaluation study), or via meta-analysis of like interventions—with each approach carrying different requirements, advantages, and disadvantages (Levin, 1998; Boardman et al., 2011). The purpose of the effectiveness measure is to establish a causal relationship (the effect) between an intervention and the measure of effectiveness.

2.4 CBA/CEA as a support tool for educational decision making

Social policy decisions, such as the allocation of funding for education, involve a value judgment in some manner:
One cannot avoid making value judgements when making social decisions. The choice is only whether one makes these judgements explicitly or implicitly. Since there is nothing “scientific” about making the value judgements implicitly, and it obscures understanding, all the necessary value judgements will be made explicitly. (Brent, 2006, p. 3).

The arena of policy analysis includes the provision of formal evaluation and assessment of policy and entails some form of explicit assessment often, using tools like CBA and CEA (Howlett, Ramesh, & Perl, 2009). While the literature conveys some disagreement on CBA/CEA use and value, a broad acceptance surrounding the major advantages and challenges of CBA/CEA does exist. This review discusses the broadly accepted advantages to CBA/CEA found in the literature, which I postulate carry the most influence in the field of education—as articulated by the following five areas.

First, CBA/CEA is a vital component of an integrated strategy for evaluating educational interventions. Catterall (1997) articulates that “not all spending in education is either a forgone conclusion or a trivial add-on” (p. 299). CBA/CEA is a quantitative view, that when integrated with other quantitative and qualitative views, contributes to represent a holistic and multidimensional framework for evaluating educational interventions. While more spending does not necessarily equate to positive or better student outcomes—money still remains important to policy as it acts as the medium of exchange needed to purchase inputs required for executing policy. Education and education policy decision making is a complex web of social, political, and economic forces that are constantly evolving, and entails numerous and varying dynamic components that should all be taken into account when assessing and evaluating educational interventions—including financial components. At minimum, tools like a CBA/CEA provide a coherent framework to help facilitate decision making (Buss & Yancer; 1999; Woodhall, 2004).
Second, CBA/CEA reduces the level of uncertainty associated with educational funding decisions in light of the rational, systematic, and rigorous methodology embedded within CBA/CEA. In line with its scientific foundation, CBA/CEA is an approach founded on technical rationality (Harrison, 1993; Sharples, 1975) that is aimed towards reducing uncertainty and risk. The sensitivity analysis step within CBA and CEA rigorously tests and addresses the uncertainty of assumptions and parameters embedded in assessments by predicting how “sensitive net benefits are to changes in assumptions … if the sign of net benefits does not change when we consider the range of reasonable assumptions, then our results are robust and we have greater confidence in them” (Boardman et al., 2011, p. 177). Fowler (2000) raises the point that the use of cost analysis tools such as CBA/CEA “reduces the chance of unanticipated expenditures … conceptualizing exactly what the financial impact of a new project is likely to be easily, and permits the decision maker to plan accordingly” (p. 261).

In any application, cost assessment and analysis tools (like CBA/CEA) entail a systematic approach to collecting, analyzing, and interpreting initiatives in a manner that limits uncertainty and risk—which instills assurance in the decision making process (Tsang, 1997).

Third, CBA/CEA provides the opportunity for key stakeholders to gain consensus on inputs, desired outcomes, and approaches for an educational intervention in a participatory manner. CBA/CEA, as a methodology, facilitates the tough conversations needed to secure alignment of key components for any education policy and carries the potential to “influence the thinking of key stakeholders about educational issues” (Levin & McEwan, 2001, p. 218). The CBA/CEA methodology pushes those involved to clearly define resources, educational outcomes associated with resources, how resources will aid in achieving associated educational outcomes, and by how much—the process encourages dialogue and debate. Discussing and agreeing upon “the distribution of cost burdens among parties involved and equity implications”
(Tsang, 1997, p. 320), within a CBA/CEA, is an essential activity that facilitates participatory discussion rooted in a holistic societal view (Boardman et al., 2011).

Fourth, CBA/CEA supports innovation in educational policy decision making. While innovation is not often associated with cost-based assessment tools in the literature, the process within CBA/CEA can spark creative thinking. Brainstorming approaches geared towards suggesting new and alternative uses for resources, and identifying methods for improving existing policy is an integral part of the CBA/CEA process (Boardman et al., 2011)—irrespective of when a CBA/CEA is completed (e.g., ex ante, in medias res, ex poste). Cost estimates before an intervention commences can bring to light varying approaches that may achieve like outcomes at a lower cost. Cost assessments during the life of an intervention can bring to light alternative uses for resources that are not being fully utilized. Cost assessments after the life of an intervention can bring to light better approaches for completing like undertakings in the future.

Fifth, CBA/CEA supports transparency of decisions as the methodology documents the details behind underlying assumptions, analysis, and evaluation criteria used to render a decision. Under the influence of the “audit society” (Power, 1997) and the influence of a “neo-liberal market model of education” (Apple, 2003), education-related public funding decisions are now under pressure to allocate education funding efficiently and justify funding decisions. As evidence-based funding models take hold in the education arena, such as “smart money” (Adams, 2010), cost assessment tools like CBA/CEA have become integral to educational fiscal decision making.

Like all modeling tools, the use of CBA/CEA in an education setting also carries numerous challenges. This review discusses the broadly acknowledged challenges to CBA/CEA
found in the literature, which I postulate carry the most influence in the field of education—as articulated by the following five areas.

First, the context of education inherently limits the use of CBA/CEA for a couple of important reasons. CBA/CEA is founded on an “input-output” (Tsang, 1997, p. 319) framework that is based on a one-directional functional form. However, as traditional and current education theorists note (see Dewey, 1916; Freire, 1998; Noddings, 2012), education is really far from one directional in nature. The learning process is often more of a dynamic, circular functional form—making it at times challenging to apply a CBA/CEA. Pushing a linear functional form into a circular functional form, bounds applicability and can lead to misleading and inaccurate results. CBA/CEA also requires a view focused on a particular standing (Boardman et al., 2011, p. 7). However, as traditional and current education theorists note (see Dewey, 1916; Freire, 1998; Noddings, 2012), education is a complex phenomenon naturally entailing numerous interconnected and interdependent stakeholders. Given the complex interconnected nature of education, isolating one lens (the standing) for analysis can lead to misleading and inaccurate results.

Second, cost data constraints and cost data quality issues in the education arena limits CBA/CEA use. Securing a high level of cost data quality in the education arena is problematic—with data quality defined as data that are consistent, complete, accurate, and timely in nature (Thoresen, 2010). Issues arise with education cost data because the data are often subtle, hard to value, and interdependent (Hummel-Rossi & Ashdown, 2002)—limiting a holistic view of costs. Various studies in the literature (see Catterell, 1997; Hummel-Rossi et al., 2002; Levin, 2001; Rice, 1997; Tsang, 1997) show that cost data for educational interventions often do not exist, and when cost data does exist those data are often incomplete and inconsistent, lack in similar meaning across interventions, not timely in nature, and
interrelated across interventions yet differing in relevance. Given cost data quality challenges, data estimates and supporting assumptions are often needed to complete a CBA/CEA—leading to a level of subjectivity and uncertainty for cost estimates that can be somewhat addressed through sensitivity analysis (Boardman et al., 2011). Finally, accounting approaches and accounting systems used to document education cost data frequently lack uniformity across interventions (Levin & Schwartz, 2012)—making cross functional analysis difficult (if not impossible). Given the accumulation of these data challenges, manual intervention for educational cost data is often needed within CBA/CEA, negatively impacting the validity of CBA/CEA results (Boardman et al., 2011).

Third, benefits in education can be hard to identify and value as educational benefits are interdependent in nature and challenging to associate with a causal relationship, given the number of externalities involved in the education process (Hummel-Rossi & Ashdown, 2002). Measuring benefits is a holistic challenge faced by all methodologies, but even more when measuring benefits (resulting from interventions) that are often indirect and intangible in nature (McMahon, 2010)—which often occurs with education interventions. From an individual viewpoint, how can one accurately measure the value of increased self-esteem or confidence that comes from learning in a meaningful way? From a societal viewpoint, how can one accurately measure the value of increased democratic participation and stronger political stability (within a region) sparked by increased levels of educational attainment? While advanced econometric techniques (such as regression analysis) can be used to estimate indirect and intangible benefits arising from an educational intervention (McMahon, 2010), results are directional at best as the inference is based upon incomplete information (Frank, 2000) and is often not fully inclusive of associated spill-over effects (Vining & Weimer, 2010). More importantly, advanced econometric techniques identify a correlation between a resource and an
educational outcome; which does not necessarily equate to a causal link between a resource and educational outcome. Finally, when benefits are quantified the process “neglects the factor of educational quality” (Behrman & Birdsall, 1983). For example, what is the quality of an increase in educational attainment by four years if the student did not absorb significant in the process? Given these challenges, indirect and nontangible benefits resulting from educational interventions are often bypassed in educational CBA/CEAs—more in a CBA where all outcomes are measured in financial terms (Boardman et al., 2011). What often results is the underestimation of benefits, leading to distorted results and recommendations.

Fourth, various ethical limitations and institutional norms associated with CBA/CEA challenge the use of these tools in the field of education. From the ethical viewpoint, the following concerns arise in the literature: justification of education spending is a “moral and human” choice that may not be ethically served by a “rational” CBA/CEA approach (Sen, 2000; Schwandt, 2002; Touchstone, 2008), CBA/CEA results in an efficient but an unethical, inequitable societal allocation as benefits and costs are inappropriately weighted evenly (unless modified) and favors citizens within higher socio-economic (Buss & Yancer, 1999; Frank, 2000; Vining & Weimer, 2010), and CBA/CEA is often unethically used to manipulate and sway political and public opinion (Boardman et al., 2011; Blum, Damsgaard, & Sullivan, 1980; Tsang, 1997). While these ethical limitations warrant review and consideration when completing a CBA/CEA in any field of study, I posit they are rooted more in the application of CBA/CEA versus CBA/CEA theory and not unique to the field of education. From the institutional viewpoint, the neo-liberal market model of education (Apple, 2003) that is often tied to CBA/CEA in the education arena carries a significant amount of discourse within education (Noddings, 2012; Biesta, 2004). This discourse can and does result in a myopic view
on the use of CBA/CEA, which I posit inhibits the application and implementation of CBA/CEA within the field of education.

Fifth, too often CBA/CEA studies are viewed and/or presented as the single criterion for which education funding decisions are to be evaluated upon. A single numeric NPV, B/C, IRR or effectiveness measure does not alone equate to policy choice, as many judgments and factors play a role in policy decision making (Howlett et al., 2009; Fowler 2000). For example, a CBA/CEA alone cannot address all factors influencing a project (such as political unrest, as an example) and not everyone views the value of CBA/CEA in the same way. In any educational intervention, “it is misleading to use money as the only, or even the most important, indicator of value or quality” (Young, Levin, & Wallin, 2008, p. 148). A myopic view based only on the quantitative analysis within a CBA/CEA can potentially lead to an over emphasis on the value of money in the education arena (Levin & McEwan, 2001). Relying exclusively on a single numeric rational measure to justify a policy intervention is appealing, but contextually challenging in the field of education (and many other fields of study) due to the number of estimates and the corresponding assumptions that are often needed when estimating benefits associated with an education project (Boardman et al., 2011; Levin & McEwan, 2011). As Espeland notes:

> The quest for the precisions that would eliminate worrisome ambiguity, that would make sound decision-making as straight forward as selecting the biggest number, that would render the distracting complexity and bedazzling variety of the world into clean, clear numbers is one that has seduced people for centuries. (Espeland, 2001, p. 1839).

### 2.5 Approaches to studying organization decision making

Decisions do not occur in isolation—especially in organizations where choice is under the influence of numerous concurrent factors that are often integrated in some manner; such as individuals involved, information availability, internal influences, external influences, time
constraints, and political considerations (Forester, 1984). Decision making models, as a means of systematically analyzing organizational decisions, came to the foreground in the 1950s with the rise of the rational decision making model (also referred to as the classical or traditional decision model). The seminal paper, *The Theory of Decision Making*, authored by Edwards in 1954 established rational decision making theory where choices are based on a strategy that “maximizes expected utility” (Edwards, 1954, p. 381).

Rooted in a positivist ideology, the rational decision making model sets the stage for decisions defined by a series of repeatable, logical, sequential steps with a decision based on empirical evidence and a manner void of human emotion (Howlett et al., 2009). The literature denotes (see Forester, 1984; Harrison, 1993; Howlett et al., 2009; Stone, 2012) the rational decision making model as founded on the following four major steps: setting a goal to resolve a problem, identifying all possible alternatives to meet the goal, evaluating consequences and impacts of each alternative over the short and long run using quantitative analysis, and selecting the alternative that results in the highest payoff that maximizes value (also referred to as utility maximization). Assumptions within the rational decision making model include, “unlimited information, no cognitive limitations, no time and cost constraints, quantifiable and transitive alternatives, controlled variables, closed systems, and quantitatively limited outcomes” (Harrison, 1993, p. 28). Decisions derived from the rational decision making model are viewed as consequential in nature as choices are founded on the knowledge of alternatives, the knowledge of downstream impacts, a consistent preference ordering, and a decision rule (March, 1991). What results is a choice based on the “logic of consequence”, articulated by March and Olsen in 1989—which March describes as:

Rational theories of choice assume decision processes that are consequential and preference-based. They are consequential in the sense that action depends upon
anticipations of future effects of current actions. Alternatives are interpreted in terms of their expected outcomes. (March, 1994, p. 2).

Over time the underlying assumptions embedded in the rational decision making model began to raise concerns of validity due to conflicts between the model’s underlying assumptions and the realities faced when making decisions. As Simon (1955) posits, human rationality embedded in the rational decision making model is bounded by various limits and constraints that impact resulting decisions. While rational decision making offers “the advantages of being parsimonious and highly precise in nature” (Weber, Kopelman, & Messick, 2004, p. 282), applying the model to an organizational setting raises problematic concerns because of the model’s “unsocialized” (ibid) nature. How can an organization decision making model be void of politics, power, and various psychological factors, along with other exogenous variables like values, traditions, customs and norms that live within organizations (Allison, 1971)? While these critiques of the rational decision making model do carry some validity, that does not necessarily equate to condemning the rational model as being of no use—as the model does enable one to identify an ideal type for which the realities of the world can be contrasted with. To supplement the rational decision making model, a spectrum of organizational decision making frameworks, with varying degrees of rationality, emerged in the academy post the 1950s.

The literature sites Allison’s text the *Essence of Decisions: Explaining the Cuban Missile Crisis* (Allison, 1971) as a seminal work that expanded the sphere of organizational decision making models beyond rational decision making. Allison (1971) analyzed the Cuban missile crisis on the basis of three independent organizational decision models: the rational actor, the organizational process, and the government politics model. While the rational actor model is founded on the traditional rational decision making premise (Allison, 1971), the other models
represent varying degrees of rationality and perspectives for analyzing organizational decisions. The organizational process model views decisions as a byproduct of routine organizational activities that follow some form of structure (Allison, 1971)—where decisions emerge from experiences to-date and strive to maintain organizational status-quo. The government politics model interprets decisions as arising out of deliberations and conflicts among key political players and forces around interdependent decisions (Allison, 1971)—where decisions emerge from the political power of those involved and their underlying reasoning.

Post Allison’s seminal work, the literature cites a wide spectrum of organizational decision making models that continue to question the rational decision making model—including, but not limited to, the incremental model (Lindbolm, 1959), garbage can model (Cohen, March, & Olsen, 1972), and decision accretion model (Weiss, 1980). As organizational decision making models matured, “historical, social, political, and economic worlds surrounding the decision and about the individuals, organizations, and institutions involved” (March, 1994, p. vii) rose to the surface and gave way to approaches centered on or inclusive of rules within a social context (March, 1991; Messick, 1999; Cialdini, Bator, & Guadagno, 1999). An organization, viewed as “arrangements that link roles/identities, accounts of situations, resources, and prescriptive rules and practices” (March & Olsen, 2008, p. 691) that “guide behavior and stabilize expectations” (ibid), began to play a pivotal role in decision making models. Theorists (see Kass, 1996; Laroche, 1995; March, 1989; March & Olsen, 1989) started to view decision making as a social representation within an institutional and situational context, where social conditions influence the decision making process—such as “status, positions, roles, ideological and historical context” (Laroche, 1995, p. 68). In line with this philosophy, March and Olsen (1989) defined a rules based decision making model founded on
situational, contextual, and social conditions associated with a decision, titled the “logic of appropriateness” (ibid).

Rules based decision making, rooted in well-established psychological theory, considers the social setting and context of the decision at hand (Festinger, 1954). The use of rules in analytical frameworks for studying organizational behavior and decision making dates back to Weber (1922), who identified rules as an integral part of organizational bureaucracy resulting in both positive and negative impacts. While an organization often experiences some form of positive efficiency gains brought on by rules, an individual often experiences some form of repression through constricted behavior brought on by rules (Weber, 1922). To-date, the literature shows numerous fields of study leveraging the use of rules in their theoretical models; including but not limited to: business management, economics, law, and political science (e.g., Aidt & Francesco, 2011; Gilboa, Postlewaite, Samuelson, & Schmeidler, 2014; March & Olsen 1989; March & Simon, 1958; Vanberg, 1994). Irrespective of associated challenges, rules are important to how organizations and individuals act—“individuals and social systems depend on rules and on the standardization, routinization, and organization of acts that they provide” (March, 1994, p. 59). While organizational rules vary in scope, clarity and purpose, they all aim to guide behavior in some manner (March & Olsen, 2008). Yet, behavior driven by rules can be hard to predict, as individuals, identities, and situations involved are often dynamic in nature:

Rule-based behavior is freighted with uncertainty. Situations, identities, and rules can all be ambiguous. Decision makers use processes of recognition to classify situations; they use processes of self-awareness to classify identities; they use processes of search and recall to match appropriate rules to situations and identities. (March, 1994, p. 61).

As a rules based decision making methodology, March and Olsen’s (1989) logic of appropriateness examines the complex dynamic process of organizational decision making.
through three pivotal questions—the question of recognition of the situation, the question of identity of the individual and of the organization, and the question of rules that guide the decision and supporting actions (March, 1994). In the theory, the decision maker assesses “the situation through a lens constituted by the interaction between identity and situational clues” (Weber, Kopelman, & Messick, 2004, p. 284). Once the situation is assessed, the appropriate rules for decision and execution of the decision are identified and acted upon (March, 1988).

The model’s first question, “what kind of situation is this” (March, 1994, p. 58), entails recognizing the features and traits of a situation and matching those to other situations. The underlying theory for the first question relies on experimental learning, categorization, and episode cognition (Forgas, 1982; Weber et al., 2004; March, 1994). The model’s second question, “What kind of person am I? What kind of organization is this” (March, 1994, p. 58), accounts for the multitude of ways in which individuals and organizations differ. The underlying theory for the second question is based on the assumption that differing identities can result in different choices when confronted with the same situation (March, 1994)—where identities are viewed as “arising from a process of socialization into socially defined relationships and roles” (March, 1994, p. 64). The model’s third and final question, “What does a person such as I, or an organization such as this, do in a situation such as this” (March, 1994, p. 58), leverages rules as a means for defining and constraining behavioral choices. The model’s resulting decision and supporting action(s) are rooted in recognition, identity, and rules.

The logic of appropriateness is considered influential in the academy (Goldmann, 2005), but not without challenge. The critics (see Goldman, 2005; Kass, 1996; Sending, 2002) identify critical model flaws as: the perceived normative superiority of the approach given the model’s emphasis on complexity and variation of human nature and situations, challenges with consistently recognizing and identifying a situation, an unclear overlap and integration between
the logic of consequence and the logic of appropriateness, and the model’s overly suggestive
nature.

The logic of consequences is based on anticipatory action, evaluated against a set of short
and long term consequences, with the final choice based on the alternative that maximizes
value/utility (March, 1994). In contrast, the logic of appropriateness is based on obligatory
action, evaluated against the suitability of varying actions given the situation, with the final
choice based on what is most appropriate (March, 1994). March narratively compares the two
logics by noting that:

Just as the logic of consequence encourages thought, discussion, and personal
judgment about preferences and expectations, a logic of appropriateness
courages thought, discussion, and personal judgment about situations,
identities and rules. Both processes organize an interaction between personal
commitment and social justification. The logics are not distinguishable by
differences in their status of action. They are distinguishable by the demands
they make on the abilities of individuals and institutions.

While the logic of consequence and appropriateness inherently require the capacity for
reasoning (March, 1994), the two approaches differ across various dimensions (March & Olsen,
1989; March, 1994). Which logic to use when confronted with a decision depends upon the
unique variables at play—context matters. Some of the variables at play that impact the choice
of logic are cited as follows by March and Olsen (2008):

- available resources (each decision making approach requires different skill sets and
  abilities);

- complexity of the situation (at the extreme ends: scenarios that are prescribed and highly
  routine favor consequential logic, and scenarios that are ambiguous and highly complex
  favor appropriateness logic);
• experiences involved (the logic of appropriateness requires actors with shared experiences and associated memories, which is not a pre-requisite for the logic of consequence),

• time frame for decision (decisions required over a shorter timeframe are often linear based and align more closely with the logic of consequence); and

• implications of following rules (at times adherence to rules can cause detrimental action, resulting in the use of the logic of consequence).

The literature overwhelmingly associates CBA/CEA with the rational decision making model and the logic of consequence due to CBA/CEA’s underlying logical positivist roots, the procedural and quantitative rigor associated with CBA/CEA, and CBA/CEA’s reliance on technical rationality (Boardman et al., 2011; Harrison, 1993; Tsang, 1997; Sharples, 1975). While linkages between CBA/CEA and the rational decision making model are undeniable (such as the shared systematic quantifiable analysis), I suggest that it is myopic to only view CBA/CEA associated with or analyzed through a rational decision making lens as the decision to use CBA/CEA for assessing projects is naturally shaped by organizational norms, cultures, and expectations. Yet, this myopic view exists in the literature and limits the dimension of analysis for CBA/CEA use, resulting in a literature gap. Alternatively viewing CBA/CEA through the logic of appropriateness, takes into account the unique situational, social, and cultural context of the decision to use and the approach for using CBA/CEA—a view that I postulate resonates with the field of education because of the ability to address the unique situational, social, and cultural context that revolve around education projects. The logic of appropriateness provides a view to understanding the circumstances for CBA/CEA use along with how, why, and to what extent CBA/CEA analysis is put to use in an education project—
from a lens rooted in the context of an institutional system versus rational decision making theory.

2.6 The use of CBA/CEA in educational project decisions: outside the World Bank

Looking at the use of CBA/CEA in the education arena, outside the World Bank, provides a point of reference and comparison for this research study. The use of CBA/CEA in education project decision making rose to the spotlight (outside the WB) in the 1970s due to the landmark cost benefit analysis associated with the Perry Preschool Program that ran from 1962 to 1967. The Perry Preschool Program was the first major educational research study to use “the theories and method of economics to explore the implications of the Perry Preschool findings for society as a whole” (Barnett, 1985, p. 333). The Program ran in the city of Ypsilanti, Michigan and offered African-American children from low socio-economic status homes a half day per week preschool program, along with a weekly teacher visit to the child’s home (Temple & Reynolds, 2007). Students were randomly assigned to test and control groups that were followed-up at ages 27 and 40 to assess program costs and benefits. Barnett (1985) authored the original Perry Preschool Program CBA, and findings were updated by Nores, Belfield, Barnett, and Schweinhart (2005).

The Perry Preschool Program CBA was both seminal and revolutionary in the education arena because of its extensive and innovative cost benefit analysis—numerous indirect benefits resulting from an educational intervention were identified and quantified for the first time—such as crime reduction, fewer teenage pregnancies, and welfare savings (Barnett, 1985; Nores et al., 2005). References to the Perry Preschool Program CBA are found extensively in the literature across a wide spectrum of studies—from education, to economics, to legal, etc. (see Besharov & Ramey, 2008; Heckman, Moon, Pinto, Savelyev, & Yavitz; 2010; Schweinhart,
2007). The return on investment derived from the Perry Preschool Program CBA is cited so frequently that a resulting “folklore that early year education offers value for the money has extended beyond policy makers and is now widely accepted” (Campbell-Barr, 2012, p. 424).

The Perry Preschool Program CBA sparked a flurry of cost benefit assessments for school projects in North America in the 1970s and 1980s—especially for preschool projects, such as the well-known Carolina Abecedarian Program (Masse & Barnett, 2002) and the Chicago Child-Parent Centers (Reynolds, Temple, Robertson, & Mann, 2002). In parallel during the same timeframe, economists and educators in the academy began to author, discuss, and deliberate the possibilities for CBA/CEA use in the field of education (see Becker, 1975; Levin, 1975; Mincer, 1974; Rothenberg, 1975; Schultz, 1971). Concurrently during the same timeframe, the use of CBA/CEA became institutionalized among British, American, and Canadian governments as CBA/CEA was seen as an integral (and often mandatory) form of project analysis for public services (Quah & Toh, 2012). These series of inter-related events raised awareness to CBA/CEA and the use of CBA/CEA in education—which continued into the 1990s as CBA/CEA became associated with the “accountability” (Apple, 2004, p. 15) mantra that began to dominate the education arena in the 1990s. Commenting on CEA use, in the education arena, Levin notes:

A November 2000 search of the Education Resources Information Centre (ERIC), a database funded by the federal government, located about 11,800 articles, reports, and other documents addressing cost-effectiveness in education. This was about 2,400 items greater than a similar search revealed in 1996, suggesting an increase of 600 per year. (Levin, 2001, p. 56).

Today the literature cites CBA/CEA studies spanning all levels of public and private education systems—such as pre-primary, primary, secondary, tertiary, and vocational education. A few examples of CBA/CEA use at the system, school, and individual level within
an education system help illustrate the span of CBA/CEA applicability in education. At the system level, CBA/CEA studies aid in creating and evaluating education policy (Tsang, 1997)—such as educational planning to help identify potential resource allocations (Woodhall, 2004). At the school level, CBA/CEA studies support a wide range of classroom applications—such as class size reduction analysis, consolidated sharing of school classroom resources, and assessment of infrastructure and material inputs used in the classroom (Levin & McEwan, 2001). At the student level, CBA/CEA studies help schools and parents assess the impact that school and educational initiatives have on students—such as the effects of breakfast programs on student achievement (Hilleren, 2007).

The CBA/CEA tool is leveraged across education projects in both developed and developing nations. Although CBA/CEA is leveraged less in education projects in emerging nations due to a lack of the kind of skill set needed to complete this type of analysis, poor data availability and data quality, and fiscal constraints felt by emerging nations given the amount of time and money needed to complete a CBA/CEA (Tsang, 1988). However, the use of CEA in developing nation projects have been used with higher frequency over the past 10 years, given the “sharp increase in the number of rigorous evaluations of the impact of development programs in a host of field including education, health, environment, agriculture, and governance” (Dhaliwal, Duflo, Glennerster, & Tulloch, 2014, p. 285). The use of randomized control trials and impact evaluations in the field of education is becoming more predominant, allowing for development of league tables that standardize Cost Effectiveness Ratio (CER) measures across multiple initiatives (McEwan, 2012).

Over time the depth of CBA/CEA use in the education arena matured, as study complexity moved from a simple one program evaluation to a complex analysis involving multiple programs against numerous educational outcomes across private and social sectors.
Over time the breadth of CBA/CEA use in the education arena expanded, as several pivotal CBA/CEA educational studies surfaced across a wide span of education functions (e.g., Barnett, 1985; Stern, Dayton, Paik, & Weisberg, 1989; Psacharopoulos, 1975; Wong & Toh, 1999). In addition, in 2008 the Center for Cost-Benefit Studies of Education (CBCSE) was established within the Teacher’s College, Columbia University under the direction of the well-respected economist of education, Dr. Henry Levin. CBCSE has sourced and completed various CBA/CEA studies in education, authored numerous publications on how to complete CBA/CEA in the field of education, commenced a centralized repository of costs data, and initiated development of a Cost Tool Kit aimed at helping guide the CBA/CEA process for an educational intervention (Center for Cost-Benefit Studies of Education, 2015).

Yet despite increased depth and breadth on CBA/CEA use over time, three problematic macro issues consistently emerge in the literature (from the 1990s onward) regarding CBA/CEA use in education—poor quality, low quantity of use in comparison to other public services, and a lack of standard protocols for use.

Numerous academics have questioned the quality and quantity of educational based CBA/CEAs. In 1993 Monk and King found that when analyzing cost evaluation initiatives from 1988 to 1992, cost analysis studies in educational policy journals were not as rich in content when compared to general policy journals (Monk & King, 1993). In addition, only 14% of cost evaluation studies in the journal of Educational Evaluation and Policy Analysis contained extensive cost analysis when compared to 28% from the Journal of Policy Analysis and Management from 1988 to 1992 (ibid). In 1999, a study querying ERIC for the use of the term cost-effectiveness found 9,000 occurrences (Clune, 1999). But, when these occurrences were assessed at a granular level, only 1% of the studies were identified as plausible in nature and 80% were rhetorical in nature (Clune, 1999). In 2002, Hummel-Rossi and Ashdown, upon
review of four specific cost-based analysis studies in education, found that “for the most part, (studies) have limited boundaries in all areas, reflecting the rudimentary state of cost-effectiveness analysis in education as compared to health and medical research” (Hummel-Rossi and Ashdown, 2002, p. 25). In 2007, Ross, Barkaoui, and Scott found only “31 out of 103” (p. 488) educational studies containing cost analysis, reviewed against eight evaluation criteria, were identified as having a “creditable design that enabled evaluators to distinguish program impacts from other explanations for study outcomes and the related costs to benefits using a defensible procedure” (p. 488)—equating to only thirty percent. Levin and Belfield in 2010 articulate CBA use in education as “slowly being implemented” (p. 199) and CEA use in education as “very limited” (p. 200). Each of these cited studies question CBA/CEA quality in education and comments that “cost studies are much less frequently conducted in education than in other fields” (Ross et al., 2007, p. 487).

In contrast, from the 1970s onward, other fields of study experienced growth in the depth and breadth of CBA/CEA studies, while increasing quality and standardizing protocols for usage—specifically other public services, such as health, environmental management, and transportation (Quah & Toh, 2012). The field of health has embraced the use of CBA/CEA and continues to leverage the tools across a wide and diverse spectrum of health services (Cooper, Brailsford, & Davies, 2007; Muenning, 2002). Over time the health sector also defined numerous industry accepted protocols for CBA/CEA use—such as QALYs (quality adjusted life years) and VSL (value of a statistical life) that act as measurement standards (Boardman et al., 2011; Quah & Toh, 2012). The field of environmental management has leveraged CBA/CEA extensively to identify and evaluate environmental impacts resulting from development projects (Johansson, 1993). Over time the environmental sector also defined numerous industry accepted protocols for CBA/CEA use—such as standardized environmental
shadow prices and the Environmental Valuation Reference Inventory that acts as measurement standards (Boardman et al., 2011; Quah & Toh, 2012). The field of transportation excels at the use of CBA/CEA and this field of study holds numerous exemplary CBA/CEA studies from around the globe that are viewed as benchmarks—such as the Three Gorges Dam in China, the Qinghai-Tibet railway in China, and the Nairobi-Thika highway in Kenya (Quah & Toh, 2012).

Given the expansion, acceptance, and agreed upon protocols for CBA/CEA usage within health, environmental management, and transportation services, then why are studies using CBA/CEA lacking in education? The literature posits numerous situational root causes for this scenario (see Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Monk & King, 1993; Rice, 1997; Ross et al., 2007; Tsang, 1997)—with common factors being:

- inadequate skill sets within education (resources in education are traditionally trained on conventional areas of school finance (such as budgeting), but lack training on CBA/CEA and its underlying economic theory);

- methodological challenges (establishing a direct causal link between input costs and output measures in education is challenging, as is capturing associated indirect benefits from an educational intervention);

- poor data quality (numerous data challenges are in play in the education arena, such as, unpacking shared data across multiple programs, incomplete data, data that is not timely, long lags for benefit data which often equates to missing information, a lack of standardized meaning for data elements, and unavailable data);

- little to no demand (given the subjective and wide reaching nature of educational initiatives, they are often granted legislative or policy allowance to divert extensive cost/benefit
assessments, and when a cost/benefit assessment is required there are little to no negative impacts for either not completing the analysis or for completing the analysis poorly);

- too much required time and money (the effort and cost associated with completing a full CBA/CEA is such that only larger initiatives can justify the undertaking due to tight resources in the education arena, so benchmark CBA/CEA studies are leveraged as a justification that is often not applicable to the context at hand);

- lack of incentive (a lack of self-driven motivation for cost/benefit assessments exists due to the unclear nature of the impacts of a CBA/CEA and the lack of known impact that a CBA/CEA has in the decision making process); and

- lack of support (the field of education is not aligned well with other disciplines that could assist with cost/benefit assessments and there is not enough sharing of exemplary examples, lessons learned, and tips among those who have completed educational cost/benefit assessments).

While it is acknowledged that CBA/CEA can be problematic in the education arena for the above noted root causes, it is also acknowledged that many (if not all) of the above noted root causes could also apply (to varying degrees) to public services that have successfully leveraged CBA/CEA—such as health and environment studies. Given this predicament, one is left questioning the circumstances for CBA/CEA use along with how, why, and to what extent CBA/CEA analysis is put to use in education proposals. While comparing the field of education, health and environment studies (and their use of CBA/CEA) in relation to the above noted root causes, I postulate that issues surrounding data quality and skill set as predominant in the field of education (in relation to CBA/CEA use) given the substance of literature that cites these challenges, along with my experiences with CBA/CEA in the field of education.
2.7 The use of CBA/CEA in educational project decisions: inside the World Bank

Founded in 1944, the World Bank Group is comprised of five institutions that collectively provide financial and technical assistance to emerging nations with a “common commitment to reducing poverty, increasing shared prosperity, and promoting sustainable development” (World Bank, 2015a, p. 180). The World Bank Group is an “independent specialized agency of the United Nations” (World Bank, 2015a, p. 173) that participates in various United Nations meetings and undertakings. The World Bank refers to two of the five institutions (the International Bank for Reconstruction and Development and the International Development Association) that offer financial and technical support to middle-income nations and the world’s poorest nations (World Bank, 2015a). The World Bank has been involved in education projects from the early 1960s onward and is now considered a leader in applied development economics within the education arena. “On the basis of its substantial lending capacity, persuasive knowledge production and transnational political clout, the World Bank has become a key global governance actor in education for development” (Mundy & Verger, 2015, p. 16).

The World Bank offers various products and services for education lending in developing or transitioning economies—one of which is a “project” supported by the World Bank Project Cycle (Marshall, 2008; World Bank, 2015a). The World Bank Project Cycle is a “framework used by the World Bank to design, prepare, implement, and supervise projects” (World Bank, 2015a, p. 136). The Project Cycle is embedded in the World Bank’s engagement approach that was revised and re-launched as the New Country Engagement Model in July 2014—the engagement model entails four steps: Systematic Country Diagnosis, Country Partnership Framework, Mid-Cycle Performance and Learning Review, and Completion and Learning Review (World Bank, 2014h). Projects facilitated through the World Bank Project Cycle are
meant to stem from and align with a nation’s Country Partnership Framework (CPF) (within the New Country Engagement Model) (World Bank, 2014h). The CPF was launched in 2014 and replaced the previously well-established World Bank Country Assistance Partnership/Strategy (CAP/CAS). The CPF is described, by the World Bank, as follows:

The CPF is a four-to six-year strategy that the World Bank Group develops for a country to guide its operational activities. The CPF focuses on the Bank Group’s added value in that country and is produced in close coordination with the Bank’s counterpart in government (usually the Ministry of Planning/International Cooperation or Ministry of Finance). All project and programs that the Bank finances within the timeframe of this strategy must be aligned with it. (World Bank, 2015a, p. 24).

The World Bank Project Cycle consists of six stages: identification, preparation, appraisal, negotiation and Board approval, implementation and supervision, and implementation and completion (World Bank, 2011a; World Bank, 2015a). WB projects are analyzed during the project cycle from various aspects, with a critical juncture being the appraisal stage where projects are approved or declined as go-forward initiatives. Go-forward decisions leverage content within various World Bank documents—with a focus on the WB Project Appraisal Document (PAD) (World Bank, 2011a). The WB PAD articulates a wide spectrum of details supporting a proposed project and includes analysis and rationale for a project from an economic, financial, technical, institutional, social, and environmental viewpoint (World Bank, 2011a). If a CBA or CEA for a World Bank education project is developed during a project’s assessment, the analysis is located within the economic section of a PAD and/or the supporting economic annex (or occasionally in a separate document that the PAD refers to). A CBA/CEA can also be completed during the project closure stage (to review actual versus estimated costs and benefits), however the scope of this research effort focuses the use of CBA/CEA in education PADs during a project’s assessment stage.

A World Bank Task Team, in partnership with a nation, develops an education PAD—
with the World Bank Task Team consisting of a Task Team Leader and various specialists; such as economists and education specialists to name a few. The Task Team Leader works under the direction and guidance of World Bank management—specifically the Sector Manager along with support from the Sector Director, Country Director, and Regional Vice President where needed. World Bank projects tend to run long in duration; “it is not uncommon for a project to last more the four years, from the time it is identified until the time it is completed” (World Bank, 2015a, p. 136). As such, a PAD can take months to develop depending on a project’s circumstances. Once complete, a PAD is one of many publically available documents for an education project that is found openly on the World Bank’s web-site, within Projects and Operations (World Bank, 2015b).

Economic analysis within an education PAD is considered mandatory and is governed by a combination of WB Operational Policies (OP) and Bank Procedures (BP) within the World Bank’s Operations Manual (World Bank, 2014b) along with the Handbook on Economic Analysis of Investment Operations (Belli, Anderson, Barnum, Dixon, & Tan, 1998). In addition, the World Bank offers courses, seminars, toolkits, and working papers on the use of economic analysis for projects—all of which provide various forms of guidance, assistance, and illustrations on how to complete a CBA or CEA within a project (World Bank, 2014b; World Bank, 2015e).

In 2014, the World Bank’s Operations Manual went through a rigorous update with the goal of increasing operational efficiency and updating procedures impacted by resolutions occurring since the manual’s inception in 1994 (World Bank, 2015d). Within the World Bank’s Operations Manual, the main policy/procedure directing economic analysis within an education PAD is OP/BP 10.0: Investment Project Financing—specifically clauses BP 10.17 and OP 10.6, as illustrated in Table 2-1: Investment Project Financing - OP10.17 and BP 10.6. During
the 2014 Operations Manual update, the new procedure *OP 10.0: Investment Project and Financing* replaced the procedure that had directed economic analysis within a PAD, which was *OP 10.0: Economic Evaluation of Investment Operations*.

**Table 2-1: Investment Project Financing - OP 10.17 and BP 10.6**

| BP 10.17 | *Economic Analysis*. The Bank undertakes an economic analysis of the Project. The methodology takes into account the guidance provided at the concept stage and focuses on quantitative analysis, and where appropriate, on qualitative analysis and contributions. The three key questions that the economic analysis addresses relate to: (a) the Project’s expected contribution to the country’s socioeconomic development; (b) the rationale for the public sector provision; and (c) the value added of the Bank’s support. For a Project supported by a Bank Guarantee, a financial viability analysis is also required. While these key questions are relevant for all analysis, the specifics take into account country circumstances, Project Context, alternatives and risks, and information and data availability, including existing knowledge on the economic contributions of similar Projects, as well as time constraints. (World Bank, 2014c, pp. 4-5).

| OP 10.6 | *Economic Analysis*. The Bank undertakes an economic analysis of the Project. Taking into account the Project’s expected development objectives, the Bank assesses the Project’s economic rational, using approaches and methodologies appropriate for the Project, sector, and country conditions, and assesses the appropriateness of public sector funding and the value added of Bank support. For projects supported by a Bank Guarantee, a financial viability analysis is also required. (World Bank, 2014d, p. 3).

The 2014 Operations Manual update altered the directional use of CBA/CEA in the WB’s Education Sector in a few ways. First, the older OP 10 procedure provided rationale for not completing a CBA or CEA, as OP 10.4 offered justification for not monetizing project benefits when quantifying benefits was challenging:

**10.4 Nonmonetary Benefits** - If the project is expected to generate benefits that cannot be measured in monetary terms, then the analysis (a) clearly defines and justifies the objectives, reviewing broader sectoral or economywide programs to ensure that the objectives have been appropriately chosen, and (b) shows that the project represents the least-cost way of attaining the stated objectives. (World Bank, 2015a, p. 55).

Education projects, along with other WB projects across the softer sectors, often leveraged OP 10.4 as justification for not completing quantitative economic analysis like CBA or CEA (World Bank, 2015a; Vawda et al., 2003). The 2014 Operations Manual update removed clause
10.4, eliminating the use of this clause as reasoning for not completing a CBA or CEA within an education project. Second, neither BP 10.17 nor OP 10.6 identifies the mandatory use of any specific economic method—including cost benefit or cost effectiveness analysis. As the new policy emphasizes the “appropriateness” of economic approaches and methods, one could hypothesize a greater level of consideration for the use of CBA/CEA within an education PAD. But this hypothesis requires a full review of the implications resulting from the 2014 Operations Manual update, which has not yet transpired.

The *Handbook on Economic Analysis of Investment Operations* (Belli, Anderson, Barnum, Dixon & Tan, 1998) is rich in context and wide in scope. The handbook offers general guidelines for economic analysis from a holistic perspective (such as the general theory of economic analysis for a project) and offers specific guidelines for economic analysis for various sectors (such as education, health, and transportation). The handbook scope includes chapters that explain the methods and approaches for completing a CBA (chapter 5) and a CEA (chapter 8). The handbook also identifies ten dimensions contained within a comprehensive economic project analysis—including “completeness and internal coherence of cost benefit analysis or other selection criteria” (World Bank, 2014e). The handbook does not define specific criteria for evaluating a CBA/CEA, but it does identify questions that the analysis should answer as a guideline for “completeness and internal coherence” (ibid)—such as clear identification of project objectives, identification of those who will gain, those who will pay, and those that may lose along with to what extent, fiscal impacts such as cost recovery and net cost effects, explanation of the underlying CBA/CEA model and it’s assumptions and resulting empirical measures (including sensitivity to time), a sensitivity analysis on major project assumptions, and a final recommendation (Boardman et al., 2011). While the handbook contains rich information on CBA and CEA, the content is over 15 years old (as of 2015) and could benefit
from a review and modernization in relation to CBA/CEA methods—such as advanced econometric approaches for estimating indirect benefits (Boardman et al., 2011).

The World Bank has leveraged economic analysis to explore, assess, rationalize, and justify education projects in developing or transitioning economies since the onset of financing education projects from 1963 onward, with the establishment of the Education Division in the World Bank’s Technical Operations Department (Jones, 2007). During the initial years of financing education interventions, economic analysis was rooted in manpower planning—with the goal of educating to produce technical and engineering skills to develop agricultural and industrial sectors with the aim of increasing economic growth (Heyneman, 2003). However as the complexity and scope of education initiatives expanded, “many instances of the failure of manpower forecasting to provide an accurate articulation between education systems and labour-market dynamics” (Jones, 2007, p. 92) emerged. In 1968, via a policy review of the World Bank’s Education Sector, Edward Mason from Harvard University (under the direction of World Bank President Robert McNamara) argued that “the Bank should be able to build up a more sophisticated model of a country’s changing manpower structure and from there proceed to a meaningful cost-benefit analysis” (Jones, 2007, p. 91).

In 1981, the World Bank hired economist George Psacharopoulos from the London School of Economics, who had an expertise in human capital methodology/theory—a methodology that views education as developing skills and knowledge that improves worker productivity at the margin, which in turn increases individual earnings and economic output (Becker, 1975; Schultz, 1961). Psacharopoulos was hired as the head of the Education Department’s Research Unit and brought a “sharp focus in educational research that was organizationally necessary for research to have some influence on the character and quality of its lending” (Jones, 2007, p. 167). A proponent of cost benefit analysis from his hiring in 1981
through to his departure in 1998, Psacharopoulos was the first to establish a standardized approach for economic analysis that leveraged and popularized rate of return analysis for education initiatives inside the World Bank (Kapur, Lewis, & Webb, 1997). The literature notes Psacharopoulos as one that “energetically circularized all education staff on the technical and political advantages of cost-benefit analysis, explaining how it could be simply (if not simplistically) undertaken in appraising education projects” (Jones, 2007, p. 168).

Psacharopoulos’ ground breaking research on rate of return analysis to education in developing nations (e.g., Psacharopoulos, 1973, 1980, 1985, 1994) conveyed high rates of return to all levels of education by assessing the wage difference associated with various levels of educational attainment from both a micro and macro dimension—with the highest rate of return associated with primary education. He pioneered and championed the use of rate of return analysis both inside and outside the World Bank (Jones, 2007; Jimenez & Patrinos, 2003; Mundy & Verger, 2015). Psacharopoulos’ rate of return analysis on education level is widely cited in the academy (Jimenez & Patrinos, 2003). Critics claim that Psacharopoulos’ education rate of return analysis was pivotal in establishing a World Bank strategic priority on primary education (in the 1980s and 1990s), which in turn reduced the World Bank’s focus on higher levels of education and sparked privatization for higher levels of education (Bennell, 1996; Heyneman, 2003; Mundy & Verger, 2015; Samoff, 2012)—claims that Psacharopoulos argues against for various theoretical and practical reasons (Psacharopoulos, 2006).

Even though Psacharopoulos fostered the use of CBA and rate of return analysis in World Bank education projects from the early 1980s onward, it was not until the mid-1990s that CBA actually took hold in education projects. The lag occurred as Psacharopoulos’ research itself was often leveraged in WB education projects as justification (as a means of economically justifying the project at hand), time was needed to convince WB supporters of manpower
planning that CBA was a more effective way to prioritize education projects, and hesitancy among WB education employees on leveraging CBA because of the challenges associated with quantifying benefits (Vawda et al., 2003; Jones, 2007).

For projects approved in 1991, internal reviews held by the World Bank found that cost benefit analysis was not present in any education projects (World Bank, 1993). However, for projects approved in 1998, internal WB reviews found that 41% of education projects contained a cost benefit analysis (World Bank, 1998)—representing a substantial increase from 1991 to 1998. Internal WB reviews also show that 75% of education projects, for the calendar year 1993 to 1994, were identified as containing “good” or “acceptable” economic analysis (World Bank, 1998). The research shows the 1990s as a period of growth for CBA use within an education project in terms of quantity and quality (World Bank, 1993, 1998). But from 2000 to 2007 (post Psacharopoulos’ departure in 1998), the use of CBA within education projects dropped and quality began to struggle (World Bank, 2010). Based on internal WB reviews, the percentage of World Bank education projects that contained a CBA at project closure from 2003 to 2007 was merely 11% (World Bank, 2010, p. 7) and the supporting economic analysis was seen as poorly completed (World Bank, 2010).

Internal evidence from the WB shows the use of CBA within WB education projects from 1981 onward is that of a roller coaster ride, with waves of up and down in relation to CBA quantity and quality. Yet, internal research efforts show a positive correlation between WB education projects with completed economic analysis to positive project outcomes (Vawda et al., 2003)—which is interesting. However as internal WB research efforts cite (Vawda et al., 2003), a correlation does not necessarily equate to causality. For example, a strong CBA/CEA could be the results of a strong team (Vawda et al., 2003). Despite the surge in the use of CBA in the 1990s, the WB’s Education Sector is identified as one of the “low-CBA sectors” from

The use of CEA within education projects conveys a dismal story when compared to the use of CBA from a quantity, quality, and review/audit stance—which is a scenario indicative of CEA across World Bank projects from a macro view (World Bank, 2010). WB policies and procedures on cost effectiveness analysis traditionally position the use of CEA for when project benefits cannot be monetized and/or a CBA cannot be developed (World Bank, 2010)—a scenario that is indicative of projects in the softer sectors like education and the environment. Yet evidence shows that for 93 investment projects closing in 2008 that did not leverage a CBA, only 24 of the 93 leveraged a CEA (World Bank, 2010, p. 15) and within those 24 projects “only 1 offers what appears to be a real cost-effectiveness analysis” (ibid).

CEA use and quality is problematic across the entire WB organization, not just within the Education Sector (World Bank, 2010). However two recent World Bank initiatives have raised awareness and use of CEA within the Education Sector. First, the publication and promotion of the World Bank’s *Impact Evaluation in Practice* in 2011 (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2011) brought forward a theoretical and practical awareness of CEA applicability in education projects. Second, the introduction of the multi-donor Strategic Impact Evaluation Fund (SIEF) in 2012 increased use of CEA in education projects. SIEF is dedicated to funding Impact Evaluations within Basic Education (among other areas) (World Bank, 2015c)—evaluations that can provide the required causal evidence needed to support CEA in education projects. The increase in awareness and use of CEA within the Education Sector, brought on by these recent World Bank initiatives, carries the potential for increased application of CEA within education PADs.

The World Bank literature posits numerous situational root causes for the low usage and quality of CBA/CEA in WB projects—such as skill sets, data issues, and methodological
challenges—which directly aligns with the literature outside the World Bank. In addition, the unique political and social context of WB projects (including the co-ordination and support associated with country ownership and other donor influences), staff turnover, and the procedural direction of the out-date OP 10.4 policy have all influenced CBA/CEA use and quality in WB projects (World Bank, 2010). Emmanuel Jimenez and Harry Patrinos (2008), well-known and respected education economists in the World Bank, point to several challenges when leveraging CBA/CEA within WB education projects—all of which impact CBA/CEA usage. Jimenez and Patrinos (2008) note the challenge of credibility revolving around social returns, issues with accounting for the nature of educational outcomes, and problems establishing causal links between educational outcomes and interventions. Yet, Jimenez and Patrinos (2008) note that completing a CBA/CEA for a WB education project carries the opportunity to raise policy awareness and debate—a view shared among academics (see Fuguitt & Wilcox, 1999; Smith, 2008; Tsang, 1997;). Jimenez and Patrinos (2008) also note that completing a CBA/CEA for a WB education project supports a rigorous process that enables one to identify, understand, and weigh costs versus benefits of a project. Jimenez and Patrinos (2008) observe CBA/CEA as a process that has the potential to aid educational decision making and should not be solely used or judged by the method’s resulting numerical computations:

> If CBA is defined less as an exercise to calculate one figure, such as an IRR or NPV that is a go or no-go decision criterion, and more as a rigorous implementation that the benefits of an investment outweigh the costs, even if not all of them are quantified, then they can greatly improve policy-making. (Jimenez & Patrinos, 2008, p. 25).

CBA and CEA culturally align with the World Bank’s dominating “ideological triad of economic, apolitical, and technical rationality” (Weaver, 2008, p. 158) as the World Bank’s culture prides itself on its technical knowledge and expertise within a rationalist ideology (Kamat, 2012; Rao & Woolcock, 2007; Weaver, 2008)—CBA is viewed internally as the
“signature of the World Bank” (World Bank, 2010, p. ix). Despite known challenges using CBA/CEA in education PADs, various World Bank educational project assessments (across different education levels and locations) contain economic analysis deemed as exemplary by the WB—such as a project focusing on basic education quality improvement in Brazil (2005) and a project focusing on equity and efficiency of primary education services in Costa Rica (World Bank, 2015f). These particular projects were assessed as having “completeness and internal coherence to their cost-benefit analysis” (World Bank, 2015f) by the World Bank, as the associated project objectives were clearly defined, costs and benefits were itemized in a concise manner supported by a underlying model that was thorough and sensitive to time, assumptions were clarified, a sensitivity analysis on model variables was completed, and resulting empirical measures were clearly defined.

Given well documented challenges regarding CBA/CEA use in WB education projects, it is important to understand why, how, and under what circumstances CBA/CEA are being used in WB education projects. Answers to these questions are missing from the literature and represents a knowledge gap that this study aims at addressing by deeply analyzing the use of CBA/CEA in education projects at the World Bank from various dimensions.

2.8 Summary: what the research says - tying it all together

The discipline of economics is viewed as a “social science that studies choices that individuals, businesses, governments, and entire societies make as they cope with scarcity and the incentives that influence and reconcile those choices” (Parkin & Bade, 2013, p.2). The challenge of allocating scarce dollars against unlimited wants and needs in education reflects the classic economic challenge. Cost benefit analysis (CBA) and cost effectiveness analysis (CEA) are both well-established economic assessment tools aimed at improving the allocation of funding in education to optimize returns to the individual and society. Like all methods, CBA
and CEA carry recognized pros and cons when used in the field of education—so understanding the purpose, type of use, and extent of use of CBA/CEA in an educational context is essential to success.

While CBA/CEA has been leveraged in the field of education both inside and outside the World Bank, the use and applicability of CBA and CEA in education project assessments has raised numerous challenges and questions of applicability and viability in the literature (Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Rice, 1997; Tsang, 1997) and in the WB (World Bank, 2010; Jimenez & Patrinos, 2008; Vawda et al., 2003)—reducing the quantity and weakening the quality of CBA/CEA analysis in education projects outside and inside the World Bank.

The research reflects commonality of root causes for the state of CBA/CEA in relation to education projects outside and inside the World Bank, with additional unique challenges to CBA/CEA use within the World Bank. However, the research does not reflect a rich understanding of how, why, and to what extend CBA/CEA is put to use in education projects—both outside and inside the World Bank—from a lens rooted in the context of social decision making theory. The use of CBA/CEA in assessing projects is predominately viewed through a lens rooted in rational decision making, which fails to identify and comprehend the unique situational, organizational, social, cultural, and personal aspects on the use of CBA/CEA, how CBA/CEA is used, why CBA/CEA is used, and for what purpose—a gap that can be addressed by viewing CBA/CEA through a lens rooted in the “logic of appropriateness theory” (March, 1994, p. 58).

Tools like CBA and CEA, within economic analysis of education projects, can support and provide valuable insights to support education project decision making. Economic analysis is one of many components within an integrated social, political, and economic strategy to
support educational decision making. While economic analysis is not the sole criterion for identifying go-forward educational projects, economic analysis provides one of many views necessary to holistically assess the viability and returns associated with education interventions and should not be bypassed.

The limited and constrained use of CBA in the field of education raises several important questions worthy of study as societies strive to ensure education outcomes are being achieved given the dollars being spent—especially in emerging nations where education projects are multifaceted, complex, and challenging due to severely constrained capital and resources. Given well documented challenges regarding CBA/CEA use in WB education projects, it is important to understand why, how, and under what circumstances CBA/CEA are being used in WB education projects. Answers to these questions are missing from the literature and represents a knowledge gap that this study aims at addressing by deeply analyzing the use of CBA/CEA in education projects at the World Bank from various dimensions. Focusing on the World Bank as a case study sheds light on the most appropriate way to use CBA/CEA within the World Bank organization, while considering the context of education projects and the unique setting that they reside within.

In summary, within this chapter, I review and critically examine the main streams of literature on CBA/CEA theory, how CBA/CEA could be used in educational policy decision making, along with research on the use of CBA/CBA both inside and outside the World Bank. In this chapter I also raise awareness of the theoretical pros and cons when using economic tools CBA/CEA within education projects, along with their practical use as decision making support tools within various organizational decision making models. By reviewing CBA/CEA theory and how CBA/CEA can apply to organizational decision making models, I was able to
identify various theoretical and practical concepts that will help explain the conceptual framework used in this study.
3 Framework for Analysis

In this chapter, I summarize the theoretical framework for this study and describe in detail the study’s conceptual framework. I begin by defining the theoretical perspective which this study is viewed from. Next the theoretical use of CBA/CEA in projects, as discussed in the Literature Review section in this study, is summarized and defined as a Weberian ideal type (Weber, 1948)—for use within the conceptual framework. I follow by describing this study’s conceptual framework, which acts as the lens that directs and shapes this research effort. First, the conceptual framework is defined at a high level, as a structure comprised of four dimensions of analysis that are rooted in the logic of appropriateness (March, 1994). Second, the conceptual framework is defined at a detailed level, as the four dimensions of analysis are outlined in relation to the logic of appropriateness (March, 1994) and the study’s research questions.

3.1 Theoretical framework

This research effort is viewed through a theoretical perspective that is interpretive as the underlying purpose of this study is descriptive and exploratory in nature (Butin, 2010). The research questions, which revolve around how, why and what, aim to expand the existing knowledge base (of the phenomena) through exploration while being cognizant of multiple realities that are contextually bound and socially constructed through diverse perspectives (Butin, 2010; Creswell, 2014). The theoretical perspective is interpretive by nature, as the aim of this study is to describe, understand, and interpret the phenomena while taking into account multiple realities (Merriam, 2009).

This research effort makes use of Weber’s theoretical “ideal type” construct (Weber, 1948) within the conceptual framework—as an anchor for analysis and reflection. Weber, concerned that observations may not always encapsulate the reality of an idea or concept, developed the theory of an “ideal type” (Weber, 1948) in an attempt to gain objectivity. As a
tool to help facilitate the understanding of a concept, an ideal type is a “conceptual construct (Gedankenbild) which is neither historical reality nor even the ‘true’ reality” (Weber, 1948, p. 93). Created from traits and elements of a phenomena, but not meant to include all components of a phenomena, an ideal type is a conceptually “pure” construct that “cannot be found empirically anywhere in the world” (Weber, 1948, p. 90). Ideal types are not meant to be proven, but used to explore reality to identify what fits and what does not fit within phenomena. Functionally, ideal types can and have been used to help explain various complex phenomena in education (Holmes, 1981). This study defines CBA and CEA as ideal types based on the theory of CBA and CEA as found in the Literature Review section of this study, to explore how, why, and under what circumstances CBA/CEA are being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014.

In summary, CBA as an ideal type answers the question: to what degree do the benefits of this project outweigh the costs (Rice, 1997). As the context of this study revolves around the analysis of an education project prior to approval, the CBA ideal type is defined as ex ante—where a CBA is completed prior to the onset of a project and used to aid in resource allocation decisions (Boardman et al., 2011). Major inputs of the CBA ideal type revolve around project objectives and alternatives for assessment. Major outputs of the CBA ideal type revolve around a recommendation based on net present value, along with a supporting sensitivity analysis. Steps within the CBA ideal type are defined as (see Boardman et al., 2011; Brent, 2006; Gramlich, 1998; Snell, 2011; Townley, 1998):

- identify the alternatives (the options for assessment);
- decide whose benefits and costs count (the standing);
- identify and predict direct/primary and indirect/secondary impacts (the inputs/costs and outputs/benefits);
monetize impacts (the dollar value assigned to impacts);

- discount monetized impacts to present values (the approach to account for time differences across impacts);

- derive a resulting net present value (or a resulting rate of return, or benefit-cost ratio);

- perform sensitivity analysis (the approach to account for uncertainty); and

- make a recommendation (the identification of a go-forward route).

In summary, CEA as an ideal type answers the question: which project should we support among available alternatives with like objectives (Rice, 1997). As the context of this study revolves around the analysis of an education project prior to approval, the CEA ideal type is defined as ex ante—where a CEA is completed prior to the onset of a project and used to aid in resource allocation decisions (Boardman et al., 2011). Major inputs of the CEA ideal type revolve around project ingredients that produce the desired outcome(s), for each project alternative being assessed. Major outputs of the CEA ideal type revolve around a recommendation based on a defined effectiveness measure, along with a supporting sensitivity analysis. Steps within the ideal type are defined as (see Boardman et al., 2011; Chambers, 1999; Levin, 1983; Levin & McEwan, 2001):

- identify the ingredients (the inputs that produce the desired outcomes);

- value the ingredients (the dollar value assignment to ingredients);

- analyze cost-effectiveness (the defining of an effectiveness measure and gauging the measure by aggregating costs and calculating a cost-effectiveness ratio by dividing program effects by total costs);

- perform sensitivity analysis (the approach to account for uncertainty); and

- make a recommendation (the identification of a go-forward route).
As an ideal type, CBA is “an important method for evaluating educational investments and for deciding upon the provision of public goods … as CBA compares the costs and outcomes of alternatives” (Levin & Belfield, 2010, p. 197). The CBA ideal type is inclusive of all costs and benefits associated with an intervention. As an ideal type, CEA is a “method for comparing decision alternatives in which both the costs and the effects are taken into account in a systematic way … the method is used to compare the efficiency of alternative ways to achieve an educational objective” (Levin & Belfield, 2010, p. 197). The CEA ideal type is inclusive of all intervention costs and focuses on an effectiveness measure based on a specific intervention effect. While CBA and CEA are independent tools, they can be combined sequentially to determine a project’s path. For example, CBA can help select between a publicly funded adult reading project with the objective of improving literacy measures or a publicly funded adult exercise project with the objective of reducing doctor visits through increased levels of fitness. As these projects carry differing objectives, CBA can be used to compare costs and outcomes in monetary terms and identify the project with the highest rate of return—information that can help inform the selection decision. If it is determined that the publicly funded adult reading project is to proceed, then CEA can be used to compare various approaches to implementing the project against a defined effectiveness measure and identify which alternative is the most cost effective (in relation to the defined effectiveness measure).

Given the often optional nature of economic analysis of education projects, CBA/CEA as an ideal type may not be realized, or varying degrees of CBA/CEA implementation may come into play. As noted in the Literature Review section of this study, barriers to initiating a CBA/CEA in the field of education include: a lack of demand for the analysis, weak incentive, insufficient time and money, and resource capabilities (see Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Monk & King, 1993; Rice, 1997; Ross et al., 2007; Tsang, 1997).
If a CBA/CEA is undertaken for an education project, barriers to completing a quality CBA/CEA effort also come into play. These include: challenges securing cost and benefit data unique to the project context, issues with quality of cost and benefit data, problems identifying direct causal links between input costs and output measures, difficulties quantifying intangible benefits, inadequate skill sets, a lack of support, and institutional norms regarding CBA/CEA use (see Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Monk & King, 1993; Rice, 1997; Ross et al., 2007; Tsang, 1997).

3.2 Conceptual framework

The conceptual framework defines the theoretical use of CBA/CEA (Boardman et al., 2011), as Weberian ideal types (Weber, 1948), to see how far CBA/CEA theory can be leveraged to explore and explain the use of CBA/CEA through four dimensions of analysis that are rooted in the “logic of appropriateness theory” (March, 1994, p. 58). The dimensions of analysis are defined as: personal, organizational, project, and worldwide. Each dimension carries the capacity to influence how, why, and under what circumstances CBA/CEA is used within projects. Concurrently, these four dimensions of analysis aid in answering the questions of recognition, identity, and rules when determining if and how a CBA/CEA is completed (Weber et al., 2004). Each dimension in turn consists of a number of supporting variables to dynamically form a complex web of internal/external and macro/micro factors that influence how, why, and under what circumstances CBA/CEA are leveraged. Internal factors focus on how various aspects of an organization and individual within an organization influence CBA/CEA use, while external factors focus on how various aspects of a project and worldwide factors influence CBA/CEA use. Macro factors refer to factors that surround the use of CBA/CEA holistically from the view of the organization and world, while micro factors refer to specific factors at the project and personal level and how they influence CBA/CEA use.
3.3 Organizational dimension

The organizational dimension supports collecting and analyzing variables that relate to how WB policies, implicit norms and rules, and other features of organizational culture guide and influence how and why CBA/CEA is used in education projects. These variables aid in addressing the questions of rules and organization identity found in March’s appropriateness theory (1994). Rules encompass the organization policies, procedures, methods, and processes that define the use, execution, and governance of CBA/CEA (March, 1994). Decision structure entails the organization protocols, criteria, inputs, and resources involved in rendering the CBA/CEA decision (Weber et al., 2004). Social structure relates to the socially constructed meanings of CBA/CEA in the organization; such as norms, routines, rules, beliefs, and stories (March, 1994). Framing is “a matter of description and labelling” (Weber et al., 2004, p. 299).
that is associated with the use of CBA/CEA in the organization. In summary, this dimension addresses the research question: What organizational rules, decision structure, social structure, and norms guide and influence how and why CBA/CEA is used in education projects (during the assessment phase of a project at the WB)?

3.4 Personal dimension

The personal dimension supports collecting and analyzing variables that relate to traits and characteristics of individuals to examine how and why these traits influence the use of CBA/CEA in education projects. This dimension includes personal educational history, values, and work experiences. These variables aid in addressing the question of individual identity found in March’s appropriateness theory (1994) and research shows these variables can carry influence on the use of CBA/CEA (Catterall, 1997; Hummel-Rossi & Ashdown, 2002; Levin, 2001; Rice, 1997; Tsang, 1997). Educational history focuses on the level of formal and informal training in economic analysis, along with educational background. Values, defined as “concepts of the desirable with motivating force” (Hodgkinson, 1991, p. 102), focus on individual beliefs and opinions regarding the use of economic analysis for education interventions. Work experience entails the depth and breadth of experience in CBA/CEA inside and outside the WB. In summary, this dimension addresses the research question: How do educational background, values and beliefs, and work experiences of individuals impact the use of CBA/CEA for education projects (during the assessment phase of a project at the WB) and to what extent?

3.5 Project dimension

The project dimension supports collecting and analyzing variables that relate to the unique context of a specific project. These variables aid in addressing the question of recognition found in March’s appropriateness theory (1994). The decision to use CBA/CEA and how to use CBA/CEA is dependent upon the unique traits of the situation at hand—such as project scope,
risk, and other situational contexts (Boardman et al., 2011; Townley, 1998). This dimension concentrates on project traits, as documented in education PADs, to see if relationships exist between unique project traits and the use of CBA/CEA—such as project objectives, level of risk, loan amounts, and measurability of benefits. This dimension also focuses on the social and historical context of a project to explore and examine how these factors impact the use of CBA/CEA in education projects. In summary, this dimension addresses the research question: Under what unique project circumstances are CBA/CEAs being completed for education projects (during the assessment phase of a project at the WB) and how do these circumstances influence the manner in which CBA/CEAs are completed?

3.6 Worldwide dimension

The worldwide dimension supports collecting and analyzing variables outside the WB to determine their potential influence in the CBA/CEA process. These variables aid in addressing the question of recognition found in March’s appropriateness theory (1994). The WB is an organization officially governed by a complex management structure that includes member countries (the shareholders that own the Bank), various Boards, a President, and Bank Group management and staff (World Bank, 2011a). The WB is also an organization unofficially influenced by local governments, advocacy groups, non-government organizations, and scholars from around the globe for varying reasons (Weaver, 2008). What results is a “loosely coupled organization” (Weaver, 2008, p. 17) that is influenced by external parties despite the WB’s desire to maintain relative autonomy—often giving way to organizational hypocrisy where contradictions exist between “organizational talk, decision, and action” (Brunsson, 1989). As such, this worldwide dimension examines how local governments, regional governments, non-government groups, advocacy groups, and scholars potentially influence the use of economic analysis of education projects and to what extent.
This dimension also examines potential impacts that internationally accepted development goals have on the use of economic analysis (of education projects) due to their wide reaching influence on government and non-government agencies that support emerging nations (Steiner-Khamsi, 2012). Global development goals under review will include, but are not limited to: the Millennium Development Goals (MDG) in support of the United National Millennium Declaration and The Education for All (EFA) Movement led by the United Nations Educational Scientific and Cultural Organization (UNESCO). Finally, as a lending institution, the World Bank is influenced by global economic trends that impact the lending process—specifically interest and inflation rates (Parkin & Bade, 2013). As such, this dimension focuses on how global and regional economic trends in nominal interest rates, annual inflation, and gross domestic product (as a proxy for economic growth) impact the use of economic analysis of education projects. In summary, this dimension addresses the research question: Under what situations do global influences play a factor in the use of CBA/CEA in education projects (during the assessment phase of a project at the WB) and why—including local and state governments, advocacy groups, non-government organizations, scholars, and economic trends?

### 3.7 Summary: the lens for analysis

This study is grounded in an interpretive theoretical perspective as the research questions are descriptive and exploratory in nature. The lens for analysis defines the theoretical use of CBA/CEA (Boardman et al., 2011), as a Weberian ideal type (Weber, 1948), to see how far CBA/CEA theory can be leveraged to explore and explain the use of CBA/CEA through the following dimensions of influence: organizational, personal, project, and worldwide.

The dimensions of analysis are rooted in the “logic of appropriateness theory” (March, 1994, p. 58)—which views decisions and actions towards the use of CBA/CEA in the context of an institutional system comprised of a complex web of internal/external and micro/macro
factors of influence. The organizational dimension places emphasis on how policies, implicit norms and rules, and other features of organizational culture guide and influence how and why CBA/CEA is being used, and addresses the question of rules and organization identity in March’s appropriateness theory (1994). The personal dimension focuses on how educational backgrounds, values and beliefs and work experiences of individuals impact the use of CBA/CEA, and addresses the question of individual identity in March’s appropriateness theory (1994). The project dimension revolves around the unique project circumstances and context that surrounds the completion of CBA/CEA for a project, and addresses the question of recognition in March’s appropriateness theory (1994). Finally, the worldwide dimension concentrates on understanding what global influences play a factor in the use of CBA/CEA in projects, and addresses the question of recognition in March’s appropriateness theory (1994).
4 Research Design and Methodology

This chapter describes the research design and methods used to answer the research questions. In this chapter, I provide an overview of this study’s design and reasoning for the choice of design. A description of the data sources and selection criteria follows, along with methods used for data collection. This chapter closes with a discussion on the limitations and considerations associated with research methods employed, along with a synopsis of ethical considerations.

4.1 Study design and rationale

A two-phased sequential explanatory mixed methodology (Creswell, 2014) is leveraged for this study, with a priority on qualitative analysis—this study is one where “greater emphasis is placed on qualitative methods and the quantitative methods are used in a secondary role” (Creswell & Clark, 2011, p. 65). The first phase focuses on quantitative analysis, while the second phase focuses on qualitative analysis. This study is considered explanatory as the qualitative strand (the second phase) clarifies and expands upon findings from the quantitative strand (the first phase) (Creswell, 2014). Specifically, the first phase identifies the trends surrounding CBA/CEA use in education PADs, while the second phase explores and explains those trends by focusing on why, how, and under what circumstances CBA/CEA is being used in education PADs.

The first phase of this study involves quantitative data analysis of WB education Project Appraisal Documents (PADs) from 2010 to 2014. This phase encompasses the creation and analysis of descriptive statistics on the general use of CBA/CEA across WB education PADs from 2010 to 2014 with two goals in mind. The first goal is to generate and analyze descriptive statistics on the use of CBA/CEA across WB education PADs from 2010 to 2014—including counts, measures of central tendency, and variability (Creswell, 2014)—to identify general
trends. The second goal is to select specific WB education PADs from 2010 to 2014, based on predominant trends found within the descriptive statistics, for qualitative case study analysis in phase two. In order to manage research scope and support comparative analysis across case studies, the goal is also to select PADs across a maximum of three nations. The identification of specific PADs for further case study analysis acts as the interface between the two sequential phases, as findings from phase one are leveraged and passed to phase two.

The second phase of this study involves qualitative analysis of data resulting from interviews held with targeted WB employees. This phase encompasses holding, documenting, and analyzing interview data with the goal of securing rich, descriptive analysis on the use of CBA/CEA in specific WB education PADs from 2010 to 2014 (that were identified in phase one for case study analysis). Projects act as the unit of analysis for case studies as they offer a complex combination of unique factors that influence why, how, and under what circumstances CBA/CEA are being used (Merriam, 2002). A case study approach provides the opportunity to “gain an in-depth understanding of the situation and meaning for those involved … in context rather than a specific variable, in discovery rather than confirmation” (Merriam, 1998, p. 19). Anchored in real-life situations, case studies offer the advantage of deeply investigating “complex social units consisting of multiple variables” (Merriam, 1998, p. 41) to “secure a rich and holistic account of the phenomenon” (Merriam, 1998, p. 40). A case study approach also provides a structure for understanding the phenomena from multiple perspectives (Slavin, 2007)—which is needed to support this study’s conceptual framework (of analysis).

From the viewpoint of mixed methods research, the following four areas of this study’s phased design requires clarification: the level of integration, priority, timing, and mixing between phases (Creswell & Clark, 2011). The level of integration, which focuses on the extent of interaction between the two phases, is represented by case studies identified in phase one and
passed to phase two. The priority, which focuses on relative importance between phases, places emphasis on the qualitative analysis in the second phase to support the requirement for rich, descriptive analysis needed to fully address research questions. The timing, which represents sequencing between the two phases, is sequential as phase one analysis feeds phase two. The mixing, which represents how phases are interrelated, occurs during data analysis where each phase is analyzed independently and then sub sequentially merged and compared.

Quantitative analysis within phase one facilitates a macro view of how and under what general situations CBA/CEA are being used in WB education PADs from 2010 to 2014. Qualitative analysis within phase two facilitates a micro view of how, why, to what extent, and under what circumstances CBA/CEA are being used in relation to specific WB education PADs from 2010 to 2014. When combined, the macro quantitative lens and the micro qualitative lens facilitate an integrated, holistic perspective for addressing the research questions. A mixed methods approach supports a richer, more complete understanding of the phenomena that could not be secured by either quantitative or qualitative data by itself (Creswell, 2014, Creswell & Clark, 2011; McMillian & Wergin, 2010).

4.2 Data sources and selection criteria

The primary data source for phase one of this study is World Bank education Project Appraisal Documents (PADs)—which were found in the publicly available World Bank Education Database. The database “includes all operations managed by the Education Global Practice between 1998 and 2014” (World Bank, 2014f). The World Bank Education Database contains numerous documents pertaining to various WB education initiatives—one of which is a Project Appraisal Document (PAD) that is aligned with education projects. As noted earlier, in the Literature Review section of this study, a WB PAD articulates a wide spectrum of details supporting a proposed project and includes analysis and rationale for a project from an
economic, financial, technical, institutional, social, and environmental viewpoint (World Bank, 2011a).

The selection criteria for phase one encompass all education initiatives that were identified as projects approved by the Education Sector Board, from January 2010 to December 2014, as found within the World Bank Education Operations List (that summarizes contents of the World Bank Education Database) (World Bank, 2014f). The year selection was the single criteria used for identifying project PADs from the World Bank Education Database. The date criteria is in place to support analysis of more recent WB education projects and forge new ground in relation to WB research on CBA/CEA use in education (as existing WB research predominantly carries forward to 2010). All WB projects with an approved PAD from 2010 to 2014, which totaled 103 (World Bank, 2014f), were filtered against several criteria to create a purposeful sample (Merriam, 2009) for phase two case study analysis. The filter criterion was applied and then the resulting data was analyzed across filters to look for predominant trends among results—to identify PADs for case study analysis. The filtering criterion I used to create the purposeful sample was five-fold.

First, all PADs were filtered by their use of CBA/CEA. PADs were classified as PADs that did not contain a CBA/CEA and PADs that did contain a CBA/CEA. To be classified as a CBA, an analysis of costs and benefits in relation to the project was present along with either a resulting net present value (NPV), benefit-cost ratio (B/C) or internal rate of return (IRR). To be classified as a CEA, an analysis of costs in relation to an effectiveness measure was present. The CBA/CEA was also either supported by unique project specific data or supported by baseline data from existing research, and the level and/or quality of supporting CBA/CEA detail presented did not come into play. Second, all PADs and their use of CBA/CEA were filtered across time—specifically from 2010 to 2014. Third, all PADs and their use of CBA/CEA were
filtered by geography—specifically by World Bank defined geographic regions and nations within regions (see Appendix D: World Bank Variable List of Values). Fourth, all PADs and their use of CBA/CEA were filtered by education scope—specifically by World Bank defined education themes and education sectors (see Appendix D: World Bank Variable List of Values). Fifth, all PADs and their use of CBA/CEA were filtered by fiscal amounts and funding sources—specifically total PAD dollars as funded by sources identified in the PAD. Results from each filter were compared and contrasted to identify a set of PADs for case study analysis in phase two. These five filters were selected, as in totality they support the selection of a set of diverse case studies for phase two.

While the study’s design is based on the selection of PADs for case study in phase two, a target of six PADs across a maximum of three nations was established at the onset of this study, to manage research scope. The six PADs were also targeted to include the use of CBA/CEA to varying degrees to account for different approaches to completing a CBA/CEA. Also, where possible, the six PADs were to entail at least one PAD with primary education in its scope, and at least one PAD involving a nation within the geographic region of Sub-Saharan Africa. While it was acknowledged that initial PAD targets may require adjustment based upon the completion of phase one analysis, the viability of these initial targets was confirmed through preliminary data analysis completed prior to the onset of this study.

The inclusion of PADs focusing on primary school was in place because of the foundational importance of primary education in emerging nations, from both an individual and societal standpoint (McMahon, 2010)—as supported by the 2015 Millennium Development Goal of “achieving universal primary education” (United Nations Development Programme, 2014). The resulting data will help answer the question: is the global push for primary school education impacting CBA/CEA use in education PADs? The inclusion of PADs rooted in Sub-
Saharan Africa was in place because the high level of demand for primary education in this area of the world—one-third of children in this region of the world fail to complete primary school (UNESCO, 2014). The resulting data will help answer the question: is the high demand for primary education in Africa impacting CBA/CEA use in education PADs?

The primary data source for phase two came from interviews held with WB employees involved in PAD case studies (identified in phase one of this study). First, individuals involved in PAD case studies were solicited for interviews, to provide insights into the particulars regarding CBA/CEA use within a specific PAD. For each PAD case study, the goal was to interview the PAD’s education sector manager, team leader, economist, and education/policy specialist—which are documented in the PAD. These roles were targeted to support a wide range and depth of perspectives needed to holistically address the research questions. Second, interviews were solicited with education managers within the WB education practice to provide general insights into the theoretical and holistic use of CBA/CEA in WB education PADs. Both sets of interviews—those with WB employees involved in specific PADs and WB managers within the education practice—facilitated views from the perspective of policy creation to policy implementation (in relation to the use of CBA/CEA in WB education PADs). An interview approach was used to collect data, as this method facilitated the gathering of insightful, rich, and explanatory thoughts by providing study participants a forum to elaborate on their experiences and understanding of the phenomena (Glaser & Strauss, 1967; Merriam, 2009). A total of 25 to 30 interviews were targeted across the two sets of interviews, which accounted for six case studies—with four interviews per case study, and up to five managers within the education practice.

A multitude of additional secondary data sources were also used to support data analysis in phase two. Information and statistics from publicly available documents and reports
generated within the WB were collected as follows:

- Policies, procedures, and operational document, such as the WB Operational Manual;
- Strategic documents, such as Country Assisted Strategies and Comprehensive Development Frameworks; and
- Project reviews; such as WB Independent Evaluation Group Project Reviews.

Relevant studies, reports, and opinion pieces found in the public domain generated outside the WB were collected as follows:

- Predominant education policy and economic journals, such as Educational Evaluation and Policy Analysis, International Review of Education, Comparative Education, Education Finance and Policy, and Economics of Education Review;
- Government policy documents, such as Policy Statements and Policy Evaluation Reports for education projects;
- Intergovernmental institutions that have a vested interest in education in emerging nations, such as the United Nations International Children’s Emergency Fund (UNICEF) and the Organization for Economic Cooperation and Development (OECD); and
- Respected scholars, such as experts in economic analysis and the application of economic analysis in an educational setting.

4.3 Methods for data collection

I collected primary data for phase one from the World Bank Education Database that is publicly available on the World Bank’s web-site (World Bank, 2014f). I downloaded a summary of all education initiatives (in Excel format), which contained preliminary information about each initiative; such as country, year, project name, key dates, etc. and a link to a unique web-site for each initiative that housed all publicly available documents for the initiative—including a PAD, if applicable. The summary data was first filtered to only include programs
and projects with a completion date from 2010 to 2014. From there, each initiative’s unique web-site (that housed all publicly available documents for the project) was reviewed to determine if the initiative was a project with a PAD completed from 2010 to 2014. If yes, the corresponding PAD was retrieved, read, and key elements were logged in an Excel spreadsheet for filtering and analysis—which I labelled as the PAD Summary Spreadsheet. I downloaded the summary of all education initiatives (from the World Bank Education Database) twice: first in October 2014 to support my initial analysis, and then in January 2015 to capture projects with completed PADs in November and December of 2014 and audit my initial analysis.

I collected primary data for phase two through semi-structured (Merriam, 2009) interviews in a manner that supported conversational, flexible, and exploratory discussion. Participation in this study is confidential—participants are not identified in any of the study’s reports or findings—pseudonyms are used to protect the privacy of all study participants. In addition, the nations involved in PAD case studies and the PAD case study names are also assigned pseudonyms to ensure participant confidentiality.

Potential interviewees were identified via PAD documentation and by means of a snowball sampling technique, where interviewees were asked to identify any other potential interviewees at the end of the discussion (Creswell, 2014). Participation was voluntary—participants were not provided any financial compensation for their participation in the study. However, participants did have the opportunity to reflect, explore, and learn from their work and efforts regarding economic analysis of education projects.

Interviews were held at WB Headquarters in Washington, District of Columbia (DC) in the interviewee’s office or via a phone conversation for interviewees not located in Washington or for Washington based interviewees who were not able to meet with me during my stay in Washington (in the first quarter of 2015). Interviews were held at WB Headquarters in February
and March of 2015. Phone interviews were held from January 2015 to May 2015. Discussions were slated to last approximately one hour in duration, with only the interviewee and I present during the conversation. Discussions were audio-taped when consent was provided by the interviewee. I was the only person who listened to interview tapes and I transcribed all discussions verbatim. Transcribed interviews were sent to interviewees for confirmation of content. If permission was not granted by the interviewee to audio-tape the conversation, a summary of discussion highlights was created and sent to the interviewee for confirmation of content. All interview audio-tapes and transcripts are securely stored in my private residence under lock and key, and will be destroyed five years after completion of the study.

Interviews collected information on four dimensions of analysis that aligned with the conceptual framework: organizational, personal, project, and worldwide. The organizational dimension collected data regarding policies, implicit norms and rules and other features of organizational culture that guide and influence how and why CBA/CEA is used in education projects at the World Bank. The personal dimension looked at educational backgrounds, values and beliefs, and work experiences of individuals that create World Bank education PADs to see how these elements potentially impact how and why CBA/CEA is used in education projects at the World Bank. The project dimension collected data on what unique project circumstances are CBA/CEA being completed for education projects at the World Bank; such as project scope, objectives, risk, and historical context. The worldwide dimension collected data on how global influences play a factor in the use of CBA/CEA in education projects at the World Bank and why; such as national, regional, and local governments, and macro-economic indicators (such as inflation and interest rates).

At the end of each interview, I documented my thoughts on key discussion points that I felt were predominant, along with common discussion points across interviews. I also asked
myself a series of self-reflective questions on my interviewing skills and itemized areas that I believed went well and areas that I could improve upon. All of these thoughts were hand-written in a Personal Reflection Journal, which I kept throughout the interview process. I reviewed my Personal Reflection Journal and interview guide prior to every interview as a means to prepare for the discussion ahead.

4.4 Interview participants

Target study participants were recruited by invitation via email, which included an information letter that summarized the purpose of the research (Appendix A: Participant Information Letter). Invitations were followed-up within a week via email and phone to determine if the potential interviewee wished to participate in the study. If a response was not received either way after two weeks from the first follow-up, two additional follow-ups were placed via email and phone—spaced out at least one week apart. Half of the study participants provided their consent prior to the initial follow-up.

If an individual agreed to participate in the study, he/she was sent a letter of consent via email—which included an overview of the interview process, a summary of interview questions, and consent questions to be completed by the interviewee (Appendix B: Participant Consent Form). Study participants were able to cease participation in the study at any time with no consequences. In the event that a participant withdrew from the study, all corresponding data and audio-tapes were destroyed and not considered part of the study. All interviews adhered to an interview guide (Appendix C: Interview Guide). Discussions were held in English and I held no pre-existing relationship with anyone interviewed.

I interviewed a total of 23 individuals between January 2015 and May 2015, and as noted earlier, used pseudonyms to preserve study participant identity. While the target interview total count was 25 to 30, some the education managers interviewed were also education sector
managers of PAD case studies—reducing the number of interviews held. Approximately half of the interviews (11 out of 23) were held on-site in Washington at the World Bank’s Headquarters and the other half (12 out of 23) were held via phone. Just over half (57%, 13 out of 23) of the interviews were held with employees based in the field and the remaining (43%, 10 out of 23) with employees based in Washington. The table below, *Table 4-1 Interview Participants and Their Roles*, summarizes study participants, their role, total number of participants by role, and the corresponding percentage.

Table 4-1: Interview Participants and Their Roles

<table>
<thead>
<tr>
<th>Pseudonym Used</th>
<th>Role</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee A to D</td>
<td>Education Sector Manager/Education Manager</td>
<td>4</td>
<td>17%</td>
</tr>
<tr>
<td>Interviewee E to K</td>
<td>Team Leader/Co-Team Leader</td>
<td>7</td>
<td>31%</td>
</tr>
<tr>
<td>Interviewee L to Q</td>
<td>Economist</td>
<td>6</td>
<td>26%</td>
</tr>
<tr>
<td>Interviewee R to W</td>
<td>Education/Policy Specialist</td>
<td>6</td>
<td>26%</td>
</tr>
</tbody>
</table>

I solicited 39 individuals to participate in the study and 23 agreed to participate—equating to 59% of individuals solicited (so 16 individuals declined participation or 41% of individuals solicited). Three individuals had recently retired from the World Bank and elected not to participate—equating to 8% of individuals solicited. Eleven individuals elected to not participate in the study—equating to 28% of individuals solicited. Two individuals never responded to the request for study participation after three follow-ups—equating to 5% of individuals solicited. While a reason for declining study participation was not requested, six individuals noted time constraints as the reason for not participating in the study and two individuals noted a lack of interest in the topic. The 16 individuals that elected to not participate in the study were distributed evenly across roles—that is, no particular role consistently declined study participation. Finally, two of the study participants had recently left the World Bank, but were still interviewed as each played an active role in the World Bank as consultants.

The majority of interviewees were very responsive to questions asked, keenly interested,
and eager to convey their thoughts and insights towards the research topic. Seven of the 23 interviewed elected to not record the discussion, but this request did not impact interview context or length. Two participants responded back to interviewee transcripts/summaries with comments that entailed minor content corrections (on one to three points per interview). The average length of interviews was an hour as originally targeted—with eight discussions (35% of participants) running longer than an hour and four (17% of participants) discussions running shorter than an hour.

4.5 Data analysis

Data analysis for phase one involved descriptive statistical analysis on the use of CBA/CEA across WB education PADs from 2010 to 2014—including counts, measures of central tendency, and variability (Creswell, 2014)—as a means of identifying general trends. The software tool Excel was used to support the quantitative analysis. The PAD Summary Spreadsheet, as noted earlier in the Data Collection section of this study, was the data source for analysis. The PAD Summary Spreadsheet held the following variables of analysis, which were documented within each PAD: year of completion, geographic region, nation, education theme, education sector, and funding amount by funding source. Values for geographic region, nation, education theme, education sectors, and funding source aligned with World Bank defined data standards for these variables (Appendix D: World Bank Variable List of Values). In addition, the spreadsheet carried an indicator which I derived, that noted if a PAD contained a CBA/CEA within the document—which was labelled as CBA/CEA used (yes or no). If a PAD did not contain a CBA/CEA but noted a CBA/CEA was completed and documented outside the PAD, this stance was investigated and added to the spreadsheet where applicable.

The PAD Summary Spreadsheet was used to generate total counts for each data variable, along with mean, median, and mode (measures of central tendency) where applicable, data
ranges, and percentile ranks (variability). In addition, various cross-tabulations were run on the
data to seek trends. For example, a cross-tabulation was completed with the number of nations
that produced PADs with a CBA/CEA from 2010 to 2014, against the number of nations that
produced 1 to 6 PADs—which reflected the spread of CBA/CEA use across nations.

Data analysis for phase two involved coding and analysis of interview data through both a
deductive and inductive approach. The software tool *NVivo* and *Excel* were used to support the
qualitative analysis. Deductive qualitative analysis supported a “top down” approach for
coding—deductive analysis is leveraged when a pre-defined set of codes are used that are based
on previous knowledge (Gilgun, 2011). Inductive qualitative analysis supported a “bottom-up”
approach for coding—where patterns, categories, and themes are identified, adjusted, and
established through an interactive back and forth approach (Creswell, 2013). Both sets of
analysis were compared, analyzed, and merged to create the final set of themes. This
approached offered a form of triangulation to strengthen the accuracy of the data (Creswell,
2012). Once final themes were defined, linkages and relationships among themes were
identified and assessed.

Deductive coding was based on a thematic coding scheme rooted in the conceptual
framework. Interview transcripts and summaries were coded in relation to major themes within
each dimension of analysis found in the conceptual framework as found below in *Table 4-2*

*Deductive Coding Themes*. Text that lay outside the thematic coding scheme was highlighted
and reviewed post inductive coding for inclusion or exclusion. During the coding process, I also
highlighted interviewee quotes that I believe best reflected identified themes.

*Table 4-2: Deductive Coding Themes*

<table>
<thead>
<tr>
<th>Conceptual Framework Dimension</th>
<th>Deductive Coding Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Dimension</td>
<td>Rules</td>
</tr>
<tr>
<td></td>
<td>Decision structure</td>
</tr>
<tr>
<td></td>
<td>Framing</td>
</tr>
<tr>
<td>Conceptual Framework Dimension</td>
<td>Deductive Coding Theme</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Social Structure</td>
<td>Educational background</td>
</tr>
<tr>
<td></td>
<td>Values and beliefs</td>
</tr>
<tr>
<td></td>
<td>Work experience</td>
</tr>
<tr>
<td>Personal Dimension</td>
<td>Project specifics</td>
</tr>
<tr>
<td></td>
<td>Context within a PAD</td>
</tr>
<tr>
<td>Project Dimension</td>
<td>Government influences</td>
</tr>
<tr>
<td></td>
<td>External agencies</td>
</tr>
<tr>
<td>Worldwide Dimension</td>
<td>External global factors</td>
</tr>
</tbody>
</table>

Inductive coding was based on the constant comparative analysis method (Glaser & Strauss, 1967), which is an inductive approach to generating themes across interview data. As the method suggests, “the research begins with a particular incident from an interview, field notes or documents and compares it with another incident in the same set of data or in another set” (Merriam, 2009, p. 200). The coding procedure involved three steps—open coding, axial coding, and selective coding. Open coding involves “breaking data apart and delineating concepts to stand for blocks of raw data” (Strauss & Corbin, 2008, p. 198). Axial coding involved “the act of relating concepts/categories to each other” (Strauss & Corbin, 2008, p. 198). Selective coding involved formalizing relationship among concepts/categories into differing themes. I performed inductive analysis on a fresh set of interview data twice—once through a manual process using Excel and again through an automated process using NVivo two weeks after the first manual process (to ensure I captured all themes and was consistent in coding). During coding, I once again highlighted interviewee quotes that I believed best reflected identified themes.

Once deductive and inductive coding was completed, I compared both approaches and identified like themes across both sets of codes and consolidated accordingly. Themes found in one of the coding exercises but not the other, were reflectively examined and assessed in the context of the conceptual framework for placement. To close the coding exercise, I reviewed and compared the final set of themes against key interview discussion points within my
Personal Reflection Journal—looking for consistency and once again reflectively assessing outliers in relation to the conceptual framework. As noted earlier, once final themes were defined, linkages and relationships among themes were identified and assessed.

Phase two also included the analysis of secondary data sources to support a social, economic, political, and historical contextual view of each PAD case. Content analysis (Merriam, 2009) of secondary data included review of positions taken, recommendations forwarded, and use of language in relation to economic analysis of education interventions. PAD case studies were also backwards mapped to WB strategic documents to assess linkages between strategy, execution, and economic analysis.

The final portion of phase two analysis describes and compares the PAD cases (forwarded from phase one) in relation to the dimensions of analysis. As the study encompassed multiple cases, case study analysis included “within-case analysis” and “cross-case analysis” (Merriam, 1998, p. 195) to support a narrative analysis of the cases. Within-case analysis triangulated interview data and secondary data sources to strengthen the credibility of findings (Creswell, 2012). Cross-case analysis compared and contrasted across key factors that influence CBA/CEA found within the dimensions of analysis. The cross-case analysis also acted as the basis for assessing how far CBA/CEA theory can be leveraged to explore and explain the theoretical use of CBA/CEA, as a Weberian ideal type (Weber, 1948).

4.6 Limitations of the methodology

Limitations associated with the study’s methodology revolve around challenges associated with the interview process, credibility of findings, and representation.

Constraints exist with any interview process—as interviewees might not be available, could lack the required experience or knowledge to respond to interview questions, might not express their full thoughts with full honesty, and could express thoughts that they believe the
researcher may find as favorable. These challenges were mitigated through various strategies—individuals were given an outline of the interview protocol that emphasizes confidentiality, participants were provided an overview of interview questions beforehand to support prior reflection or redirection if needed, and individuals were reassured that their responses were held in strict confidentiality. While both in-person and phone interviews ran smoothly, the ability to interact directly with an individual and respond to social clues (such as body movement and eye contact) was lost in phone interviews—a limitation which could make some interviewees uncomfortable. By providing check-points throughout all phone conversations and listening carefully for voice tone, this limitation was diminished. Finally, at times technical challenges occurred when interviewees used cellular phones, as the conversation was difficult to hear at moments due to phone signal issues. If the conversation was inaudible, the interview was re-scheduled at a later time or another phone line was used.

As a mixed methods study with an emphasis on qualitative analysis, limitations can exist around the credibility (or trustworthiness) of findings—which is an acknowledged challenge associated with studies viewed from an interpretive theoretical framework (Butin, 2010). Credibility as described by McMillian & Wergin (2010) encompasses “the extent to which the design is rigorous, the researcher’s position is clear, the analysis of data transparent and open to cross-examination, and the results accurate and trustworthy” (p. 91). To mitigate this limitation and assess the accuracy of study data I used triangulation—which refers to “supporting conclusions with evidence from different sources” (Slavin, 2007, p. 133). Trends from the first phase were reviewed and compared with findings in the second phase. External data sources, such as academic studies and World Bank reports, were also reviewed and compared. Finally, interview data across like roles were reviewed and compared. In each of these triangular exercises, discrepancies were highlighted and addressed during the analysis phase of this study.
Another credibility issue revolves around data in the PAD itself. First, the PAD document itself was used to determine if a CBA/CEA was completed for a project—which presents a data limitation because a project could have had a CBA/CEA completed outside the PAD. While the probability of a project completing a CBA/CEA and not mentioning the analysis at least once in a PAD is rare, the impact is minimal and constrained to phase one’s descriptive statistics (which reveals macro data trends). Second, the PAD document itself was used to identify all data elements for analysis—which presents a data limitation because PAD data contains a snapshot of project traits that can alter as the result of implementation. This limitation is constrained as PAD data used within this study are static versus dynamic in nature—such as the year the project was completed, how a CBA/CEA was completed, and project objectives.

As a study with a qualitative emphasis, an important question to ask is “the extent to which the results provide insights useful in other comparable settings” (McMillian & Wergin, 2010, p. 92)—which relates to the question of representation and transferability of findings to like scenarios. Representation limitations are three fold. First, were individuals interviewed representative of their role within an education PAD? Second, were education PADs selected representative of factors that influenced why, how, and under what conditions CBA/CEA is used in a PAD? Third, were the World Bank education projects selected representative of the scope, depth, and breadth of education projects found in emerging nations? The strategy employed to address these questions was to ensure the research was completed in a systematic and rigorous way, while providing enough rich detail for the reader to judge the representation and transferability of findings to like scenarios.

4.7 Ethics and considerations

This research study adheres to the University of Toronto’s governing Ethics Review Protocol and was reviewed and approved in November 24, 2014 (Protocol Reference #30984)
from the University of Toronto Ethics Review Board. As this study involves voluntary participation from World Bank employees, ethics revolve around protecting the rights of study participants and their anonymity.

Study participation was voluntary and individuals could elect to not answer any interview question or withdraw at any time from the study without consequence, penalty, or judgment—all of which were clearly stated in the study’s letter of consent. As indicated earlier in this section, pseudonyms were assigned to each interviewee, PAD case studies, and nations involved in case studies to ensure participant confidentiality—which will be the case for any future reports, publications or public presentations associated with this research.

The risk to interviewees, in relation to this study, is the possibility that participants could be identified as providers of “unofficial” and possibly controversial information about political and operational processes within the organization. If such was the case, this could affect their employment or public image. To minimize this risk a direct consent protocol that carefully outlined the purposes of the research, along with the employment of a careful coding system on all interview data, was employed. Participants were also given the opportunity to review interview transcripts/summaries and the right to revise content if they believed their confidentiality was at risk. To support full transparency, interviewees were also offered a full copy of this dissertation upon completion or a summary of the research that provides a synopsis of the study’s purpose, methodology, themes, implications, and concluding thoughts.

Ethics approval for this study was not required by the World Bank Group’s Office of Ethics as potential study participants were international civil servants who undertake to represent their organization to the public as part of their daily work. In addition, all World Bank documentation used in this study is publicly available on the World Bank’s web-site. However this study was still reviewed by the World Bank’s Office of Ethics and Business Conduct, as
during the research effort the supervisor of this dissertation—Dr. Karen Mundy—accepted a temporary leave from the University of Toronto to take on the role of Chief Technical Officer at the Global Partnership for Education (GPE). As the World Bank hosts GPE as one of the World Bank’s trust funds, it was imperative to ensure no conflict of interest was in play. Established in 2002, GPE is in place to support Education for All Fast Track initiatives (World Bank, 2015h)—initiatives that are not within the scope of projects analyzed in this study. After review by the World Bank’s Office of Ethics and Business Conduct, it was verified that this study represented no conflict of interest. During each interview, to support full transparency, I also noted that this situation did not provide me with any access to non-public Bank Group information and that the views and conclusions presented in this dissertation are entirely of my own. In addition, I asked participants if they had any concerns or issues with this situation and no challenges were identified.

In closing, one important consideration related to this study’s methodology needs to be raised—the role which I play as the researcher. Given the qualitative emphasis of this study, I am an active participant in the research process (Creswell, 2012; McMillan & Wergin, 2010; Merriam, 2002) and bring my personal beliefs and assumptions about the topic and the World Bank organization to this study. While it is impossible to isolate and identify all implications pertaining to my role in this study, I was cautious of this situation and questioned myself at several checkpoints during the process to ensure my beliefs and assumptions were not influencing study results—especially during coding of interviews, along with the development of implications and concluding thoughts. I can say that, I made every attempt to ensure that comments from study participants acted as the basis of analysis and discussion that I brought forward.
4.8 Summary: the design and methods employed

This research project consisted of two phases and supports an explanatory sequential mixed methods approach (Creswell, 2014).

Phase one entailed quantitative analysis of general trends around the use of CBA/CEA in World Bank education Project Appraisal Documents (PADs) from 2010 to 2014, using the World Bank Education Database as the data source. Based on data analysis that identified trends surrounding CBA/CEA use in PADs, across five filter criteria (a target of) six specific PADs were targeted for further case study analysis in phase two.

Phase two entailed qualitative analysis of PAD case studies, using data collected via interviews and publicly available WB documents and reports. Data was collected via semi-structured interviews (Merriam, 2009) that adhered to an interview guide (Appendix C: Interview Guide), which was designed to support a conversational, flexible, and exploratory discussion. Interviews were held at WB Headquarters in Washington, District of Columbia (DC), where applicable and possible, and alternatively via phone. Interviews were audio-taped if granted permission by the interviewee, transcribed by myself, and sent to interviewees for confirmation of content. When not recorded, interviews were summarized and sent to interviewees for confirmation of content. Data analysis for phase two encompassed coding of interviews through a deductive and inductive approach.

When combined, the quantitative view from phase one and the qualitative view from phase two, offered an approach to facilitate a richer, more comprehensive understanding of the phenomena that could not be addressed by either quantitative or qualitative data alone.

Like all research undertakings, limitations and ethical considerations of methods employed required attention. Constraints related to any interview process applied to this study, along with study credibility, and the question of representation. Various strategies were in place
to mitigate the impact of each limitation. The main ethical consideration revolved around the rights and confidentiality of study participants which were also addressed through various mitigation strategies. Finally, while the personal beliefs and assumptions that I hold have influenced the study, I let the voices of study participants direct the evidence that supported the study’s analysis, and act as the basis for implications and concluding thoughts.
5 Phase One Findings

Findings from the study’s first phase, that involves quantitative analysis of education PADs from 2010 to 2014 are presented and discussed in this chapter. I first summarize descriptive statistics generated on the use of CBA/CEA across education PADs from 2010 to 2014 through the filter criterion outlined in the Methods section of this paper—time, geography, education scope, and fiscal amounts and funding sources. Following the summary of descriptive statistics, general data trends within each filter are identified and discussed. Finally, case studies arrived at through the aggregation of the filter criterion, are presented using pseudonyms to ensure participant confidentiality.

As articulated in the Methods section of this study, data leveraged in phase one comes directly from education PAD’s within the World Bank Education Database (as of January 2015). From the years 2010 to 2014, 103 education projects with completed and approved PADs (within the World Bank Education Database) acts as the primary data set for the following analysis. Where applicable, evidence in support of summary descriptive statistics articulated in this chapter can be found in Appendix E: Phase One Descriptive Statistics Supporting Material.

5.1 CBA/CEA use across time

At an aggregate level, from 2010 to 2014, on average just under two thirds of education PADs contained a CBA/CEA—63.11% (65 of 103 education PADs). In absolute terms, the number of education PADs with a CBA/CEA either held constant or increased year-over-year from 2010 to 2014. In relative terms, CBA/CEA use grew year-over-year from 2010 to 2014, with the exception of 2010 to 2011 where CBA/CEA use declined. These descriptive statistics are reflected in Table 5-1 below.
Table 5-1: Education PAD Counts and Percentages with CBA/CEA Use from 2010 to 2014

<table>
<thead>
<tr>
<th></th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>13</td>
<td>9</td>
<td>69.23</td>
</tr>
<tr>
<td>2011</td>
<td>19</td>
<td>9</td>
<td>47.37</td>
</tr>
<tr>
<td>2012</td>
<td>19</td>
<td>10</td>
<td>52.63</td>
</tr>
<tr>
<td>2013</td>
<td>27</td>
<td>18</td>
<td>66.67</td>
</tr>
<tr>
<td>2014</td>
<td>25</td>
<td>19</td>
<td>76.00</td>
</tr>
</tbody>
</table>

By 2014, according to derived counts, completing a CBA/CEA within an education PAD was considered close to the norm—with 3 out of 4 education PADs authoring a CBA/CEA.

However, the rate of change for CBA/CEA use from 2010 to 2014 conveys an interesting trend.

The data shows relative use of CBA/CEA from 2010 to 2014 as swaying in a pendulum like fashion—with a peak in 2010, trough in 2011, and a continued rise in 2012, 2013, and 2014. The marginal change in CBA/CEA use within education PADs from 2011 to 2014 was weak at 6.77% (76.00% in 2014 when compared to 69.23% in 2010)—given the large decrease in CBA/CEA use from 2010 to 2011 (by 21.86%). However, CBA/CEA use within education PADs from 2011 to 2014 paints a strong positive marginal change—at 28.63% (76.00% in 2014 when compared to 47.37% in 2011). While the data cannot speak to why this trend is occurring, I posit the strong downward swing in CBA/CEA use from 2010 to 2011 as partially due to a stronger global economy. As the global economy began to recover from the “great recession” (Alcidi & Gros, 2011) in 2011, I speculate the level and intensity of scrutiny on funding for public services (like education) dissipated and tools like CBA/CEA were called upon with less frequency. While a 76% completion rate for CBA/CEAs in education PADs in 2014 is encouraging, the trend could be one where CBA/CEA use in education PADs is influenced by economic cycles. Unpacking and investigating how and why these data tendencies occur, is a topic for further discussion in the second phase of this study.
While this thesis refers to CBA/CEA together, CEA use in education PADs was very low in comparison to CBA from 2010 to 2014—at only 6.15% (4 of the 65) of education PADs that completed a CBA or CEA. CEA use was disbursed across 2010 to 2014 as follows: one in 2011, one in 2013, and two in 2014. As such, the use of CEA occurred more in the later part of the 2010 to 2014 period. When used, CEA was not linked to any particular geographical region, education scope, funding amount or funding source. CEA use was dispersed across four different nations, within three different regions, each with differing education scope, funding amount, and funding source. While the trend of poor CEA use within education projects is consistent with poor CEA use in the field of education more generally (Levin, 2001; Hummel-Rossi & Ashdown, 2002), I posit the historic dominance of CBA within education PADs, sparked by Psacharopoulos in the 1980s and 1990s (Jones, 2007), as a highly influential factor contributing to the lack of CEA use. The reasons for low CEA use is explored during the second phase of this study.

The situations where CBA/CEA was not used in education PADs from 2010 to 2014, falls into three categories. First, the PAD stated that reliable quality data to produce a CBA/CEA was not available and reliable quality data from similar studies (from like nations) was also not available to leverage. In this situation, the PAD generally referenced benchmark economic theories that supported the project’s objectives (with an emphasis on human capital theory) and/or elaborated upon qualitative analysis in support of the project’s objectives. Second, the PAD stated the scope of the project was supported by international, academic, and/or World Bank benchmark studies, which in turn acted as the supporting economic analysis. In this situation, the PAD referenced benchmark studies as the project’s economic justification. Third, education was considered a small portion of the overall scope of the project, from the viewpoint of project objectives and/or costs. In this situation, qualitative analysis in support of the
project’s education objectives was provided. These three categories are evenly spread across time, geography, education scope, and fiscal amounts and funding sources.

5.2 CBA/CEA use across geography

CBA/CEA use across geography encompasses analysis within six world regions as categorized by the World Bank, along with several nations within each region. World regions are classified by the World Bank as follows: Sub-Saharan Africa/Africa (SSA), Latin America and the Caribbean (LAC), East Asia and Pacific (EAP), South Asia (SAS), Europe and Central Asia (ECA), and Middle East and North Africa (MNA) (World Bank, 2015i).

At an aggregate level, looking at the data through a regional lens from 2010 to 2014, no single region of the world dominated the creation of education PADs or the use of CBA/CEA within an education PAD. However when combined, four of the six world regions (SSA, LAC, EAP, SAS) accounted for the vast majority of education PADs—87.38% (90 out of 103 education PADs). Within these top four regions, Sub-Saharan Africa had the highest number of education PADs (30), yet the lowest relative CBA/CEA use at 46.67% (14 out of 30) of education PADs with a CBA/CEA. In addition, South Asia had the lowest number of education PADs (18), yet the highest relative CBA/CEA use at 94.44% (17 out of 18) of education PADs with a CBA/CEA. Given the scarce number of data points for regions ECA and MCA, trends associated with these regions are not extrapolated as resulting statistics would be misleading (given the very small sample set). Descriptive statistics supporting the above statements are reflected in Table 5-2 below.

Table 5-2: Education PAD Counts and Percentages with CBA/CEA Use across Regions from 2010 to 2014

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA – Sub-Saharan Africa</td>
<td>30</td>
<td>14</td>
<td>46.67</td>
</tr>
<tr>
<td>Region</td>
<td>Number of Education PADs</td>
<td>Number of Education PADs with CBA/CEA</td>
<td>Percentage of Education PADs with CBA/CEA</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------</td>
<td>--------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>LAC – Latin America and the Caribbean</td>
<td>23</td>
<td>16</td>
<td>69.57</td>
</tr>
<tr>
<td>EAP – East Asia and Pacific</td>
<td>19</td>
<td>12</td>
<td>63.16</td>
</tr>
<tr>
<td>SAS – South Asia</td>
<td>18</td>
<td>17</td>
<td>94.44</td>
</tr>
<tr>
<td>ECA – Europe and Central Asia</td>
<td>7</td>
<td>5</td>
<td>71.43</td>
</tr>
<tr>
<td>MCA – Middle East and North America</td>
<td>6</td>
<td>2</td>
<td>33.33</td>
</tr>
</tbody>
</table>

Why the region of the world with the highest number of education PADs completed from 2010 to 2014 carries the lowest percentage of CBA/CEA use, and why almost every single education PAD completed in South Asia has a CBA/CEA, are questions for review in phase two of this study. I speculate the push to achieve MDG goals for education levels of primary enrollment in Sub-Saharan Africa (from 2010 to 2014) as a factor influencing the type and amount of project justification needed. From 2008 and 2010, “out-of-school numbers increased in Sub-Saharan Africa by 1.6 million” (UNESCO, 2012b). As such, by 2010, much more work was needed to achieve global education goals for education levels at the primary level—even though “education levels had risen sharply across Sub-Saharan Africa” (Majgaard & Mingat, 2012, p. 1) from 1992 to 2012. In relation to CBA/CEA use in South Asia, I speculate the push for an increase in the quality of education (versus access) as a factor that influenced the type and amount of project justification. From 2001 to 2009, “South Asia has made considerable progress in improving access to education but faces a major quality challenge in primary and secondary education” (Dundar, Beteille, Ribound, & Deolalikar, 2014, p. 2). Projects focusing on increasing quality (of any service or product) often holistically require strong justification to rationalize incremental positive changes. Phase two of this study will explore trends between global education goals and the type of education project, in relation to CBA/CEA use.

Finally, all regions produced education PADs with a CBA/CEA analysis across the years from 2010 to 2014. However, East Asia and Pacific, and South Asia were the only regions that
consistently produced a steady-stream of PADs with a CBA/CEA for every from 2010 to 2014. I speculate the rapid growth within Asia from 2010 to 2014, as the result of high levels of urbanization and industrialization brought on by changes to the economic market structures of many Asian nations (OECD, 2014), resulted in an increased demand for education across all levels of schooling. I also speculate the rapid increase in the demand for education across all levels of schooling, resulted in a need for richer analysis of education requests (like CBA/CEA) to help direct limited education dollars. Again, phase two of this study will help explore this hypothesis. At an aggregate level, looking at the data through a national lens from 2010 to 2014, no single nation dominated the creation of education PADs or the use of CBA/CEA within an education PAD.

In absolute terms, 60 different nations were associated with 103 education PADs from 2010 to 2014. Within this data set: each nation was commonly associated with one education PAD (the mode), the average number of education PADs that a nation was associated with across the five years was 1.72, and the maximum number of PADs that a nation was associated with was six. Approximately 63% of nations (38 of the 60 nations) were associated with only one education PAD from 2010 to 2014. Those nations that were associated with more PADs were not necessarily those nations that were bigger in terms of population or GDP.

In absolute terms, 46 different nations were associated with 65 education PADs from 2010 to 2014 with a CBA/CEA. Within this data set: each nation was most commonly associated with one education PAD with a CBA/CEA (the mode), the average number of education PADs with a CBA/CEA associated with a nation was 1.08, and the maximum number of education PADs with a CBA/CEA associated with a nation was four along with a minimum of zero. Approximately 74% of nations (34 out of the 46 nations) with education PADs, only completed one education PAD with a CBA/CEA (from 2010 to 2014). For the remaining 26%
of nations (12 out of the 46 nations) with education PADs, half of those nations were associated with two education PADs containing a CBA/CEA from 2010 to 2014, and the remaining were evenly associated with three to four education PADs containing a CBA/CEA.

Looking at the cross section of nations with an education PAD and the use of CBA/CEA within education PADs, conveys an interesting trend. If a nation did not have a CBA/CEA with an education PAD, the chances are more likely that the nation was only associated with one education PAD. Of the 14 nations that did not produce a CBA/CEA, 13 of them (92.86%) only authored 1 education PAD. The more education PADs a nation produced, the more likely they were to produce a CBA/CEA within their education PADs. Approximately two thirds of nations that completed one or more education PAD (from 2010 to 2014) actually completed a CBA/CEA for every single education PAD they authored (31 of the 46 nations that completed on or more education PAD from 2010 to 2014). Why a nation that produced more education PADs carried a higher chance of including a CBA/CEA in their PADs, is a question for exploration in phase two of this study. However, I speculate a wider spectrum of PAD team members (assumed needed to support an increase in PADs) facilitated more frequent use of CBA/CEA based on their individual values, beliefs, and experiences. CBA/CEA use in relation to individual values, beliefs, and experiences will be studied in phase two.

5.3 CBA/CEA use across education scope

CBA/CEA use across education scope encompasses analysis within education themes and sectors as categorized by the World Bank. To manage research scope, this study focuses on analyzing education PADs and their relationship with education themes and education sectors. However, it is important to note that given the diverse nature of education projects, education PADs are also often associated with World Bank themes and sectors outside of education. In these situations, education is only a portion of a PAD but these are still considered as education
PADs. For example, a project delivering a new thermal power generation plant that requires vocational training needed to operate the new plant is associated with both the sectors of education and energy and mining. In these cases, a CBA/CEA for the education portion of the project would specifically cite related costs and benefits to the education portion of the project as either a stand-alone CBA/CEA or integrated into the CBA/CEA for the entire project.

The World Bank, within the Human Development Theme (World Bank, 2015j), classifies education themes in two ways: Education For All (EFA) and Education For Knowledge Economy (EKA). In absolute terms, 98 of the 103 education PADs from 2010 to 2014 were associated with an education theme. An education PAD can be associated with one or both education themes based on project content. But, the majority of education PADs from 2010 to 2014—85.71% (84 of the 98 PADs with an education theme)—were only associated with one education theme. In relative terms, education PADs were spread fairly evenly across the two themes—with EFA applying to 53.06% of education PADs and EKA applying to 46.94%. Education PADs with a CBA/CEA, showed no trend across education theme—both showed the same relative use of CBA/CEA within an education PAD (at about 70% for each theme).

The World Bank classifies education sectors as follows: adult literacy/non-formal, pre-primary, primary, secondary, tertiary, vocational, educational administration, and general education (World Bank, 2015k). In absolute terms, 96 of the 103 education PADs from 2010 to 2014 were associated with an education theme. An education PAD can be associated with one or more education sector, but the majority of education PADs were associated with one education sector (61.17% of the time) or two education sectors (32.04% of the time). In relative terms, PADs were clustered around primary, secondary, tertiary, and vocational education sectors—these education sectors were more frequently associated with education PADs from 2010 to 2014. The cluster of pre-primary education and adult-literacy was also associated with
education PADs from 2010 to 2014, but less so. Given the scarce number of data points for education sectors adult literacy/non-formal and educational administration, trends associated with these geographies are not extrapolated as resulting statistics would be misleading (given the very small sample set). The following Table 5-3 reflects summary statistics discussed above.

Table 5-3: Education PAD Counts and Percentages across Education Sectors from 2010 to 2014

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Education</td>
<td>32</td>
<td>17</td>
<td>53.13</td>
</tr>
<tr>
<td>Tertiary Education</td>
<td>29</td>
<td>20</td>
<td>68.97</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>24</td>
<td>13</td>
<td>54.17</td>
</tr>
<tr>
<td>Vocational Education</td>
<td>23</td>
<td>16</td>
<td>69.57</td>
</tr>
<tr>
<td>General Education</td>
<td>15</td>
<td>9</td>
<td>60.00</td>
</tr>
<tr>
<td>Pre-Primary Education</td>
<td>14</td>
<td>9</td>
<td>64.29</td>
</tr>
<tr>
<td>Adult Literacy/Non-Formal Education</td>
<td>5</td>
<td>4</td>
<td>80.00</td>
</tr>
<tr>
<td>Education Administration</td>
<td>4</td>
<td>3</td>
<td>75.00</td>
</tr>
</tbody>
</table>

For those education PADs with a CBA/CEA, a few trends emerge around education sector. No particular education sector was dominantly associated with CBA/CEA use, although some education sectors were more frequently associated with CBA/CEA use. The sectors of vocational and tertiary education held the highest percentage of PADs with a CBA/CEA—at about 70% for each sector. I hypothesize the close connection that tertiary and vocational education sectors have with human capital theory (that is historically leveraged within education CBAs) as an influential factor in this trend. The sectors of general and pre-primary education also had a relatively high percentage of PADs with a CBA/CEA—at about 60% for each sector. I hypothesize the close connection that pre-primary education has with the rich bed of evidence regarding outcomes from early childhood education (spawn from the Perry Preschool Program CBA and the Carolina Abecedarian Program CBA) as an influential factor in this trend. Finally, education sector primary and secondary education held the lowest
percentage of PADs with a CBA/CEA—at just over 50% for each sector. I hypothesize global education goals promoting an increase in primary and secondary levels as potentially influencing the type and amount of justification needed for education projects.

Finally, of the 103 education PADs from 2010 to 2014, just over half (54.37%, 56 of the 103) were dedicated to only education sector projects and the majority of these projects had a CBA/CEA (71.43%, 40 of the 56). Education projects dedicated to only education sectors carried a higher use of CBA/CEA than education projects involved in more than just education (at 71.43% compared to 42.55%). I hypothesise the historic dominance of CBA in education PADs, sparked by Psacharopoulos in the 1980s and 1990s (Jones, 2007), as an influential factor in this trend.

5.4 CBA/CEA use across funding amount and funding source

Funds supporting an education PAD are sourced by the World Bank, and carry the possibility of additional funding by external organizations involved in development and/or government agencies. To manage research scope, this study focuses on analysis of CBA/CEA use across funding amounts and sources within education PADs in three groups: IBRD, IDA, and Other. The World Bank consists of two agencies that lend funds for education projects in emerging nations—the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) (World Bank, 2015a). The IBRD “aims to reduce poverty in middle-income countries and creditworthy poorer countries by promoting sustainable development through loans, guarantees, risk management products, and analytical and advisory services” (World Bank, 2015a, p. 86). The IDA “aims to reduce poverty in the poorest countries by providing loans and guarantees for programs that boost economic growth, reduce inequalities, and improve people’s living conditions” (World Bank, 2015a, p. 86). All education PADs within the data set of study are funded by either IBRD or IDB, with the exception of one
PAD that is evenly funded by both IBRD and IDA (that is considered an outlier). The category of Other catches all additional sources of funding beyond IBRD and IDA together—from development partners working on a project in conjunction with the World Bank (such as the United States Agency for International Development), to national government bodies (as an example).

Of the education PADs from 2010 to 2014, approximately twice as many education PADs received funding from IDA versus IBRD—at 68.63% to 31.37% relative use. But a PAD was just as likely to have an associated CBA/CEA if they were funded by IDA or IBRD—at 65.71% to 59.38% relative use. Of the education PADs from 2010 to 2014, about two thirds included funding from other sources compared to about a third that did not include funding from other sources. But a PAD was just as likely to have an associated CBA/CEA if they included funding from other sources or not—at 61.97% to 65.63% relative use. As an education PAD (from 2010 to 2014) with funding from IBRD, IDA, or Other are all associated with a CBA/CEA with about the same frequency, the source of PAD funding does not appear to impact CBA/CEA use.

Funding amounts within education PADs (which are all cited in US dollars), is not contextually meaningful across nations given differences in purchasing power and in national spending on education. As such, analysis of funding amounts in this study is rooted in percentage and quartile analysis—with quartiles based on the total World Bank loan funding amounts from IBRD and IDA. While a purchasing power parity index could address some of the contextual challenges noted, most indices themselves are also contextually challenging as they are based on a basket of goods and services that do not include the majority of costs associated with education projects (such as teacher labour).

At an aggregate level, across all education PADs from 2010 to 2014, IDA funding accounted for 55.91% of total World Bank funding and IBRD accounted for 44.09%. Just over
two thirds of IDA PAD loan funds (in aggregate) are associated with an education PAD with a CBA/CEA. Just under half of IBRD PAD loan funds (in aggregate) are associated with an education PAD with a CBA/CEA. In summary, a PAD funded by IDA versus IBRD had about a 20% more chance of having a CBA/CEA. The following Table 5-4 identifies how many education PADs with a CBA/CEA are within each quartile of funding, along with associated percentages.

Table 5-4: Quartile Analysis of Education PADs with CBA/CEA Use from 2010 to 2014 (with the quartile based on an aggregation of IBRD and IDA loan amounts)

<table>
<thead>
<tr>
<th>Funding Quartile</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 (lowest funding)</td>
<td>28</td>
<td>17</td>
<td>60.17</td>
</tr>
<tr>
<td>Q2</td>
<td>24</td>
<td>18</td>
<td>75.00</td>
</tr>
<tr>
<td>Q3</td>
<td>28</td>
<td>19</td>
<td>67.86</td>
</tr>
<tr>
<td>Q4 (highest funding)</td>
<td>23</td>
<td>11</td>
<td>47.83</td>
</tr>
</tbody>
</table>

Table 5.4.1 reflects the use of CBA/CEA across funding quartiles as varied, which presents an inconsistent but interesting trend. CBA/CEA use was higher in the lower quartiles of funding (quartiles one and two) when compared to the higher quartiles of funding (quartiles three and four). Upon further examination of projects in the higher quartiles of funding, it came to light that these projects were generally speaking more complex in nature as they involved numerous sectors (not just education) and were often associated with multiple project objectives and multiple project phases. I postulate that projects with larger fiscal amounts tend to be much more complex in nature, and in turn, present more roadblocks to creating a CBA/CEA (such as increased data issues, for an example). The second phase of this study will further examine if and how project complexity plays a role in CBA/CEA use.
5.5 Identification of Project Appraisal Documents (PADs) cases for phase two

After identifying general trends around the use of CBA/CEA in relation to the filter criterion, the goal was to identify at least six education PADs for case study analysis in phase two—with a target of at least six education PADs across a maximum of three nations. PADs selected were to be conducive to discussing descriptive statistical trends found in the data, along with case study targets noted in the Methods section of this study (which was to include varying degrees of CBA/CEA use, contain at least one PAD with primary education in its scope, and contain at least one PAD involving a nation within the geography of Sub-Saharan Africa). Selecting education PADs for case study analysis was a two-step process, grounded by nation.

The first step revolved around identifying nations within the four world regions that dominated CBA/CEA use (SSA, LAC, EAP, SAS), across differing years, with at least three education PADs, and at least two PADs with a CBA or CEA. Nations within this sub-set of education PADs would in turn be conducive to discussing data trends around time and geography, the differing uses of CBA/CEA, and the need for at least one PAD involving a nation within the geography of Sub-Saharan Africa. This first step resulted in twelve potential nations rising to the surface. Within these twelve nations, the second step revolved around finding education PADs with a sprinkling of primary, tertiary, secondary, and/or vocational education sectors, varied funding sources, and varied funding amounts. The resulting set of education PADs would also be conducive to discussing data trends around education sector, funding amounts, and funding sources, and support the need for at least one PAD with primary education in its scope. This step resulted in three nations rising to the surface, across eleven potential PADs.
After soliciting participants for this study, while striving to ensure a PAD’s supporting Education Sector Manager, Team Leader, Economist, and Education/Policy Specialist were able to participate (where possible), a final set of six education PADs (across three nations) emerged for forwarding to phase two of this study. Each PAD is identified using pseudonyms in order to maintain confidentiality of study participants and nations involved. In addition, the element of time was coded against pseudonyms, to ensure PADs could not be identified.

Looking at the six PADs as whole, the education projects across three regions of the world, all included a CBA or CEA except for one that had neither, span across 2010 to 2015, and are projects dedicated to the education sector for the majority of their scope. While CBA dominated CEA use, it was important to include at least one PAD with a CEA to unwrap the approach and reason for CEA use. To gain perspective of why a CBA/CEA was not completed, one PAD that did not complete a CBA/CEA was also included. All nations are classified as lower middle income nations, according to World Bank classification of countries (from 2010 to 2014).

The first nation—identified as Nation-A—lies in the region of Sub-Saharan Africa. Table 5-5 below articulates high level traits of PAD cases associated with Nation A.

**Table 5-5: Nation-A Case Study PAD Traits**

<table>
<thead>
<tr>
<th>PAD-1 in Nation-A</th>
<th>PAD-2 in Nation-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year authored</td>
<td>X2</td>
</tr>
<tr>
<td>CBA or CEA referenced</td>
<td>CBA</td>
</tr>
<tr>
<td>Education theme</td>
<td>Education For Knowledge Economy</td>
</tr>
<tr>
<td>Education sector</td>
<td>Vocational</td>
</tr>
<tr>
<td>Funding quartile</td>
<td>Funding quartile 2</td>
</tr>
<tr>
<td>Funding source</td>
<td>IDA and Other</td>
</tr>
</tbody>
</table>

The second nation—identified as Nation-B—lies in the region of South Asia. Table 5-6 below articulates high level traits of PAD cases associated with Nation B.
Table 5-6: Nation-B Case Study PAD Traits

<table>
<thead>
<tr>
<th></th>
<th>PAD-1 in Nation-B</th>
<th>PAD-2 in Nation-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year authored</td>
<td>X2</td>
<td>X5</td>
</tr>
<tr>
<td>CBA or CEA referenced</td>
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<td>CBA</td>
</tr>
<tr>
<td>Education theme</td>
<td>Education For All</td>
<td>Education For All</td>
</tr>
<tr>
<td>Education sector</td>
<td>Primary</td>
<td>General</td>
</tr>
<tr>
<td>Funding quartile</td>
<td>Funding quartile 3</td>
<td>Funding quartile 3</td>
</tr>
<tr>
<td>Funding source</td>
<td>IDA and Other</td>
<td>IDA and Other</td>
</tr>
</tbody>
</table>

The third nation—identified as Nation-C—lies in the region of East Asia and Pacific Region. Table 5-7 below articulates high level traits of PAD cases associated with Nation C.

Table 5-7: Nation-C Case Study PAD Traits

<table>
<thead>
<tr>
<th></th>
<th>PAD-1 in Nation-C</th>
<th>PAD-2 in Nation-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year authored</td>
<td>X4</td>
<td>X4</td>
</tr>
<tr>
<td>CBA or CEA referenced</td>
<td>CBA</td>
<td>Neither</td>
</tr>
<tr>
<td></td>
<td>Costs are quantified</td>
<td>Costs are quantified</td>
</tr>
<tr>
<td></td>
<td>Benefits are identified but not quantified</td>
<td>Benefits are identified but not quantified</td>
</tr>
<tr>
<td>Education theme</td>
<td>Education For All</td>
<td>Education For Knowledge Economy</td>
</tr>
<tr>
<td>Education sector</td>
<td>Pre-Primary</td>
<td>Tertiary</td>
</tr>
<tr>
<td>Funding quartile</td>
<td>Funding quartile 2</td>
<td>Funding quartile 2</td>
</tr>
<tr>
<td>Funding source</td>
<td>IDA</td>
<td>IDA</td>
</tr>
</tbody>
</table>

5.6 Summary: what the data says in phase one

The first goal of phase one was to generate descriptive statistics on the use of CBA/CEA across WB education PADs from 2010 to 2014, using the filters of time, geography, education scope, and fiscal amounts and funding sources.

In relation to time and CBA/CEA use from 2010 to 2014, a very small percentage of education PADs authored a CEA versus CBA. CBA use was very strong and trended upwards from 2011 onward—despite a strong downturn from 2010 to 2011. Looking across 2010 to 2014, CBA/CEA use became close to the norm in education PADs by 2014. However, given the cyclical nature of the data, the sustainability of this scenario comes into question.
In relation to geographic region and CBA/CEA use from 2010 to 2014, standing alone no single world region dominated the creation of education PADs or the use of CBA/CEA. However, when aggregated, four of the six world nations accounted for the vast majority of education PADs from 2010 to 2014. The region with the highest percentage of education PADs (among the top four) completed the lowest percentage of CBA/CEAs, and the region with the lowest percentage of education PADs (among the top four) completed the highest percentage of CBA/CEAs. An increase in the number of education PADs within a region did not appear to equate to an increase in the use of CBA/CEA (within those PADs). However, as a nation produced more education PADs, the nation had a tendency to increase CBA/CEA use within those PADs.

In relation to education scope and CBA/CEA use from 2010 to 2014, CBA/CEA use within an education PAD showed no strong trend in relation to any one specific education theme or any particular education sector. However, the use of CBA/CEA and education sectors convey a cluster of use around primary, secondary, tertiary, and vocational sectors—with tertiary and vocational sectors more likely to have a CBA/CEA versus primary and secondary themes by about 20%. A cluster of use around general education and pre-primary education was also present, but to a lesser extent. Finally, a project dedicated to only education sectors held about a thirty percent higher chance of completing a CBA/CEA when compared to projects where education was a sub-component of the initiative.

In relation to funding source and CBA/CEA use, looking at the data from 2010 to 2014 from an aggregate view, the data shows twice as many PADs receiving funding from IDA versus IBRD. However, the data did not show CBA/CEA use as being influenced by funding source.
In relation to funding amounts, looking at the data from 2010 to 2014 from an aggregate view, the use of CBA/CEA within the quartiles of funding was inconsistent in nature—ranging from 50% to 75% use of CBA/CEA across quartiles. However, from an aggregate view, the data shows a tendency for more CBA/CEA use in the lower quartiles of funding and less so in the higher quartiles of funding.

The second goal of phase one was to identify case studies for discussion in phase two of this study. Six education PADs, across three nations, were identified for phase two. These six education PADs are authored across 2010 to 2014, originate from three of the four regions of the world that dominated education PADs, and involve a variety of CBA/CEA use, education sectors, funding amounts, and funding sources. In aggregate, the six education PADs identified support potential discussion of descriptive statistical trends found in the data and original targets for case study selection identified in the Methods section of this study.
6 Phase Two Findings: Dimensions Focusing On Internal Factors

Findings from the study’s second phase, that involves qualitative analysis of interview data, are presented and discussed in chapters six, seven, and eight. In this chapter, I identify and discuss common themes found in all interviews across all PAD case studies, through the dimensions of analysis within the conceptual framework that focus on internal factors—the organizational and personal factors. Common themes, within each dimension of analysis, are defined, elaborated, and inter-twined where appropriate. This section also provides a synopsis of what commonly found data themes, within each dimension of analysis, conveys about CBA/CEA use in WB education PADs. I leverage interviewee quotes throughout this chapter, as interviewee data acts as the basis for analysis and discussion—with quotes identified using participant pseudonyms (as described in the Research Design and Methodology section of this study).

6.1 Themes across organizational dimension

To re-cap, the organizational dimension focuses on how policies, implicit norms and rules, and other features of organizational culture guide and influence why and how CBA/CEA is used in education projects (during the assessment phase of a project at the WB). Within this dimension of analysis, themes emerge around the rules that govern how CBA/CEA are to be used, who guides the decision to use CBA/CEA (the use decision) and the decision on how to complete a CBA/CEA (the approach decision), organization values and ideologies that influence CBA/CEA use and approach, and how framing of CBA/CEA within the organization impacts CBA/CEA use and approach. These variables aid in addressing the question of rules and organization identity within March’s appropriateness theory (1994).
6.1.1 Organization rules

Flexible rules for economic analysis – essential and present

Rules within organizations cover a wide and diverse spectrum of context in relation to organizational activities—from rules surrounding decision making, to operational governance, to performance evaluation, to information sharing (March, 1994). Rules are in place to “prescribe, more or less precisely, what is appropriate action” (March & Olsen, 2008, p. 693). The organization rules surrounding the use of CBA/CEA within WD PADs, as discussed in the Literature Review section of this study, are World Bank Procedure 10.17 and Operational Policy 10.6 within the World Bank’s Operation’s Manual (World Bank, 2014b), along with support from the Handbook on Economic Analysis of Investment Operations (Belli et al., 1998).

Both BP 10.17 and OP 10.6 indicate the requirement for a project to complete an economic analysis (World Bank, 2014b) to address the following three key questions: the project’s expected contribution to the country’s socioeconomic development, the rationale for the public sector provision, and the value added of the Bank’s support. But, neither BP 10.17 nor OP 10.6 identifies the mandatory use of any specific approach or method in support of mandatory economic analysis. As such, cost benefit analysis and cost effectiveness analysis are not identified as required within an education PAD. Instead organization policies and procedures emphasize the “appropriateness” (World Bank, 2014b) of approaches and methods used to complete economic analysis within an education PAD, while taking into consideration the unique context of the project.

All individuals interviewed (across all roles) were cognizant of organization policies and procedures (that is, BP 10.17 and OP 10.6) that govern economic analysis within an education PAD. All study participants recognized the mandatory need to undertake economic analysis of a project either through the formal policy/procedure BP 10.17 and OP 10.6, or through the format
of the PAD itself which includes a required section for economic analysis, or through both—as Participant M denotes:

In our Project Appraisal Documents we write a section that focuses on economic and financial management of the operation/intervention. It is mandatory that you analyze the economic impact for the intervention, what is the rationale for public investment, and what is the rationale for Bank investment. (Participant-M).

Half of the study’s participants (across all roles) emphasized the flexible and somewhat ambiguous nature of the organization policies/procedures that direct economic analysis of education projects, and stressed the need for and importance of this flexibility due to the complexity of educational projects. Education projects were described as being complex in nature because of the diverse underlying educational infrastructures that education projects operate within, the high level of inter-connections and dependencies across education projects, and the often multi-phased nature of education projects. As Participant-A indicated: “Education can also be tricky - it depends on what you have to work with, on the structure of the education institutions themselves, and on what you intend to do”. In complex situations, it was noted by these study participants (across all roles), that completing a CBA/CEA is sometimes not viable given the lack of data. For these study participants, policy ambiguity that governs economic analysis of education projects—the “veil of vagueness” (Gibson & Goodin, 1999)—is viewed as a foe to economic analysis within an education PAD. Policy ambiguity also carries the possibility of confusion brought on by a lack of clarity and direction (Rein, 2008); which the following theme conveys.

Formal policies and procedures not guiding consistency

While all study participants (across all roles) held a crystal clear understanding of the mandatory need to undertake economic analysis within an education PAD, the understanding of what defines CBA/CEA within an education PAD and if CBA/CEA is considered mandatory
within an education PAD was varied. One set of study participants—7 out of 23 (30%)—dispersed across all roles—held the understanding that CBA/CEA equated to the economic analysis of a PAD in its entirety, and as such, viewed CBA/CEA as mandatory. One participant described this train of thought by noting:

> There is a big distinction for me on economic analysis and cost benefit analysis because often people will hear economic analysis and think you are talking about cost benefit analysis. Also, some people hear cost benefit analysis and think you are talking about rates of return - which may or may not be same thing. So, there is also that sense of confusion. (Participant-C).

A different set of study participants—6 out of 23 (26%) across all roles—held an understanding that CBA/CEA was an optional method which could be used to help address the three required questions within economic analysis of an education project. But, these study participants also identified a lack of common agreement on what defines CBA/CEA within an education project and how CBA/CEA is to be approached within an education project. As one participant reflected, “There are also varying conceptions of what CBA and CEA could mean and how these tools could be used at the Bank” (Participant-V). Surprisingly only one study participant referenced the supporting *Handbook on Economic Analysis of Investment Operations* (Belli et al., 1998) as a potential source of assistance. However, the study participant quickly identified the handbook as “outdated” and only leveraged for “theoretical review” of CBA/CEA versus “practical application” (Participant-Q).

In summary, half of the study participants (56%) in aggregate, were uncertain of what defines a CBA/CEA within an education project in some way—either they misunderstood CBA/CEA as representing economic analysis in its entirety, or they understood CBA/CEA as a tool to support economic analysis but were unclear on what defines CBA/CEA and how CBA/CEA is to be executed within an education PAD. On one hand the flexibility of BP 10.17...
and OP 10.6 was viewed as necessary and essential in education projects (as per the previous theme), yet on the other hand a clearer, more precise definition and positioning of CBA/CEA use in education projects was viewed as needed. A common policy tension between ambiguity and specificity was clearly at play (Fowler, 2000; Howlett et al., 2009; Olssen, Codd, & O’Neill, 2004; Stone 2012). While some degree of ambiguity is often a necessity in policies and procedures (Stone, 2012), a lack of clarity and specificity can become problematic when unfounded inconsistencies in the use of CBA/CEA arise and/or opportunities to apply CBA/CEA are missed.

**Weakly grounded in education strategy – an opportunity missed**

Education projects at the World Bank arise for various reasons, such as the result of an immediate pressing local need, to provide support in a regional crisis, or via a Country Partnership Framework (CPF)/Country Assisted Strategy (CAS) (World Bank, 2015a), which acts as a country’s total development plan which discusses all sectors (including education). In theory, the majority of education projects are meant to spawn from and align with a nation’s CPF/CAS and the education discussion embedded within the CPF/CAS—as Participant-R explained:

> If a nation’s Country Assisted Strategy (CAS - with a CAS being a high level strategic vision for areas of development within a nation) identifies educational interventions at a high level, then a PAD in theory breaks down the intervention in more granular detail. While CAS documents can become very generic in nature (as they tend to focus on certain drivers of growth), PADs are very specific in nature (as they focus on the specifics of a particular intervention). (Participant R).

Sixty percent of study participants, across all roles, described connecting high level, broad strategic economic thought (for a nation) found in a CPF/CAS to low level orientated economic analysis in a PAD’s CBA/CEA as a means of defending and auditing a nation’s strategy. Management and peer support for linking strategy to execution was apparent—“we are
encouraged to ground the CBA in a PAD with the overall education strategy for a nation that can be found in World Bank documents” (Participant- P). Working with clients to establish a connection between strategy and projects was viewed as a common goal among study participants across all roles. Participant-S articulated this scenario by noting that:

In our PAD analysis, we try to understand – within the government’s priorities – what a project is trying to address. We look at the government strategies, in partnership with nations, and try to identify where gaps exist in the priorities. From there, we look at how projects can potentially address those gaps. (Participant-S).

However, establishing a connection between strategic economic thought and project economic analysis was noted as often bypassed and seen as a “missed opportunity” (Participant-Q), by half of study participants (across all roles), for three main reasons. First, an applicable CPF/CAS might not exist, but this challenge was noted as slowly being addressed through the World Bank’s New Country Engagement Model (World Bank, 2014h). Second, as differing teams often work on CPF/CAS documents versus PAD documents, there is little to no continuity of resources to help define and explore a connection. Third, matching economic thought in a CPF/CAS to economic thought in a PAD’s CBA/CEA was a highly subjective exercise because of little to no guidance on how to negotiate the wide spectrum of thought, strategy, and execution. While connecting strategy to execution is a well-known area of challenge, if linkages are guided through clear and concise policies, procedures, and coherent actions then connections can be successfully established (Rumelt, 2011)—a point actually noted by about half (51%) of those interviewed.

**Analysis to be incorporated at project onset and onward**

Approximately 60% of participants (14 out of 23, across all roles) acknowledged and promoted the early use of CBA/CEA, as a way of thinking during the assessment of a project. Leveraging CBA/CEA at the onset of a project’s assessment was noted as facilitating stronger
economic analysis of a project by providing a framework to identify, explore and reflect what a project is to achieve, for whom, by when, how, at what cost, and to what expected outcomes.

This framework in turn helped establish richer connections among project components—such as objectives, financing, sustainability, historical context, and ties to education-related strategic economic thought in a CPF/CAS. While guidelines for when to include CBA/CEA within the economic analysis of a PAD are not formally defined, this informal operating norm was acknowledged as a way of facilitating the use of CBA/CEA from a holistic and practical perspective.

One Sector Manager explained the importance of including CBA/CEA early in the assessment stage through a holistic lens:

The characteristic of the project would be that you actually start thinking about the analysis upfront. Even if you run into challenges when thinking about analysis, you should start up front and start thinking about what the justification is for this particular project. Both the analysis and the design of the project are likely to be cleaner (if you do this analysis up front), than if you are doing it later on because you have to do it. This is where you want to push the thinking, much more ex ante versus ex post - we want to encourage this type of thinking.

(Participant-B).

One Economist explained the importance of including CBA/CEA early in the assessment stage through a practical lens:

For me, very early on, it is good to have an idea about where the impacts and benefits of an operation are - in monetary terms - because these type of factors can really be “game changers” when you are having dialogue with the government. For example, the Minister of Finance usually cares about the rate of return of the investment - that is the language that you have to use in this type of dialogue. So, if you're talking to the Minister of Education or the Ministry of Finance, you are in some way focusing on the impacts of your project. I take this (economic analysis) very seriously and for me, it (economic analysis) is not a marginal task - it is a very important task.

(Participant-M).

**Rules: a synopsis**

Formal organization policies and procedures surrounding the use of economic analysis of
World Bank projects are in place and reveal a level of flexibility that is both important and essential for education projects. However, these organization rules are not supporting a consistent definition (among study participants) of what defines a CBA/CEA within an education PAD. An opportunity exists to enrich the connection between strategic economic thought and project economic analysis through clearer and more concise policies and procedures. While informal operating norms help promote more and richer use of CBA/CEA within education projects—such as incorporating CBA/CEA as a way of thinking early in projects—the guidelines in place are not guiding consistent use of CBA/CEA. While a fine line exists between policy ambiguity and specificity, the data suggests tweaking CBA/CEA policy more towards specificity may be of benefit. One example might be providing direction and approaches for tying an education PAD to high level strategic economic thought found in a CPF/CAS.

6.1.2 Organization decision structure

**Decision to use CBA/CEA propelled by multi-dimensional who-factor dominated by two roles**

The most predominant data theme across all interviews (across all roles) revolved around the decision to use CBA/CEA within an education PAD—which this study refers to as the CBA/CEA use decision. While organization policies and procedures are in place to guide behavior, the actual relationship between rules and actions is a complex interaction between numerous factors in play, including but not limited to situational, individual, and organizational context (March & Olsen, 2008). The choice to use CBA/CEA or not within an education PAD is heavily guided by the discretion of two organization roles and lightly guided by a multitude of other internal and external roles—a phenomenon this study identifies as the “multi-dimensional who-factor”. The interview data shows individual context, versus situational and
organizational context, dominating the CBA/CEA use decision.

The Education Sector Manager and Team Leader role within a project, as cited by study participants based on their experiences and observations at the World Bank, act as the main driver of the CBA/CEA use decision—83% of study participants (19 out of 23) cited either the Sector Manager (30% of the 83%), Team Leader (27% of the 83%), or the Sector Manager in conjunction with the Team Leader (26% of the 83%) as driving the CBA/CEA use decision. Remaining study participants, 17% (4 out of 23) identified the CBA/CEA use decision as a team based choice involving the project’s Sector Manager, Team Leader, Economist, and Education/Policy Specialist. Study participants also noted peer reviewers as influencing the CBA/CEA use decision (25% of the time), along with client government officials (26% of the time), World Bank’s Independent Evaluation Group (4% of the time), and institutions outside the World Bank (specifically academia at 4% of the time). In all cases, study participants viewed the choice to use CBA/CEA as rooted in individual values, beliefs, and experiences.

What emerged from this analysis is an inter-connected web of individuals influencing the CBA/CEA use decision, with a project’s Sector Manager’s and Team Leader’s values, beliefs, and experiences lying at the web’s core. What results, according to study participants, is variability in the use of CBA/CEA given the personal values, beliefs, and experiences that root the decision, as Participant-J stated:

I think the broader culture is one of making sure that you do fairly rigorous work. But, it does defer at the management team level - that is, there is variation across that level. For example, we have some very concerned managers who want to do a detailed economic analysis for other projects. Then, it may be a little bit lax in some other departments within Education, within the Bank. So, there is some variability there. If you look across institutions that lend for development activities, there is a much stronger culture of rigorous work here. (Participant-J).

Variability in CBA/CEA use within education projects is not necessarily problematic by
nature, as variability infers the much-needed flexibility to support complex education projects (as noted in an earlier theme). However variability becomes problematic when justification for the CBA/CEA use decision is not present or when justification is not thorough and/or not perceived as appropriate. According to current formal policy and procedure, the decision to use a CBA/CEA or not within the economic analysis of an education PAD does not require explanation within a PAD. In fact, a total of only one of the PADs studied in phase two provides a high level justification for not completing a CBA/CEA within the PAD’s economic analysis. But, by not providing an explanation for supporting methods used within the economic analysis of an education PAD, a seed of doubt is planted in the reader’s mind regarding the contextual credibility of the economic analysis (irrespective of what formal policy/procedure state). As one study participant reflected, “if we don’t complete a CBA/CEA, it would be beneficial to note why” (Participant-Q). More importantly, a lack of decision transparency emerges and runs contrary to the World Bank Group’s governance that entails “open and accountable governance that supports transparency, participation, and collaboration through access to information …” (World Bank, 2015a, p. 71).

**Decision on how to use CBA/CEA bounded by inter-related constraint-triad: data, timeline, skill set**

Once a decision has been made to move ahead with a CBA/CEA within the economic analysis section of an education PAD, the next question revolves around how the CBA/CEA will be completed—which this study refers to as the CBA/CEA approach decision. While discussing items that guide how CBA/CEA is used, numerous factors come to the foreground but only three were commonly shared among study participants—data, timeline, and skill set—a phenomenon this study identifies as the “constraint-triad”.
The first and most predominant factor identified as influencing the CBA/CEA approach decision is data. The vast majority of study participants—91% across all roles—referred to education data issues as problematic factors when considering how to complete a CBA/CEA based on their experiences with education PADs. The remaining nine percent of study participants perceive the current state of data as improved and no longer problematic, when compared to the state of data ten or twenty years ago. Data concerns revolve around presence, consistency, completeness, relevance, timeliness, and credibility of education data—which are reviewed in further detail within a downstream theme. In the words of Participant-E:

Data, data, data is the big issue here because whatever you cannot measure you cannot improve. If you don’t have the data, data that is directly collected, that is quality data, and consistency of data – then it becomes a very big problem.

(Participant-E).

The majority of study participants (87% across all roles) also acknowledged data as a taxing issue to overcome given the number of stakeholders at play (within governments and educational arenas), the immaturity of infrastructures needed to collect, cleanse, and manage data, and disagreement among stakeholders regarding data definitions and data use. However, a few study participants (3 of the 23, 13%) had an optimistic view of the implementation of education data standards—such as the International Standard Classification of Education (ISCED) (UNESCO, 2012a)—and/or the use of technology as helping ease data issues. As Participant-K reflected:

I think the situation with regard to data is now much better – mostly because of technology. The cost of acquiring, reviewing the quality, and processing the data is all reduced a lot.

(Participant-K).

The second most predominant factor cited as influencing the CBA/CEA approach decision is the amount of time granted to complete a CBA/CEA within an education PAD—a factor cited by close to half of study participants with comments emanating mostly from Team
Leaders and Economists (8 out of the 11 that cite this challenge). Discussions convey a do-more-with-less stance at play—“the trend has been to complete projects faster and faster – time constraints can impact the economic analysis undertaken” (Participant-C). When un-wrapping this stance, interviewees cite the time constraint as organizationally rather than client imposed and one that extends beyond economic analysis:

Time is a constraint, but that applies across the board for every activity in the preparation of a PAD. So the question then becomes is there an additional time constraint on the economic analysis in particular. There might be some variability in this across teams, but I don't think that can really be answered. You face constraints around a whole range of dimensions within a PAD, so I don't think economic analysis is alone particularly impacted. (Participant-J).

The third most predominant factor cited as influencing the CBA/CEA approach decision is skill set availability to work on a CBA/CEA. This factor was also cited by just over half of the study participants, with comments also emanating mostly from Team Leaders and Economists (9 out of the 12 that cite this challenge). For these study participants, finding the right skill set to work on a CBA/CEA applied more to field driven projects than head-office driven projects, was always present to some extent, and most often overcome through trade-offs made during development of a PAD. As Participant-I revealed:

Resources are always constrained. So, do you bring someone with micro analytical skills on a mission to a country, at the other side of the world, to exclusively focus on economic analysis? Or, can someone who has other roles in the project team complete this analysis? It is always a function of team composition and team skills, and of course time. And then you come to the point of looking at how important it really is to calculate rates of returns for different interventions and cost benefit analysis ratios. How much does this type of analysis give you in terms of getting a project going versus other activities? (Participant-I).

While each component of the constraint-triad presents serious challenges, study participants also reflected that the constraint-triad becomes even more challenging given the inter-connected nature of data, timeline, and skill factors. If data is missing or not creditable,
then more time and stronger economic skills are needed to identify costs and benefits in innovative ways. If timeline is constrained, then data issues are often bypassed or negated, and a stronger economic skill set is needed to meet deadlines and guide an effective analysis. If the skill set to complete a CBA/CEA is not present, then a danger of working with and presenting inappropriate data arises and more time is needed to complete the analysis. Separately and in conjunction, the constraint-triad of data, timeline, and skill set presents a major challenge influencing how to approach CBA/CEA within an education PAD.

**Constraint-triad asserting benchmark-based versus contextual-based analysis – influencing value**

While the previous theme identifies data, timeline, and skill set constraints as bounding the CBA/CEA use decision in both a singular and united fashion, this theme articulates a clearer understanding of how. Discussions with study participants convey the constraint-triad guiding CBA/CEA in a direction that is contextually rooted or benchmark study rooted. Contextual-based analysis refers to a CBA/CEA centered on unique project specific data and context—“the analysis is grounded in the situation at hand in all aspects” (Participant-Q). Benchmark-based analysis refers to a CBA/CEA centered on baseline data and context from existing and similar research—“Yes, we often use international studies as benchmarks” (Participant-G). Study participants note contextually rooted analysis as representing greater CBA/CEA breadth and depth in comparison to benchmark rooted studies—with CBA/CEA breadth referring to the number of cost and benefit elements taken into account and CBA/CEA depth referring to the richness of analysis presented in relation to identified costs and benefits.

At one end of the spectrum, a project with few data issues, that is allocated sufficient time to produce a CBA/CEA with a senior experienced economist authoring the analysis, lends itself to a contextually based scenario. At the other end of the spectrum, a project including
numerous data issues, under a tight timeline to produce a CBA/CEA with a novice economist authoring the analysis, lends itself to a benchmark based scenario. Contextually rooted cost benefit and effectiveness analysis is clearly the goal for CBA/CEA within an education PAD—as 17 out of the 23 discussions (74%) across all roles reflected upon the importance of context within a CBA/CEA. Why? Because basing a CBA/CEA on benchmark studies raised concern regarding the level of applicability of benefit estimates from one setting to another setting (even if the setting held common traits) and the level of contextual validity when transferring input costs from one project to another (especially across nations, as teacher wages (for example) differ across nations). However, study participants noted that in reality, CBA/CEA within education projects lie somewhere between the end points—variability is at play.

This data theme implies a relationship with quality and value of CBA/CEA through the elements of breadth and depth. While commenting on or judging the quality of CBA/CEA analysis in education PADs is outside of the scope of this research effort, this study is responsible for highlighting data themes (like this one) that emerged around the perceived quality of CBA/CEA. While the value that study participants associate with CBA/CEA is discussed further in this study (within another data theme), at this stage it is important to note that value associated with CBA/CEA is heavily influenced by data, timeline, and skill set.

**Necessary but not sufficient factor in guiding project go/no go decision**

CBA/CEA’s theoretical purpose is to assist with determining what investment option, among many, presents the greatest return based on a rate of return, net present value, or benefit-cost ratio based on accurate quantitative analysis (Boardman et al., 2011; Smith, 2008; Townley, 1998). The economic theory supporting CBA/CEA was not fully formulated until the 1950s, even though the idea of comparing costs to benefits was present for some time beforehand. The concept of comparing costs and benefits to specifically determine project
choice (from a practical stance) roots back to the 1930s when the United States Federal
government leveraged the comparison of costs to benefits as a means of directing water reserve
projects (Smith, 2008).

The vast majority of study participants—90% across all roles—recognized CBA/CEA as
one of many components taken into account when a project is presented to the WB Board for
approval to proceed. Interview discussions cited CBA/CEA analysis as providing necessary, but
not sufficient, information needed to support an informed project go/no go decision. CBA/CEA
was seen as one of many integrated components taken into account when evaluating a project,
including social, political, cultural, risk, and sustainability factors (as an example). Participant-
A reflected upon this stance by saying:

First, to put a project in the pipeline, it has to have the sign off from the Ministry of
Finance. So, very early on the process (even before there is an identification), the
Ministry of Finance has indicated we need an investment in this space. So, again, for
the most part the economic analysis is a way of getting a more granular assessment of
the pros and cons of a certain type of investment. There are a lot of considerations
within a project - social, safeguards, implementation, and capacity etc. - that play a role
in the decision to move forward with the project. The economic analysis is simply a
contributor, to make sure the whole package hangs together and is creditable.
(Participant-A).

The majority of study participants—75% spread across all roles—viewed CBA/CEA as
offering valuable support to a project’s go/no go decision in some manner. Why? Because they
believe CBA/CEA analysis involves refining and clarifying project details needed to support a
project go/no go decision (60% of the 75%), ties project components together to provide the
holistic view needed to determine a project’s fate (10% of the 75%), and supports a robust
choice by adding credibility and systematic rigor to the decision (5% of the 75%). Interestingly
no one specifically identified a CBA/CEA’s resulting rate of return, net present value, or
benefit-cost ratio as the most important driving factor in a project’s go/no go decision—
although a few study participants did cite other parts of the organization held this stance (which
is elaborated in a downstream theme). A study participant articulated this stance well by revealing that:

At the end of the day it is not about if the return on the investment is 15 or 19%, but is about the way in which we think about these projects, what kind of impact are they having, and how we work with our counterparts to implement the investment.

(Participant-L).

The minority of study participants—25% across all roles—did not view CBA/CEA as offering valuable support to a project’s go/no go decision in any way. Why? Because they believe a project’s go-forward decision is holistically made before the project is presented to the Board for approval, and that CBA/CEA’s are biased towards always presenting a positive rate of return (which is highly unrealistic). Participant-M reflected this point by noting:

I don't think I've seen a PAD that says the internal rate of return is negative or that the cost benefit ratio is greater than one - I have never seen that. I think that in a way everyone accommodates - in a sense - the economic model to show that this (the project) is a good investment. So in a way I am kind of skeptical about it.

(Participant-M).

While those who viewed CBA/CEA as offering valuable support to a project’s go/no go decision outweighed the critics by three to one, the critics do offer an opportunity to constructively reflect upon practices in place regarding CBA/CEA use within education PADs. If project decisions are derived before WB Board approval, then what influence should CBA/CEA have in the process? If CBA/CEA analysis is being juried to always convey favorable outcomes, then what is the main purpose of completing a CBA/CEA within an education PAD? From a broader view, CBA/CEA findings need to be considered along with other factors—such as longer term sustainability of a project, impacts on social issues, and impacts on the environment, to name a few. While factors influencing the decision to move ahead with an education project are weighed differently from project to project depending upon
the context, study participants felt that the numeric analysis emerging from a CBA/CEA should holistically be considered a contributing factor and not the dominant factor.

**Organization decision structure: a synopsis**

Study data shows organizational roles influence the decision to use CBA/CEA within an education PAD. However, the majority of study participants (across all roles) viewed only two roles—the Education Sector Manager and Team Leader—as carrying the strongest influence in the CBA/CEA use decision based on individual values, beliefs and experiences. Once the decision to complete a CBA/CEA is made, study participants saw numerous factors that influenced how a CBA/CEA was approached. The majority of study participants viewed only three factors—data, timeline, and skill set—as carrying the strongest influence in the CBA/CEA approach decision due to the complex and inter-connected nature of these constraints. When completed, CBA/CEA was viewed as one of many components taken into account when determining a project’s go/no go decision and offers valuable support to a project’s go/no go decision. However, the majority of study participants view only one factor—refining and clarifying project details—as carrying the strongest influence in directing project choice versus a CBA/CEA’s resulting numeric value (such as rate of return, net present value, or benefit-cost ratio).

**6.1.3 Organization alliances and norms**

**Moving towards an alliance of value from CBA/CEA beyond project justification**

The vast majority of study participants—91% across all roles (21 out of 23)—viewed the use of CBA/CEA within an education PAD as providing value in some manner. While the term value carries varying definitions and theories depending on the context (Hirose & Olson, 2008), for the purposes of this research the term value simply refers to the aspects of perceived
significance and usefulness of CBA/CEA (when defining and assessing education projects) and is not rooted in any particular theoretical frame of reference.

From an individual view, ideas about the value that CBA/CEA brings to an education project (during the assessment stage) were wide ranging in nature. However, from an aggregate view, a trend surrounding the significance and usefulness of CBA/CEA (during the assessment stage) was at play. Reflections (by study participants) on the value that CBA/CEA offers when defining and assessing education projects conveyed movement over time from the use of CBA/CEA as a means of justifying projects through a lens focused on quantifiable analysis based on a rate of return, towards the use of CBA/CEA as a means of facilitating client engagement and refining project details to help direct projects through a lens that entails both quantifiable and non-quantifiable analysis. Although this transition was reflected as slow moving, the change was definitely underway—As Participant-T reflected:

In the World Bank, in the Education Sector, you are really not using cost benefit analysis for decision making against alternatives that much. Cost benefit analysis is being used more for extrapolation and understanding the details of a specific project. The methodology is also being used as a way to help you and your clients work through the details of a project - to understand exactly what you are doing and exactly what you are measuring. (Participant-T).

Interviewee comments on how CBA/CEA “is a tool that we can use when discussing education policy with a government” (Participant-R), “is (also) a conversation piece with governments” (Participant-J), “is (also) used to support a constructive dialogue with the government” (Participant-W), and that “even when we are doing studies like this – we don’t see it in terms of cost efficiency or cost benefit it analysis … we use this (cost analysis) as a tool for policy dialogue” (Participant-E)—all convey a valuable role that CBA/CEA plays in client engagement.
Interviewee comments on how CBA/CEA “adds knowledge about what the situation is” (Participant-E), “helps reshape the project” (Participant-M), “forces you to specify your objectives clearly” (Participant-C), and “helps secure a better understanding of what the project under review is to achieve, what are the interventions, the benefits, and the supporting costs” (Participant-P)—all convey a valuable role that CBA/CEA plays in the refining and sharpening of project details.

While only two study participants viewed CBA/CEA use within an education PAD as providing little to no value, these participants raised a few interesting points worthy of reflection. First both individuals were economists—despite the number of challenges with CBA/CEA use in the field of education, all study participants specializing in education saw value in CBA/CEA use. Second, concerns focused on how CBA/CEA was being used and how constraints impact CBA/CEA use, not with the CBA/CEA methodology itself. The first economist viewed CBA/CEA as being employed for the wrong reasons—“the tools (CBA/CEA) should be used at the strategic level – to help direct, guide, and justify strategic direction … and not to justify a decision that is already made” (Participant-D). The second economist viewed CBA/CEA as problematic given the number and type of assumptions needed to define costs and benefits in the absence of supporting data—“Of course we intellectually come up with these assumptions - assumptions do not just come from nowhere. But sometimes, the assumptions can also be very arbitrary” (Participant-O). These concerns offer an opportunity to reflect that why CBA/CEA is being used and how CBA/CEA is being approached is what really brings forward or inhibits CBA/CEA value.

Wide ranging and diverse value from CBA/CEA

The value that CBA/CEA brings to an education project (during the assessment stage) was viewed as wide ranging in nature as study participants considered the project, the client,
and the World Bank all benefiting in various ways from CBA/CEA use.

From the perspective of the project itself, CBA/CEA was viewed as playing a valuable role through the following mechanisms: facilitating project dialogue with governments, helping reshape project objectives, assisting with project design, clarifying educational outcomes, defining who benefits from educational outcomes, solidifying costs at a detailed level, substantiating project investment, and articulating details needed to support downstream implementation. Participant-M described CBA/CEA value to the project by saying:

I think that a cost benefit analysis can show us that a project is good - it has never been the case that economic analysis has pointed us into a direction that says a project is nonsense. It is usually the case that cost benefit analysis helps reshape the project.
(Participant-M).

From the perspective of the client, CBA/CEA was viewed as playing a valuable role through the following mechanisms: providing the sitting government with supporting information to help assess a project within their environment, facilitating discussion on education policy and strategy related to a project, helping ensure the sitting government receives the most value from their education loan, and offering a learning opportunity to enrich a nation’s capacity and capability for economic analysis of a project. Participant-E described CBA/CEA value to the client by saying:

I look at it from a force on the ground; the bottom line is for the government to be able to see how some of these (CBA/CEA) studies can be used as a tool for policy dialogue to improve basic educational services. So that, at the end of the day, it is really about what are the best options, what are the things that you need to do to be able to get a better quality at a cheaper price, and of course in a sustainable manner over a long period.
(Participant-E).

From the perspective of the World Bank, CBA/CEA was viewed as playing a valuable role through the following mechanisms: promoting richer economic analysis for a project through a deeper review of costs and benefits, stimulating wider economic thought, enriching
internal knowledge about a nation and their education system, and providing information needed to aid the World Bank in determining a project’s path. Participant-A described CBA/CEA value to the World Bank by saying:

Ultimately, the economic analysis is also an internal accountability mechanism in which we go on record to the Board of Directors (at the World Bank), stating why that particular investment choice is sensible. (Participant-A).

Given the wide ranging and diverse value associated with CBA/CEA one could easily postulate perceived value as driving CBA/CEA use (along with the multi-dimensional who-factor), as tool usage is considered optional. While this hypothesis is intuitive and most likely valid to a certain extent, it fails to account for the concurrent impact that organizational culture has on CBA/CEA use. Organizational culture at the World Bank, understood as the ideologies, rituals, norms and beliefs that are entrenched in an organization, developed over time and carry the potential to influence behavior (Alvesson, 1993; Barnett & Finnemore, 1999), plays an important role in driving CBA/CEA use.

**Tension between historic and present use of CBA – but diminishing over time**

The World Bank has a well-established culture that encompasses a “dominant ideological triad of economic, political, and technical rational” (Weaver, 2008, p. 158), which is supported by the use of economic tools like CBA/CEA to justify projects (Jones, 2007). The World Bank also has a well-established legacy of employing rate of return analysis rooted in human capital theory via CBA, as a means of justifying education projects (Jones, 2007). Just over half of study participants—56% across all roles—referenced these deep archaeological layers of culture and history in their discussions on CBA/CEA use. Two study participants reflected their views on cultural fit and historical use of CBA/CEA by noting:
These tools (CBA/CEA) fit well in the culture - for sure. The organization is driven by economists and economic thinking – so these tools (CBA/CEA) fit that well.

(Participant-C).

By now, you’ve probably heard the 1970s to the 1990s many would depend on the return to primary education to invest heavily in primary education. So, this is a bit of our history. But, rate of return analysis could easily fall apart if you just change your assumptions. Such as, your assumptions about the labour force participation rate.

(Participant-L).

Discussions showed that while the deep archaeological layers of culture and history helped establish a foundation for CBA/CEA use within an education PAD, they now carry a tension with the present use of CBA/CEA in a few ways. First, parts of the organization outside the Education Sector continue to expect rate of return analysis rooted in human capital theory within an education PAD as a norm. While this scenario was expressed as problematic by 45% of study participants (mostly from Team Leaders), the issue was also cited as slowly dissipating over time as CBA/CEA evolves within education PADs and others become exposed to this evolution. Second, repetitive use of rate of return analysis rooted in human capital theory (within a CBA/CEA) has resulted in CBA becoming very “mechanical” (Participant-B). While this scenario was expressed as problematic by 30% of study participants (mostly from Economists), the issue was also cited as slowly dissipating over time through the use of more innovative approaches to economic analysis (like taking into account spill-over effects of education projects).

Discussions between the historic and current use of CBA/CEA within an education PAD reflected organizational change in mind-sets through learned experiences, much like that of a learning organization (Senge, 2006). As March reflects in his theory, learned experiences are considered one of many “mechanisms by which rules and identity evolve and become legitimized, reproduced, modified, and replaced” (March & Olsen, 2008, p. 696). But, like any
organization with deep archaeological layers of culture and history that are systemic in nature, change is slow moving and “notoriously difficult to engineer” (Weaver, 2008, p. 7) as new rules and identities form and take hold.

**Organization alliance and norms: a synopsis**

The use of CBA/CEA within an education PAD showed various forms of value across study participants, irrespective of organizational role. The value that CBA/CEA brings to education PADs was described as both wide ranging and diverse in nature—with the project, client, and WB all benefiting from CBA/CEA use in a multitude of ways. Based on discussions, a transition that involved moving away from economic analysis of an education project focused mainly on quantifiable analysis (specifically a rate of return anchored in human capital theory) to a wider approach focused on both quantifiable and non-quantifiable analysis was underway. While it was evident that more time and effort is needed to change mindsets and diversify the use of CBA/CEA within an education PAD, a change in organizational alliances and norms were underway through learned experiences as a mechanism of change.

### 6.1.4 Organization framing of CBA/CEA

**CBA dominance versus CEA rarity**

Interview discussions identified a strong dominance of CBA use versus CEA within education PADs—“We used to say that economic analysis for education can be done through cost effectiveness analysis. But, you will never find a PAD with cost effectiveness analysis” (Participant-C). The vast majority of study participants (91% across all roles) viewed CBA as a viable option for supporting economic analysis within an education PAD, when compared to less than half of study participants (47% across all roles) that viewed CEA as a viable option for supporting economic analysis within an education PAD.
The historic lack of CEA use was identified without hesitation, with little fanfare, and attributed (for the most part) to a lack of causal evidence in support of CEA effectiveness measures, and secondarily due to the historic dominance and cultural norm around the use of CBA within an education PAD. As one study participant expressed it, “Well, we typically do cost benefit analysis. For cost effectiveness analysis we would need causal estimates and that we often do in our research group only. In projects, we do cost benefit analysis” (Participant-J).

Why? As a CEA is rooted in defining and gauging very specific benefits through effectiveness measures (versus a CBA that is rooted in defining and gauging all intervention benefits in monetary terms), causal evidence supporting a CEA’s effectiveness measure is essential (as interviewees rightly articulated). However, such causal evidence was almost always missing, and as such, CEA was being bypassed. When used, CEA was identified as predominantly associated with projects focusing on a limited number of outcomes revolving around impacts to traditional educational measures—like achievement scores, enrolment rates, and attainment rates (as an example). A few economists viewed the use of CEA as an innovative alternative to CBA when monetizing benefits for a project was highly problematic or when project timelines were tight, yet the actual application of CEA in these scenarios was cited as infrequent. While the historical use of CEA was expressed as dismal, optimism for future CEA use ran high as study participants perceived the recent increase in World Bank Impact Evaluations as facilitating more CEA use—a reflection further discussed in the following theme.

**CEA emerging – supported by an increase in Impact Evaluations**

Impact Evaluations (IEs) at the World Bank are in place to “assess the changes in the well-being of individuals, households, communities, or firms that can be attributed to a particular project, program or policy” (World Bank, 2015a, p. 81) and are typically executed at the end of projects or between phases of a multi-phased project. The use of IEs at the World
Bank has “grown rapidly, from an average of 16 initiatives per year in the period 1999-2004 to an average of 62 per year in 2005-2010” (World Bank, 2012a, p. ix). The increased use of IEs was raised by 30% of study participants, across Sector Managers and Economists, as helping provide the much needed causal evidence for CEA effectiveness measures (that is needed to author a CEA)—as observed by Participant-C:

Now that we are doing more Impact Evaluations, it is possible to complete a cost effectiveness analysis. But, in the past we did not have access to this type of data - so we did very few cost effectiveness analysis studies. (Participant-C).

While IEs carry the opportunity to provide causal evidence needed to support more CEA use in education PADs, they do so by either providing causal evidence rooted in the project at hand or by providing causal evidence rooted in like projects. When education projects are multi-phased in nature, study participants reflected IEs as an excellent opportunity to provide causal evidence rooted in the project at hand, as long as client consent and study funding were accounted for:

So, we often do pilots and then we evaluate those pilots rigorously as much as we can. We understand the value of completing Impact Evaluations, but remember that a project is government owned - we're really just trying to help fund the project. So governments need to be convinced that doing an Impact Evaluation is worthwhile - which is a dialogue that we try to have with governments. (Participant-M).

When education projects are not multi-phased in nature, IEs were reflected as providing causal evidence rooted in like projects. However, rooting CEA in causal evidence from like projects was viewed as generalizing research findings and not ideal, as results may or may not apply to the unique context at hand and study credibility may be questioned. In these situations the use of randomized control trials was also discussed as an alternative path for securing unique project evidence to support a CEA (versus causal evidence rooted in like projects). But, study participants were swift to note that time and cost constraints during a project’s assessment stage
inhibited the use of randomized control trials and that ethical implications also regularly hindered their use—“… for governments in developing nations, it is very difficult to say that we are giving one set of interventions to one group who are chosen randomly and the other group does not get it” (Participant-B).

While judging on the advantages and challenges associated with generalizing research findings within a CBA/CEA is outside of the scope of this research effort, if CEA credibility comes into question it carries the potential to impact CBA/CEA value. As such, this point is worth noting and re-emphasizes an earlier reflection—why CBA/CEA is being used and how CBA/CEA is being approached is what really brings forward or inhibits CBA/CEA value.

**CBA/CEA supports economic thinking – but it is the journey that is important**

The economic analysis of projects is a well-established norm within the World Bank and one that has ridden and survived the waves of organization change over time. As Participant-C indicated, “… every now and then management pushes a PAD to have more economic analysis - it is sort of like a pendulum.” For the time period under review in this study (from 2010 to 2014), the importance of economic analysis of education projects was perceived as rising and gaining momentum. As Participant-L and Participant-B reflected:

In the past three or four years, we have been focusing on economic analysis in more detail. So, from 2010 to 2014, in the latter part of this time frame economic analysis has become predominant again. But, having said this, some have been doing economic analysis (such as CBA) religiously throughout - despite whether or not it was an area of focus. That is my sense of the situation. (Participant-L).

It (CBA/CEA) forces us and our team, to think about economic issues in more detail than we would otherwise do. So, in that sense, I would say it is worth it for our teams and our clients to pay more attention to economic analysis and if the analysis is well done. (Participant-B).
Just over half of the study participants—52% across all roles—viewed the process of completing a CBA/CEA as important because it was part of a stronger economic analysis through its underlying principles (more in theory for CEA given its current low use). In addition, the inclusion of the CBA/CEA process at the onset of a project helped foster a way of economic thinking throughout the entire project. For these participants, it was the CBA/CEA journey and its principles of due diligence and attention to detail (that supported stronger economic analysis) in a way that could be seen as both a science and an art. As Participant-G indicated:

In fairness, economic analysis and the use of CBA is not really a science - it is in many ways an art in terms of what contents applies. What is important are the principles behind the analysis - that is, what are you trying to justify, these are the costs, these are the benefits, we are making these assumptions, and this is what the analysis is showing us. (Participant-G).

While this theme may appear simplistic on the surface, when unwrapped it presents an important message that weaves throughout many themes within this study—that CBA/CEA supports a journey, that while rooted in structured and detailed thinking from a positivistic perspective also requires interpretative thinking from a constructivist perspective. CBA/CEA is historically rooted in a scientific premise both inside and outside the World Bank, but viewing the tool only from this premise understates the required effort and the resulting value that arises when completing a CBA/CEA.

**Framing of CBA/CEA: a synopsis**

When CBA/CEA is used within an education PAD, study data shows the use of CBA dominates in comparison to CEA. As CEA focuses on specific benefits through effectiveness measures, the need for specific causal evidence of an intervention was seen by study participants as essential—a need that has historically been problematic given the lack of readily available causal data for education interventions. However, an increase in the use of World Bank Impact
Evaluations over the past five years was seen as carrying the potential to support an increase in CEA. How? By providing causal evidence rooted in the project at hand or by providing causal evidence rooted in like projects. If increased CEA use is brought on by generalizing benefits from like studies, then CEA credibility may come into question and in turn impact CEA value—which is a cautionary note for consideration. Either way, CBA/CEA was viewed holistically as supporting economic thinking through a journey grounded in principles of due diligence and attention to detail.

6.1.5 Summary of themes within the organizational dimension

As noted at the onset of this section, the organizational dimension focuses on how policies, implicit norms and rules, and other features of organizational culture guide and influence why and how CBA/CEA is used in education projects (during the assessment phase of a project at the WB). The following figure, Organizational Dimension – Common Themes, summarizes common themes found within the organizational dimension.

Figure 2: Organizational Dimension – Common Themes
6.2 Themes across personal dimension

To re-cap, the personal dimension focuses on how educational background, views and attitudes, along with work experiences impact the use of CBA/CEA and to what extent (during the assessment phase of a project). Within this dimension of analysis, themes emerge around how educational background of study participants influence the value associated with CBA/CEA, how personal attitudes and views towards CBA/CEA impact CBA/CEA use, and the ways in which personal work experience factors into how CBA/CEA is approached. These variables aid in addressing the question of individual identity within March’s appropriateness theory (1994).

6.2.1 Educational background

Educational roots feed wide ranging tool value – with some commonality across disciplines

Education, in the words of the well-respected education philosopher John Dewey, represents a “continuous reconstruction of experiences” (Dewey, 1916, p. 76). Education experiences help shape and inform personal identity, which is an important component of March’s logic of appropriateness—“any decision in any context can be seen as being shaped by identities and a logic of appropriateness” (March, 1994, p. 59). As informal education is difficult to track and classify, this study concentrates on how formal education potentially influences the role and perceived value of CBA/CEA within an education PAD. Formal education, in this study, is defined as tertiary learning received at a university-level institution and a form of learning that applies to all interviewees. From the perspective of their most recent university degree, formal learning among study participants were dispersed around the following disciplines: economics (13 of the 23), education including administration, planning, policy, and/or finance of education (5 of the 23), development including planning and/or
comparative studies around development (3 of the 23), and science including pure science and policy related to science (2 of the 23). From an aggregate view, interviewees were split fairly evenly between those educated in economics (56% of participants) and those educated in non-economic disciplines (44% of participants).

From an individual view the value that CBA/CEA brings to an education PAD was seen as wide ranging in nature across all educational backgrounds, but the following two views were commonly shared: the value that CBA/CEA plays in client engagement and the value that CBA/CEA plays in refining and sharpening project details. Spanning all educational backgrounds, 60% of study participants saw value in the rich policy and project dialogue that CBA/CEA facilitates by seeking clarification and consensus on project objectives, inputs, and desired outcomes. Spanning all educational backgrounds, 52% of study participants saw value in the refinement of project details that CBA/CEA facilitates by solidifying project design and supporting costs and benefits (in alignment with project objectives, inputs, and desired outcomes). Beyond these two commonly shared views, educational roots were strongly associated with perceived CBA/CEA value, as one would postulate given the influence that education has on individual identity (Chickering & Reisser, 1993).

Those with educational roots in economics and science leaned towards viewing CBA/CEA value through a lens focusing on rigorous, empirical, and orderly thinking. While this group of study participants were cognizant of CBA/CEA providing value beyond quantitative analysis, their insights revolved more around CBA/CEA providing a justifiable and technical argument to help inform investment decisions through systematic review of granular details. This group of study participants frequently associated CBA/CEA with efficiency, effectiveness, and optimization, which are all rooted in economic theory. For example, Participant-F described CBA/CEA value as follows:
We are looking to see if the costs are in excess of the benefits. In a sense a project is rated satisfactory if it is effective - which means that the activities outlined to be implemented achieve particular goals, at the price that was originally set. In addition, the project needs to be efficiently done - which means that a dollar associated with a particular activity goes a long way to achieve something (that maybe in another project could have not achieved) (Participant-F).

Those with education or development educational roots leaned towards viewing CBA/CEA value through a lens focusing on the rich debate, discussion, and consensus building brought forward by CBA/CEA. While this group of study participants were cognizant of CBA/CEA providing value that included quantitative analysis, their insights revolved more around CBA/CEA providing the space and opportunity to gain common ground on project objectives, aid in developing project design, and foster learning through participatory dialogue. For example, Participant-U described CBA/CEA value as follows:

Economic analysis helps you design your program and look at the different options that you may have for a program. Like I said earlier, the biggest benefit that I get from these tools is that it helps me through the design. These tools help me make decisions on what we are doing, why we are doing a project in this way, and does it make sense to have a project go in the direction or not? (Participant-U).

When combined, the significance and use of CBA/CEA within an education PAD, across diverse educational backgrounds carries wider breadth and deeper depth than a lens focusing solely on one field of study, from various aspects—including potential concerns described in the following themes.

**Those with educational roots in economics see tool value – but are cautious of methods employed**

Knowledge or expertise within a discipline (of study) brings with it the ability to debate and critically assess ideas, concepts, and theories pertaining to the discipline. While those schooled as experts in the field of economics clearly found value in the use of CBA/CEA within an education PAD, they also critically discussed CBA/CEA use from a lens grounded in
methodological challenges. Concerns regarding CBA/CEA use, brought forward by this set of study participants, were two-fold.

The first concern revolved around the dependency (within education PAD)—to the point of over-use that resulted in “cookie-cutter” (Participant-P) analysis frequently rooted in human capital theory. This concern revolved around methods leveraged within a CBA/CEA, not with the CBA/CEA methodology itself. “Cookie-cutter” (Participant-P) analysis was regarded as highly problematic (for the most part) because of underlying effects on CBA/CEA results when labour productivity gains were out of context and/or contextually valid gains were bypassed. As Participant-D reflected, “In reality many benefits can apply to an education intervention, but the benefits identified need to apply to the situation at hand. Too often benefits listed in a CBA are generic and not contextually appropriate.” To alleviate this concern, study participants called for an increase in innovative economic thinking—a theme discussed in more detail later in this study.

The second concern revolved around the validity and accuracy of assumptions made within a CBA/CEA—to the point where credibility of assumptions was at risk. As Participant-O explained:

I was more negative or skeptical about cost benefit analysis based on loads of assumptions made regarding the benefits side - such as how many people will benefit and the anticipated wage differences. Benefits, based on many assumptions, are what I do believe does not ring true many times. (Participant-O).

This concern also revolved around methods leveraged within a CBA/CEA, not with the CBA/CEA methodology itself. Missed, inaccurate, and contextually invalid assumptions were also regarded as highly problematic (for the most part) because of underlying effects on CBA/CEA results—in particular when assumptions were not validated with sound logic and/or evidence. To alleviate this concern, some participants called for more frequent and thorough
reviews of economic analysis within an education PAD—like Participant-M who said “I really wish that we could put more emphasis, more time, and people on completing reviews of a PAD and really reviewing assumptions and become more demanding on the economic analysis.” Other participants called for an increase in the use of sensitivity analysis, which is a step within the CBA/CEA process that was seen as too often bypassed because of a combination of time constraints and lack of awareness regarding the importance of sensitivity analysis (to support and add credibility to findings). Participant-Q reflected this scenario by saying, “Sometimes, I would almost say frequently, we miss completing a sensitivity analysis with our CBAs.”

**Those with educational roots in education, development, and policy see tool value – but are cautious of over-simplification**

Study participants with expertise in the field of education, development, and policy critically assessed CBA/CEA from a lens grounded in concern regarding over-simplifying an education intervention to fit CBA/CEA analysis—particularly when defining and assessing benefits. Education projects, as identified by this set of study participants, were complex in nature because of the diverse underlying educational infrastructures that education projects operate within, the high level of inter-connections and dependencies across education projects, and the often multiple-phased nature of education projects. As Participant-S reflected “education projects need to be assessed from all kinds of views as education is a complex process that involves many layers.” Given the complex nature of education initiatives, the task of identifying and quantifying associated benefits, particularly indirect/secondary and intangible benefits, was argued as challenging at the best of times:

In some cases where the benefits to education are qualitative and subjective, an economic analysis that tries to reduce these benefits to hard numbers is not very desirable – as it is both problematic and error prone. But, indirect benefits from an educational intervention should be described within the economic analysis of a project. (Participant-S).
When you look at economic analysis, such as cost benefit analysis, from a learning perspective at times things get very “fuzzy” - it is not very clear as to what is driving learning outcome - which makes it hard to identify benefits directly associated with an education project. The mathematics of the infrastructure, the desks, the chairs, and the number of teachers - these items can be more easily quantified. At times, within education projects, when they are looking at learning outcomes - these types of outcomes are harder to quantify within a cost benefit analysis.

(Participant-V).

Given challenges with identifying and quantifying benefits for an education intervention, a danger of bypassing and/or simplifying benefits in order to support quantitative analysis was worrisome for this set of study participants. Unlike CBA/CEA concerns raised by economists, the issue of over-simplifying an education project to fit CBA/CEA analysis pertains to the CBA/CEA methodology itself and speaks to a common challenge of CBA/CEA associated with CBA/CEA use in the field of education (as discussed in the Literature Review section of this study).

**Educational background – a synopsis**

For study participants, CBA/CEA provided value to an education PAD in some manner irrespective of their formal educational roots. Two areas regarding the significance and usefulness of CBA/CEA commonly shared among study participants, irrespective of formal educational roots, were the value that CBA/CEA plays in facilitating client engagement and the value that CBA/CEA plays in refining and sharpening project details. Beyond these commonly shared views, formal educational roots carried a strong influence on perceived CBA/CEA value—as one would suspect given the influence of education on identity. Those formally schooled in economics commonly viewed CBA/CEA through a lens focusing on rigorous, empirical, and orderly thinking, but saw CBA/CEA use as potentially problematic when methods used leverage benefits out of context and when assumptions are not thoroughly justified. Those
formally schooled in education, development, and policy commonly viewed CBA/CEA through a lens focusing on the rich debate, discussion, and consensus building brought forward by CBA/CEA, but saw CBA/CEA use as potentially problematic when methods employed resulted in the over-simplification of benefits to suit CBA/CEA calculations. When combined, these diverse sets of views and concerns support a more thorough and contextually accurate use of CBA/CEA that would not otherwise exist through a lens focused solely on one field of study—which presents a valuable lesson onto itself.

6.2.2 Personal attitudes and views

**Personal attitudes reflect support for CBA/CEA – but are split between unconditional and conditional support**

Support for the use of CBA/CEA within an education PAD was high among study participants—91% across all roles—but conditionally so for some. Approximately two thirds of study participants (that supported CBA/CEA use) expressed their support without caveats. This set of individuals denoted their support in a clear and concise manner. Their messages were also direct and often expressed with strong conviction. For example, Participant-F verbalized “Completing a cost benefit analysis is very important and is a sensible thing to do”, Participant-E verbalized “This (a CBA) is the way to go – this (a CBA) has an advantage; whether we want the situation to go ahead or not”, and Participant-B verbalized “It may not be the most important of determinants in terms of designing something, but it is an important determinant.”

Approximately one third of study participants (that supported CBA/CEA use) expressed their support with caveats. This set of individuals also denoted their conditional support in a clear and concise manner. But, their messages were descriptive in nature and presented a wide spectrum of aspects for consideration when authoring a CBA/CEA. Their messages shared no
commonality, except for a caveat safeguarding against CBA/CEA results acting as the dominant factor in a project’s go/no go decision—as articulated by the following discussion excerpts:

If the tools CBA/CEA are used intelligently versus subjectively, then everyone benefits from their use - the government, the country, and the institutions benefit (for various reasons). CBA/CEA is just one tool amongst many that can be used to help with economic analysis of an education intervention. (Participant-V).

However, a CBA/CEA does not stand alone in justifying a project, as the quantifiable estimates are often too imprecise to act as the basis for go-forward decisions – partly because of corresponding data issues. (Participant-R).

But I don't think this type of analysis should inform the operations in terms of “yes or no” though. I think that economic analysis could inform operations in terms of what could be done and how it could be done best. (Participant-H).

This caveat is consistent with the vast majority of study participants who recognized CBA/CEA as one of many components taken into account when a project is presented for approval. This caveat also aligns with earlier expressed concern regarding the over-use of rate of return analysis (rooted in human capital theory) as a means of justifying education projects.

**Personal attitudes view CBA/CEA quality as important**

Close to half of study participants—44% across all roles—expressed the importance of completing CBA/CEA with quality in mind, through the use of terms like “top notch work” and “well done”:

I think it is very important that you really pay attention to how well done the economic analysis is - we need to be very strict in the process of designing a project. We need to ensure that we are doing top-notch work in this area (e.g. economic analysis). Which brings me back to our earlier discussion - that sometimes people are rushed when doing economic analysis - which is a pity as this is tremendously important. (Participant-M).

Overall – if well done – there is a lot of value in completing a cost benefit or cost effectiveness analysis. (Participant-N).
When study participants were asked to unwrap what defines a quality (top-notch/well done) CBA/CEA (within an education PAD), responses covered a gamut of aspects—from making sure benefits were relative to a project, to ensuring all benefits were listed, to securing alignment on costs with school administrators, to taking cultural considerations into account when defining non-quantifiable benefits, to fully engaging all stakeholders when verifying findings (to name a few). While little commonality was found across responses, replies did raise two interesting points. First, the underlying intent behind responses revolved around contextual correctness—which aligns directly with numerous themes within this study. Second, there was no mention of any formally defined measure of CBA/CEA success—which is surprising given the measurement mantra that prevails at the Bank (Weaver, 2008). Which brings forward a question for contemplation—was this situation an example of organizational hypocrisy (Weaver, 2008), or was this situation in place to support the much cited flexibility needed when completing a CBA/CEA within an education PAD?

**Process can be too mechanical – innovation is slowly breaking the cycle although more is needed**

A third of study participants, across the roles of Sector Manager, Team Leaders, and Economists, perceived the CBA/CEA process as becoming too mechanical in nature—with mechanical referring to the re-application of CBA/CEA analysis from recently completed CBA/CEA models (that were often rooted in human capital theory) in a reflexive manner without taking project context into full consideration. March’s theory of appropriateness refers to this phenomenon as “recency” (March, 1994, p. 67). According to study participants, the mechanical nature rose to the surface most often when skill sets were low and timelines were tight:
When I was a new person, I looked for models. So, what is praised as a good PAD (so I would look at that one) or what is praised as a PAD with good economic analysis (so I would look at that one) - you tended to replicate those good examples. Sometimes examples can be specific to a region or a sector or to management. So, you can see how things can get replicated in certain ways. Sometimes it may not have been the right model for the project at hand though. (Participant-C).

The objectives within an education PAD should really drive the approach used for economic analysis within a PAD – but, sometimes a standard approach to the analysis is taken. Too often cost benefit analysis in a PAD look similar to earlier like PADs – sometimes specialists who complete these analysis have a tendency to complete the work in a manner that he/she completed previously because of the high volume of workload. (Participant-P).

These study participants also reflected the dangers of mechanically applying CBA/CEA models given the potential impact on results and resulting CBA/CEA quality. Some viewed innovative economic analysis as a constructive way to break the mechanical cycle—from expanding benefits to include factors such as reduced crime rates, diminished health costs, and increased life expectancy that can result from educational interventions (to name a few examples). But others preferred to continue justifying projects based human capital theory, but also expressed the need to leverage human capital theory in a more innovative way. Either way, the reference to innovative held strong in both solutions presented and aligns with the recent emphasis within the World Bank on innovatively seeking new solutions to global problems (World Bank, 2015a).

**Personal attitudes and views: a synopsis**

While the use of CBA/CEA was viewed as providing value in some manner to the vast majority of study participants (91% across all roles), the provision of CBA/CEA within an education PAD was divided among unconditional (62% of the 91%) and conditional (29% of the 91%) support. While conditions for CBA/CEA were seen as wide spread, one commonality came to the surface—the assurance that CBA/CEA was not the driving factor when assessing an
education project. Irrespective of conditional or unconditional support, close to half of study participants cited the importance of ensuring CBA/CEAs were completed with quality in mind. Even though a clear definition of quality did not surface in discussion, contextual validity and innovation were viewed as aspects of quality.

6.2.3 Work experiences

Work experience raises importance of context – but raises tension when constraint-triad comes into play

Work experiences developing CBA/CEA within the World Bank, accentuated the importance of ensuring a PAD’s CBA/CEA is rooted in context—from the perspective of micro project details to macro elements surrounding a project. Study participants, for the vast majority across all roles, were tenured at the World Bank and involved in a wide variety of projects over many years—61% of study participants had been employed at the World Bank for 10 years or more, 34% for five to ten years, and 5% at less than five years. The emphasis on “carefully considering the circumstances surrounding educational outcomes/situations” (Participant-R) was discussed by 73% of interviewees across all roles (17 out of 23) in various ways. Participant-L expressed the importance of context by saying “You have to contextually look at the whole situation and then determine how you want to handle your economic analysis.”

While project specific context was ideologically imperative to the majority of study participants, the practicality of taking project context into account (within a CBA/CEA) was identified as problematic when faced with data, timeline, and skill set issues. The goal of an education CBA/CEA rooted in context loosened when the constraint-triad presented issues that were unsurmountable, given the time and cost allotted to completing a CBA/CEA (within an education PAD). In these situations, study participants (across all roles) reflected upon difficult trade-offs between content, time, and cost in order to complete the analysis—which was
challenging as changing one aspect of content, time, or cost automatically impacted another aspect (of time, content, or cost). What resulted was an obvious tension between an ideological need for context and the practicality of making it happen. Work experience showed how unpractical it can be, at times, to ensure a CBA/CEA is fully rooted in project specific context. While this tension did not impact the decision to use CBA/CEA, it impacted the way in which a CBA/CEA was approached—through trade-offs on a case by case basis with the aim of coming as close to reflecting the context of the project as possible.

**CBA/CEA is rooted within a unique team effort with wide ranging skills – that is supportive and synergetic**

Work experiences developing CBA/CEA within an education PAD identified the PAD’s unique team-based structure as a “supportive and synergetic” (Participant-Q) force when authoring a CBA/CEA (by all roles). The PAD team-based structure was explained as one that included both economist and non-economists (such as educational, policy, and development experts) working side-by-side to develop a CBA/CEA. PAD team members, based on their area of specialty, contributed to the content of a CBA/CEA in ways that leveraged their area of expertise. While it was acknowledged that the PAD’s economists and team leaders acted as the driving force behind the creation of a CBA/CEA, all team members were actively involved in brainstorming, co-authoring, reviewing, and/or editing CBA/CEA content. This multi-disciplinary approach to authoring a CBA/CEA was specifically pointed out by almost half of study participants (11 out of 23 across all roles) as a positive force that was balanced in nature and one where all team members had a valuable role to play. The following interview quotes help illustrate these points:

> I believe we are quite privileged (at the Bank) because I have lectured at other organizations that divide their specialists from their economists - for these organizations, the economists consider every project the same to them - whether rebuilding bridges, schools, or widgets they produce standard economic analysis.
Here (at the Bank), our economists are in the education sector - we are part of the Team. So, while we (economists and education specialists) may have differences of opinion, it is within the Team so we can find some common ground and we can all see the benefit of some good economic analysis. (Participant-C).

Education specialists, who do not have a specific expertise in the economics of education, become involved in economic analysis within a PAD (Project Appraisal Document) from the standpoint of a reviewer and contributor. The education specialist will look at the economists on the economic analysis from an overall holistic perspective view to see if the analysis fits (the project presented) and also from a design and quality perspective. For example, a PAD would come to an education specialist and he/she would maybe contribute to the overall logic of the argument presented in the economic analysis, or help analyze the supporting data, or provide feedback on how the data is presented – these types of activities. (Participant-S).

The multi-disciplinary team-based structure was also cited as helping bring forward economic thought earlier in a project’s assessment phase and promoting a healthy dose of critical dialogue to the benefit of the project. While some study participants did not intentionally reflect upon the value that the multi-disciplinary team-based structure brought to the table when authoring a CBA/CEA, no study participant questioned the value when asked. The multi-disciplinary PAD team-based structure was resoundingly viewed as a positive influence when creating a CBA/CEA and one that many felt was unique to the Bank and part of their comparative advantage.

**Internally trained and supported on CBA/CEA – but could benefit from more case study learning and mentoring**

The majority of study participants—69% across all roles—viewed their World Bank work experience as providing numerous formal and informal training opportunities to learn about economic analysis and supporting tools like CBA/CEA. As one study participant explained:

Yes, yes there are lots of courses on cost benefit analysis. There is also e-learning and periodical face-to-face learning. In addition there are standards, guidelines, and there are a ton of people around that you can bring in if you get stuck - there are always lots
of people that you can draw upon for advice. In ways this is our bread and butter, every project has economic analysis. As such, there are lots of models that can be leveraged. (Participant-A).

Study participants also knew where to turn if immediate supported was needed to help with a CBA/CEA challenge or concern. As another study participant explained:

If I want to do this type of analysis (CBA/CEA) and I want to do it well - I know who to turn to. A lot of what we do at the World Bank is not so much going to designated training, but going and talking to your colleagues and peers. This is working really well. (Participant-I).

While the content and quality of World Bank CBA/CEA training was not discussed in depth during interview discussions, some participants cited a couple of areas for improvement. A few individuals with non-economic backgrounds raised a need for more case study examples, with an emphasis on challenging scenarios—as Participant-W reflected:

If a suggestion was to be made regarding the use of CBA/CEA at the World Bank, it would be a good idea to provide more guidance on the use of these tools under more difficult situations – like data scarcity. (Participant-W).

A few individuals with a background in economics raised a need for more mentoring among senior and junior staff, with an emphasis on advice pertaining to the completeness of analysis and how to address commonly confront challenges—as Participant-V reflected:

I would encourage training and mentoring of individuals at the World Bank that use these tools, to understand that the results need to be looked at in relation to their level of certainty/uncertainty. (Participant-V).

While these two areas of suggested improvement are worthy of further consideration, the vast majority of study participants believed they were well trained and well supported in relation to creating a CBA/CEA within an education PAD. While this particular point may appear mute, it actually represents an optimal condition for fostering CBA/CEA use—as without strong training and support the ability to produce a top-notch CBA/CEA would definitely be hindered.
Work experiences: a synopsis

The historic layers of work experience inside and outside the World Bank brought forward the importance of ensuring an education CBA/CEA is rooted in the context of the project at hand—from specific project details, to the environment that a project resides within. But, as study participants reflected, in reality creating a CBA/CEA rooted in contextual evidence can quickly become problematic when constraints (like the constraint-triad of data, skill set, and timeline) come into play that cannot be feasibly be addressed during a project’s assessment. What results is a tension that requires trade-offs on a case by case basis, which are never easy to make. The historic layers of work experience inside the World Bank’s Education Sector brought forward the importance of the PAD’s unique team-based structure as a supportive and positive influence for CBA/CEA use. Work experiences inside the World Bank also conveyed, from the majority of study participants, a workplace that provides rich training and support for CBA/CEA use with suggestions on enriching case study examples and mentoring opportunities.

6.2.4 Summary of themes within the personal dimension

As noted at the onset of this section, the personal dimension focuses on how educational background, views and attitudes, along with work experiences impact the use of CBA/CEA and to what extent (during the assessment phase of a project at the WB). The following figure, Personal Dimension – Common Themes, summarizes common themes found within the personal dimension of analysis.
6.3 Summary: what findings within these dimensions of analysis convey

When looking at study data through the conceptual framework, internal factors play a predominant role in answering the research question. From the organizational view, organizational rules, decision structures, alliances and norms, and framing of CBA/CEA all impact why, how, and under what circumstances CBA/CEA are used within education PADs to varying degrees. From the personal view, educational background, personal attitudes, and work experience all impact why, how, and under what circumstances CBA/CEA are used within education PADs to varying degrees. Together, the organization and personal dimension address the questions of rules and identity in relation to March’s theory of appropriateness (March, 1999) and provide the backdrop from which CBA/CEAs are executed within. A summary of common themes emerging from study participant views, across internal factors, can be found in Appendix F: Summary of Common Themes Emerging from Study Participants.
7 Phase Two Findings: Dimensions Focusing On External Factors

Findings from the study’s second phase, that involved qualitative analysis of interview data, is presented and discussed in chapters six, seven, and eight. In this chapter, I identify and discuss common themes found in all interviews across all PAD case studies, through the dimensions of analysis within the conceptual framework that focus on external factors—the project and worldwide factors. Common themes, within each dimension of analysis, are defined, elaborated, and inter-connected where appropriate. This section also provides a synopsis of what commonly found data themes, within each dimension of analysis, conveys about CBA/CEA use in WB education PADs. I leverage interviewee quotes throughout this chapter, as interviewee data acts as the basis for analysis and discussion—with quotes identified using participant pseudonyms (as described in the Research Design and Methodology section of this study).

7.1 Themes across project dimension

To re-cap, the project dimension focuses on the specific project circumstances under which a CBA/CEA is completed (during the assessment phase of a project), and how these unique project circumstances impact the decision to use CBA/CEA and the approach taken to develop a CBA/CEA. Within this dimension of analysis, themes emerged around the type of project factors that impact CBA/CEA use and approach decisions, what project factors influence CBA/CEA use the most, and how other sections of a PAD relate to and/or influence CBA/CEA use. This chapter section identifies common themes across all PAD case studies and the following chapter (eight) reflects upon how these common themes apply to PAD cases studies. These variables aid in addressing the question of recognition within March’s
appropriateness theory (1994).

7.1.1 Project specific influences

Multi-faceted contextual factors at play – from local micro to global macro

The project itself and circumstances that envelope a project both potentially impact the use of CBA/CEA and the approach taken to create a CBA/CEA. Within March’s theory of appropriateness (1994) the behaviors and actions of individuals “involve fulfilling the obligations of a role in a situation, or trying to determine the imperative of holding a position” (March & Olsen, 1989, p. 161). Interview discussions conveyed micro project traits and macro situational attributes enveloping a project as influencing the approach taken to create a CBA/CEA more than the choice to use CBA/CEA. As cited earlier, the CBA/CEA choice decision was conveyed by study participants as directed more by the multi-dimensional who-factor rooted in individual values, beliefs, and experiences.

From a micro project lens, beyond challenges within the constraint-triad (of data, timeline, and skill set), a project’s development objectives were the only commonly identified factor influencing the approach taken to a CBA/CEA—as noted by 30% of study participants across all roles. A project’s development objectives are meant to be specific, clear, and well-defined, and are meant to entail specific outcomes that can in turn be traced downstream as part of a results oriented framework (World Bank, 2012b; World Bank, 2014g). Development objectives found within education projects were cited by study participants as wide and diverse in nature depending upon the context of the project, but are closely associated with education sectors (cited in Chapter 5 of this study). For example, a project focusing on pre-primary education may have a development objective to increase coverage of pre-primary education within a region, improve the quality of pre-primary education by providing specific pre-school
training programs, or provide new learning programs and supporting material to improve numeracy skills at a young age. A few additional project traits were also noted as influencing a CBA/CEA’s approach, specifically education theme, loan amount, and understanding the underlying culture of the region (where the project takes place). However, these traits were referenced on an individual basis with no unity across study participants on how these factors influenced CBA/CEA use.

As project objectives lay the foundation for a project, they in turn identify the starting point for determining costs and benefits within a CBA/CEA’s underlying model. As Participant-F reflected “… objectives are very important in a cost benefit analysis because that is where you start.” Project objectives were not associated with directing the type of underlying economic model used within an education PAD, across all roles. As Participant-L reflected “… I’ve never been told to complete analysis in a certain way based on the project’s objective”. However project objectives associated with a strong evidence base, such as early childhood and primary education, were seen as offering cost and benefit models for consideration within a CBA/CEA. The existing bed of evidence was not viewed as driving or not driving CBA/CEA use.

From a macro situational lens, two factors were commonly mentioned as influencing the creation of a CBA/CEA—support from the client’s sitting government and data supporting the underlying educational infrastructure applicable to the project. A few additional macro situational attributes were also noted as influencing a CBA/CEA’s approach, specifically the client’s historic relationship with the World Bank, political structures within the sitting government, active political issues surrounding education, and social norms regarding education. While some commonality across these attributes rose to the surface (with two to three
participants per attribute), the supporting observations were high level views that lacked specificity.

The majority of study participants—87% of the time across all roles—found the type and level of support from the client’s sitting government as impacting the creation of a CBA/CEA. Support from the sitting government was identified as offering the resources, knowledge, and data needed to author a CBA/CEA—from government staff assisting with cost analysis, to offering household survey information as data points, to explaining the related educational policies and procedures, curriculum, staffing, and roadblocks (to name a few). For this set of study participants, the quality and quantity of cost and benefit data (needed for a CBA/CEA) was directly related to the type and level of support a client is able to provide. Participant-Q reflected, “If the government does not have the capacity or capability to provide knowledge or evidence in support of a CBA/CEA, then details will be missed.” In summary, the type and level of government support was viewed as influencing the creation of a CBA/CEA because of impacts on cost and benefit data that a CBA/CEA’s underlying model is built upon.

About a third of study participants—34% across Team Leaders, Economists, and Education Specialists—found data challenges specifically related to a project’s supporting educational infrastructure as impacting the creation of a CBA/CEA. In this paper, educational infrastructure is defined as including education strategy, supporting policies and procedures, organizational structures, staffing models, budgets, and curriculum. For this set of study participants, the quality and quantity of data related to the educational infrastructure as directly related to the maturity level and complexity of a nation’s educational infrastructure. For example, some nations held weak policies on accounting for education costs, and as such, had very poorly articulated budgets. Or traditional education measures—like achievement scores,
enrollment rates, and attainment rates—were simply not being tracked by the administrators of the educational infrastructure. As Participant-U reflected:

In particular to education and developing nations – like country x, for example - it is often not very clear what the government is spending on education within different line items of their education budget. For example, what is within the line item of teacher training, stationary, or even exams and assessments? If education information is not clearly and properly made available, sometimes the economic analysis can be challenging for those that are trying to complete the economic analysis. (Participant-U).

In summary, a nation’s educational infrastructure was viewed as influencing the creation of a CBA/CEA because of impacts on cost data that a CBA/CEA’s underlying model is built upon.

**Project data remains highly problematic – but improving via standards and technology**

As stated within an earlier theme, the vast majority of study participants—91% across all roles—referred to data issues as problematic factors when authoring a CBA/CEA (and in turn impacting the value brought forward by a CBA/CEA). Without reliable and meaningful data, more assumptions and evidence from like-studies come into play—both of which require rigorous analysis and potentially impact CBA/CEA credibility. As Participant-L explained:

Yes, data is often a primary issue. First, you go through and identify what data could possibly exist - that is, these are the streams of data that we may need and do they exist. You may not always find that data is available, so you need to make assumptions. (Participant-L).

Data concerns expressed by study participants covered data presence (is the data available at all), consistency (is the data consistent in its presence), completeness (are all data components present), relevance (is the data applicable to the situation in a meaningful way), timeliness (is the data updated and current), and credibility (is the data viewed as accurate).
Data issues surrounding presence and relevance carried the heaviest influence when authoring a CBA/CEA as present, reliable, and meaningful data was viewed as essential by interviewees.

Data was frequently noted by interviewees—43% of the time across all roles—as problematic (when authoring a CBA/CEA within an education PAD) for the simple reason that emerging nations often lack data for analysis. As said by Participant-F, “For a lot of PADs, especially for sector analysis and for investments that relate to a wide variety of interventions, the data you need may or may not be easily available.” Unfortunately, the infrastructure and supporting resources needed to identify, collect, cleanse, and report cost data for an education intervention are often lacking in the nations that the World Bank serves. As said by Participant-M, “all of this data may be fairly easy to find in the United States, but when you try to find this data from some other countries, that data is often not there.” Identifying, capturing and quantifying benefit data for an education intervention was also viewed as problematic because of the softer nature of benefits and the challenge of associating benefits with a causal relationship. As said by Participant-O, “sometimes it is really hard to quantify factors in education - for example how can you quantify the benefits of curricular reform in primary education.”

Data relevance—for 22% of study participants across all roles—was another frequently cited data concern. As said by Participant-A, “whether the data means something to the client is important, whether the client really believes that these are all the real costs and the real benefits, is important.” The importance of ensuring all project stakeholders (such as government ministries, educational administrators, and regional implementers) agree on the meaning and relevance of cost and benefit data was viewed as pivotal, but often hard to ascertain given varying interpretations of data.
While data presence and relevance weighed heavily on the minds of most study participants, a few study participants (3 out of 23, 13%) viewed data through a more optimistic lens. For these study participants, data issues have substantially decreased over recent years to the point where data challenges no longer represent a major issue when authoring a CBA/CEA. Why? Because of the help of technology gathering data and standards defining consistent meaning for data (which is a position shared with other global agencies focusing on education data, like the UNESCO Institute for Statistics and the Education and Policy Data Centre). As Participant-K noted, “… the cost of acquiring, reviewing the quality, and processing the data is all reduced a lot. In my personal experience, the problem of not having adequate data is becoming lesser and lesser.” As Participant-Q noted, “International education data standards, driven by UNESCO, have advanced common agreement and meaning of data”. While there is little doubt that technology and data standards carry the potential to alleviate data presence and relevance issues (within the field of education), this set of study participants were also quick to note that more time, money, and commitment from a wide span of stakeholders is needed to continue the drive towards quality education data.

**Increased project complexity in conjunction with constraint-triad – makes it even more challenging to produce contextual-based analysis**

As stated within an earlier theme, several study participants articulated education projects as complex in nature. Why? Because of the following three factors: the vastly different underlying educational infrastructures they operate within, the high level of inter-connections and dependencies across education projects, and the often multi-phased nature of education projects. As the following study participants remarked:

The number and complexity of the dimensions within an education project are so wide and rich, that any tool would be challenged in completing a rich analysis of the dimensions.
(Participant-P).
Education projects need to be assessed from all kinds of views as education is a complex process that involves many layers. (Participant-S).

Education projects are also becoming more complex - so it becomes harder and harder to complete this type of economic analysis in a thorough way. (Participant-V).

For close to a quarter of study participants across all roles, the complexity of education projects from 2010 to 2014 was perceived as on the rise due to more bundling and linking of education projects and an increase in the number of development objectives associated with an education project. For this set of study participants, an increase in project complexity equated to more challenges producing a CBA/CEA rooted in project specific context. When project complexity increased, downstream issues were seen as increasing three fold as data, timeline, and skill set factors were seen as sub-sequentially impacted. An increase in complexity equated to more data challenges, requiring richer skill sets and more time to address. Given the increase in complexity, constraint-triad issues were viewed as frequently overwhelming to correct—so overwhelming that CBA/CEA models often turned to leveraging benchmark-based versus contextual-based analysis. With contextual-based analysis referring to a CBA/CEA centered on unique project specific data and context and benchmark-based analysis referring to a CBA/CEA centered on baseline data and context from existing but similar research (as defined with an earlier theme).

While this theme may appear simplistic on the surface, when unwrapped it presents an important message. That is, just how demanding it can be to produce a CBA/CEA for an education project (within the assessment stage) with evidence rooted in the unique project context at hand, given the complex nature of education projects and situational factors that often
present logistical roadblocks—even in an environment when the underlying culture and policies support and promote economic analysis of projects.

**Project specific influences: a synopsis**

The study data showed the traits and the environment that surrounds a project both encompass numerous factors that could influence CBA/CEA use within an education PAD. Looking at the project itself, study participants most commonly reflected upon a project’s development objectives as impacting the development of a CBA/CEA. Looking at the environment surrounding a project, study participants most commonly reflected upon the type and level of support from a client’s sitting government and the nature of the underlying educational infrastructure as impacting the development of a CBA/CEA. The vast majority of study participants (91% across all roles) also viewed project data issues as problematic when developing a CBA/CEA given the impact on a CBA/CEA’s underlying model, especially in relation to data presence and relevance issues. However, the use of technology and education data standards were seen by a few individuals as substantially alleviating data issues over recent years. Finally, a set of study participants saw an increase in project complexity (from 2010 to 2014) as making it even more challenging to develop a contextual-based CBA/CEA because of downstream implications to data, timeline, and skill set. Project contextual influences on CBA/CEA use brings an important message to the foreground—just how demanding it can be to produce a CBA/CEA with evidence rooted in the unique project at hand, even within a culture where economic analysis of projects is promoted and supported.

### 7.1.2 CBA/CEA context within a PAD

**CBA/CEA is an integral and integrated part of an education PAD**

The structure of a Project Appraisal Document (PAD) has evolved over time to align with changes to the World Bank’s Project Lifecycle and other related policies and procedures found
in the *World Bank’s Operational Manual* (World Bank, 2014b). Education PADs under review within this study (from 2010 to 2014) consistently held the following document sections: strategic context, project description including development objectives, lending arrangements, and project components, project rationale including economic, financial, technical, institutional, societal, environmental, and participatory rationale analysis, implementation including partnerships, agreements, and monitoring/evaluation criteria, and various supporting annexes. As these document sections suggest, a PAD touches upon a wide and diverse range of aspects pertaining to an education project.

A CBA/CEA, if present, is found at a summary level in the economic/financial rationale PAD section and at a detailed level in a supporting annex. On occasion, CBA/CEA is found outside a PAD for various reasons (such as information overload within a PAD or management direction). However in these situations, CBA/CEA details are either summarized within the PAD and/or posted within the PADs publically available document repository (unless identified as confidential).

CBA/CEA was viewed—by half of study participants across all roles—as an integral part of a PAD. The term integral, for these study participants, aligned with the view that CBA/CEA analysis was considered a necessary but not sufficient factor in guiding a project’s go/no go decision. CBA/CEA was perceived as one of the many important ways of thinking about an education project, that when integrated with other ways of thinking, presented a whole, complete, and valuable view of an education project.

The decision to use a CBA/CEA was not seen as having a direct relationship with any other PAD sections, by half of study participants across all roles. However the decision on how to complete a CBA/CEA was seen as having a direct relationship with a PAD’s development objectives, as objectives identify the starting point for determining costs and benefits within a
CBA/CEA’s underlying model. The CBA/CEA process also, by nature, forces specificity of objectives—as Participant-C reflected:

If you are doing a cost benefit analysis - no matter how important it is in the justification for moving forward - it would have forced you to specify your objectives clearly. You would end up knowing what to measure - it would force you to specify what your indicators are, and that would improve the project’s development objectives and key indicators. So, you are already better off just by thinking this way. If you did bring this into your analysis, you would come up with a better program - which would equate to a better package being presented. (Participant-C).

All other sections of a PAD were viewed by study participants as providing information needed to develop a CBA/CEA, and thus perceived as integrated.

**CBA/CEA context within a PAD: a synopsis**

A CBA/CEA within an education PAD was seen by the majority of study participants, as an integral part of a PAD document. Discussions showed CBA/CEA as having a direct relationship with a PAD’s development objectives section. No other section within a PAD was seen as driving or impacting the CBA/CEA use or approach decision. When study participants were asked to express their thoughts on relationships that a CBA/CEA may have with other aspects of an education PAD, responses consistently triangulated with their views expressed within other dimensions of analysis within this study.

**7.1.3 Summary of themes within the project dimension**

As noted at the onset of this section, the personal dimension focuses on the unique project circumstances under which CBA/CEA are completed and how these circumstances impact the CBA/CEA use and approach decisions (during the assessment phase of a project at the WB). The following figure, *Project Dimension – Common Themes*, summarizes common themes found within the project dimension.
7.2 Themes across worldwide dimension

To re-cap, the worldwide dimension focuses on how global influences play a factor in the use of CBA/CEA in education projects (during the assessment phase of a project) and why. Within this dimension of analysis, themes emerged around how government demand and support influence CBA/CEA use, the role that external partners play in CBA/CEA and their impacts on CBA/CEA, how global education goals influence CBA/CEA use, and how economic cycles impact CBA/CEA. This chapter section identifies common themes across all PAD case studies and the following chapter (eight) reflects upon how these common themes apply to PAD cases studies. These variables aid in addressing the question of recognition within March’s appropriateness theory (1994). Finally, about 75% of participants (spread across all roles) were asked about how external partnerships and economic factors influence CBA/CEA use, due to time constraints within interviews.

7.2.1 Government influences

Government demand aided by drive for evidence-based decision making
Just over a third of study participants across all roles perceived the sitting government (associated with a project) as influencing the decision to use CBA/CEA within an education PAD. For these study participants, client demand was seen as swayed (more towards CBA/CEA use) over the last ten years by an increasing need for evidence-based decision making from constituents and parliamentary bodies within client environments (in support of transparency and accountability) and the demand for education services increased. As Participant-G noted, “When you mention quantitative analysis, many nations pay attention. The idea of using data to help make decisions - if the study is convincing - is one that many governments would now listen to.” This set of study participants also observed clients more interested in CBA/CEA’s quantitative measures. As Participant-T reflected “… if a government is interested in a cost benefit analysis, then that interest often comes after the analysis is complete – as they are interested in seeing the numbers and final results of the analysis.”

Study participants noted that it is to the advantage of World Bank clients to present rich quantifiable and qualitative evidence to their constituents and parliaments when seeking project support, with the aid of tools like CBA/CEA. But, if tools like CBA/CEA are narrowly viewed by World Bank clients for their quantitative measures, an underlying tension could arise if the situation impacts the trend (within the Education Sector of the World Bank) of viewing CBA/CEA value beyond numerically justifying projects—which is a cautionary point for consideration.

**Governments support CBA/CEA process but sometimes passively – a learning opportunity exists that should be maximized**

As stated within an earlier theme, the vast majority of study participants—87% of the time across all roles—found the type and level of client support (from the sitting government) as impacting the development of a CBA/CEA. About half of these study participants (44% of the
87%) expressed World Bank clients as supportive in nature—as clients were seen as providing the resources, knowledge, and data (to assist with CBA/CEA development) to the best of their ability. For these study participants, client support was driven by the need to ensure the best use of resources and by the requirement to provide evidence needed to support a project. The other half of study participants (43% of the 87%) expressed client support as sometimes “passive” (Participant-T) in nature—with passive equating to low engagement and/or interest in the process. In these cases, not all World Bank clients were considered as passively supporting the CBA/CEA process, only sometimes (at about 30% of the time). For example within the PAD case studies, a few sited governments as active and engaged in the CBA/CEA process (examples supporting this statement are found in the next chapter). As Participant-B said:

> I would not say that governments are not supportive. But, at the same time, it is not something that they are necessarily keyed in on. I would also say that the government is often indifferent at times. But, we do try to engage them because at the end, the development objectives are linked to the economic analysis. So, indirectly and directly, government sees the economic analysis - they are just often not that interested in seeing the economic analysis per say. (Participant-B).

Passive client support was in turn commonly viewed as the result of low capacity and capability for economic analysis at client sites—too few client resources were available to participate in the CBA/CEA process and those that did participate “probably did not understand it” (Participant-H). As Participant-P said:

> In most of the countries that the World Bank deals with, the technical capacity to create and understand the supporting economic analysis within an education PAD, is relatively low. Many countries that the World Bank works with do not even carry the capacity to process the underlying project data. (Participant-P).

The challenge of limited capacity for economic analysis at client sites is one that the World Bank is actively addressing through various approaches—such as working sessions with clients to introduce economic analysis and coaching along the CBA/CEA process. However, in the eyes
of some study participants (about 20% across all roles), more effort could be done to increase client capacity for economic analysis—such as greater customization of training and more frequent touch points. The ultimate goal, as reflected by these study participants was to increase client capability to the point where they were able to create a project CBA/CEA themselves (and the World Bank in turn advise and audit along the way). As Participant-F said:

Governments perfectly understand why you want the data and how economic analysis influences project decisions, and so on. I just wish that governments would complete cost benefit analysis of a project on their own, then we could compare and contrast economic analysis for project and see how we can come to some mutual harmonization. Then, the economic analysis is something we all believe in. (Participant-F).

Assuming an opportunity exists to enrich customer capabilities for economic analysis, this theme brings forward a few questions for contemplation. Could more be done to increase client capabilities for economic analysis? If yes, study participants noted that it is to seek an approach that addresses the diverse nature of the existing client base.

**Governments benefit the most from rich dialogue resulting from CBA/CEA**

As stated in an earlier theme—60% of study participants across all roles—found value in the rich policy and project dialogue fostered by the CBA/CEA, as the most single predominant benefit to their clients. Through seeking clarification and consensus on project objectives, inputs, and outcomes with all stakeholders involved in a non-threatening manner, project details bubbled to the surface that would not otherwise occur and eyes are often opened to new ways of thinking. The CBA/CEA process was cited as “helping governments understand the situation surrounding a project” (Participant-E). Collectively, dialogue generated through the CBA/CEA process was most commonly cited (by study participants) as helping clarify project development objectives, facilitating project discussions across a variety of ministries, identifying ties to a nation’s education strategy, raising and debating project alternatives, clarifying who benefits and how,
and refining project costs. Finally, walking through the CBA/CEA process was also identified as a way of involving those clients that were viewed as more passively involved in CBA/CEA. The following interview excerpts reflect this value from a macro view, and specific discussion points pertaining to case studies are found in the next chapter.

A CBA does help in supporting dialogue with a client as the Bank and the government work through the details of an education project – the rigor within the steps of a CBA help us walk through important project details that require thought and analysis (Participant-W).

Economic analysis, like CBA, is really very helpful for your dialogue with non-sectorial ministries - such as the Ministry of Finance. Also, sometimes we have to talk with Deputy Prime Minister's and so forth and the dialogue with them needs to be very complete - including economic analysis. (Participant-M).

Economic analysis, such as cost benefit analysis, is also a conversation piece with governments. Let's say the government comes up with a program initially and we estimate that there is only a $500 net present value per child from the economic analysis and we bring that number to the government - it may actually help them think about reorienting the program so they have components to support a bigger bang for the buck. So, that type of conversation is very useful - based on empirical data brought forward by a CBA or CEA. (Participant-J).

If I use a recent example - economic analysis can help open the eyes of some to the benefits of post-secondary education. It is almost universal that in nation-x that there is a form of convexity in the rate of return to secondary education. So, we had to dig deeper and look at the situation to see why this is the case? It is the case because, for the large majority of people, it (secondary education) does not necessarily provide relevant knowledge and skills needed for the labour force. For the large majority in this region, secondary school is not performing in an effective way or equitably. As a result of this economic analysis, we had to in turn raise this to the attention of the government - we needed to raise this issue. (Participant-H).

This theme, I speculate, is the driver behind viewing CBA/CEA as more than justifying projects through a lens focused on quantifiable analysis. I speculate that through learned experiences, among a pocket of this study’s bed of participants, have grown to view CBA/CEA as a tool to gain consensus on project objectives, inputs, and outcomes in a participatory manner.
that fosters creative thinking to the benefit of all. As agents of change, these study participants are slowly transforming the organization to a different way of thinking about CBA/CEA—in an evolutionary versus revolutionary way.

**Government influences: a synopsis**

Client demand for economic analysis was seen, by about a third of study participants, as recently encouraged by an increased need for evidence-based decision making within client environments. For these study participants the increase in demand also equated to more interest in CBA/CEA’s quantifiable results, even though it was believed that clients benefit the most from rich dialogue resulting from a CBA/CEA. Finally, a vast majority of study participants found their clients supportive of CBA/CEA efforts—although at times passively due to low client capacity and capability for economic analysis. While the World Bank is actively building client capacity for economic analysis, it was reflected by some study participants that more could be done in this area.

### 7.2.2 Other external influences

**External partnerships support CBA/CEA – in a synergetic, supportive manner that leverage comparative advantages**

About 75% of participants (across all roles) were asked about involvement of external partnerships due to time constraints within interviews. In relation to a CBA/CEA, external partners were seen as actively involved in the development of a CBA/CEA within an education PAD in one of two ways—as development partners or as consultants.

Development partners were described as other development-based organizations working with the World Bank on various portions of an education project—from assisting with project design, to providing local presence and knowledge, to helping define implementation plans (as an example). In this scenario, development partners were most commonly viewed as rarely
participating in a project’s CBA/CEA, as development partners perceived the Bank as carrying
the comparative advantage in economic expertise. As Participant-E described:

So, when you talk about education, really it is more sectorial (in nature) and the
type of support that it (the Bank) provides also cuts across different development
partners – because we work together with various development partners – like
DFID, UNICEF, UNESCO. So, if you look at it at the end of the day, we are
talking about partnership, collaboration, and cooperation between different
agencies to support government to achieve a particular objective.
(Participant-E).

Consultants were described as individuals external to the World Bank (although ex-World
Bank employees were included in this group) that offered a very specific expertise in relation to
a particular portion of an education project. In relation to CBA/CEA, consultants were most
commonly view as hired to participate in a project’s CBA/CEA because of their technical
expertise in economic analysis, along with filling a resource gap when needed—which was
viewed as beneficial in all cases cited. As Participant-L described:

I spent quite a bit of time on this particular PAD, working with xxxx (xxxx is a
person’s name) brainstorming on how to complete the analysis. So, the situation
was good for me and for others. We had a strong expert that could work with us
and we could learn from.
(Participant-L).

Relationships with development partners and consultants were always viewed by study
participants as collaborative, synergetic, and supportive in nature. External partners were not
seen as impacting the CBA/CEA use decision, but were seen as impacting how a CBA/CEA was
approached.

Global education goals frame and align with CBA/CEA

The influence that education goals, like the Millennium Development Goals (MDG) in
support of the United National Millennium Declaration and The Education for All (EFA)
Movement led by the United Nations Educational Scientific and Cultural Organization
(UNESCO) was discussed. About 75% of study participants (due to time constraints), were
asked to reflect on how global education goals aligned with CBA/CEA, and 40% (of the 75%) shared the view that global education goals helped “frame” (Participant-I) the direction for an education project, but not replace or direct economic analysis. As Participant-P reflected:

Global education drivers or indicators – such as Education for All – can at times be used for justification to move ahead with a project. But, that does necessarily equate to replacing the economic analysis. (Participant-P).

Several participants (35% of the 75%) also jointly viewed global education goals as influencing the development of CBA/CEA by providing an anchor for CBA/CEA measures. As Participant-T reflected, “I think that it influences what is measured in the supporting cost benefit analysis - that is, that benefits match up to the Millennium Development Goals (MDGs).” The movement of global education goals towards measureable learning outcomes (as the result of the 2030 Agenda for Sustainability Goals driven by the United Nations Development Program) was also cited as equating to more support for CBA/CEA use and possibly more CEA use because of specific measurable learning outcomes (within the 2030 goals)—which was a salient observation and one for future analysis.

**Economic cycles do not drive CBA/CEA use – but can influence CBA/CEA approach**

For the 75% of study participants that were asked about the influence that economic cycles may have on CBA/CEA use (due to time constraints), not one study participant viewed the decision to use CBA/CEA as driven by economic cycles or macro-economic indicators (such as interest rates, inflation rates, and/or employment rates). As Participant-S reflected, “We prepare a project, through the PAD process, in the same manner if we are in an economic recession or economic growth period.” While it was observed that during hard economic times the “education sector in general tends to suffer because money may need to flow to places that are considered more pressing” (Participant-A), this scenario did not impact the decision to
develop a CBA/CEA. However, content within a CBA/CEA was seen as potentially impacting the CBA/CEA approach decision.

Some study participants—20% among Team Leaders and Economists (among the 75% asked this question)—jointly viewed the approach taken to author a CBA/CEA as influenced by macro-economic indicators, specifically economic downturns. CBA/CEA (within an education PAD) was cited, for these study participants, as requiring richer in-depth analysis during recessionary times. Economic downturns were driving projects to do a more thorough and detailed job of CBA/CEA (which also improved quality).

**Other external influences: a synopsis**

External partnerships were viewed as a positive force in the development of a CBA/CEA within an education PAD because (when called upon) they added value to a CBA/CEA based on their comparative advantage. Global education goals were seen as potentially framing economic analysis. Global education goals were also viewed as a positive force in the development of a CBA/CEA within an education PAD as goals were seen as becoming more focused on measureable learning outcomes. Macro-economic indicators were seen as potentially calling for richer economic analysis and viewed as a positive force in the development of a CBA/CEA within an education PAD as more thorough and detailed analysis often resulted. Global factors discussed with interview participants were seen by study participants as impacting the CBA/CEA approach decision, but not the CBA/CEA use decision.

**7.2.3 Summary of themes within the worldwide dimension**

As noted at the onset of this section, the worldwide dimension focused on how global influences played a role in the use of CBA/CEA in education projects (during the assessment phase of a project) and why. The following figure, *Worldwide Dimension – Common Themes*,
summarizes common themes found within the worldwide dimension.

*Figure 5: Worldwide Dimension – Common Themes*

### WORLDWIDE DIMENSION OF ANALYSIS

<table>
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### 7.3 Summary: what the findings within these dimensions of analysis convey

When looking at the data through the conceptual framework, external factors played a role in terms of the research question. However, external factors were seen as impacting how a CBA/CEA was developed more than why a CBA/CEA was developed. From the project view, contextual factors unique to the project and the environment that surrounds a project as both influencing how and under what circumstances CBA/CEA are used within education PAD. From the worldwide view, governments, external partnerships, global education goals, and economic cycles were all viewed as influencing how and under what circumstances CBA/CEA are used within education PAD. A summary of common themes emerging from study participant views, across external factors, can be found in Appendix F: Summary of Common Themes Emerging from Study Participants.
8 Phase Two Analysis Across Dimensions and Case Studies

This chapter is the last to present and discuss findings from the study’s second phase that involves qualitative analysis of interview data. While chapters six and seven concentrated on themes emerging from interview data for each dimension of analysis (organizational, personal, project, and worldwide), this chapter focuses on common themes across all dimensions of analysis and the relationships among those themes. I also look at how these common themes apply to, and influence, the use of CBA/CEA through the contextual lens of the six education PAD case studies identified in phase one (and passed to phase two for further study). This chapter, when combined with chapters five, six, and seven, lays the foundation for analyzing study findings (in chapter 9), and identifying resulting implications and concluding thoughts (in chapter 10).

8.1 Common themes across dimensions of analysis

Analysis of interview data resulted in 33 common themes pertaining to why, how, and under what circumstances CBA and CEA are being used to assess World Bank education PADs from 2010 to 2014 across internal and external dimensions of analysis. To recap, the internal dimensions of analysis were focused on how organizational and personal factors influence CBA/CEA use, and external dimensions of analysis focused on how project and worldwide factors influence CBA/CEA use. Seventy percent of themes surfaced within the dimensions of analysis focusing on internal factors—with 14 themes in the organizational dimension and 9 themes in the personal dimension (totalling 23 of the 33 themes). Thirty percent of themes surfaced within the dimensions of analysis focusing on external factors—with 4 themes within the project dimension and 6 themes within the worldwide dimension (totalling 10 of the 33 themes). When viewed independently, each theme conveys a set of factors that influence
CBA/CEA use (in education PADs) in important and meaningful ways. When viewed collectively, six key shared strands of thought emerge across all themes, in all dimensions of analysis—which this paper defines as common themes across the dimensions of analysis. These six common themes present key factors of influence that had a wide and deep reach on the use of CBA/CEA in education PADs (according to study participants).

**CBA/CEA value is diverse**

The most common strand of thought across all dimensions of analysis relates to the value that CBA/CEA brings to an education project (during the assessment stage). CBA/CEA value is found predominantly within the organizational and personal dimensions, but is also inter-woven within the project and worldwide dimensions.

Study participants, in the organizational and personal dimension, saw the value that CBA/CEA brings to an education project (during the assessment stage) as diverse and wide ranging—with an emphasis on facilitating client engagement and refining project details. Movement away from the deeply embedded cultural norm of using CBA mainly for justifying projects through rate of return analysis (based on human capital theory) was viewed as underway—although at times slowly and engulfed with tension, as deeply rooted organizational norms become dislodged. In fact, embedded within the worldwide dimension, over half of study participants perceived the most predominant benefit their clients receive from CBA/CEA is the rich dialogue on project and education policy that resulted from walking through the CBA/CEA process. CBA/CEA, when integrated with other ways of thinking, presents a complete and valuable view of an education project (as found within the project dimension).

Study participants, in the organizational and personal dimension, also saw the value that CBA/CEA brings to an education project (during the assessment stage) as wide reaching—with the project, client, and World Bank all benefiting from CBA/CEA use in differing ways. Study
participants expressed numerous threads of value from CBA/CEA applying to projects, clients, and the World Bank—from facilitating project dialogue, to clarifying project details, to offering learning opportunities, to providing evidence needed to justify a project (to name a few). In fact, embedded within the worldwide dimension, government demand for CBA/CEA was viewed as recently on the rise, as sitting governments were seeing value in CBA/CEA’s ability to generate output in support of evidence-based decision making (more than previously).

Within the personal dimension, the diverse and wide reaching value that CBA/CEA brings to an education project (during the assessment stage) was recognized by the majority of study participants irrespective of formal educational background—despite critical assessment of various aspects of CBA/CEA use. When CBA/CEA use was not viewed as providing value, the underlying concerns were a reflection on how CBA/CEA was implemented versus the CBA/CEA methodology itself. Personal attitudes and views among the majority of study participants showed unconditional support for CBA/CEA use.

**CBA historical use constricts current CBA use**

Study data shows that the legacy of employing rate of return analysis, rooted in human capital theory via CBA, to justify WB education projects was a powerful force that took hold (in the education sector of the WB) during the 1990s. At the time, the WB’s use of CBA to justify an education project was pioneering and set into motion a deeply rooted cultural acceptance of CBA use in WB education projects that carries forward to this day—despite its critics, and the waves of up and down CBA use from the 1990s onward. However, according to study participants (across numerous dimensions of analysis), the use of rate of return analysis rooted in human capital theory ended up constraining how CBA was being used over time and skewing the importance of a project’s rate of return during project evaluation.
Personal attitudes and views of study participants with an economics background, showed rate of return analysis rooted in human capital theory (embedded in a CBA) as very often over-used and used out of context. Under the influence of organizational norms surrounding rate of return analysis (in education PADs), the approach taken to CBA was seen over time as becoming too mechanical, routine in nature, and potentially limiting CEA use. Personal attitudes and views of study participants saw innovation as a means of expanding economic thinking, but they also perceived more innovation as still needed to adjust the way benefits are identified and measured within a CBA.

Study participants were very sensitive to the role that CBA/CEA plays in a project’s go/no go decision. They viewed the legacy of rate of return analysis (rooted in human capital theory) as weighing too heavily in a project’s go/no go decision, and in turn, equated to a perception that a CBA’s value revolved only around the resulting numeric analysis (of a CBA). In fact, not one study participant specifically perceived a CBA/CEA’s rate of return, net present value, or benefit-cost ratio as the driving force in a project’s go/no go decision. Within the personal dimension, when study participants conditionally supported CBA/CEA use, the only shared caveat was to ensure CBA/CEA numeric results were not the dominating factor in a project’s go/no go decision. Within the project dimension, the emphasis placed on CBA/CEA as an integral and integrated part of an education PAD indirectly also re-iterates the view that CBA/CEA is just one of many components involved in assessing an education project.

**Constraint-triad of data, timeline, and skill set weighs in heavily**

The influence that data, timeline, and skill set have on how a CBA/CEA is approached came to the foreground across various dimensions of analysis across study participants—with an emphasis on impacts resulting from data issues.
Data, within the constraint-triad, was viewed by study participants as the predominant factor of influence on the CBA/CEA approach given the numerous and differing types of data issues often confronted when authoring a CBA/CEA (for an education PAD). Data issues resurfaced, within the organizational dimension, as the main contributor to poor CEA use within education PADs—as a lack of causal data in support of CEA effectiveness measures was commonly seen as limiting CEA use. Data issues resurfaced again within the project dimension, but in a more refined and specific way, with data presence and relevance viewed as the most pressing data concerns impacting CBA/CEA use.

Timeline and skill set (within the constraint-triad) were also viewed by study participants as influencing a CBA/CEA’s approach, but to a lesser extent than data. As noted in the organizational and the worldwide dimensions, timeline and skill set challenges often resulted in leveraging consultants to help author a CBA/CEA (to fill skill set gaps that were either not present or not available during the timeframe at hand). The impact of tight timelines associated with project assessments was also reflected upon, within the personal dimension, as problematic—as tight timelines were seen as compromising CBA/CEA context.

**Project context is imperative but perhaps not realistic**

Project context initially rose to the surface within the organizational dimension, via a theoretical lens, as study participants discussed how the constraint-triad impacted project context. To recap, project context refers to project specific data and all other circumstances that envelope a project. Conversations on CBA/CEA context also brought forward a set of issues that arise when a CBA/CEA model is not rooted in evidence from the project at hand—from the level of applicability of point estimates for benefits, to the level of contextual validity when considering costs. Contextual-based analysis (when a CBA/CEA is grounded in the situation at hand in all aspects) versus benchmark-based analysis (when a CBA/CEA is grounded in
baseline data and context from an existing and similar project) was clearly the goal for a CBA/CEA (within an education PAD). In fact, contextual correctness was one of the underlying reasons behind individuals expressing the importance of “top notch” CBA/CEA work (within the personal dimension). However, as conversations on context progressed, study participants (through their work experiences) noted project context was often compromised when data, timeline, and/or skill set issues became too timely and costly to rectify.

A deeper discussion regarding project context occurred within the project dimension, as context came to the surface within every theme (within the project dimension), either directly or indirectly. First, study participants described the specific micro and macro contextual factors that they viewed as holding the most influence on CBA/CEA use—the constraint-triad, project objectives, support from a client’s sitting government, and data supporting the underlying educational infrastructure (applicable to the project.) Second, study participants described the challenge of producing a CBA/CEA rooted in context when aggregating project complexity with constraint-triad issues. Third, study participants described problematic issues surrounding education data and how these issues often resulted in compromising CBA/CEA context.

**Education project complexity is an important consideration**

Education projects were seen (by study participants) as complex because of the diverse underlying educational infrastructures that education projects operate within, the high level of inter-connections and dependencies across education projects, and the often multi-phased nature of education initiatives. The complexity of education projects was sprinkled across many dimensions of analysis, but with little commonality—other than reflecting on the importance of taking the complexity of education projects into consideration when defining governance for CBA/CEA use and when completing a CBA/CEA.
Education projects were initially articulated as complex within the organizational dimension. In conversation around policies and procedures that govern economic analysis of education projects, half of study participants expressed the need for, and importance of, flexibility to accommodate education project complexity. Yet, the much needed policy and procedure flexibility contributed to an unclear understanding of what defines a CBA/CEA within a project. What resulted was a tension between the need for flexibility versus the lack of clarity and direction on how to use CBA/CEA (within an education PAD).

Education complexity re-surfaced in discussions within the personal dimension, in a cautionary way. Study participants with backgrounds in education, development, and policy saw the value that CBA/CEA brings to an education PAD (during the assessment stage). But, they also expressed concern over the simplification of complex education projects in order to fit (or comply with) a CBA/CEA. Education complexity re-surfaced again in discussions within the project dimension, in a cautionary way. A perceived increase in education project complexity (from 2010 to 2014), when combined with the constraint-triad, compounded the challenge associated with rooting a CBA/CEA in project context.

**A multi-disciplinary team structure helps**

The unique multi-disciplinary team structure leveraged when creating a CBA/CEA (in an education PAD) was seen as a valuable and important factor by the majority of study participants—with a multi-disciplinary team structure including economists and non-economists working collaboratively to author a CBA/CEA.

Discussing work experiences, within the personal dimension, the multi-disciplinary team structure was met with positivity and enthusiasm. The team model was expressed as supportive, synergetic, one that respectfully leveraged the expertise of all individuals involved, and fostering development of a well-rounded CBA/CEA. The team model was also expressed as
helping facilitate CBA/CEA discussions earlier in an education project—which was important, as CBA/CEA analysis incorporated at the onset of a project was viewed as an informal operating norm (within the organizational dimension).

When discussing the use of external partnerships, within the worldwide dimension, a like stance emerged. The use of external partners and consultants were seen as supportive, synergetic, and an approach that leveraged the expertise of all individuals involved. External partners, each leveraging their comparative advantage, to author a well-rounded CBA/CEA were also met with positivity and enthusiasm.

8.2 Relationships among common themes

The six common themes, across the dimensions of analysis, all shed light on how key factors influence CBA/CEA use from the view of study participants. When looked at collectively, relationships among the six common themes also shed light on how the dependencies and connections among those factors impact CBA/CEA use. In particular, two relationships (among the six common themes) show how the inter-twined nature of these key factors works in unison to impact the use of CBA/CEA in an education PAD.

First—CBA/CEA value and CBA historical use are inter-twined in a few ways. Both themes help understand the reason for using a CBA/CEA in education PADs (from 2010 to 2014). Why? Because of the diverse value that CBA/CEA brings to an education project (during the assessment stage) and because of deeply embedded organizational norms that surround CBA use in education projects (during the assessment stage). However, the historical use of CBA in education PADs, as expressed by study participants, was seen as constricting CBA/CEA use in education PADs in 2014—which in turn impacted CBA/CEA value. Why? Because the human capital model was over used and very often out of context (and as such often presented misleading results), too much emphasis was being placed on a limited number
of pre-defined benefits resulting from education (specifically wage, productivity, and output gains resulting from higher levels of educational attainment), and too much emphasis was being placed on a CBA’s rate of return when rendering a project’s go/no go decision. A CBA rooted only in human capital theory was also viewed as inhibiting PAD teams from exploring other benefits associated with education projects (as benefits were either wage, productivity, and output related). For example, benefits such as improved health outcomes and reduced health care costs to society, lower crime rates and reduced crime related costs to society, and an increase in social capital that often results from education interventions (McMahon, 2010) are often excluded from CBA/CEA models rooted in human capital theory. In addition, supporting client discussions on project benefits were not perceived as diverse and rich in content (as benefits were already pre-defined). For example, conversations exploring downstream implications to reduced crime rates that result from increased levels of educational attainment are not fostered when a CBA/CEA model is focused mainly on wage differentials resulting from increased levels of educational attainment. The inter-twined relationship between CBA/CEA value and CBA historical use shows how hard it is to adjust a deeply rooted organizational norm, even when norms become inhibiting. The change in norms was seen as challenging as CBA/CEA models not rooted in human capital presented a large change and expectations associated with completing a CBA/CEA model rooted in human capital (that were systemically rooted in several pockets of the organization).

Second—the constraint-triad, project context, and project complexity presents an inter-twined web of factors that influence how CBA/CEA is approached within an education PAD (from 2010 to 2014). During interviews, the details and circumstances around the constraint-triad quickly became inter-twined with a project’s context and a project’s level of complexity. The goal of achieving a contextual-based CBA/CEA was seen as impacted by the constraint-
triad—the more challenging data, skill set, and resources became, the level and amount of project specific evidence within a CBA/CEA was reduced (and evidence from like studies was called upon). The goal of achieving a contextual-based CBA/CEA was also seen as impacted by the increasing level of complexity of education projects, when combined with the constraint-triad. The inter-twinning relationship between the constraint-triad and project complexity shows how challenging it can be to produce a CBA/CEA rooted in the context at hand, given the number of underlying elements at play and how those elements interact with each other.

8.3 Contextual analysis across Project Appraisal Document (PAD) cases

The following section of this chapter looks at common themes, across the dimensions of analysis, in the context of the PAD case studies identified in phase one (that were identified in Chapter 5 of this study). As noted earlier, the case studies encompass six education PADs, across three nations, within three different regions of the world (with two PADs in each nation). PAD case studies are discussed at this stage (of this dissertation), to reflect on how the major factors that influence CBA/CEA use found in this study (as identified by study participants), come into play in the case studies.

To provide context for the case studies, a short overview of major education issues in each region, along with education ties to the regional economy and government spending is provided. From there, education governance in each nation is briefly summarized, along with the cultural view towards education (within the nation). This section is supported by World Bank data sources, along with other studies and reports outside the World Bank that offer economic and/or educational data (such as the International Monetary Fund).

A summary of major project objectives within each PAD and the CBA/CEA approach follows, which is sourced from the applicable PAD case study itself. A review of how common
themes across the dimensions of analysis influenced CBA/CEA use in each PAD is then articulated, which is sourced from interviews with study participants that were directly involved in the PAD case study. In order to ensure nation and project confidentiality, each PAD and nation is identified using pseudonyms. In addition, to protect study participant confidentiality, interview discussion quotes are kept fully anonymous.

Following the contextual analysis of each PAD, a comparative review of CBA/CEA use across nations is discussed.

8.3.1 Nation-A within Sub-Saharan Africa

From a macro view, education in Sub-Saharan Africa has progressed in many aspects over the past twenty years, but the region still suffers from numerous education challenges and issues. Specifically, millions of primary school aged children still remain out of school despite an increase in primary school completion rates, education inequalities across regions exist as many out of school children reside in rural areas, demand for secondary education is on the rise to support economic growth and not being met with ample supply, and gender disparities around education access and completion rates continue to be at play (Majgaard & Mingat, 2012). Across many Sub-Saharan African nations, the supporting educational infrastructure is also considered immature but rapidly growing as they strive to reach global education goals and support economic growth.

During the timeframe of 2010 to 2014, at an aggregate level, nations in Sub-Saharan Africa grew at a steady rate economically as they continued to recover from the global recession of 2007 to 2009—with real GDP growth rates each year at 5.6, 5.5, 4.9, 4.9, and 5.4 percent (from 2010 to 2014) for the region (IMF, 2014a, p. 4). With Sub-Saharan economies historically dependent on commodities and agriculture (like oil, gold, timber, and cocoa), the expansion of
industry and services has been an emphasis of economic development post the global recession (IMF, 2014a) and changed the demand for education services from 2009 onward. As such, expansion of secondary and post-secondary education has been strong, in parallel with efforts to meet global education targets surrounding primary education.

Education in Nation-A is governed through a centralized ministry that focuses solely on education. The ministry is accountable for education strategy, planning, and national curriculum. The ministry is also supported by a centralized government agency that focuses on education delivery, in partnership with several boards, councils, teacher unions, and societal organizations. Since the early 2000s, various responsibilities for school management, finance, and resourcing have slowly moved to education district authorities that lie closer to schools. From 2010 to 2014, the provision of education in Nation-A was through a mixture of public and private institutions, with private schools more prevalent in urban (at close to twenty percent of schools by 2014) versus rural (at less than ten percent of schools by 2014) areas. Major education challenges and issues in Nation-A revolve around the distribution of qualified teachers, the provision of education material for the first five years of schooling, and equitable access to primary and secondary education.

From a cultural perspective, Nation-A sees public education as a high priority within their society. As one study participant reflected, “education is on the hearts of all citizens”. Given its importance in society, education was also seen by study participants as “in the political spotlight”—with education decisions often politically charged. Nation’s-A sitting government has supported the call for education, by dedicating a larger percentage of GDP towards education when compared to the average GDP education spend for Sub-Saharan nations—by upwards of .25 to 3.5% more from 2010 to 2014 (UNESCO, 2015a).
**Summary of major project objectives**

The two PAD cases in Nation-A revolve around vocational and secondary education. Both of these projects align with an increased demand for secondary and post-secondary education in the Sub-Saharan region that occurred after the global recession. The following summary of the project’s objectives is sourced from analysis that I completed on the PADs.

PAD-1 in Nation-A focuses on vocational education and is in place to increase the development of the skills and technology needed to advance the economy beyond its commodity and agriculture base. The project seeks to achieve its goals by developing a national strategy and supporting policies to steer, create, and foster technical and vocational skills across industry and academia, financing a fund for the development of skills and technology through training programs in targeted economic sectors via in-service training and the introduction of new technology, and helping refine approaches for monitoring and controlling progress against the national strategy. The project is identified as supporting the nation’s Country Assisted Strategy (at the time), by contributing to private sector development.

PAD-2 in Nation-A focuses solely on secondary education and is in place to increase attainment rates for secondary school, with an emphasis on improving access to secondary school among the poorest regions and increasing learning outcomes for low performing secondary schools. The project seeks to achieve its goals through a combination of supply and demand tactics—such as building new education facilities and enhancing existing facilities (on the supply side of education) and providing various funding vehicles and incentives to families for education (on the demand side of education). The project is identified as supporting the nation’s Country Assisted Strategy (at the time), by contributing to a reduction in poverty and increasing shared prosperity across regions.
Summary of CBA/CEA approach

The PADs had differing approaches to the CBA/CEA analysis. The following summary of the CBA/CEA approach is sourced from analysis that I completed on the PADs.

PAD-1 in Nation-A contains a cost benefit analysis with a supporting net present value and rate of return that were positive. The analysis shows benefits outweighing costs (including opportunity cost) over an extended period of time. The CBA is rooted in human capital theory, with a focus on an increase in economic output within the targeted economic sectors and corresponding workers’ wages, due to a productivity increase resulting from the project’s fund (supporting in-service training and the introduction of new technology in targeted economic sectors). The economic analysis also recognizes and discusses societal benefits resulting from an increased level of educational attainment, such as increasing overall social welfare of the nation due to diversification of industry (into technology beyond natural resources). However, these benefits are not quantified.

Benefits in the CBA revolve around an increase in government taxes from the rise in firms’ outputs and workers’ wages. Assumptions on the magnitude of gain in output and wage rates are based on findings from like World Bank projects in Nation-A and compared against findings from like projects in neighbouring nations. Labour and economic market data from Nation-A is used to define baseline outputs in targeted sectors and baseline wage rates. Costs in the CBA revolve around one-time and recurring expenditures associated with creating and managing the project’s fund (supporting in-service training and the introduction of new technology in targeted economic sectors). A sensitivity analysis on the resulting net present value or rate of return is not provided.

In relation to context, PAD-1’s CBA is rooted in evidence from similar studies in Nation-A, along with like projects in neighbouring nations. While this CBA leverages human capital
theory, the analysis focuses on an increase in labour productivity (and in turn economic output) within targeted sectors of the economy. This approach was innovative as most CBA’s rooted in human capital theory (in WB education PADs) often focus solely on increased individual employment and wages resulting from higher levels of educational attainment across the entire economy.

PAD-2 in Nation-A contains a cost-efficiency analysis. The PAD’s economic analysis first justifies the project based on the existing beneficial evidence on secondary education achievement (which is rooted in human capital theory). As one study participant reflected, “given the already existing local justification of some education interventions and the benchmark studies surrounding some educational interventions” that justification to proceed with the project already exists. Project justification is also supported by benchmark studies in Nation-A and neighbouring nations, with both showing higher levels of education as historically opening up more job opportunities, increasing individual wage rates, supporting tertiary education, and reducing unemployment. In addition, the fact that secondary school education is becoming a pre-requisite for wage based employment in the growing formal economy (in Nation-A) is also used as project justification. Additional social benefits relating to an increase in secondary school education attainment, such as reduced birth rates among educated women, are also discussed. However, these benefits are not quantified.

The PAD’s CEA is used to find the most cost effective tactic for achieving project goals. The CEA identifies a unit cost per student for each supply and demand tactic independently and for combinations of the project’s tactics. The CEA goes on to identify a combination of supply and demand tactics representing the lowest unit cost per student, while reaching the most students, as the best alternative. Education cost data (such as teacher wage rates, and facilities
maintenance) is secured from like projects in Nation-A. A sensitivity analysis on the CEA is presented, with high and low ranges for combinations of project tactics identified.

In relation to context, PAD-2’s CEA is justified based on a bed of existing beneficial evidence on secondary education from a wide range of sources, including like projects from Nation-A. The PAD’s CEA is also rooted in cost data from like projects in Nation-A.

**Summary of factors influencing CBA/CEA use**

The following table, *Nation-A Case Study PADs – Factors that Influenced CBA/CEA Use*, summarizes how common themes, across the dimensions of analysis, influenced CBA/CEA use. Data for the table is sourced from interview discussions held with those directly involved in the PAD cases.

*Table 8-1: Nation-A Case Study PADs – Factors that Influenced CBA/CEA Use from Study Participant Views*

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<th>Factor of Influence</th>
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<tr>
<td>Data</td>
<td>Data was viewed as influencing each PAD’s CBA/CEA due to data presence and/or credibility issues regarding benefit and cost data. But, the process of identifying, seeking, and refining CBA/CEA data was also seen as helping unwrap project details. For PAD-1, baseline economic output data from Nation-A was expressed as challenging to find and verify, as output/profit data from the specific economic sectors involved was weak. For PAD-2, education data was also expressed as hard to find and verify. As one study participant reflected, “For education projects in some countries, especially Sub-Saharan Africa, data around items such as the number of students in school, average education level, and cost per student for various aspects of education - is always really tricky to find.”</td>
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<tr>
<td>Timeline</td>
<td>Time constraints were not identified, in either PAD, as a factor influencing the CBA/CEA.</td>
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<tr>
<td>Skill Set</td>
<td>Skill set was identified as a factor impacting the CBA/CEA in three distinct ways. For PAD-1, the applicable Country Director and Education Sector Manager were both identified as strong economists that called for, and helped with, the CBA. Both Team Leaders were also unconditionally supportive of CBA/CEA use in each PAD. For PAD-2, resources with the required skill set in the field were seen as tight, and as such, a local economist was used to help gather data and assist with economic analysis.</td>
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<td>Factor of Influence</td>
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<tr>
<td>For both PADs the wide ranging backgrounds and skill sets of PAD team members was viewed as positively contributing to the CBA/CEA process and the end result through diverse discussions and deliberations on the analysis.</td>
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**Development Objectives**  
In each PAD, project objectives were expressed (by the government) as well defined and established a solid foundation for the CBA/CEA—which was a positive influence as the clear and concise objectives supported easier and quicker identification of benefits and costs.  
For PAD-1, the project’s objectives, within the vocational sector, were viewed as driving CBA analysis rooted in human capital theory because of the close connection between the vocational sector and workforce employment.  
For PAD-2, the rich bed of evidence surrounding the benefits of secondary education (that is also based on human capital theory) was viewed as paving the way to justify the initiative. As such, the PAD concentrated on a CEA versus CBA analysis (to determine the best approach to meet project goals).

**Government support**  
Government support contributed positively to the CBA/CEA in each PAD.  
In PAD-1, the government was seen as very focused and supportive of the vocational sector. However, the level of engagement in the CBA process was also seen as sometimes “passive” and “politically charged”—specifically when discussing the details of the CBA model. This scenario was attributed to a perceived lack of skill set and capacity for economic analysis and/or from an interest in education that was rooted in political commitments surrounding education.  
In addition, the government appeared “keen” to understand the resulting quantitative analysis that emerged from the CBA (as a means of evidence for helping justify the project among their stakeholders).  
In PAD-2, the government was seen as supportive, but more actively involved at the onset of the process. Initial discussions on the economic analysis of the project brought forward several factors (such as long-run costs and sustainability of benefits) that resulted in a change of project scope. The CBA process was credited as helping walk through the often difficult conversations needed to re-direct the scope of PAD-2.

**Educational Infrastructure**  
The educational infrastructure was not identified (in either PAD) as a factor of influence in the creation of the CBA/CEA—other than the ability of the educational infrastructure to collect, cleanse, and disseminate credible education data.

**Project Complexity**  
The complexity of either PAD was not viewed as impacting the use of CBA/CEA.

**Cultural Views On Education**  
In each PAD, the cultural stance of education was seen as indirectly impacting the CBA/CEA.  
An understanding of education wants, needs, and values within all of society was seen as imperative when defining project objectives and benefits—especially when education initiatives are rooted in political promises. That is, if
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<td>the government has made a political promise for an education offering, the promise could result in an incentive to move ahead with the project that is not necessarily in the best interest of society holistically.</td>
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8.3.2 Nation-B within South Asia

From a macro view, nations in South Asia are comprised of a wide mixture of ethnicities, varying cultures, and a myriad of languages. As such, addressing education needs for the diverse demographic found within the nations of this region has been challenging. Education in South Asia is influenced by a set of complex inter-woven historical, cultural, religious, and political forces that have produced much unrest and conflict over the past twenty years. Such unrest and conflict has impacted families and communities, both of which have an important role in educational outcomes in South Asia (Chudgar & Shafiq, 2010). While the number of out of school children in South Asia has steadily declined from 2000 onward, providing universal access to quality education across all socio-economic statuses and gender has been challenging (World Bank, 2013). Educational infrastructures in South Asia are just as diverse in nature as are the nations themselves.

During the timeframe of 2010 to 2012, at an aggregate level, nations within South Asia experienced declining economic growth as they continued to recover from the global recession and impacts from conflict-affected regions—with real GDP growth rates at 9.1, 6.3, and 4.8 percent (IMF, 2014b, p. 7). However, a rebound commenced in 2013 and 2014—with real GDP growth at 5.0 and 5.5 percent respectively (ibid). With South Asian economies including an industrial base (of manufacturing and services, like clothing and information technology) along with commodity exports, poverty rates have declined over the past twenty years as a result of industrialization. However, many nations in South Asia still “suffer from extreme forms of social
exclusion and huge infrastructure gaps and the larger countries are experiencing increases in inequality” (World Bank, 2015). Like challenges exist within the public education system and the supporting educational infrastructure.

Education in Nation-B is mainly the responsibility of provinces within the nation, due to reforms that occurred over the past twenty years that moved the provision of education away from central control. A centralized ministry for education remains in place, but only carries oversight for curriculum and accreditation, along with an advisory role. Provinces are accountable for their own education provision and supporting policies, implementing national education policies, and the funding of education. From 2010 to 2014, the provision of education in Nation-B was through a mixture of public, private, community-based, and religious-based schools. Private school attendance surged from the mid-1990s onward, as public school facilities were inadequate and the perceived quality of public education was low. As of 2014, about a third of children in Nation-B attended private school. From a system wide perspective, public schools suffer from issues surrounding inequalities in access to education, and wide variations in educational outcomes across provinces, gender, and urban versus rural regions. From the perspective of the school, teacher hiring, teacher distribution among schools, teacher shortages, and teacher absenteeism are also considered major challenges. From the national perspective, the decentralized provision of education across provinces has brought forward issues surrounding national cohesion, uniformity, and quality assurance of education.

From a cultural perspective, the importance of formal education in Nation-B in value (across the nation) and is more often questioned in rural versus urban areas. One study participant reflected that the “fairly hierarchical” nature of society (in Nation-B) has also led to differing values being placed on education. Additionally, norms surrounding education for girls are seen as challenging due to historic, religious, and cultural factors (to name a few of the
factors involved). The government of Nation-B publically cites education as an important factor contributing to economic growth and prosperity in the region. However, from the years 2010 to 2014, Nation-B’s GDP spend on education was less than the average for developing nations—from 1.5 to 1.8 percent less per year (UNESCO, 2015b).

**Summary of major project objectives**

The two PAD cases in Nation-B revolve around increasing education attendance and education governance. The PADs cover two different provinces, but share common objectives, traits, and approaches for their economic analysis. The following summary of the project’s objectives is sourced from analysis that I completed on the PADs.

PAD-1 in Nation-B focused mainly on primary education, although middle and high school are also within its scope. The project is in place to increase educational attendance and achievement outcomes across the province. The project is part-two of an education initiative, and centers on addressing areas of challenge that emerged from part-one of the study, along with improving attendance and achievement outcomes. A number of tactics are in place to support the project’s goals—from strengthening the teacher base (through increased guidance, teacher training, teacher testing, etc.), to moving various educational administrative responsibilities to the school, to establishing better mechanisms to collect and monitor data on schools, teachers, and students. The initiative is also considered complex in nature (as defined within this research effort), given the diverse underlying educational infrastructures within the project, its project’s multi-phase nature, and its multiple objectives across varying levels of education. The project is identified as supporting the nation’s Country Partnership Strategy (at the time), by contributing to the goals regarding human development.

PAD-2 in Nation-B also focuses on increasing school participation across primary, middle, and high school in the province. However the project carries an emphasis on general education
governance, accountability, and improving educational administration. The project is also parttwo of an education initiative and centers on addressing areas of challenge that emerged from part-one of the study, along with improving attendance and achievement outcomes. A number of tactics are in place to support the project’s goals—such as enhancing the administration of budgets, annual school census, standardized testing, school infrastructures, and numerous tactics related to the management and co-ordination of education and teacher staff. The initiative is also considered complex in nature (as defined within this research effort), given the diverse underlying educational infrastructures within the project, the project’s multi-phase nature, and multiple objectives across varying levels of education. The project is identified as supporting the nation’s Country Partnership Strategy (at the time), by contributing to the goals regarding human development.

Summary of CBA/CEA approach

Both education PADs completed a CBA with a supporting net present value and rate of return that showed positive returns to the project, using the same methodological approach rooted in human capital theory. The following summary of the CBA/CEA approach is sourced from analysis that I completed on the PADs.

The CBA for each PAD revolves around an increase in estimated lifetime earnings, for an individual, resulting from an increased level of educational attainment—by means of the Mincer equation (Mincer, 1974) (that initially established a positive relationship between an individual’s earnings, as a function of the individual’s years of schooling and years of work experience). As such, benefits are rooted in individual returns. The economic analysis also recognizes and discusses societal benefits resulting from an increased level of educational attainment, such as society implications from alleviating poverty rates (as the result of increased educational attainment). However, these benefits are not quantified.
The CBA for each PAD estimates future benefits incurred by students through an increase in lifetime earnings based on an expected profile for student progression through the levels of education—with and without the project in place. Wage data, secured from the nation’s household survey data, is used to estimate wage rates. The CBA entails costs associated with total school expenditures, including costs to families and a cost per child for the provision of public education. Costs also encompass an estimated opportunity cost for increased schooling for a child—such as forgone child labour earnings over the period of schooling. All benefit and cost data is rooted in benchmark studies from the first part of the project. Each PAD completes a CBA base case inclusive all of the project’s sub-initiatives (which showed positive returns), along with a case where the program is not in place (for comparison purposes). A sensitivity of the CBA model is presented by varying the probability of completing certain levels of education.

In relation to context, each CBA is rooted in evidence coming directly from the project’s first stage and survey data for Nation-B. Both CBAs leverage human capital theory with a focus on increased individual employment and wage rates that result from a more educated workforce.

Summary of factors influencing CBA/CEA use

The following table, *Nation-B Case Study PADs – Factors that Influenced CBA/CEA Use*, summarizes how common themes, across the dimensions of analysis, influenced CBA/CEA use. Data for the table is sourced from interview discussions held with those directly involved in the PAD cases.

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<thead>
<tr>
<th>Factor of Influence</th>
<th>Type of Influence</th>
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<tbody>
<tr>
<td>Data</td>
<td>Data was not expressed as a roadblock to developing the CBA in either PAD,</td>
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<td>except for education data—which was seen as impacting the validity of project costs.</td>
<td>Across both PADs, the issue around education data encompassed challenges with transparency, validity, and relevance of education data. As one study participant reflected, “it is often not very clear what the government is spending on education within different line items of their education budget”.</td>
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<td>Cost data in PAD-2 was also reflected as more problematic (than PAD-1). However, this reflection aligns with the objective of PAD-2 to enrich the capacity and capability for collecting educational administrative data.</td>
<td>Many study participants believed the infrastructure to collect education data was in place, but the resulting data quality was problematic for various reasons—from corruption, to a perceived lack of importance, to misinterpretation of policies and procedures regarding the collection and upkeep of education data.</td>
</tr>
<tr>
<td>While the timeline for PAD-1 was not identified as impacting the CBA, PAD-2 felt &quot;a bit rushed on occasion&quot;.</td>
<td>In PAD-2, the educational administration was seen as involving multiple layers of inter-woven organizations. As such, it was noted that it took more time and effort to coordinate the right people to discuss project details, and arrive at a consensus.</td>
</tr>
<tr>
<td>Skill set was identified as a factor impacting the CBA in two distinct ways.</td>
<td>For both PADs the applicable Education Sector Manager was identified as a strong economist that called for, and helped with, the CBA. Both Team Leaders were also unconditionally supportive of CBA/CEA use in each PAD.</td>
</tr>
<tr>
<td>For both PADs the wide ranging backgrounds and skill sets of PAD team members was viewed as positively contributing to the CBA/CEA process and the end result through diverse discussions and deliberations on the analysis.</td>
<td>In each PAD, project objectives were expressed as well defined and established a solid foundation for the CBA—which was a positive influence as the clear and concise objectives supported easier and quicker identification of benefits and costs.</td>
</tr>
<tr>
<td>Development Objectives</td>
<td>Each PAD was rooted in human capital theory, as the project objectives were in place to increase educational attainment—which would in theory lead to more job opportunities and higher wages.</td>
</tr>
<tr>
<td>While a model rooted in human capital theory was seen as contextually related to secondary or tertiary education, the applicability of the human capital model at the primary and middle levels was seen as problematic (by some of those involved in these PADs).</td>
<td>In response to this problem, the need for more innovative models focusing on the immediate benefits associated with increased rates of primary school attendance rates (such as reduced youth crime rates and associated costs) was called for.</td>
</tr>
<tr>
<td>Factor of Influence</td>
<td>Type of Influence</td>
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<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>Government support</td>
<td>Government support contributed positively to the CBA in each PAD. Across both PADs, on several occasions study participants reflected the fact that the World Bank had a “very good working relationship” (with Nation-B) and that Nation-B was “very receptive to some of the ideas the World Bank has put forward”. The partnership between the World Bank and Nation-B was seen as helping facilitate the CBA process. It was also reflected, by a few study participants involved in Nation-B, that the government at times appeared more interested in the final “numeric CBA results” than the process.</td>
</tr>
<tr>
<td>Educational Infrastructure</td>
<td>The educational infrastructure was identified as problematic when developing the CBA in the case of PAD-2. In PAD-2 than the ability of the educational infrastructure to collect, cleanse, and disseminate credible education data was viewed as challenging. In addition, in PAD-2, the nature of the underlying educational infrastructure was expressed as multi-layered and fluid, with a wide and diverse set of stakeholders and services providers across levels of education. This dynamic was seen as challenging to work with (as players changed, when changes occurred decisions were sometimes over-ruled, etc.).</td>
</tr>
<tr>
<td>Project Complexity</td>
<td>Project complexity was identified as a factor impacting the CBA in each PAD in a few ways. First, as each PAD was the second stage of a project, they were able to leverage evidence from the first stage of the project—which was advantageous to the CBA (as the analysis was fully rooted in contextual data). Second, the multi-layered and fluid underlying educational infrastructures (surrounding the project), making the CBA/CEA more challenging (as noted above).</td>
</tr>
<tr>
<td>Cultural Views On Education</td>
<td>In each PAD, the cultural importance of education indirectly impacted the CBAs (which was influenced by value embedded in the region’s various ethnical and religious beliefs). Given the mixed level of support (in society) for education (that was perceived in Nation-B), study participants noted that it was very important to understand the wants, needs, and positioning of education across the nation—especially for those in the poorest regions and those that were disadvantaged by their socio-economic status—to ensure project objectives and benefits were being addressed in an equitable way.</td>
</tr>
</tbody>
</table>
8.3.3 Nation-C within East Asia and Pacific

The East Asia and Pacific region has experienced rapid expansion from 2000 onward, as several nations in the region transitioned a portion of their labour force from agriculture into wage employment, through industrialization and movement towards a mixed-market structure (away from a centralized market structure). Expanding economic opportunities have in turn increased the demand for more educated citizens and higher levels of educational attainment to meet the needs of the labour market (World Bank, 2011b). In response to these education demands, enrollment in pre-primary education rose by 45% from 1999 to 2012 (UNESCO, 2015b, p. 1), the number of primary school-aged children out of school was reduced by 42% from 1999 to 2010 in the region (UNESCO, 2015b, p. 3), and lower secondary school enrollment rates increased by 22% for East Asia from 1999 to 2012 (UNESCO, 2015b, p. 4). Supporting educational infrastructures also rapidly matured, as they strived to meet societal needs for education.

During the timeframe of 2010 to 2014, at an aggregate level, nations in East Asia experienced positive growth—with growth rates between approximately 5 and 8 percent per year within the region (IMF, 2014c, p. 5). However nations in the Pacific area grew at a much slower pace (at about 2 to 4 percent) and even declined in some nations (ibid). While extreme poverty rates in the region have fallen as urbanization and industrialization took hold, poverty still remains an issue, as “an estimated 379 million people lived in poverty in 2014, and were vulnerable to falling back into extreme poverty” (World Bank, 2015m). Nations within this region of the world continue to require “huge infrastructure needs on account of rapid urbanization” (World Bank, 2015m) as “rapid migration to cities is putting pressure on service delivery” (ibid). Like challenges exist within the public education system and the supporting educational infrastructure.
Education in Nation-C is highly centralized as one ministry governs all educational activities, across all levels of education. The education ministry controls education strategy, curriculum, infrastructure, staffing, and research. The education system experienced transformational reform, to align with changes in market structures, and began to introduce state and non-state provision of education in the past twenty years. Over 2010 to 2014, the provision of education in Nation-C was mainly government driven, with some semi-private and privately funded schools in place (although accounting for less than fifteen percent of schools by 2014). Over the past two decades, Nation-C has very quickly seen large scale change in their education system—including an increase in enrollments across all levels of education, reductions in regional and urban disparities in education, vast reductions in gender inequality of education, increases in vocational training, and richer collaboration between industry and tertiary educational institutions. While the quantity of education has significantly increased over the past twenty years, issues have been raised around its quality and the ability of the education system’s pedagogical approach to support the development of innovative and critical thinking skills needed for the new economy to thrive.

From a cultural perspective, education plays a central and pivotal role in society (in Nation-C). Families view education as contributing to social mobility for their children, while supporting key social values of community, harmony, and mutual respect (to name a few). As one study participant reflected, “the nation’s culture considers education as a high priority”—which aligns with the nation’s cultural heritage. The government shares the same view on education priority, as they have placed substantial funding behind education—their percentage of GDP spend on education was upwards of 2 to 2.5% higher than the average GDP education spend for emerging nations from 2010 to 2014 (UNESCO, 2015a).
Summary of major project objectives

The two PADs in Nation-C revolve around pre-primary and tertiary education. Both projects support specific government driven programs embedded in the nation’s education strategy. The following summary of the project’s objectives is sourced from analysis that I completed on the PADs.

PAD-1 in Nation-C is fully dedicated to pre-primary education and is in place to increase the readiness of pre-school children in terms of required cognitive and social skills—with an emphasis on children identified at risk of not being ready for school. This project seeks to achieve its goals by providing fiscal support to various components of the government’s early childhood education program. The project also includes technical support to help build and strengthen administrative support around the government’s drive for universal preschool education—including, but not limited to, fiscal, operational, quality assurance, and project management. The project is identified as supporting the nation’s Country Assisted Strategy (at the time), through the opportunity pillar.

PAD-2 in Nation-C is fully dedicated to tertiary education and is in place to increase the nation’s capacity for science, technology, and innovation. This project seeks to achieve its goals through a few approaches. The project provides technical expertise to help design and pilot science, technology, and innovation policies to increase the depth and breadth of research and development. In addition, several grants in support of specific government reforms surrounding science, technology, and innovation are included. Finally, technical assistance is provided to help establish the governance needed to manage science, technology, and innovation initiatives within the supporting ministry. The project is identified as supporting the nation’s Country Partnership Strategy (at the time), through increased research, development, and innovation.
Summary of CBA/CEA approach

The PADs had differing approaches to the CBA/CEA analysis. The following summary of the CBA/CEA approach is sourced from analysis that I completed on the PADs.

PAD-1 in Nation-C contains a cost benefit analysis with a supporting positive rate of return and cost benefit ratio, that is rooted in human capital theory. The CBA revolves around an increase in estimated lifetime earnings, for a student, resulting from an increased level of education attainment (by means of the Mincer equation (Mincer, 1974)). The economic analysis also recognizes and discusses societal benefits resulting from an increased level of educational attainment, such as reduced crime rates associated with early childhood education programs. However, these benefits are not quantified.

The benefits in the CBA are grounded on the premise that higher levels of education attainment for students are achieved, in part, by an increase in cognitive abilities resulting from participating in the preschool program. This premise is justified by a strong bed of evidence regarding the effects of early childhood education on educational attainment, including the Perry Preschool project and the Carolina Abecedarian Program, and results from similar studies in Nation-C. Increased levels of educational attainment are sub-sequentially viewed as increasing lifetime earnings. Wage data, secured from the nation’s household survey data, is used to estimate wage rates. The CBA includes costs associated with total school expenditures, including cost to families and program costs with an emphasis on teacher training, teacher wages, and a supporting lunch program. Costs also encompass an estimated opportunity cost for increasing schooling for a child—such as forgone child labour earnings over the period of schooling. The increase in government costs are based on education data costs from Nation-C and the costs to parents are based on household survey data from Nation-C.
Three cost benefit models are presented, with each carrying different levels of progression rates through the levels of schooling and different levels of increased cognitive abilities (resulting from the project). These models in turn act as the basis for the CBA’s sensitivity analysis. All CBAs showed a positive return to varying degrees. In addition, for comparison reasons recurring costs per student of the project are contrasted with recurring costs per student for a class-size reduction project (as class-size reduction is also shown to impact cognitive abilities and school progression). The comparison showed the cost per student in the project aligning with the cost per student in a class size reduction project.

In relation to project context, the CBA is rooted in theory and data from like studies, along with like projects in Nation-C.

PAD-2 in Nation-C completed a theoretical analysis of costs versus benefits. A traditional numeric-based CBA/CEA was not attempted due to, what was cited as, insufficiently solid quantifiable evidence of benefits resulting from the program. As such, the context of the economic analysis is rooted in theoretical economic constructs. Benefits include, but are not limited to, market failures related to the flow of information (involuntary or not) for new research and development if not protected and nurtured by appropriate policies and procedures, along with the advantages of establishing linkages among enterprises, research institutions, and universities. Benefits were described as rooted in the economic theory behind market failure and market protection, versus presenting empirical evidence rooted in the situation of the project at hand. Costs associated with the program were clearly articulated and well defined.

Summary of factors influencing CBA/CEA use

The following table, Nation-C Case Study PADs – Factors that Influenced CBA/CEA Use, summarizes how common themes, across the dimensions of analysis, influenced CBA/CEA use.
Data for the table is sourced from interview discussions held with those directly involved in the PAD cases.

Table 8-3: Nation-C Case Study PADs – Factors that Influenced CBA/CEA USE from Study Participant Views

<table>
<thead>
<tr>
<th>Factor of Influence</th>
<th>Type of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>Data was not expressed as a roadblock to developing the CBA in either PAD, except for benefit data—which was seen as having a significant impact on the ability to complete a CBA in PAD-2.</td>
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<tr>
<td></td>
<td>In PAD-2, as the resulting numeric evidence surrounding benefits was not viewed as solid enough, the CBA bypassed traditionally quantifiable analysis and focused on qualitative analysis.</td>
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<tr>
<td>Timeline</td>
<td>Time constraints were not identified, in either PAD, as a factor of influence in the development of a CBA/CEA.</td>
</tr>
<tr>
<td>Skill Set</td>
<td>Skill set availability was also not identified, in either PAD, as a factor of influence in the economic analysis.</td>
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<td></td>
<td>However, the respective Team Leaders did have a role in play in the CBA/CEA approach taken. Both Team Leaders noted CBA/CEA as a viable and valuable tool, as long as the analysis was taken into perspective and underlying data was accurate and realistic. In both cases their personal values, beliefs, and experience towards CBA/CEA contributed to the decision to use, or not use, CBA/CEA within the projects.</td>
</tr>
<tr>
<td></td>
<td>In PAD-2, the wide ranging backgrounds and skill sets of PAD team members was viewed as positively contributing to the CBA/CEA process and the end result through diverse discussions and deliberations on the analysis.</td>
</tr>
<tr>
<td>Development Objectives</td>
<td>In each PAD, project objectives were expressed as well defined and established a solid foundation for economic analysis.</td>
</tr>
<tr>
<td></td>
<td>In PAD-1, the project objectives, within the pre-primary sector, offered a wide bed of evidence regarding the benefits of education—which was cited in the analysis. However, the major benefits were limited to an estimated increase in lifetime earnings due to an increased level of educational attainment. This approach was not questioned by those involved.</td>
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<td></td>
<td>In PAD-2, given the uniqueness of the project objectives, a qualitative analysis of the project was completed. The CBA/CEA process was seen as helping work through the details of the project and facilitating required discussions around the economic analysis.</td>
</tr>
<tr>
<td>Government support</td>
<td>Government support was viewed as having a very significant, positive impact on the development of the economic analysis in each PAD.</td>
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<tr>
<td></td>
<td>Across both PADs, it was reflected that, “the support has certainly been there for economic analysis”. The nation was viewed as being “very strategic” in how they shaped their education system. For example, project objectives presented by Nation-C were usually done so with a high degree of clarity and vision, and tied...</td>
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<tr>
<td>Factor of Influence</td>
<td>Type of Influence</td>
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<tr>
<td>to the government’s strategy for education. This scenario was seen as helping facilitate a smoother identification of project objectives and streamline the CBA process.</td>
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<tr>
<td>Government support was also viewed as pragmatic, as the nation was prone to ask very early on the economic analysis to ensure the initiative “made sense” holistically before diving into the details.</td>
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<tr>
<td>In addition, “being able to frame an education intervention as an economic investment that has returns” blended well within the context of the Nation. However, the nation was just as comfortable with economic analysis rooted in qualitative analysis, given their pragmatic nature.</td>
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</tr>
<tr>
<td>Educational Infrastructure</td>
<td>The educational infrastructure was not identified, in either PAD, as a factor of influence.</td>
</tr>
<tr>
<td>Even though the underlying educational infrastructure for education data was seen as “fairly young”, data presence or quality issues did not emerge as major roadblocks (other than having limited access to historic education data, given the newness of the educational infrastructure).</td>
<td></td>
</tr>
<tr>
<td>Project Complexity</td>
<td>The complexity of either PAD was not viewed as impacting the use of CBA/CEA.</td>
</tr>
<tr>
<td>Cultural Views On Education</td>
<td>In each PAD, the cultural importance of education indirectly impacted the CBA/CEA.</td>
</tr>
<tr>
<td>The underlying importance of education to the government and society set the stage for a level of seriousness and intent behind each PAD, which bled directly through to the supporting economic analysis.</td>
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### 8.3.4 Comparative analysis across nations

Looking at the PAD case studies across the three nations, several common factors influencing CBA/CEA use (in alignment with themes expressed in chapters six and seven) rise to the surface. Each nation experienced data issues to varying extents across both benefit and cost data. However, the lack of present and credible education data was present across two nations—from traditional education measures (like achievement scores, enrollment rates, and attainment rates) to education financial data (like budgets, actual spending, and financial forecasts). The decision to use CBA/CEA in each PAD was influenced by the multi-dimensional who-factor. The value of having a diverse team with wide ranging backgrounds
was raised from all nations. Clear and well defined objectives were seen as helping establish a solid foundation for a CBA/CEA’s underlying model in all PADs. CBAs were consistently rooted in human capital theory, but at times the model’s context was not the best suited for the project context. Governments in each nation were seen as supportive of the CBA/CEA process to varying degrees and all sitting governments’ perceived value in the resulting quantifiable evidence that emerged from the CBA/CEA process. Finally, the nation’s cultural view on education was seen impacting a CBA/CEA indirectly, but in varying ways.

Each PAD also received value from the CBA/CEA process beyond traditional project justification based on quantifiable analysis. CBA/CEA played a role in each PAD in facilitating discussions around project and/or policy direction to a certain extent. The role of CBA/CEA as a facilitator shined the most when project content was seen as complex and project circumstances were seen as fluid. Irrespective of project content or circumstances, CBA/CEA was always viewed as helping refine project details.

Looking at the PAD case studies across the three nations, a few key differences also rise to the surface. Benefit data, although not cited as problematic to the same extent as cost data, was an important factor in directing the approach taken to a PAD-2 in Nation-C. Timeline constraints only surfaced in situations where project complexity was high in Nation-B. Resource constraints only surfaced in the field (versus the WB head-office location) in Nation-A. Only projects in Nation-A raised concern over the inter-twined relationship between education and politics, and the resulting implications to CBA/CEA use. Projects in two nations were cognizant of understanding the importance of a nation’s cultural view on education (when authoring a CBA/CEA)—especially when challenges arise with government support for education. Finally, some CBA/CEA efforts were more innovative than others, and the innovation took place in a setting where resources were tight and constraints were high.
Commonalities and differences among the factors that influenced CBA/CEA use, when aggregated, begin to shape a set of ideal factors and circumstances that foster thoughtful development of CBA/CEA in an education PAD—which is discussed in the next chapter (of this study) in further detail.

When analyzed from a macro view, the three nations leveraged CBA/CEA in differing ways given their circumstances. Nation-A illustrates optimal use of constrained data and skill sets, an immature educational infrastructure, an often passive and/or politically oriented government, while innovatively developing their respective CBA/CEA models. Nation-B illustrates how project complexity and environmental instability and fluidity can challenge the creation of a CBA/CEA, despite solid data, no resource challenges, and a very supportive partnership with a nation. Nation-C illustrates how a strong centralized government with a clear vision for education, rooted in societal values, helps establish solid grounding for CBA/CEA use and streamlines the process. These illustrations re-iterate how CBA/CEA use revolves around the unique combination of resources, factors of influence, and circumstances involved in a project.

When analyzed from a macro view, the use of CBA/CEA across case studies also raises four salient observations that are worthy of discussion given their depth and breadth of influence across projects.

First, despite the fact that the majority of CBA’s underlying models are based on human capital theory (that was at times out of context), value from CBA emerged across all projects. This observation is important as it reflects upon the significance and usefulness brought forward by the CBA journey. While the quantifiable numeric outcome of a CBA/CEA provides valuable directional evidence on the extent that project benefits outweigh costs, the CBA process was seen as having much more value to the project holistically. For example, discussion and
dialogue facilitated by the CBA/CEA process in PAD-2 for Nation-A regarding long run sustainability of sited benefits resulted in a change of project scope.

Second, the projects studied highlight a very problematic issue with the use of CBA/CEA in education projects holistically—that is, the underestimation of returns, given the high percentage of benefits (resulting from an education intervention) that are challenging to quantify and not included in empirical results. For example, increased levels of social capital, political stability, and levels of happiness brought on by increased levels of educational attainment are not often included in empirical measures. Each case discussed project benefits to society and individuals that were deemed as important, but lacked quantifiable evidence for inclusion in the CBA/CEA model. Each case also rightly noted the downward impact on CBA/CEA results due to the omission of these benefits. This observation is important as it highlights the need for an innovative approach to include those “softer” benefits into a CBA/CEA’s underlying model. The last chapter of this thesis forwards an idea, for future consideration, towards addressing this problematic issue.

Third, across all cases, only one nation was able to fully root CBA/CEA evidence in the context of the project. Nation-B’s PADs, that were both the second-phase of a multi-phased project, were able to leverage data from the project’s first phase, in their CBA models. All other cases use data from like studies in the nation or from neighbouring nations as evidence. This observation is important as it raises questions on the acceptability of generalizing results from like studies in a CBA/CEA within an education PAD? Exactly how much project specific evidence is needed in a CBA to be considered contextually appropriate? Study participants did note that pilots and randomized control trials were simply not an option during a project’s assessment stage because of cost and timeline implications (along with some issues around viability). However, given the importance of contextual viability also noted from the majority of
study participants, should the use of pilots and randomized control trials during a project’s assessment stage (where viable) be considered based on an assessment of the additional cost and time against the value brought forward by the effort?

Fourth, the case studies show CBA/CEA use as indirectly impacted by cultural views on education—but in a unique way across each nation. In Nation-A, a cultural awareness (of education in society) was seen as needed to ensure the right benefits were in place to meet the education wants and needs of society. In Nation-B, a cultural awareness (of education in society) was seen as needed to ensure projects were directed to meet the wants and needs of all members of society, irrespective of socio-economic status. In Nation-C, the cultural awareness (of education in society) was seen as so strong that it set the stage for development of the entire PAD (in a positive way), including the CBA/CEA. This observation is important as CBA/CEA is rarely tied to the culture of a nation, but the societal view towards education is an important backdrop (for development of a CBA/CEA) that should not be dismissed or discredited.

8.4 Summary: what the data says in phase two

This chapter identified six key factors that carry a wide and deep influence on the use of CBA/CEA in education PADs: CBA/CEA value, the historical use of CBA, the constraint-triad, project context, project complexity, and the team structure under which CBA/CEA are authored. CBA/CEA value was seen as narrowing under the influence of historic CBA use. In addition, relationships exist between the six key factors influence CBA/CEA use.

This chapter also reviewed the details behind the six PAD case studies in relation to the key factors that influence CBA/CEA use. Across the PADs common factors influencing CBA use rose to the surface, in addition to differences. For example, the constraint-triad, multi-dimension who-factor, project development objectives, organizational norms around CBA use, and government support were seen as impacting CBA/CEA use in varying ways across all
PADs. In addition, four important observations rose to the surface when looking at the PAD case studies: the importance of CBA/CEA value beyond numeric analysis, the need to define innovative ways of including the softer benefits of education in a CBA/CEA’s underlying model, the viability of rooting a CBA/CEA’s underlying model in data that is fully rooted in the project at hand, and the indirect influence that a region’s cultural views on education has when creating a CBA/CEA.
9 Analysis And Discussion Across Both Phases

In this chapter, I analyze and discuss findings across phase one and phase two of this study, from multiple views. First, I address questions raised and theories posited in the study’s first phase (that involved quantitative analysis of education PADs from 2010 to 2014 against a set of criterion) via findings from the study’s second phase (that involved qualitative analysis of interview data and PAD case studies brought forward from phase one). Second, I leverage findings across phase one and phase two to address the main research question: why, how, and under what circumstances are cost benefit analysis and cost effectiveness analysis being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014. Third, I contrast study findings to what the literature says about the use of CBA/CEA in education projects, discuss commonalities, and analyze areas of discrepancy. Fourth, I assess how far the “logic of appropriateness” (March, 1994, p. 58) was able to help explore the use of CBA/CEA (as a Weberian ideal type) in WB education PADs from 2010 to 2014, through the four dimensions of analysis (the organizational, personal, project, and worldwide dimensions). This chapter closes by identifying major points of interests as input to chapter ten—which in turn focuses on the story the data tells and the resulting implications for the field of education, World Bank, and future research.

9.1 Tying the phases together

Phase one of this study articulated numerous data trends and supporting theories around the use of CBA/CEA (in education PADs from 2010 to 2014) in relation to time, geography, education scope, funding amount, and funding source. The following table, Tying Phase One Theories to Phase Two Findings, identifies theories posited in the first phase of this study and how phase two findings support or challenge those theories.
<table>
<thead>
<tr>
<th>Variables of Interest</th>
<th>Phase One Theory Posited</th>
<th>Phase Two Finding Show</th>
</tr>
</thead>
</table>
| Time                 | Recessionary cycles contributed to the cyclical nature of CBA/CEA use (from 2010 to 2014)—as the level and intensity of project justification varied with the economic cycles. | Phase two findings lean towards challenging this theory.  
Economic cycles were seen as impacting the decision on how to develop/approach a CBA/CEA, but not the decision to use CBA/CEA (in the first place). |
| Time                 | The historical dominance of CBA use in education PADs contributed to low CEA use in education PADs (from 2010 to 2014). | Phase two findings lean towards supporting this theory—in a strong way.  
The historic predominance of CBA use in education PADs was viewed as contributing to low CEA use. Although not as the primary cause, powerful norms regarding CBA/CEA were at play.  
The lack of causal evidence, in support of CEA effectiveness measures, was considered the primary reason for low CEA use in education PADs. |
| Geography            | The MDG drive to increase primary school education contributed to the low use of CBA/CEA in education PADs in Sub-Saharan Africa (from 2010 to 2014)—as global education goals impacted the level and intensity of project justification required. | Phase two findings lean towards challenging this theory.  
Global education goals, like MDG, were found to help frame the direction of an education project, but not replace the need for supporting economic analysis. |
| Geography            | The focus on improving education quality in South Asia contributed to the very high use of CBA/CEA in education PADs in this region (from 2010 to 2014)—as objectives revolving around quality improvements historically require stronger justification to rationalize incremental spending. | Phase two findings lean towards challenging this theory.  
Project objectives, like improving education quality, were viewed as impacting the decision on how to develop/approach a CBA/CEA, but were not seen as directing the type of underlying economic analysis leveraged. |
| Geography            | The rapid economic growth within Asia contributed to a consistent and steady use of CBA/CEA in education PADs in the region (from 2010 to 2014)—as an increase for education services gave rise to an emphasis on evidence-based and transparent decision making (given constrained education funding). | Phase two findings lean towards supporting this theory—in a strong way.  
Study findings conveyed an increase in CBA/CEA demand by clients (over the past ten years) in support of evidence-based and transparent decision making as requests for education services increased.  
In addition, case studies in phase two that involved nations within the Asian region also... |
<table>
<thead>
<tr>
<th>Variables of Interest</th>
<th>Phase One Theory Posited</th>
<th>Phase Two Finding Show</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography</td>
<td>A nation that produced more education PADs had a higher chance of including a CBA/CEA in their education PADs (from 2010 to 2014) as a wider spectrum of PAD team members (needed to support multiple PADs) gave way to a higher chance of completing a CBA/CEA—based on individual values, beliefs, and experiences with CBA/CEA.</td>
<td>Phase two findings lean towards supporting this theory—although not fully. Study findings did show individual values, beliefs, and experiences (with CBA/CEA) as influencing the use of CBA/CEA in an education PAD. However, study findings are not in a position to claim that a wider spectrum of PAD team members equated to differing views on CBA/CEA use in an education PAD.</td>
</tr>
<tr>
<td>Education Scope</td>
<td>The close connection that tertiary and vocational education sectors have with human capital theory contributed to an increased use of CBA/CEA in these sectors (from 2010 to 2014).</td>
<td>Phase two findings lean towards supporting this theory. Study findings brought forward the tendency to associate increases in educational attainment, brought on by post-secondary education, with a CBA/CEA rooted in human capital theory.</td>
</tr>
<tr>
<td>Education Scope</td>
<td>The depth and breadth of evidence supporting benefits associated with early childhood education contributed to an increased use of CBA/CEA in this sector (from 2010 to 2014).</td>
<td>Phase two findings lean towards challenging this theory—in a strong way. The strong bed of evidence supporting benefits (for pre-primary education) brought forward CBA/CEA models for consideration—with an emphasis on models rooted in human capital theory. But, the existing evidence was not seen as driving CBA/CEA. In fact, a rich repository of evidence was at times seen as justification for bypassing a CBA/CEA.</td>
</tr>
<tr>
<td>Education Scope</td>
<td>Global education goals promoting an increase in primary and secondary schooling contributed to less use of CBA/CEA in these sectors (from 2010 to 2014)—as global education goals impacted the level and intensity of project justification required.</td>
<td>Phase two findings lean towards challenging this theory. Global education goals, like MDG, were found to help frame the direction of an education project, but not replace the need for supporting economic analysis.</td>
</tr>
<tr>
<td>Funding Amount/Funding Source</td>
<td>Project complexity equated to less use of CBA/CEA, for education projects found in the higher quartiles of funding (from 2010 to 2014)—as project complexity most likely presented more downstream roadblocks to developing a</td>
<td>Phase two findings lean towards challenging this theory. It was found that project complexity spawned an increase in downstream issues related to data, timeline, and skill set—which did make completing a CBA/CEA more challenging.</td>
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</table>
In aggregate, ten theories were identified during the study’s first phase and four (of those theories) were supported by findings from the study’s second phase. While theories posited in phase one were grounded in reasonable arguments, fewer than half were supported by phase two findings for three primary reasons. First, the variables of interest in phase one were found to predominantly influence how a CBA/CEA is completed (the CBA/CEA approach decision), not the decision to use CBA/CEA in an education PAD (the CBA/CEA use decision). Second, justification for global education goals were viewed as general and macro in nature, and in turn, were seen as framing the direction of the project versus impacting the type and level of economic analysis needed for an education project. Third, theories posited in phase one are focused on single variable impacts regarding CBA/CEA use, but phase two findings showed the use of CBA/CEA in education PADs as more heavily influenced by multiple variables that are inter-related in nature. These three points also offer insights that are explored in more detail in the next chapter.

9.2 Revisiting the research questions through the data

Given the descriptive and exploratory nature of this research effort, themes found across the dimensions of analysis, relationships among those themes, and case studies all help describe, understand, and interpret CBA/CEA use in education PADs (from 2010 to 2014). The following section summarizes how study findings address the main research question: why, how, and under what circumstances are cost benefit analysis and cost effectiveness analysis
being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014. A mapping of study themes to research sub-questions, found in Appendix G: Mapping Study Themes to Research Questions, conveys what study themes address what specific research sub-questions.

**Why CBA/CEA is used in education PADs (from 2010 to 2014)**

Study participants brought forward three major factors as key to understanding why a CBA/CEA is used in an education PAD. The first factor is individual choice based on the recognition of identity. Individual experiences with CBA/CEA, observations regarding CBA/CEA use, and personal attitudes and beliefs towards CBA/CEA were seen as directing CBA/CEA use in an education PAD. The second factor is the value associated with a CBA/CEA. The diverse, wide ranging, and wide reaching usefulness and significance associated with a CBA/CEA played a role in driving CBA/CEA use—from facilitating client engagement, to refining project details, and to a lesser extent providing information needed to aid the World Bank in determining a project’s path. The third factor is the historical organizational norm around CBA use in education PADs. Deep systemic layers of norms associated with CBA use rooted in human capital theory, in education PADs, strongly promoted its use. Interestingly, education sector, economic cycles, global education goals, and higher loan amounts were not seen as driving CBA/CEA use in education PADs—as these factors are often associated with directing CBA/CEA use in the literature and in practise.

The three drivers impacting the decision to use CBA/CEA (individual choice, value, and norms) can be viewed as being highly inter-connected. One could conceptualize a process where an individual would experience a push from the organizational norm regarding CBA use, then input from the individual’s choice weighs the organizational norm against his/her personal attitudes and beliefs towards CBA/CEA. The value that the individual sees that CBA/CEA
contributes to the project at hand then comes into play. Through this conceptualization, it is the usefulness and significance of CBA/CEA in relation to the project at hand that is judged by the individual depending on his/her attitudes and the organizational norm pushing favor of CBA use. It is not necessarily the usefulness of the CBA/CEA tool itself that is important. It is the usefulness that CBA/CEA provides to the specific context of the project at hand that is important.

While it would be naive to believe that three factors can fully explain why CBA/CEA is being used in education PADs, these factors raised by study participants help understand what drives CBA/CEA use in education PADs and offer points of reflection.

When human choice plays a major role in directing CBA/CEA use in an education PAD, issues will most likely emerge around consistency of use and decision transparency—which presents a contradiction to World Bank goals and governance. Consistent use of CBA/CEA in projects is considered a World Bank global goal (World Bank, 2010), and transparency in decision making is one of many themes within the World Bank’s governance model (World Bank, 2015a).

When refining project details through client engagement acts as the main driver of CBA/CEA use (during a project’s assessment stage), one could possibly view the decision to move ahead with a project having already been made before the assessment stage. In this event, a question arises around the role that CBA/CEA has in a project’s decision making process. Theoretically, CBA/CEA is an integral part of the decision to move ahead with any project—irrespective of the drivers for use. Why? Because the CBA/CEA process provides diverse pieces of information that should be taken into consideration during a project’s go/no go decision—such as the disbursement of benefits in society and to what extent, the distribution of costs to society and to what extent, etc.—not just the resulting empirical assessment of a
project’s cost in relation to its benefits. The CBA/CEA process is versatile, as the methodology produces diverse details that are of value to decision makers when assessing a project. If a CBA/CEA is not completed for a project, alternatively the decision making process can call upon CBA/CEA results from similar studies to provide guidance on expected benefits and costs. Either way, CBA/CEA findings are one of many components needed to effectively determine a project’s path.

Projects facilitated through the World Bank’s Project Cycle are meant to stem from and align with a nation’s Country Partnership Framework (CPF) (within the New Country Engagement Model) (World Bank, 2014h). As such, by the time an education project reaches the assessment stage of the Project Cycle, broad economic analysis on the initiative has already occurred. A nation’s CPF supports the direction for an education project from a high level economic view, but does not provide specific project details from a low level economic view—which is the purpose of a PAD. For example, a CPF may identify an education project as strategic in nature given its ability to help reduce inequality by an anticipated percentage across society, and a PAD then provides richer details on who receives those benefits and to what extent. The CPF and PAD in turn work together, in partnership, to provide valuable information needed to effectively determine a project’s path. If a CBA/CEA is not completed for a WB education project, CBA/CEA findings from like projects can help steer project direction in either the CPF or PAD (or both).

When organizational norms play a major role in directing CBA/CEA use during a project’s assessment (more than formal organizational rules), issues will likely eventually emerge around consistency of use and decision transparency—once again presenting a contradiction to World Bank goals and governance.
Under what circumstances is CBA/CEA being used in education PADs (from 2010 to 2014)

This study brought forward a few salient organizational, client, and worldwide factors that help explain how the environments surrounding a project impact CBA/CEA use in an education PAD. In aggregate, study findings showed organizational and client environments as intersecting to form an epicenter of influence when authoring a CBA/CEA within an education PAD.

From an organizational perspective, study participants felt that the World Bank offers an environment that was seen as highly supportive of CBA/CEA use in education projects. Rules are left intentionally ambiguous to allow for full flexibility. Study data showed that a supportive and synergetic multi-disciplinary team structure is in place to support the CBA/CEA process and enrich CBA/CEA content. Various forms of training on CBA/CEA, along with mentoring, are also available for the most part (as at times, assistance was not always readily available). All of these circumstances were seen as positively contributing to CBA/CEA use in an education PAD.

From a client perspective, study participants felt that sitting governments also offer an environment that was seen as supportive of CBA/CEA efforts for the most part (as at times, political agendas revolving around education were problematic). While low capacity and capabilities for economic analysis often equated to passive support, client responsiveness to CBA/CEA requests were seen as usually being met to the best of the client’s ability. Challenges associated with client environments revolved mainly around the client’s underlying educational infrastructure. Given the young and developing nature of education in nations that the World Bank serves, the educational infrastructure was often not able to produce reliable data surrounding traditional educational measures and related financial data. Finally, an awareness of a nation’s cultural view of education was also an important backdrop (for study participants)
when creating a CBA/CEA to ensure the right benefits are in place for individuals as needed, irrespective of socio-economic status.

From a worldwide perspective, study participants felt that the global education goals offered an opportunity to frame a project’s economic analysis in support of international education targets, and enrich CBA/CEA content. Working with global partners and consultants, when needed, also offered an opportunity to share expertise in a synergetic way that enriched CBA/CEA content.

This study also brought forward a few salient insights regarding when CBA/CEA is being used across time, geographic location, education scope, funding source, and funding amount in education PADs (from 2010 to 2014).

Findings from phase one of this study showed that CBA dominated CEA use in education PADs (from 2010 to 2014), and CBA use swayed upward from 2011—with CBA becoming the norm by 2014. CBA/CEA use in education PADs (from 2010 to 2014) were not linked to any particular geographic region. However, study data showed that Sub-Saharan Africa had the highest percentage of education PADs completed and the lowest percentage of CBA/CEAs (among the top four world regions), and South-Asia had the lowest percentage of education PADs completed and the highest percentage of CBA/CEAs (among the top four world regions). CBA/CEA use in education PADs (from 2010 to 2014) were clustered around primary, secondary, tertiary, and vocational sectors, although CBA/CEA use was not linked strongly to any one particular education sector. CBA/CEA use in education PADs (from 2010 to 2014) were not linked to funding sources, and CBA/CEA use was higher in the lower quartiles of funding (quartiles one and two) when compared to the higher quartiles of funding (quartiles three and four).
Finally, this study brought forward a few salient findings on the reasons for not using CBA/CEA within an education PAD.

From an aggregate view, findings from phase one of this study showed situations when CBA/CEA are not used in education PADs (from 2010 to 2014), as revolving around the following scenarios: the absence of reliable quality data, the leveraging of international, academic, or World Bank studies as the project’s economic justification, and/or when education scope was considered a small portion of the project’s scope or cost to support a rich analysis. Findings from phase two of this study re-iterated how data presence challenges and quality issues constrict CBA/CEA use in education PADs, and re-iterated that sometimes a rich repository of evidence was seen as supporting the economic justification of a project (versus leveraging a CBA/CEA).

**How CBA/CEA is used in education PADs (from 2010 to 2014)**

This study brought forward multiple inter-related factors to help explain how CBA/CEA is used in an education PAD.

Early inclusion of CBA/CEA during a project’s assessment stage was seen as an important factor supporting a quality analysis. Early use of CBA/CEA, driven by informal operating norms and rules, fostered economic analysis of an education project by providing a framework to systematically identify, explore, and reflect upon what a project is to achieve, for whom, by when, at what cost, and to what expected outcome. CBA/CEA was seen as supporting quality economic thinking, through a journey grounded in principles of due diligence and attention to detail.

Study data showed that the World Bank’s approach for CBA/CEA aligned with agreed upon steps (within the academic community) within a CBA/CEA process (for education PADs), with only two noted exceptions that rose to the surface—the frequent omission of the step
involving sensitivity analysis of study findings, and the predominant use of the rate of return (versus net present value) as a CBA’s empirical measure in a CBA’s final recommendation.

Sensitivity analysis is an important step in the CBA/CEA process as it accounts for uncertainty in the model by varying the most important assumptions within a CBA/CEA to ensure consistency of empirical results. For example, if an educational outcome ends up being ten percent less than assumed, what type of impact does that have on project costs, benefits, and final recommendation? A sensitivity analysis plays an important role defining “what if” (Townley, 1998, p. 236) scenarios that validate model assumptions, and is needed to “recognize and explicitly address the great uncertainty in prediction and valuation involved” (Vining & Weimer, 2010, p. 2). Completing a sensitivity analysis within a CBA/CEA is considered as important criterion for assessment within the academic community (see Boardman et al., 2011; Chambers, 1999; Levin, 1983; Levin & McEwan, 2001) and the World Bank’s *Handbook on Economic Analysis of Investment Operations* (Belli et al., 1998).

Rate of return analysis is theoretically problematic and not recommended by leading scholars as an approach for selecting among projects (e.g., Boardman et al., 2011; Townley, 1998). Why? Because the IRR is not able to take into account multiple discount rates (if discount rates change over time, which is not unusual often over the long run), is biased towards shorter-lived projects and biased against larger projects (as the approach is more sensitive to timing of cash flows and project size), and most importantly cannot provide a unique answer if the net benefit stream changes from positive to negative over time more than once during the lifetime of a project (which is not unusual)—potentially leading to unfounded recommendations when leveraged as the only empirical measure that provides a basis for evaluating projects. The World Bank’s *Handbook on Economic Analysis of Investment Operations* (Belli et al., 1998) also discusses these technical limitations of the IRR calculation, and also notes that IRR is a
useful summary statistic but not recommended by itself for evaluating multiple projects (especially when those projects are mutually exclusive).

Viewed as an integral and integrated part of a PAD, rooting a CBA/CEA in a project’s unique data and setting (the context) was seen as imperative, with the project’s development objectives establishing a foundation for contextual analysis (for study participants). However data, timeline, and skill set issues, combined with the increasingly complex nature of education projects, were seen as roadblocks to realistically achieving a CBA/CEA adequately rooted in project context.

Securing current, reliable, and meaningful cost and benefit data was seen as a problem (by the majority of study participants) that inhibits the use of country and context specific data in CBA/CEA models. Study participants reflected that not being able to fully root CBA/CEA evidence in the context of a project resulted in the leveraging of data from like studies in a nation or from neighbouring nations as evidence. While study participants accentuated the importance of ensuring a PAD’s CBA/CEA is rooted in context, as conveyed by the majority of study participants—from the perspective of micro project details to macro elements surrounding a project—creating a contextual-based CBA/CEA analysis was seen as problematic (especially when combined with an perceived increase in project complexity). The lack of data supporting effectiveness measures in a CEA also exhibited the most significant roadblock to CEA use in education PADs.

Study data showed that powerful organizational norms fostered and promoted the use of human capital theory in CBA models, but to the point of over-use and dominance over time. While innovative CBA modeling techniques were seen as helping break away from the constricting norm (of rooting a CBA in human capital theory), a movement towards more diverse CBA models has been slow given the systemic nature of the norm. As such, economic
analysis found in education PADs (from 2010 to 2014) ranged from thoughtfully rooted in the
unique project context, to speculative and repetitive in nature despite the unique project context.

In aggregate, these factors offer a glimpse into the elements that impact how a CBA/CEA
is approached for an education, project during the assessment stage, along with barriers and
limitations. While study findings are not in a position to claim the best way to approach a
CBA/CEA for an education project (during the assessment stage), study findings do offer
insights to support effective CBA/CEA use. The next chapter elaborates on study findings and
insights that can be shared with the field of education, to help promote more effective use of
CBA/CEA efforts in education projects.

9.3 Contrast to what the literature says

Contrasting what the literature says about CBA/CEA use in the field of education, with
findings from this study, presents a different perspective on CBA/CEA use in WB education
projects. Comparing CBA/CEA approach, benefits, and challenges across study findings and
the literature identifies similarities and contrasts that offer opportunities for new learning.

Comparing the steps taken to completing a CBA/CEA in WB education PADs (from 2010
to 2014) to commonly agreed upon CBA/CEA steps found in the literature (as noted earlier in
this thesis, under the Literature Review chapter), only two main points of contrast emerge.

First, study participants conveyed the step taken to complete a sensitivity analysis of
CBA/CEA results as an action that is often bypassed in education PADs (due to a combination
of time constraints and/or lack of awareness regarding the importance of sensitivity analysis).
This omission was also conveyed by study participants with economic backgrounds as
problematic in nature (and rightfully so). Without a sensitivity analysis in place, uncertainty
around the magnitude of impacts predicted in a CBA/CEA model come into question and the
level of risk associated with CBA/CEA results rise.
Second, the historical use of CBA in WB education PADs very often makes use of the rate of return measure as the model’s final empirical result. However, the literature sites the rate of return empirical measure as theoretically problematic in comparison to net present value and benefit-cost ratio measures. Without any additional empirical measures cited, in conjunction with rate of return (such as net present value), CBA/CEA results can become misleading when evaluating projects (due to the technical issues related to an IRR as noted in the Literature Review section of this report). Looking at all education PADs (from 2010 to 2014) that completed a CBA/CEA, a rate of return is presented as the only empirical measure for about half of education PADs with a CBA (spread evenly across time, geography, education scope, and funding amounts). The other half of education PADs with a CBA (from 2010 to 2014) carry a variation of empirical findings based on a combination of rate of return analysis, net present value, and/or benefit-cost ratio.

Broadly accepted CBA/CEA benefits and challenges (for an education project) found in the literature (as noted earlier in this thesis, under the Literature Review chapter) were also all found in the study’s second phase to varying degrees. While commonality of broadly accepted benefits to CBA/CEA across study results and the literature is logically viable, commonality of broadly accepted challenges to CBA/CEA raises a question. Given the World Bank’s level of experience and expertise in the use of CBA/CEA, along with their leadership role in economic analysis of projects, why is the World Bank not able to more effectively address broadly agreed upon challenges? The answer to this question lies in de-composing the nature of those five broadly accepted challenges.

Two CBA/CEA challenges are methodologically related (the limitation of CBA/CEA use given its linear form and inability to incorporate non-quantifiable benefits), one challenge is systemic within the field of education itself (the availability of reliable education cost data), and
two challenges are organizationally driven (limiting norms surrounding CBA/CEA use and the dominance of CBA/CEA empirical results during a project’s assessment).

Any organization completing a CBA/CEA for an education project in an emerging nation, irrespective of their leadership, experience, or expertise in CBA/CEA, will most likely encounter methodological issues given the nature of education projects. While leaders (like the World Bank) cannot independently solve methodological challenges, they can support and contribute to rectifying them. For example, a study recently published by World Bank staff identifies innovative approaches for effectively dealing with the margin of error found when leveraging CEA data from like studies (Evans & Popova, 2016).

Any organization completing a CBA/CEA for an education project in an emerging nation will most likely encounter systemic education data issues given the immature nature of education in emerging nations, irrespective of their leadership, experience, or expertise is CBA/CEA. While leaders (like the World Bank) cannot independently solve education data challenges, they can support and contribute to rectifying them. For example, the World Bank’s data initiative EdStats (World Bank, 2015n) is helping provide the guidance and tools needed to enrich education data quality.

Any organization completing a CBA/CEA for an education project in an emerging nation will also most likely encounter organizational norms around CBA/CEA use, irrespective of their leadership, experience, or expertise is CBA/CEA. However, these challenges are not necessarily similar across institutions. Yet, findings from this study and the literature discuss issues regarding organizational norms that dangerously place an over-importance on a CBA’s empirical findings in a project’s go-forward decision. This shared concern is interesting, as it speaks to how CBA’s founding role (to aid project decisions based on an empirical measure) remains strongly associated with the CBA process—despite the versatility and diverse value
that CBA has shown since first being introduced in the 1930s in other public services, such as health, environmental management, and transportation (Quah & Toh, 2012).

Finally, based on data from this study, the World Bank does not share challenges surrounding the decision to use a CBA/CEA in the first place, that are often found in educational institutions. The World Bank has the skill set needed to complete a CBA/CEA, along with visible demand for the tool’s use, a supportive environment, and the time, money, skill set, and incentive—which many organizations involved in education do not have. As such, the World Bank’s challenges revolve around how to effectively complete a CBA/CEA in comparison to other educational institutions (that frequently struggle with skill set or demand).

9.4 How far can the logic of appropriateness explain CBA/CEA use

Viewing and analyzing the research question through the conceptual framework, consisting of four dimensions of analysis rooted in the “logic of appropriateness theory” (March, 1994, p. 58), offered a beneficial lens that brought forward the unique situational, organizational, social, cultural, and personal aspects of CBA/CEA use in education PADs. The logic of appropriateness says that “situations, identities, and rules can all be ambiguous” (March, 1994, p. 61), and as such, the process of decision making often requires “thought, judgement, imagination, and care” (ibid) in a social context—which encapsulates the use of CBA/CEA in WB education PADs from 2010 to 2014 in many ways. However, I posit the theory of appropriateness, as an organizational decision making model, was not able to fully address the main research question. While the theory does help explain how CBA/CEAs are being completed, the theory falls short of explaining why CBA/CEAs are being used.

To quickly recap, the theory of appropriateness is an organizational decision making model that entails the interaction between questions of recognition (what kind of situation is
this) and identity (what kind of person am I, what kind of organization is this) to initially assess a situation (March, 1994). Required actions and/or decisions, in response to the situation, are then grounded in the question—“what does a person such as I, or an organization such as this, do in a situation such as this” (March, 1994, p. 58)—while leveraging rules as a means of defining and constricting behavioral choices.

Analysis of study findings shows the decision on how to complete a CBA/CEA is rooted in March’s questions of recognition, identity, and rules. The question of recognition is pivotal in determining the approach taken to complete a CBA/CEA—from the recognition of situational details embedded in a project (such as project objectives and ties to education strategy), to the environment that envelopes a project (such as the level and type of government support and educational infrastructure), to organizational factors that influence project development (such as timeline and resource allocations) (to name a few). The question of identity also plays a critical role in determining the approach taken to complete a CBA/CEA—from the influences that educational background, work experience, and personal attitudes have on CBA/CEA use. Once the situation is assessed, the question of rules helps guide actions needed to complete a CBA/CEA—from formal policies and procedures, to informal operating rules, to organizational norms.

While March’s questions of recognition, identity, and rules were able to address the CBA/CEA approach decision, the model did present a few limitations. First, the theory lacked an approach for identifying and dealing with the varying levels of importance associated with the model’s questions of recognition, identities, and rules. Second, the implications of informal versus formal rules directing actions, was not able to fully surface through the theory. However, both of these limitations were relatively minor in comparison to the insights brought forward by the theory.
Analysis of study findings show the decision to use CBA/CEA use as rooted primarily in the question of identity and indirectly in the question of recognition (as noted earlier in this section). The question of rules did not play a significant factor in deciding to use CBA/CEA for an education PAD. Study participants reflected that the decision to use CBA/CEA is driven by an inter-connected web of individuals influencing the CBA/CEA use decision, with a project’s Sector Manager’s and Team Leader’s values, beliefs, and experiences lying at the web’s core.

The theory of appropriateness also raised another important point regarding the CBA/CEA use decision. While CBA/CEA is a process originally rooted in the logic of consequence (and positivistic thinking), the application and use of the CBA/CEA process is actually rooted in the logic of appropriateness (and interpretative thinking). This point shows that viewing CBA/CEA in a lens grounded only in rational decision making is limiting and understates how the implementation of the tool impacts its value.

Finally, the theory of appropriateness folds nicely into the view that an economist has regarding CBA/CEA use (from a theoretical standpoint). Theoretically, an economist views the use of CBA/CEA as important to optimizing global output (that is, GDP), so an economist tends to not ask why CBA/CEA is being used in the first place. Instead, an economist tends to focus on questions that explore the situation surrounding the project at hand (recognition), how well equipped the institutions and their resources are for authoring a CBA/CEA (identity), and the type of methodological and organizational rules that envelope the use of CBA/CEA (rules)—which ties directly to the theory of appropriateness.

9.5 Summary: what it all means

Study findings across both phases raise numerous points for consideration in answering the research question, in addition to findings and insights about CBA/CEA use in the field of education.
Views from study participants highlight the versatility and wide ranging value associated with CBA/CEA use when assessing education projects—from facilitating client engagement, refining project details, and providing information needed to aid the World Bank in determining a project’s path. Viewing CBA/CEA short-sightedly as a tool only interested in an empirical measure of a project’s worth to determine a project’s path, limits the application and implementation of CBA/CEA in the field of education (as reflected by study participants). The idea of comparing costs to benefits is not obvious to all, as the historical evolution of public education funding has traditionally focused on cost allocations and categorizing of costs, and the view of education as a form of investments is relatively new. Education has been viewed as a form of consumption long before it has been viewed as a form of investment, and to some (and in some nations) education as a form of investment is just beginning to take hold. But, as study participants reflected, linking costs to benefits is a worthy undertaking to (at minimum) gain a richer appreciation of who benefits from an educational intervention, how, and to what extent.

Study findings re-iterate the role that good governance plays in CBA/CEA use in an education project. Given the versatility and wide ranging value associated with CBA/CEA use that study participants described, good governance facilitates clear definition and positioning of CBA/CEA during the assessment of an education project. As noted earlier in this thesis, why CBA/CEA is being used and how CBA/CEA is being approached is really what brings forward or inhibits CBA/CEA value.

Study findings also emphasize a multitude of inter-related factors that carry the ability to influence how a CBA/CEA is completed for an education project (during the assessment stage)—including those factors that commonly arise as roadblocks that will most likely be encountered when authoring a CBA/CEA for an education project. The importance of project
context when creating a CBA/CEA, ensuring a diverse team contributes to CBA/CEA content, up-front and early inclusion of CBA/CEA during a project’s assessment, how data, timeline, and skill set combine to direct the approach taken to authoring a CBA/CEA, the major issues that remain with cost and benefit data, and how the complexity of education projects adds even more challenge to authoring a CBA/CEA, were all brought forward by study participants.

Through March’s “logic of appropriateness theory” (March, 1994, p. 58), this study was also able to understand the significance of a CBA/CEA living in the intersection of the World Bank environment and the client environment to form a unique epicenter of influence—both of which have their own unique social structures. March’s theoretical lens was able to highlight the important role that identity and rules play in the use of CBA/CEA in education PADs. That is, the importance that individual identity has when determining if a CBA/CEA will be authored, and the importance that informal operating rules and supporting organization norms have when guiding how a CBA/CEA is completed. In fact, the majority of challenges and issues that surround CBA/CEA found in this study were related to the environments which they operate within versus the tool itself. The literature is filled with CBA/CEA methodological issues in the field of education and is quick to point out CBA/CEA’s technical limitations related to education projects. However, the literature does not have a lot of documentation on what the issues and limitations associated with the social structures that engulf the CBA/CEA process, imposes on CBA/CEA use in the field of education.
10 Implications and Concluding Thoughts

In this final chapter, I commence with a discussion on insights and findings that the study brings forward regarding CBA/CEA use in education PADs from 2010 to 2014, including areas of CBA/CEA use that study participants felt worked well and areas that presented opportunities for growth. From there, I identify and elaborate upon the implications resulting from key findings and insights in relation to the field of education and the World Bank, along with future recommendations to address implications, where applicable. To close this dissertation, I offer concluding thoughts on salient findings, review the ability of this study to answer the main research question, discuss study limitations, and identify contributions that I believe this research offers to the literature. Future areas of research, aimed at addressing unresolved study questions and exploring areas of interest raised by this study, are also articulated.

10.1 The story the data tells: insights and findings

The data resulting from this research effort tells a story that is two-fold. Study data offers a rich understanding of why, how, and under what circumstances CBA/CEA is being used in education PADs (during the assessment stage from 2010 to 2014)—which was discussed in the previous chapter (chapter nine). Study data also offers rich and meaningful insights and findings for contemplation when authoring a CBA/CEA for an education project (during the assessment stage)—which is discussed in the following section. While this study’s findings arise within the unique socially constructed World Bank environment, I posit that several key study findings have relevance to any organization using CBA/CEA in education projects, as they holistically represent aspects of CBA/CEA governance applicable to any education setting.

Study participants viewed completing a CBA/CEA for an education project, during the assessment stage, as a worthy exercise because of the value it offers—irrespective of education sector. By acting as a facilitator, the CBA/CEA process was seen (by study participants) as
being able to help push through the difficult “forming and storming” questions and discussions needed to define, refine, and verify project objectives, benefits, costs, and ties to education strategy in a non-threatening way (in World Bank education projects). Resulting CBA/CEA empirical measures also offered valuable directional evidence on the fiscal viability of a project to help support a project’s go/no go decision. However, study participants noted that it was the CBA/CEA journey that brought versatile worth to an education project.

World Bank policies and procedures do not call for the mandatory use of CBA/CEA in every education PAD. World Bank policies and procedures allow for flexible use of economic tools, like CBA/CEA (in support of economic analysis of an education project), to ensure tool use is “appropriate for the project, sector, and country conditions” (World Bank, 2014d, p. 3). Not every education PAD from 2010 to 2014 authored a supporting CBA/CEA—although the use of CBA was becoming the norm in education PADs by 2014 (when looking across the years 2010 to 2014). CBA use dominated CEA use (in education PADs from 2010 to 2014), with study participants citing challenges with securing causal evidence in support of a CEA’s effectiveness measures as the primary reason for low CEA use. Findings from this study showed situations when CBA/CEA are not used in education PADs (from 2010 to 2014), as revolving around the following scenarios: the absence of reliable quality data, the leveraging of international, academic, and/or World Bank studies as the project’s economic justification, and/or when education scope was considered a small portion of the project’s scope or cost to support a rich analysis.

Study findings also conveyed the approach taken to completing a CBA/CEA as being influenced by multiple variables that are inter-related in nature and emanate (for the most part) from an intersection of the World Bank and client environments that envelope a project. When aggregated, some variables of influence offer a set of ideal factors and circumstances that foster
thoughtful development of CBA/CEA in an education project (during the assessment stage), while other variables of influence offer a set of problematic factors that challenge CBA/CEA development in an education project (during the assessment stage).

Study participants identified the following key factors as fostering thoughtful development of a CBA/CEA in an education project:

- the early inclusion of the CBA/CEA process during a project’s assessment stage to provide enough time to facilitate dialogue(s) needed to identify and richly explain project objectives, benefits, costs, and how a project’s design supports achievement of those objectives and benefits in a sustainable fashion;
- the importance of grounding a CBA/CEA in a project’s unique circumstances, as much as possible, to support credibility of results—from incorporating benefit data directly resulting from a project’s objectives and outcomes, to ensuring costs are presented in terms relative to a project’s location (like local labour costs);
- a diverse and supportive team in place to author a CBA/CEA, that is comprised of individuals with differing educational backgrounds and views, to foster healthy discussions and debates needed to develop CBA/CEA content and ensure the analysis is methodologically correct and representative of educational outcomes without over-simplification;
- a senior management team that vocally supports and visibly promotes the use of CBA/CEA in education projects, acts as a sounding board for the analysis, and contributes to the CBA/CEA effort when and where needed;
- an environment that offers a wide range of formal training opportunities on policies and procedures governing CBA/CEA use, along with informal mentoring on best practices for
those new to CBA/CEA and guidance on challenging scenarios for those experienced at CBA/CEA;

- a supportive client that works in the spirit of partnership by offering resources, knowledge, and data to assist with CBA/CEA efforts, to the best of their ability, and is receptive to developing their own capabilities to better understand the CBA/CEA process;

- an understanding and awareness of the social and political factors that surround education projects to ensure the right benefits are in place to meet the education needs of all members of society, irrespective of socio-economic status;

- the use of external partners, when needed, that leverage their comparative advantage to provide local presence and knowledge, help facilitate local project implementation, provide technical expertise, and/or fill a skill set gap; and

- an awareness of how project outcomes contribute to global education goals and using this awareness to help position CBA/CEA use within the context of achieving international education targets.

Study participants found the following key factors as challenging the development of a CBA/CEA in an education project:

- a myopic view of the CBA approach, that is rooted in one particular methodological premise, to the point where the process becomes a mechanical-like repetitive task that lacks sensitivity to project context;

- the heavy influence that organizational norms can have on the use of CBA and CEA in an education project, especially those that constrict and/or inhibit the CBA/CEA approach in a way that stifles innovation;

- an insufficient allocation of time and human resources allocated to complete a CBA/CEA
effort, given the complex nature of education projects and the multitude of inter-related factors impacting the analysis;

- a lack of evidence supporting a causal relationship between a particular intervention and education benefits/outcomes, and methodological challenges surrounding the quantification of intangible benefits resulting from an education project;

- when client educational infrastructures are not yet able to provide present, reliable, and meaningful traditional education measures and education financial data, and/or not in a position to support the implementation or sustainability of project outcomes and benefits; and

- when political factors dominate CBA/CEA use in a way that is not beneficial or supportive of the CBA/CEA process, such as focusing too heavily on CBA/CEA empirical results versus the CBA/CEA process.

All of the above insights and findings are important elements of CBA/CEA governance for consideration. Organizations, including the World Bank and others, that foster CBA/CEA development of an education project (during the assessment stage), need to set clear parameters that define and position CBA/CEA use, while being cognizant of the factors that influence how a CBA/CEA is approached within an education setting.

10.2 Implications for the use of CBA/CEA for education projects in the field of education and recommendations

Participants from this study, along with other studies and academics (as noted in the Literature Review section of this study), suggest that there is value in completing a CBA/CEA for an education project. However, the literature shows CBA/CEA use in the field of education, when defining and evaluating projects is of poor quality and low quantity in relation to other
social services. I suggest three key implications emerge from the weak and inconsistent use of CBA/CEA in the field of education.

First, opportunities are missed to leverage CBA/CEA’s value during the identification and assessment of an education project. CBA/CEA use in education projects can help drive clear and concise objectives, outcomes, benefits, and costs that are viable, realistic, and attainable, while considering the complexity of education projects and the unique environments which they reside within (to help foster the best possible outcome). Second, education project decisions are not being made with full information in mind, which can in turn result in misguided decisions. Economic analysis, when combined with social, political, cultural, and historic factors, offers an opportunity to foster the best possible project decision for the unique situation at hand. Third, the field of education continues to lag behind other social services (like health services and environmental management) in the methods used to foster the most effective allocation of dollars that optimizes individual and societal returns. What results is a form of stagnation in the field of education, as other social services continue to grow and expand their expertise in distributing limited public funding against unlimited public needs.

Given these problematic implications from weak CBA/CEA use in the field of education (during the assessment of a project), can findings from this study offer points of consideration for dealing with this challenge? I posit various aspects of CBA/CEA governance, that rose to the surface in this study, offer consideration for dealing with weak CBA/CEA use in the field of education (during a project’s assessment)—specifically, how norms, attitudes, and values around CBA/CEA in education projects influence tool use, along with how CBA/CEA is governed.

Theories found in the literature, regarding weak CBA/CEA use in education projects (during the assessment stage), tend to focus on organizational factors surrounding inadequate
skill sets, little to no demand for tool use, insufficient time and money, a lack of incentive, and weak support. However, these theories have been cited in the literature as problematic since the late 1990s (Hummel-Rossi & Ashdown, 2002; Levin, 1998; Rice, 1997). In addition, methodological challenges and broadly accepted data issues also come to the foreground—but to a lesser extent as these challenges are slowly being addressed.

While efforts from leaders in education (like the well-respected economist Dr. Henry Levin) and various research undertakings are slowly addressing organizational limiting factors, the use of CBA/CEA in education projects remains weak (in 2014). I posit that additional factors, beyond those commonly cited in the literature, are playing a role and impeding the acceptance of CBA/CEA use in the education arena. Specifically, socially constructed norms, attitudes, and values around CBA/CEA use, and how CBA/CEA is governed in the field of education—both of which the literature has yet to fully explore.

To increase CBA/CEA use in the field of education, based on findings from this study, I theorize two important changes need to occur, in an evolutionary way. First, the field of education needs to intrinsically understand and accept the diverse value that can be brought forward by the CBA/CEA process during a project’s initial definition and assessment, beyond empirical results that help guide project choice—a paradigm shift needs to occur. Second, the field of education needs richer and more concise policies and procedures that govern when to use a CBA/CEA and how to approach a CBA/CEA within the unique context of an educational environment. I theorize that once these two changes occur, the traditional organizational factors that limit CBA/CEA use (that the literature focuses on) will dissipate at a faster marginal rate as increased value and a richer supporting context will spark CBA/CEA use.

The literature notes that, from an institutional viewpoint, the neo-liberal market model of education (Apple, 2003) is often tied to CBA/CEA in the field of education, and this viewpoint
has generated much criticism (Bieta, 2004; Noddings, 2012). I posit, in the Literature Review (in this thesis), that this discourse can and does result in a myopic view on the use of CBA/CEA that inhibits the application and implementation of CBA/CEA within the field of education. Based on study findings, that show how constricting norms and attitudes towards CBA/CEA can impact tool use (even within an organization that supports CBA/CEA use), I stand by this initial theory.

The CBA/CEA methodology is predominantly viewed as a form of quantitative analysis within the field of education, and one that is systemically vilified because of its assumed connection to a neo-liberal ideology (that focuses on over-quantifying education to the detriment of a more holistic approach to education). The intensity of this systemic norm is most likely contributing to the slow acceptance of CBA/CEA use in the education arena, as the norm constraints and inhibits CBA/CEA use in education projects. Yet, methods themselves do not presume an ideology. While CBA/CEA is a process that was originally rooted in positivist thinking, as this study shows, the process also entails an expansive amount of interpretative thinking. To address this challenge (in the field of education), I suggest the following: intellectual leadership to foster and promote CBA/CEA use and clarify its diverse value, increasing partnerships among economists and non-economists in the use of CBA/CEA to experience CBA/CEA value first hand, more training on what CBA/CEA entails from institutions that prepare educational administrators to ministries of education and regional educational offices, earlier inclusion of the CBA/CEA process in education projects, and better governance on CBA/CEA use. All of these recommendations leverage, in some way, the key factors found in this study as fostering thoughtful use of CBA/CEA in education projects.

Public policies that govern spending on social services, like education, often carry governance regarding economic justification of projects entailing large financial outlays—
which helps direct CBA/CEA use for a sub-set of education projects. However, these policies tend to be very high level in nature and do not apply to the numerous projects that are also of substantial cost at the system, regional, and school level. While this study highlights the importance of governance regarding CBA/CEA use in education projects, transferability of the specific details within policies and procedures that govern when to use economic analysis of education projects in the World Bank to educational institutions is not viable (with the potential exception of Education Ministries that are technically strong from an economics standpoint), given the diverse premise for operations. However, given the extensive and good quality use of CBA/CEA in other social services, I offer a suggestion for future research that explores and contrasts CBA/CEA policies and practises in education services, health services, and environmental management—with the goal of establishing best-practices for CBA/CEA governance in education.

10.3 Implications for the use of CBA/CEA for projects in the World Bank’s education practice and recommendations

While several findings that emerge from this study carry implications for the use of CBA/CEA for projects within the World Bank’s Education Department, I am electing to only focus on those implications emanating from common themes across all dimensions of analysis, given their level of depth and breadth of influence.

To recap, the following common themes across all dimensions of analysis were articulated earlier in this thesis (in chapter eight): CBA/CEA value is diverse, the historical use of CBA constricts current CBA use, the constraint-triad of data, timeline, and skill set weighs in heavily, project context is imperative but perhaps not realistic (to fully secure), education project complexity is an important consideration, and a multi-disciplinary team structure helps.
The common theme revolving around CBA/CEA value (that arose from this study’s findings) shows the World Bank’s Education Department has undergone, and is still undergoing, a movement regarding CBA/CEA use to include a wider acceptance of value beyond CBA/CEA’s ability to provide empirical evidence to support a project’s go/no go decision. Data from phase one of this study showed CBA/CEA use becoming the norm by 2014 (at 76% use by 2014) and data from phase two of this study showed study participants perceive a wider value of CBA/CEA to include facilitating client engagement and refining project details. In addition, a strong view among study participants exists that CBA/CEA needs to be context specific to be valuable and valid, which is challenging the more mechanical use of CBA/CEA in education PADs.

From an organizational viewpoint, study data showed a paradigm shift towards CBA/CEA use and value in PADs is starting, as study participants are questioning organizational norms regarding CBA/CEA use and value in education PADs—with an organizational paradigm defined as “a set of assumptions, usually implicit, about what sorts of things make up the world, how they act, how they hang together, and how they may be known” (Brown, 1978, p. 3). Study data shows the paradigm shift is at the early stages where organization norms are being questioned. According to theories of organizational change (Brown, 1978; Morgan, 1986, Simsek & Louis, 1994) for an organizational paradigm shift to occur, I posit that questioning of organizational norms regarding CBA/CEA use in PADs needs to happen across the WB organization (including and beyond the Education Department), a new organizational norm regarding CBA/CEA use and value requires development across the WB organization, and a point of new normalcy is in place with the new organizational norm in play (Simsek & Louis, 1994).
Study findings also show, the movement to wider CBA/CEA value in the Education Department, as one that is slow moving and at times filled with tension—as deep systemic norms regarding CBA/CEA use in education PADs (established in the 1990s) become dislodged. According to study data, this shift has been evolutionary in nature. This study finding implies organizational learning has occurred, as norms, attitudes, and values towards CBA/CEA use have changed over time, via insights gained by different CBA/CEA experiences. I posit the evolutionary nature of this change offers various suggestions for the field of education on how to facilitate the journey (of changing norms regarding CBA/CEA use in education projects). For example, more active and hands-on involvement in different CBA/CEA experiences can help facilitate changes in attitudes towards CBA/CEA use.

The common theme that arose from this study’s findings shows the historical use of CBA constricting current CBA use, which has both direct and indirect implications.

Directly, employing a myopic view of a CBA/CEA model rooted in one particular methodological premise (human capital theory) impacts the CBA/CEA process and the resulting empirical measure(s). Why? Because too much emphasis is placed on a limited number of pre-defined benefits resulting from an education intervention (specifically wage, productivity, and output gains), that may or may not be applicable, and benefits which are applicable are being bypassed. As such, project discussions facilitated via the CBA/CEA process become narrowly focused and resulting measures become skewed. While the scope of this study does not permit holistic estimates on the size of this impact, based on case studies reviewed in this research effort, I suggest the impact is significant. Why? Because of the sheer number of benefits being missed and the substantial impact that missed benefits carry over the long run. For example, the cost reduction in youth crime associated with early childhood interventions (in PAD-1, for
Nation-C) is substantial over the long run, yet these benefits are not included in the quantitative analysis.

Indirectly, the historical over-use of human capital theory stresses the importance of good governance regarding CBA/CEA use in education projects—including the provision of quality checks to ensure that CBA/CEA models are appropriate for the context at hand. In fact, I posit that using human capital theory to identify the payoff to educating one more person is not as straightforward to deploy as one would envision in some situations. The approach is also highly prone to being criticised from a methodological, empirical, and moral standpoint, as shown in the literature and from my personal experiences (Baker, 2009; Bowles & Gintis, 1975; Sweetland, 1996; Tan, 2014). For example, the two PAD cases in Nation-B leverage human capital theory to justify an increased level of educational attainment in primary through to secondary school (mostly due to better education governance and quality), offer(s) an opportunity to challenge the connection between increased primary school attainment and wage rates that will only occur five years (at least) post the intervention. Specifically, how the numbers that support the identified wage rate increases are generated is worthy of question—such as what data and methods are used to establish a causal relationship between better education governance/quality and increased worker skills that improves worker productivity, along with the underlying assumptions. In addition, the benefits for these two particular projects revolve mainly around better education governance/quality and reduced education costs per student, which are indirectly related to human capital theory.

To address the challenge associated with the historical use of CBA constricting current CBA use (found in the study data), I suggest richer attention be paid to the contextual applicability of a CBA/CEA’s approach very early in the process. I also suggest an increase of innovative methods and techniques surrounding CBA/CEA use in education PADs is also
needed (as supported by many study participants). For example, leveraging an approach that combines the use of CBA/CEA in conjunction with multiple-criteria analysis may be worthy of consideration and a potential approach for inclusion of benefits resulting from education that are hard to quantify. The literature shows that incorporating multi-criteria analysis with CBA may be an effective way of including non-tangible benefits in project evaluations (Beria, Maltese, & Mariotti, 2012; Guhnemann, Laird, & Pearman, 2012).

The common theme (that arose from this study’s findings) centering on issues associated with data, timeline, and skill set challenges carries implications for the common theme focusing on project context being imperative but often not realistic. This study showed that data, timeline, and skill set directly impact the amount of project context that can be leveraged in a CBA/CEA. Issues regarding cost and benefit data, when authoring a CBA/CEA in an education PAD, will most likely remain problematic in the near future—as solutions to address data issues are longer term in nature given their complexity and the number of stakeholders involved. Tight timelines and skill sets, when authoring a CBA/CEA in an education PAD, will also most likely remain problematic in the near future—as changes in the marketplace for loans to emerging nations continue to apply pressure to World Bank resources.

To address pressures that the constraint-triad (of data, timeline, and skill set) have (and will likely have over the near term) on CBA/CEA context, I suggest clearer guidelines to address the following questions: how much project specific evidence is needed in a CBA/CEA to be considered contextually relevant, when is it acceptable to generalize findings from similar studies within a CBA/CEA, and under what conditions? Without such governance in place, if inconsistent levels of CBA/CEA details rooted in project context emerge then the reader has the right to question the model’s data and credibility.
The common theme (that arose from this study’s findings) which notes education complexity as an important factor for consideration when authoring a CBA/CEA carries implications for how a CBA/CEA is approached. In this study, an education project is considered complex in nature because of the diverse educational infrastructures that education projects operate within, the high level of inter-connections and dependencies across education projects, and the often multi-phased nature of education projects. These traits in turn require special attention when completing a CBA/CEA—from being sensitive to the limitations and constraints within educational infrastructures, to being more cognizant of internal and external dependencies surrounding a project’s development objectives and outcomes, to ensuring insights from one project are addressed through appropriate integration into another project.

Finally, the common theme (that arose from this study’s findings) revolving around the multi-disciplinary team structure at play when authoring a CBA/CEA (including both economists and non-economists) implies a richer more holistic analysis. When differing views and perspectives on education projects come together, the process of healthy debate and deliberation on CBA/CEA enriches the content.

10.4 Concluding thoughts and contributions

This research effort originated from my quest to better understand the value that CBA/CEA brings to education projects, why, how, and under what circumstances. I believed that exploring these questions, within the World Bank’s education sector, would offer a view to help foster a wider and more diverse use of CBA/CEA in education projects (as the literature shows poor CBA/CEA use in the field of education). Given the World Bank’s long-standing historical use and experience with CBA, their rich array of education projects, and leadership of economic analysis of projects, I felt that salient insights would emerge for consideration in both
the World Bank and the education arena—despite their differing contexts. I can say, with full confidence, that this research has met this original expectation.

**Study’s ability to answer the research question**

I posit this research effort was able to address the main research question through its findings and analysis. I can say with certainty that this study helped explore and explain how, why, and under what circumstances cost benefit analysis and cost effectiveness analysis are being used in assessing World Bank education Project Appraisal Documents (PADs) from 2010 to 2014.

While I posit this research effort was able to address the main research question, a few sub-questions within the worldwide dimension of analysis were not addressed due to time constraints (from lengthy conversations or shorter interviews). Rich discussions that occurred regarding the organizational, personal, and project dimension, left two questions in the worldwide dimension unanswered. Specifically, the impact that external agencies (such as advocacy groups, non-government agencies, and scholars) have on CBA/CEA use within a PAD was bypassed, and the question regarding how external partners, global goals, and economic factors impact CBA/CEA was bypassed in about a quarter of study interviews. However, the other three quarters of study participants did provide insightful comments in relation to how external partners, global goals, and economic factors impact CBA/CEA use.

In addition, initial targets for selecting PAD case studies (as denoted in the Research and Design Methodology chapter) included at least one education PAD focusing on primary education. This target was in place to determine if global education goals regarding primary education were influencing the level and extent of economic project analysis—which this study was able to address. Initial targets for selecting PAD case studies also included a primary education project within Sub-Saharan Africa. This target was in place to determine if the high
demand for primary education in Sub-Saharan Africa was also influencing the level and extent of economic project analysis—which this study was not able to address.

**Study’s salient insights and concluding thoughts**

While this study brought forward numerous themes and salient points across four dimensions of analysis, I view the following points as this study’s most salient insights.

CBA use in education PADs swayed upward from 2011—with CBA becoming the norm by 2014—despite numerous roadblocks. CEA use in education PADs from 2010 to 2014 is almost non-existent primarily due to a lack of causal evidence (for effectiveness measures) and secondarily driven by organizational norms regarding CBA use. However, I hypothesize organizational norms regarding CBA are playing a much stronger role in CEA use (than rose to the surface), given the sheer power and systemic nature of those norms.

The deep archaeological layers of culture and history of the World Bank’s use of economic analysis of projects, along with the education sector’s historical use of CBA to justify projects from the 1990s onward, proved to be extremely powerful forces. The well-established legacy of using rate of return analysis rooted in human capital theory (via a CBA), to help justify an education project, established a solid foundation for CBA use. However, over time, this norm bounded CBA and CEA use in education projects and stifled innovative CBA/CEA modeling techniques. While movement is occurring within the Education Department towards richer CBA/CEA value (and needs to continue in order to support a paradigm shift), I hypothesize that powerful organizational norms regarding CBA/CEA use within other World Bank departments carry the capacity to detract from this movement if not watched closely (given the depth and breadth of those organizational norms).

The decision to use CBA/CEA is rooted in individual choice, organizational norms, and the potential value brought to a project, rather than organization rules. However, if human
choice and/or organization norms are helping direct CBA/CEA use in education PADs, issues will likely eventually emerge around consistency of use and transparency—which presents a contradiction to World Bank global goals. Consistent use of CBA/CEA in projects is considered a World Bank Global goal (World Bank, 2010), and transparency in decision making is one of many themes within the World Bank’s governance model (World Bank, 2015a). I hypothesize that formal guidelines that offer a clear definition and positioning of CBA/CEA use for education projects, during the assessment stage, can help address these issues. While individual thought, judgement, and care are necessary to render the most appropriate way to assess the viability of an education project, checks and balances are also needed to ensure individual values, beliefs, and biases are not inappropriately directing (or not directing) CBA/CEA use in an education project (during the assessment stage).

CBA/CEA use in education PADs (from 2010 to 2014) is at a stage where value, beyond numerically assessing a project’s benefits to costs, is starting to emerge (according to study participants). The diverse, wide ranging, and wide reaching usefulness and significance associated with CBA/CEA found in this study, I hypothesize, signals a more wholesome CBA/CEA approach that coincides and aligns with the World Bank’s current policy framework for education that includes efforts to complete more impact evaluations and increase investment in better data across nations through various initiatives (like the World Bank’s System Approach for Better Education Results) (World Bank, 2015o). While study data showed diverse, wide ranging, and wide reaching value associated with CBA/CEA, I hypothesize that fostering stronger linkages between the economic analysis in an education PAD and the economic analysis in a nation’s education CPF, can enrich CBA/CEA value even more so. CBA and CEA are both very versatile tools that offer the ability to guide strategic direction among
multiple education projects (at a strategic level), and offer the ability to flush out project details (at a lower level).

Study data showed how a CBA/CEA is completed involves multiple inter-related factors at play that emanate from an intersection of the World Bank and client environments, and less so from worldwide factors. With data issues leading the way (for both cost and benefit data), this study showed that CBA/CEA use in education projects face numerous challenges that encompass technical, social, political, and cultural factors. This study began to touch upon these factors through a lens rooted in social context, grounded in March’s “logic of appropriateness theory” (March, 1994, p. 58). For example, while education projects sponsored by the World Bank carry a strong political and cultural element (by the nature of the World Bank’s business model), the due diligence that CBA/CEA offers (in a neutral way) actually helps keep political elements in check when authoring a CBA/CEA. However, I hypothesize that additional research is needed to continue to un-wrap the social, political, and cultural factors, influences on CBA/CEA use in an education project (during the assessment stage), that includes a view from World Bank clients.

Study findings showed that securing country and contextual specific data to support an education PAD as challenging—as present, reliable, and meaningful data exhibited the most significant roadblock to achieving project context. The use of generalizing findings from like studies within an education CBA/CEA rose to the surface (when present, reliable, and meaningful data was not available)—which I believe is an important question for reflection. As suggested earlier in this chapter, clearer governance on how much evidence in an education project’s CBA/CEA (during the assessment stage) is needed and under what circumstances (would benefit the CBA/CEA process). As answers to the question are dependent upon the purpose of CBA/CEA use, I do not offer suggestions on the level of generalization of similar
studies in a CBA/CEA. However, I am aware that establishing such governance is a task that requires in-depth consideration and discussion among a wide spectrum of educational views, including economic and non-economic perspectives. I hypothesize that defining such governance is a challenging task given the number of stakeholders involved and the implications, but a task that is worth the effort as guardrails will emerge to help support transparency and consistency of CBA/CEA use.

The innovative and unique multi-disciplinary team approach, that the World Bank Education Department has elected to use when authoring a CBA/CEA is worthy of mention, I believe. A team, comprised of both economists and non-economists, authoring a CBA/CEA is a wise strategic move that fosters economic thinking early in a project’s development and enriches the analysis.

In closing, I believe that this study showed the importance of thoughtful deliberation and concise governance over how CBA/CEA is defined, the triggers that indicate when to use CBA/CEA, and the protocols for authoring a CBA/CEA for an education project (during the assessment stage). Based on the literature (see Boardman et al., 2011; Gramlich, 1998; Townley, 1998), along with my experiences with CBA/CEA, problems arise when CBA/CEA is used inconsistently as the reader begins to question the reasoning and contextual credibility of the economic analysis. Based on the literature (see Boardman et al., 2011; Chamber, 1999; Levin & McEwan, 2001), along with my experiences with CBA/CEA, problems also arise with CBA/CEA use when key components of the analysis are not in place—such as when a definition and rationale for the model’s methodological premise that justifies the applicability of the model is not present and/or out of context, if the CBA/CEA model is not grounded in project specific data, the bypassing of sensitivity analysis, and/or when recommendations among projects are based only on an internal rate of return. To secure consistent use of
CBA/CEA in education projects that is inclusive of key components of the analysis, I believe that clear and concise guidelines which govern expectations regarding when, where, why, and how CBA/CEA, need to be in place.

**Re-visiting study limitations**

This study carried a few methodological limitations, which were already discussed in the Research and Design Methodology chapter. During interviews and data analysis, a few additional limitations regarding research content rose to the surface.

The conceptual framework that anchors this study, is in place to analyze the decisions and actions of CBA/CEA use (in education projects, during the assessment stage) in a social context revolving around four dimensions of analysis (organizational, personal, project, and worldwide). This lens was able to identify various socially constructed factors influencing CBA/CEA use, and a few influences surrounding a nation’s cultural and political factors did rise to the surface. For example, the need for sensitivity to a nation’s culture and political factors when authoring a CBA/CEA was discussed. However, influences that a nation’s culture, politics, and religion might have on CBA/CEA were not identified to the degree that I would have anticipated. While participants were fully aware of the study’s strict confidentiality, hesitancy to discuss these sensitive factors without clients being present rose to the surface. As such, I suggest additional research carry forward the efforts to un-wrap how social, political, and cultural factors, impact CBA/CEA use in an education project (during the assessment stage), in a way that involves the World Bank and their clients.

Discussions in phase two were not able to support or challenge six of the ten major data trends found in descriptive statistical analysis generated in phase one. While quantitative analysis carries the ability to identify data relationships along with the direction and intensity of a relationship, qualitative analysis is needed to explain why or how a relationship exists. I
believe that phase two conversations were simply not long enough to fully un-pack the multiple variables that influenced these trends in inter-connected ways—which raises another potential area for future research.

**Contributions to the literature**

Despite study limitations, I posit this study offers four key contributions to the literature surrounding CBA/CEA use for an education project during the assessment stage.

First, this study identified the role and value that CBA/CEA brings to the table during the identification and assessment of an education project (as seen by study participants)—beyond its founding purpose of producing empirical and quantitative measures of a project’s worth. This finding was triangulated across study participants with backgrounds in the economics of education, and education administration and policy. Through practical illustrations, this study brought to life the value that CBA/CEA can offer an education project during its definition and assessment.

Second, this study used a lens for viewing and assessing CBA/CEA use that is unique. The study’s conceptual lens, rooted in “the logic of appropriateness theory” (March, 1994, p. 58), views decisions and actions towards CBA/CEA use in the context of an institutional system. Through the study’s conceptual lens, this research raised the notion that while CBA/CEA is a process originally rooted in positivistic thinking and consequential action, its application is actually rooted in interpretative thinking and appropriate action. A degree of individual thought, judgement, and care is needed to direct CBA/CEA use given the complex nature of education projects, but a degree of quantitative thinking is also needed to model project costs and benefits.

Third, this study re-iterates the dangers of not supporting CBA/CEA use with clear and concise governance on what defines a CBA/CEA, triggers for when to use CBA/CEA, protocols
for authoring a CBA/CEA, and guidelines for context of an education project during its definition and assessment. While CBA/CEA governance for education projects requires flexibility (given the diversity and complexity of education projects), a balance is needed between flexibility and specificity to support consistent and applicable CBA/CEA use.

Fourth, this study re-iterates the notion that authoring a CBA/CEA for education projects can be a challenging task given the diversity and complexity of education projects. Authoring a CBA/CEA for an education project (during its definition and assessment) is an exercise that requires expertise, time, money, governance, and leadership in the field of economics and the field of education. While this research effort promotes stronger CBA/CEA use in the field of education, this research effort does not promote the use of CBA/CEA for every single education project. Triggers for CBA/CEA use must be defined within the context of the environment (that is using them) as part of CBA/CEA governance for any institution or organization using CBA/CEA.

10.5 Directions for future research

Further research is needed to continue exploring the most appropriate way to use CBA/CEA for education projects during the assessment stage, while considering the unique setting of an education project. This study sparks suggestions to expand upon this research effort, address major roadblocks acknowledged in this study as inhibiting CBA/CEA use, and expand CBA/CEA use in the education arena.

To expand upon this research study, completing a similar analysis with a different set of case studies, as a form of comparison and triangulation, is a logical extension. It would also be beneficial to further un-wrap how a nation’s social fabric impacts CBA/CEA use in an education setting. Completing a like study with other international organizations involved in lending funds for education projects in emerging nations (like the Asian Development Bank),
would also offer an interesting comparative basis for analysis. More effort is also needed to better understand the descriptive statistical trends from the study’s first phase that were not addressed in the study’s second phase. Finally, securing a better understanding of how well a nation’s education sector analysis and planning uses CBA/CEA, and how this analysis ties to education PADs, would offer an opportunity to explore how CBA/CEA analysis is used and linked from education strategy to implementation.

To address the challenges when authoring a CBA/CEA for an education project brought forward (by this study), three research initiatives rise to the surface. First, a continuation and expansion of efforts aimed at better identifying and quantifying benefits from educational interventions. Second, a continuation and expansion of efforts aimed at leveraging technology to help collect, store, and cleanse education data and identifying supporting best practises for disseminating the data. Third, a continuation and expansion of efforts aimed at exploring more innovative CBA/CEA techniques that support inclusion of educational benefits that are challenging to quantify—such as combining the use of CBA/CEA in conjunction with multiple-criteria analysis (as noted earlier in this chapter).

To facilitate richer use of CBA/CEA in the field of education, it would be interesting to explore how CBA/CEA studies are commissioned, executed, and leveraged in the field of education across different levels of operation. It would also be beneficial to compare and contrast the use and governance regarding CBA/CEA in the field of education, health, and environmental management across different levels of operation.

### 10.6 Summary: future possibilities

Cost benefit and cost effectiveness analysis are economic tools founded on supporting project choice in a way that optimizes individual and societal benefits. While CBA/CEA tools are not without their inherent flaws (for example, CBA/CEA cannot take everything into
account in practise that it might in principle), the use of these tools has matured over time to also include value in facilitating education discussions and refining project details. This research effort found (based on study participant views) that the World Bank’s Education Department is using CBA/CEA to the benefit of education projects, their clients, and to the World Bank—despite its inherent flaws and the challenges surrounding tool use.

Upon completion of this study, I remain optimistic that the use of economic tools like CBA/CEA offers a diverse range of value to education projects during their assessment stage—given the depth and breadth of usefulness and significance associated with the CBA/CEA process found in this study. I acknowledge that norms, values, and attitudes towards economic analysis of education projects can cloud CBA/CEA use. However, I also acknowledge that by adjusting those norms, values, and attitudes that cloud CBA/CEA use and introducing strong governance on CBA/CEA use, these tools are in a better position for thoughtful use when defining and assessing an education project.

It is easy to discount the World Bank’s use of CBA/CEA in education PADs as a tool driven by organizational and/or client political forces and bureaucratic rules, but this view is short-sighted and misguided as CBA/CEA use in the World Bank education projects (during the assessment stage) serves a much broader purpose. It is also easy to discount this study’s findings as not transferable to the field of education given their diverse contexts, but this view is also short-sighted and misguided as CBA/CEA use in the World Bank when assessing education projects raises numerous aspects of governance that any organization needs to leverage thoughtful CBA/CEA use. While CBA/CEA of education projects during their assessment in the World Bank is not without its flaws, its use brings forward an awareness of the possibilities for the CBA/CEA process in a supportive environment that is given the opportunity to grow and mature.
While CBA/CEA has the ability to provide valuable insights for education decisions and education projects, it is important to remember that these tools are not islands unto themselves. Money is not, and never should be, the sole criteria for making any education project decision—but decision makers do need tools that are “useful, feasible, ethical, and accurate” (Fowler, 2009, p. 259) to help define, refine, and analyze project benefits against costs. CBA/CEA is not, and never should be, the sole approach for defining an education strategy or designing an education project—but it can help facilitate the process. If given the chance, CBA/CEA can help facilitate the challenging choices that need to be made when allocating limited education funding to unlimited education needs, along with facilitating discussions on education matters, and helping define, refine, and gain consensus on project objectives, outcomes, benefits, and costs.
References


Appendices

Appendix A: Participant Information Letter

OISE
ONTARIO INSTITUTE FOR STUDIES IN EDUCATION
UNIVERSITY OF TORONTO

Date:

Dear Sir/Madam:

You are invited to participate in a research study on understanding the use of economic analysis during the project appraisal stage of World Bank education projects.

The purpose of this study is to better understand how, why, and under what circumstances are cost benefit analysis (CBA) and cost effectiveness analysis (CEA) being used in assessing World Bank Education Project Appraisal Documents (PADs) from 2010 to 2014. In particular, this study will look at the decision to use CBA/CEA and how CBA/CEA is being used by exploring the following four dimensions of influence: organizational, personal, project, and worldwide factors.

The research is being conducted by me, my name is Wendy Roth and I am a Doctoral candidate at the Ontario Institute for Studies in Education (OISE), University of Toronto within the Educational Leadership and Policy Program. I expect to the publish research results in a variety of academic journals and conferences. Upon completion of the project, participants will receive a summary of the study’s findings and given the opportunity to obtain the full report.

If you agree to participate in this research, you will be asked for an open ended, audio-taped interview lasting approximately one hour. I am interested in your general reflections around how organizational, personal, project, and worldwide dimensions influence why and how a CBA/CEA is completed for an education project during the project appraisal stage. Should you wish, the interview can be conducted without audio-taping and only handwritten notes will be taken. All audio-tapes will be transcribed and verified by the interviewee. Upon interviewee confirmation of transcribed discussion content, interviews will be coded with special identifiers in order to ensure that your comments are kept confidential.

I hope you will have time to participate in the study. The research should prove valuable to education policy makers, economists carrying a specialty in the economics of education, and to educationalist with international interests. Your participation would contribute significantly to the research.

Thank you in advance for your thoughtful consideration and I will follow-up this invitation with you over the next week.

If you have any questions or concerns about this research, I can be reached at 289-221-1555 or by email at wendy.roth@sympatico.ca.
Sincerely,

(signature)

Wendy Roth
PhD Candidate
OISE/University of Toronto
252 Bloor Street
Toronto, Ontario
M5S 1V6
wendy.roth@sympatico.ca
289-221-1555
Appendix B: Participant Consent Form

ONARIO INSTITUTE FOR STUDIES IN EDUCATION
UNIVERSITY OF TORONTO

CONSENT PROTOCOL

“UNDERSTANDING THE USE OF COST BENEFIT AND COST EFFECTIVENESS ANALYSIS IN WORLD BANK EDUCATION PROPOSALS”

Dear Sir/Madam:

You are invited to participate in a research study on understanding the use of economic analysis during the project appraisal stage of World Bank education projects.

The purpose of this study is to better understand how, why, and under what circumstances are cost benefit analysis (CBA) and cost effectiveness analysis (CEA) being used in assessing World Bank Education Project Appraisal Documents (PADs) from 2010 to 2014. In particular, this study will look at the decision to use CBA/CEA and how CBA/CEA is being used by exploring the following four dimensions of influence: organizational, personal, project, and worldwide factors.

Interviews will be open-ended discussions that revolve around the following questions:
- Organization: Can you describe how organizational rules, decision structure, social structure, and norms influence the use of CBA/CEA is used in education projects, during the assessment phase of a project at the WB?
- Personal: How do believe educational background, values and beliefs, and work experiences of project leaders impact the use of CBA/CEA for education projects (during the assessment phase of a project at the WB) and to what extent?
- Project: Under what unique project circumstances do you see CBA/CEAs being completed for education projects (during the assessment phase of a project at the WB) and how do you believe these circumstances influence the manner in which a CBA/CEA is completed?
- Worldwide: How do you perceive global influences playing a factor in the use of CBA/CEA in education projects (during the assessment phase of a project at the WB) and why—including local and state governments, advocacy groups, non-government organizations, scholars, and general economic trends (such as interest, inflation, and economic growth rates)?

You will be asked to participate in an audio-taped interview. Should you wish, however, the interview can be conducted without audio-taping, and only handwritten notes will be taken. All audio tapes will be transcribed and coded with special identifiers in order to ensure that your comments are kept confidential. All transcribed interviews will be sent back to the interviewee for verification of content.

Tapes, transcripts and codes will be stored separately in a locked cabinet for a period of five years after the study. After five years all tapes will be destroyed. Study participants will receive a summary of the study’s findings and given the opportunity to obtain the full report.
The risks associated with this study derive from your provision of public information on your organization. The benefits that may reasonably be expected to result from this study will derive from the publication of analysis on dynamic influences that impact the decision to proceed with and use economic analysis during project appraisals.

**Time Involvement:** Your participation in this research will take approximately one hour.

**Reimbursement:** No payment is offered for participation in this study.

If you have read this form and have decided to participate in this project, please understand your participation is voluntary, you have the right to withdraw your consent or discontinue participation at any time without penalty, and you understand the above noted points in relation to the interview. During the interview, you have the right to refuse to answer any particular question. If you agree to participate, your individual privacy will be maintained in all published and written data resulting from this study—your comments will be kept in confidentiality.

The Research Ethics Board of the University of Toronto has approved this study. If you have any questions regarding your rights as a participant in the study, please feel free to contact the Office of Research Ethics at the University of Toronto at ethics.review@utoronto.ca or at 416-946-3273. You can also contact me with any questions or concerns, at 289-221-1555 or by email at wendy.roth@sympatico.ca.

I give consent to be audiotaped during this study, and for use of these audiotapes to be transcribed for use in the study (Please initial):

____ Yes  _____ No

I give consent for excerpts from the taped interview to be used for direct quotation in published work resulting from the study, while maintaining individual privacy (Please Initial):

____ Yes  _____ No

Name: _______________________________

Signature: ___________________________

Date: _______________________________

*Please keep a copy of this letter for your records.*
Appendix C: Interview Guide

**Preliminary Interview Information**

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<td>Interview Location</td>
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<tr>
<td>Interviewee Number</td>
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**Introduction Dialogue**

Hello, my name is Wendy Roth, it is a pleasure to meet you in person.

Thank you for participating in my study – I really do appreciate you taking the time and effort to support my research.

As discussed earlier, this interview will last about 60 minutes and our discussion will be guided by the questions that I sent you beforehand.

If audio-taping consent was provided – as per your consent, I will be audiotaping the conversation – so, I will turn on the audiotape now, with your consent.

Before I begin, do you have any questions regarding the study that you would like to raise at this time – any comments, concerns or questions?

Just to recap, the purpose of the study is to explore and gain a deep understanding of how, why, and under what circumstances cost benefit analysis (CBA) and cost effectiveness analysis (CEA) are used in assessing World Bank Education Project Appraisal Documents (PAD), from 2010 to 2014.

I will start with the first question now, if that is alright with you?

**Question Guide – PLEASE NOTE that questions listed below is a guideline and may vary depending upon the context of the interview.**

<table>
<thead>
<tr>
<th>Organizational Dimension</th>
<th>Rules</th>
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<tbody>
<tr>
<td></td>
<td>- Can you describe the policies that govern the use of CBA/CEA during project assessment?</td>
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<td></td>
<td>- What is your understanding of the alternatives given to projects when faced with challenges completing a CBA/CEA?</td>
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<td></td>
<td>- How are these policies and alternatives accounted for in the organization?</td>
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<tr>
<td></td>
<td>- Can you describe the method(s) for completing a CBA/CEA that are deemed as acceptable and under what circumstances?</td>
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</tbody>
</table>
How do you see CBA/CEA, in the assessment stage, integrated with education strategies at the organizational, country, and project level?

Decision Structure
- Can you describe the level of certainty that a project will have an associated CBA/CEA?
- What do you see as the factors or inputs that influence the decision to proceed with a CBA/CEA or not?
- Who is involved in the decision to proceed with a CBA/CEA and what role do they play in the decision making process?
- When is the decision made to complete a project CBA/CEA?
- Can you describe any linkages between the decision to proceed with a CBA/CEA and WB strategic documents (for the region or for education)?
- How do you see a CBA/CEA influencing the decision to proceed with a project?

Social Structure
- Can you describe what and how dominant organization values and ideologies are operating in relation to the use of economic analysis in project assessments?
- What formal organizational groups, do you perceive, influence the use of CBA/CEA, how, and to what degree?
- What informal coalitions, do you perceive, influence the use of CBA/CEA, how, and to what degree?
- How would you describe support mechanisms that are in place to assist with creating a CBA/CEA and the level of support received?

Framing
- Can you describe how the purpose and use of CBA/CEA are positioned within the organization?
- How and why was CBA/CEA introduced to you initially?
- What is your understanding of when a CBA/CEA is deemed successful?
- Who do you understand benefits from a CBA/CEA and why?
- To what extent do you see the use of economic analysis, at the World Bank, considered a social construct?

Educational Background
- What is your educational background?
- Can you describe any formal and informal training you have received on project economic analysis and the use of CBA/CEA both inside and outside the World Bank?
- To what extent do you see your educational background impact the use of CBA/CEA and why?
- What kind of learning and training on CBA/CEA is available to WB staff?

Values and Beliefs
- Can you describe your values and beliefs towards economic analysis of education interventions and specifically CBA/CEA?
- How have your values and beliefs towards economic analysis of education
- Intervention shaped over time and why?
- To what extent do you believe alignment exists between World Bank CBA/CEA policy and execution?
- What organizational group(s) would you identify yourself with and why?
- How do you feel about the role you play in deciding upon and completing a CBA/CEA for a project?

Work Experiences
- How did you come to work at the WB?
- How long have you worked at the WB, what positions have you held, and in what areas?
- Can you describe your level of experience, in project based economic analysis tools CBA/CEA, both inside and outside the WB?
- Can you describe an overview of the steps involved in the CBA/CEA process as how you experienced them, including who was involved and what role they played?
- Were you satisfied with the final product? Why or why not?
- Can you describe one or two situations where conflicts arose during development of a CBA/CEA and how they were resolved?
- Based on your work experiences, what do you perceive as barriers and limitations of CBA/CEA?
- Based on your work experiences, what do you perceive as advantages and disadvantages of CBA/CEA?

<table>
<thead>
<tr>
<th>Project Dimension</th>
<th>Development Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Can you describe any relationship(s) that exist between the use of CBA/CEA and a project’s development goals?</td>
</tr>
<tr>
<td></td>
<td>Why do you see these relationships operating?</td>
</tr>
<tr>
<td></td>
<td>To what extent do you see trends in a project’s development goals and the use of CBA/CEA?</td>
</tr>
</tbody>
</table>

Rational
- How do you see economic analysis related other PAD project rational – such as social and institutional analysis?
- How would you describe the relationship of economic rational to the other rational found in the PAD?
- What level of importance do you perceive economic rational (for a project) impacts a go-forward decision and why?

Sustainability and Risk
- Can you describe the extent that project sustainability influences CBA/CEA use?
- Can you describe the extent that project risk influences the use of CBA/CEA?
- Do you see an interaction between sustainability, risk, and CBA/CEA use?

Culture and History
- To what extent do you see a project’s regional cultural impact the use of CBA/CEA?
- How does a unique project’s historical context - both inside and outside the WB - influence CBA/CEA use?
<table>
<thead>
<tr>
<th>Worldwide Dimension</th>
<th>Regional Governments</th>
</tr>
</thead>
<tbody>
<tr>
<td>- How do you see cultural and historical context playing a role when actually completing a CBA/CEA?</td>
<td></td>
</tr>
<tr>
<td>- How often do you see local and state governments becoming involved in a project’s CBA/CEA?</td>
<td></td>
</tr>
<tr>
<td>- How does push back or participation of regional governments influence CBA/CEA use?</td>
<td></td>
</tr>
<tr>
<td>- Can you provide an illustration of when project local and state policies and procedures influenced CBA/CEA use?</td>
<td></td>
</tr>
</tbody>
</table>

| | External Agencies |
| | - Can you describe how you see external agencies, such as advocacy groups, non-government organizations, and scholars impacting CBA/CEA use? |
| | - Do various external agencies carry more influence than others and why? |

| | Global Development Goals |
| | - To what extent do you see agreed upon global development goals influencing the decision to use CBA/CEA? |
| | - Why and how do you believe these goals impact a CBA/CEA? |

| | Economic Indicators |
| | - Can you describe how you see global economic indicators, such as interest, inflation and growth rates, influencing the use of CBA/CEA. |
| | - To what extent do these indicators work in unison or in conflict in relation to the use of CBA/CEA? |
| | - Can you describe any other economic indicators that you believe also influence the use of CBA/CEA. |

**Closure Dialogue**

That is all of our questions.

Before we close the interview, do you have any other comments that you would like to raise or any questions or concerns you may have?

I thank you for your co-operation and for participating in the study.

As next steps, I will be sending you the interview transcript within one to two weeks via email, for your approval of transcript content.

I will also follow-up any unanswered questions that may have arisen during our interview in the next week, via email.

Again, thank you for participating in the study and it was a pleasure to meet you in person.

Please feel free to contact me via email or phone if you have any questions on the study or on our discussion.
Post Interview Steps

Document overall, how you felt the interview went – any immediate thoughts.

Document a self-assessment of yourself as an interviewer – identify what worked and what did not work and keep a running log of Interview Lessons Learned.
- Ask yourself if you were courteous, if you listened well, if you did not interrupt the interviewee, if asked enough and appropriate probing questions, and if you talked too much.

Double check to ensure any interviewee questions that could not be answered during the interview – for follow-up – are been documented correctly.

Send a short email to the interviewee thanking him/her for their time and re-state when the interview transcript will be available for their review.
The encrypted email content is as follows:

Thank you very much for your time and insights provided yesterday in our interview on the use of economic during the project appraisal stage of World Bank education projects. I appreciate the valuable insights and observations you provided – your input will be help address my underlying research question.

I will be sending you a follow-up email by XXXX (date) with the interview’s transcript attached. I would very much appreciate your review of the transcript for accuracy.

Please feel free to contact me if you have any questions or concerns with the study, interview, or pending transcript review – I can be reached at wendy.roth@sympatico.ca or at 289-221-1555.

Follow-up any outstanding interviewee questions that could not be addressed during the interview within one week of the interview date.

Lock the audiotapes in the lock and key cabinet.

Transcribe the audiotapes, with the help of software.

Send the transcribed audiotapes to the interviewee, by the date defined in the interview, via email. The encrypted email content is as follows:

Thank you again for your time and the insights provided during our interview on XXXXX for my study focusing on the use of economic during the project appraisal stage of World Bank education projects.

As promised during the interview, please find attached the transcript of our interview.

I would appreciate your review of the transcript for accuracy and respond to this email with your confirmation of content or any required changes by XXXX (date – two weeks out). Please let me know if this timeline causes you any challenges.
Please feel free to contact me if you have any questions or concerns with the transcript review – I can be reached at wendy.roth@sympatico.ca or at 289-221-1555.

Follow-up with each interviewee to ensure receipt of the transcript approval, one week after the requested due date – if the transcript approval is not received by then.
Appendix D: World Bank Variable List of Values

1. World Bank Region Codes

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>World Bank Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAP</td>
<td>East Asia and Pacific</td>
</tr>
<tr>
<td>ECA</td>
<td>Europe and Central Asia</td>
</tr>
<tr>
<td>LAC</td>
<td>Latin America and the Caribbean</td>
</tr>
<tr>
<td>MNA</td>
<td>Middle East and North Africa</td>
</tr>
<tr>
<td>SAS</td>
<td>South Asia</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
</tbody>
</table>


2. World Bank Education Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>World Bank Education Sub-Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Development</td>
<td>Education for All</td>
</tr>
<tr>
<td>Human Development</td>
<td>Education for Knowledge</td>
</tr>
</tbody>
</table>


3. World Bank Education Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>World Bank Education Sub-Sector</th>
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</thead>
<tbody>
<tr>
<td>Education</td>
<td>Adult literacy/non-formal education</td>
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<td>Education</td>
<td>Pre-primary education</td>
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<tr>
<td>Education</td>
<td>Primary education</td>
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<tr>
<td>Education</td>
<td>Secondary education</td>
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<td>Education</td>
<td>Tertiary education</td>
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<tr>
<td>Education</td>
<td>Vocational education</td>
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<td>Education</td>
<td>General education</td>
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4. World Bank Funding Sources

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>World Bank Funding Source</th>
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<tr>
<td>IDA</td>
<td>International Development Association</td>
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<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
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Appendix E: Phase One Descriptive Statistics Supporting Material

1. Education PAD Counts with CBA/CEA Use by Nation from 2010 to 2014
   (evidence in support of summary statistic shows in section 5.1 and 5.2)

<table>
<thead>
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<td>10</td>
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</tbody>
</table>


2. Education PAD Counts and Percentages across Education Theme from 2010 to 2014
(evidence in support of summary statistic shows in section 5.3)

<table>
<thead>
<tr>
<th>Education Theme</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education For All (EFA)</td>
<td>52</td>
<td>36</td>
<td>69.23</td>
</tr>
<tr>
<td>Education For Knowledge (EKA)</td>
<td>46</td>
<td>33</td>
<td>71.74</td>
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</table>


3. Education PAD Counts and Percentages across Dedication to Education (Or Not) from 2010 to 2014
(evidence in support of summary statistic shows in section 5.3)

<table>
<thead>
<tr>
<th>Dedication to Education</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated Only To Education Sector</td>
<td>56</td>
<td>40</td>
<td>71.43</td>
</tr>
<tr>
<td>Not Dedicated To Only Education Sector</td>
<td>47</td>
<td>20</td>
<td>42.55</td>
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</table>

4. Education PAD Counts and Percentages across IDA or IBRD Funding Source from 2010 to 2014
(evidence in support of summary statistic shows in section 5.4, for the 102 Education PADs solely funded by with IDA or IBRD)

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Development Association (IDA)</td>
<td>70</td>
<td>46</td>
<td>65.71</td>
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<tr>
<td>International Bank for Reconstruction and Development (IBRD)</td>
<td>32</td>
<td>19</td>
<td>59.38</td>
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</tbody>
</table>


5. Education PAD Counts and Percentages across Funding from Other Sources from 2010 to 2014
(evidence in support of summary statistic shows in section 5.4)

<table>
<thead>
<tr>
<th>Funding From Other Sources Included</th>
<th>Number of Education PADs</th>
<th>Number of Education PADs with CBA/CEA</th>
<th>Percentage of Education PADs with CBA/CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Sources Of Funding Were Not Included</td>
<td>32</td>
<td>21</td>
<td>65.63</td>
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</tbody>
</table>

Appendix F: Summary of Common Themes Emerging from Study Participants

1. Dimensions of Analysis – Common Themes in Participants Views of Internal Factors

<table>
<thead>
<tr>
<th>Dimension of Analysis</th>
<th>Area of Analysis</th>
<th>Common Theme</th>
</tr>
</thead>
</table>
| Organizational        | Organization Rules     | - Flexible rules for economic analysis – essential and present  
| Dimension             |                        | - Formal policies and procedures not guiding consistency  
|                       |                        | - Weakly grounded in education strategy – an opportunity missed  
|                       |                        | - Analysis to be incorporated at project onset and onward  |
| Organizational        | Organization Decision Structure | - Decision to use CBA/CEA propelled by multidimensional who-factor domination by two roles  
| Dimension             |                        | - Decision on how to use CBA/CEA bounded by interrelated constraint-triad: data, timeline, skill set  
|                       |                        | - Constraint-triad asserting benchmark-based versus contextual-base analysis – influencing value  
|                       |                        | - Necessary but not sufficient factor in guiding project go/no go decision  |
| Organizational        | Organization Alliances and Norms | - Moving towards an alliance of value from CBA/CEA beyond project justification  
| Dimension             |                        | - Wide ranging and diverse value from CBA/CEA  
|                       |                        | - Tension between historic and present use of CBA – but diminishing over time  |
| Organizational        | Organization Framing of CBA/CEA | - CBA dominance over CEA rarity  
| Dimension             |                        | - CEA emerging – supported by an increase in Impact Evaluations  
|                       |                        | - CBA/CEA supports economic thinking – but it is the journey that is important  |
| Personal Dimension    | Educational Background | - Educational roots feed wide ranging tool value – with some commonality across disciplines  
|                       |                        | - Those with educational roots in economics see tool value – but are cautious of methods employed  
|                       |                        | - Those with educational root in education, development, and policy see tool value – but are cautious of oversimplification  |
| Personal Dimension    | Personal Attitudes and Views | - Personal attitudes reflect support for CBA/CEA – but are split between unconditional and conditional support  
|                       |                        | - Personal views identify CBA/CEA quality work as important  
|                       |                        | - Process can be too mechanical – innovation is slowly breaking the cycle although more is needed  |
| Personal Dimension    | Work Experiences       | - Work experience raises importance of context – but raises tension when the constraint-triad comes into play  
|                       |                        | - CBA/CEA is rooted within a unique team effort with wide ranging skills – that is supportive and synergetic  
|                       |                        | - Internally trained and supported on CBA/CEA – but  |
### 2. Dimensions of Analysis – Common Themes in Participants Views of External Factors

<table>
<thead>
<tr>
<th>Dimension of Analysis</th>
<th>Area of Analysis</th>
<th>Common Theme</th>
</tr>
</thead>
</table>
| Project Dimension     | Project Specific Influences | - Multi-faceted contextual factors at play – from local micro to global macro  
- Project data remains highly problematic – but improving via standards and technology  
- Increased project complexity added to constraint triad – makes it even more challenging to produce contextual-based analysis |
| Project Dimension     | CBA/CEA Context Within a PAD | - CBA/CEA is an integral and integrated part of an education PAD |
| Worldwide Dimension   | Government Influences | - Government demand aided by drive for evidence-based decision making  
- Governments support CBA/CEA but sometimes passively – a learning opportunity exists that should be maximized  
- Governments benefit the most from rich dialogue resulting from CBA/CEA |
| Worldwide Dimension   | Other External Influences | - External partnerships support CBA/CEA – in a synergetic, supportive manner that leverage comparative advantages  
- Global education goals frame and align with CBA/CEA  
- Economic cycles do not drive CBA/CEA use – but can influence CBA/CEA approach |
Appendix G: Mapping Study Themes to Research Questions

1. Organizational Dimension

<table>
<thead>
<tr>
<th>Research Sub-Question</th>
<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What established policies, procedures, and methods direct the use of CBA/CEA and how are they governed?</td>
<td>- Flexible rules for economic analysis – essential and present&lt;br&gt;- Formal policies and procedures not guiding consistency&lt;br&gt;- Weakly grounded in education strategy – an opportunity missed&lt;br&gt;- Analysis to be incorporated at project onset and onward</td>
</tr>
<tr>
<td>What criteria, processes, and resources determine why and how a CBA/CEA is completed?</td>
<td>- Decision to use CBA/CEA propelled by multi-dimensional who-factor domination by two roles&lt;br&gt;- Decision on how to use CBA/CEA bounded by inter-related constraint-triad: data, timeline, skill set&lt;br&gt;- Constraint-triad asserting benchmark-based versus contextual-base analysis – influencing value&lt;br&gt;- Necessary but not sufficient factor in guiding project go/no go decision&lt;br&gt;- Project data remains highly problematic – but improving via standards and technology&lt;br&gt;- Increased project complexity added to constraint-triad – makes it even more challenging to produce contextually based analysis</td>
</tr>
<tr>
<td>How do organization values and ideologies influence the use of economic analysis during project assessments and to what degree?</td>
<td>- Moving towards an alliance of value from CBA/CEA beyond project justification&lt;br&gt;- Wide ranging and diverse value from CBA/CEA&lt;br&gt;- Tension between historic and present use of CBA – but diminishing over time</td>
</tr>
<tr>
<td>How is the purpose and use of CBA/CEA positioned in the organization and how is the success of a given CBA/CEA gauged?</td>
<td>- CBA dominance over CEA rarity&lt;br&gt;- CEA emerging – supported by an increase in Impact Evaluations&lt;br&gt;- CBA/CEA supports economic thinking – but it is the journey that is important</td>
</tr>
</tbody>
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2. Personal Dimension

<table>
<thead>
<tr>
<th>Research Sub-Question</th>
<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does the educational background of project leaders influence the use of CBA/CEA?</td>
<td>- Educational roots feed wide ranging tool value – with some commonality across disciplines&lt;br&gt;- Those with educational roots in economics see tool value – but are cautious of methods employed&lt;br&gt;- Those with educational root in education, development, and policy see tool value – but are cautious of over-simplification</td>
</tr>
</tbody>
</table>
### Research Sub-Question

<table>
<thead>
<tr>
<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal attitudes reflect support for CBA/CEA – but are split between unconditional and conditional support</td>
</tr>
<tr>
<td>Personal views identify CBA/CEA “top notch” work as important</td>
</tr>
<tr>
<td>Process can be too mechanical – innovation is slowly breaking the cycle although more is needed</td>
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</table>

### Research Sub-Question

<table>
<thead>
<tr>
<th>Research Theme That Answers The Question</th>
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<tbody>
<tr>
<td>Work experience raises importance of context – but raises tension when the constraint-triad comes into play</td>
</tr>
<tr>
<td>CBA/CEA is rooted within a unique team effort with wide ranging skills – that is supportive and synergetic</td>
</tr>
<tr>
<td>Internally trained and supported on CBA/CEA – but could benefit from more case study learning and mentoring</td>
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</tbody>
</table>

### 3. Project Dimension

<table>
<thead>
<tr>
<th>Research Sub-Question</th>
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</thead>
<tbody>
<tr>
<td>Is there a relationship between a project's development objectives and the use of CBA/CEA?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-faceted contextual factors at play – from local micro to global macro</td>
</tr>
<tr>
<td>CBA/CEA is an integral and integrated part of an education PAD</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Sub-Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is economic analysis related to other project rational analysis; such as social and institutional analysis?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-faceted contextual factors at play – from local micro to global macro</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Sub-Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent does project sustainability and risk impact the use of CBA/CEA?</td>
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</table>

<table>
<thead>
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<th>Research Theme That Answers The Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-faceted contextual factors at play – from local micro to global macro</td>
</tr>
<tr>
<td>Necessary but not sufficient factor in guiding project go/no go decision</td>
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<table>
<thead>
<tr>
<th>Research Sub-Question</th>
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</thead>
<tbody>
<tr>
<td>How are unique project cultural and historical contexts taken into account when considering and completing a CBA/CEA?</td>
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<table>
<thead>
<tr>
<th>Research Theme That Answers The Question</th>
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</thead>
<tbody>
<tr>
<td>Multi-faceted contextual factors at play – from local micro to global macro</td>
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### 4. Worldwide Dimension

<table>
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<th>Research Sub-Question</th>
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<tbody>
<tr>
<td>What level and kind of involvement do local and state governments have in the use and completion of economic analysis for education projects?</td>
</tr>
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</table>

<table>
<thead>
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<th>Research Theme That Answers The Question</th>
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</thead>
<tbody>
<tr>
<td>Government demand aided by drive for evidence-based decision making</td>
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<tr>
<td>Governments support CBA/CEA but sometimes passively – a learning opportunity exists that should be maximized</td>
</tr>
<tr>
<td>Governments benefit the most from rich dialogue resulting from CBA/CEA</td>
</tr>
<tr>
<td>Research Sub-Question</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
</tr>
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</table>
| What kind of input and influence do advocacy groups, non-government organizations, and scholars have on the use and completion of economic analysis for education projects? | - External partnerships support CBA/CEA – in a synergetic, supportive manner that leverage comparative advantages  
- Feedback on how advocacy groups and other non-government organizations was not addressed (as noted in chapter 10)                                                                                                           |
| To what extent do global development goals for education in emerging nations guide the use of CBA/CEA? | - Global education goals frame and align with CBA/CEA                                                                                                                                                                                  |
| How do global economic indicators, such as interest, inflation, and growth rates impact the use of CBA/CEA? | - Economic cycles do not drive CBA/CEA use – but can influence CBA/CEA approach                                                                                                                                                        |