Local Workforce Development, Federally Legislated Purposes, and a Systemigram: A Mixed-Methods Study

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LOCAL WORKFORCE DEVELOPMENT,
FEDERALLY LEGISLATED PURPOSES,
AND A SYSTEMIC LAG:
A MIXED-METHODS STUDY

by

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B.S. December 2013, Arizona State University
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Approved by:

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ABSTRACT

LOCAL WORKFORCE DEVELOPMENT, FEDERALLY LEGISLATED PURPOSES, AND A SYSTEMIGRAM: A MIXED-METHODS STUDY

Tracey A. Regenold
Old Dominion University, 2020
Director: Dr. Philip A. Reed

The public system of workforce development has existed for over 45 years, yet there are still issues with adequate skill-building, training, and employment for the vulnerable populations the system is mandated to serve. This study first used a modified Delphi method to survey a sample of executive directors and board members of local workforce development areas regarding the proper systems design needed to fulfill the purposes of current federal legislation. Subsequently using a visual representation of an “ideal” local workforce development area, participants were then interviewed and asked about the utility of such a model for strategic planning and systems design purposes.

Twenty-one participants completed Round 1 of the modified Delphi survey, and 18 participants completed Rounds 2 and 3. Results from Round 1 of the modified Delphi included a Kendall’s $W$ of 0.37, and a Kendall’s $W$ of 0.41 from Rounds 2 and 3. A majority of participants (61.9%, $n = 13$) strongly agreed with the statement that a visual depiction of the system would be useful for a board’s strategic planning. The statement ranked number one overall in Rounds 2 and 3 was: “The local board should be the governing authority and should be held accountable for performance and educational outcomes.”

Qualitative data from the modified Delphi survey were analyzed and synthesized to develop a textual description of the “ideal” workforce development system fulfilling its federally
legislated purposes. The textual description was then used to design a systemigram of the “ideal” system. Finally, 12 participants were interviewed for their feedback about the systemigram and its utility in strategic planning; 28 revisions were made to the systemigram. Conclusions drawn from this study included: complexity and simplicity are characteristics of the “ideal” system; local boards should be the “ideal” systems leaders; and the systemigram acts as an epistemic object that would allow for the complementary application of holistic and analytical thinking in local boards’ strategic planning processes.
Some people cross our paths in life, others walk alongside us. Still others set foot onto our paths with the intention to work with us, to show us how to connect our paths with others, with ideas, with what is possible, and with what will become possible. They show us what a life’s work really means and they show us how to go about it. They show us how to design vibrant, connecting paths with inspiring, thought-provoking concepts into rich, rewarding, human, social systems.

This dissertation is dedicated to two of these social systems designers:

Dr. Sheila E. Murphy, and Dr. Beverly A. Carver.

Thank you, ladies. Thank you.
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LIST OF ACRONYMS

BSSM – Boardman Soft Systems Methodology

CATWOE – Customers, Actors, Transformation process, Worldview, Owner(s), Environmental constraints

CETA – Comprehensive Employment and Training Act of 1973

DHS – U.S. Department of Homeland Security

DOL – U.S. Department of Labor

ETA – U.S. Department of Labor, Employment and Training Administration

FCM – Fuzzy Cognitive Maps

GAO (prior to July 7, 2004) – U.S. General Accounting Office


HRD – Human Resource Development

JTPA – Job Training Partnership Act of 1982

OIG – U.S. Department of Labor, Office of Inspector General

PIC – Private Industry Council

RIS – Regional Innovation Systems

SSM – Soft Systems Methodology

TANF – Temporary Assistance for Needy Families

TEGL – Training and Employment Guidance Letter

WIA – Workforce Investment Act of 1998

WIOA – Workforce Innovation and Opportunity Act of 2014

WIRED – Workforce Innovation in Regional Economic Development
CHAPTER 1

INTRODUCTION

Organizations that collaborate across sectors to provide solutions to societal problems face a myriad of challenges. The complexity involved with multiple organizations from different sectors stems from managing a large system comprised of human and other resources, making problem solving challenging. Questions may arise concerning who is in charge, what role each organization plays, how people agree on the actions to take, what measures should be used, etc. When the collaborating organizations come from multiple levels of the public sector (federal, state, and local governments), from for-profit and nonprofit organizations in the private sector, and represent the fields of public administration, education, business and industry, and social services, the complexity can become overwhelming and the chances for success less likely.

When the collaboration of diverse organizations tries to solve societal problems such as increasing individuals’ economic self-sufficiency; helping vulnerable populations overcome barriers to employment; and working with businesses in a community to hire, train, and promote employees that contribute to business success, the complexity increases even more. The public system of workforce development is such a complex system of organizations tasked with solving these societal problems. Assistance with solving these issues occurs in the form of research from various scholarly fields to support the workforce development system in becoming more effective and efficient. Research in workforce development stems from fields such as economic development, human resource development (HRD), education, business, and public administration.

Contributions to the workforce development system by other fields of study were discussed by Jacobs and Hawley (2009) in their definition of this public system. They discussed
the relevance of workforce development and the importance of collaborating across disciplines, asserting that a complete definition must also include the larger environment. The authors stated: “Workforce development is the coordination of public and private sector policies and programs that provides individuals with the opportunity for a sustainable livelihood and helps organizations achieve exemplary goals, consistent with the social context” (Jacobs & Hawley, 2009, p. 12).

Jacobs and Hawley (2009) alluded to the systemic nature of workforce development, but they did not describe the system in depth. The workforce development system as a system has received little to no attention in the literature. The fields of scholarship that support workforce development, however, have addressed systems.

Since the 1980s, the field of economic development has explored the use of National Innovation Systems (Asheim et al., 2011). More recently, exploration has occurred with the use of Regional Innovation Systems (RIS), as models to help develop greater competitive advantages for businesses (Asheim et al., 2011). Regional Innovation Systems models explore competitive advantages for businesses based on geographical locations, interactions with other businesses in the same region, and knowledge transfer between them. After reviewing the RIS model, its underlying theory, and research, Asheim et al. (2011) noted future issues to resolve: “A crucial aspect of the RIS debate is that of the ‘system,’ and the interaction between the different agents involved in innovation, across the public and private sectors” (p. 887).

In the field of human resource development (HRD), Swanson and Holton (2009) asserted systems theory was so central to its understanding that they proposed systems theory as one of the field’s three theoretical tenets. The other two theoretical tenets they proposed were economics and psychology. Within the field of HRD, an application of systems thinking as “an
outgrowth of systems theory” included determining the “purpose of the system” or organization; understanding the components that comprise the organization as a system; and examining the connections and relationships between those components (Swanson & Holton, 2009, p. 18-19).

In the field of education, Bela Banathy’s work on systems of education (Jenlink, 2004), along with postmodern perspectives on curriculum development (Ornstein & Hunkins, 2017), have utilized systems theory and systems thinking since the 1960s. According to the Handbook of Research on Educational Communications and Technology (Spector et al., 2014), systems thinking is defined as: “The process of understanding and reasoning how elements in a complex whole influence one another and lead to or result in system behaviors” (p. 963).

In the fields of business and public administration, thinking about systems is a way to perceive the organization, its planning, and its challenges (Greer et al., 2017; Rosenbloom et al., 2015). Systems refer to the “emergent or designed networks of interconnected functions that achieve an intended outcome” (Jones, 2014, p. 94). Greer et al. (2017) asserted that systems thinking was necessary for the successful implementation of a strategic plan. The relevance of systems to workforce development, as emphasized by research in the fields that support it, led to the development of the theoretical framework for this study. This theoretical framework and its inclusion of systems theory will be discussed at greater length in Chapter 2, the literature review.

**Statement of the Problem**

The coordination and collaboration among organizations and across sectors, along with the activities that contribute to society’s well-being, are what comprise the workforce development system. These interrelations, interactions, and need for collaboration and coordination suggest workforce development is a system, but little known research has been conducted in workforce development from a systems perspective. For example, literature
supporting a systems perspective in workforce development is either comprised of conceptual propositions (Bates & Redmann, 2002; Hamilton & Torraco, 2013; Jacobs & Hawley, 2009; Swanson & Holton, 2009; Torraco, 2016), with suggestions for taking a more systemic perspective (Hamilton & Torraco, 2013; Holland, 2016; Torraco, 2016), or field research conducted from a process-level approach, such as in program evaluation research (Nisbet et al., 2017; Smith et al., 2014). Research in workforce development has used diverse methods such as surveys, case studies, etc. (Hawley et al., 2005; Melendez et al., 2015; Scully-Russ, 2015), which could allow for a systemic perspective of workforce development, but none has taken it; perhaps due to the amount of time and resources such a large undertaking would require.

In this study, what is meant by a systemic perspective for workforce development is that it includes an understanding of the various programs (parts) a local area supports. A systemic perspective also includes how organizations and their programs and services connect to one other, and ways in which the stakeholders and other service providers could collaborate more effectively. Finally, a systemic perspective includes collective action toward fulfilling the multiple purposes of the Workforce Innovation and Opportunity Act of 2014 (WIOA).

With respect to the design of a workforce development system, there also seems to be a lack of research. On the Department of Labor’s technical assistance website, “Workforce GPS,” (https://ccd.workforcegps.org/resources) it was recently proposed that local workforce development areas utilize “customer centered design” (U.S. Department of Labor, Employment and Training Administration, n.d.-a). However, there has been no known formal field research conducted on workforce development systems design.

With respect to design thinking, however, at least one well-known piece of literature exists within the field of public administration. The term “wicked problems” was first introduced
to the field of design by Horst Rittel in the 1960s and early 1970s (Buchanan, 1992), and reintroduced within the context of public administration planning problems by Horst Rittel and Melvin Webber in 1973. There the authors discussed the wicked problems of planning, including the involvement of multiple stakeholders:

For wicked planning problems, there are no true or false answers. Normally, many parties are equally equipped, interested, and/or entitled to judge the solutions, although none has the power to set formal decision rules to determine correctness. Their judgments are likely to differ widely to accord with their group or personal interests, their special value-sets, and their ideological predilections. Their assessments of proposed solutions are expressed as ‘good’ or ‘bad’ or, more likely, as ‘better or worse’ or ‘satisfying’ or ‘good enough.’ (Rittel & Webber, 1973, p. 163)

The complex and wicked problems of the public system of workforce development have existed since approximately the time that Rittel and Webber (1973) described the concept. What has not existed is a comprehensive way for workforce development scholars and practitioners to envision the problems, the systems that created them, and potential designs toward their resolution. A visual representation of the system that could be used as a baseline diagram for the purposes of designing policy, performance, support structures, and strategic planning may be useful.

There are many rich and informative diagrams, logic models, and depictions of processes within the workforce development system (U.S. Department of Labor, Employment and Training Administration, n.d.-b). However, there are no known depictions of a local workforce development system that accurately portray its complexity, boundaries, stakeholders, and customers. An accurate and more thorough illustration of a local workforce development system (and ways to affect its design) may allow for greater understanding and insight by stakeholders and decision makers within the system (Mehler et al., 2010).
With respect to wicked problems, workforce development local areas strive for the resolution of problems daily, and with a great deal of support from local, state, and federal levels of government (U.S. Government Accountability Office, 2012). These local areas also work toward the goals set forth in their local plans, as directed by the Workforce Innovation and Opportunity Act of 2014 (WIOA). However, the larger purposes set forth in WIOA, such as expanding employment opportunities for vulnerable populations, focusing on prosperity for workers and employers, meeting skill requirements of employers, and improving the quality of the workforce system (WIOA, 2014), are not being fulfilled.

Strategic management processes such as “analysis, development, planning, and implementation” (Eppler & Platts, 2009, p. 43) have been used to assist with both problem resolution and goal attainment in single organizations. However, due to the complexity of the system and its federally legislated purposes, this researcher thought that workforce development local area strategic management efforts would be better augmented with the use of systems thinking, design thinking, and a visual representation of the system. Therefore, a conceptual framework for this study included systems thinking, systems design, strategic planning, and visualization.

Purpose of the Study

The purpose of this study was twofold. The first purpose was to visually depict a local area workforce development system designed to fulfill the purposes of the Workforce Innovation and Opportunity Act using participants from the field of workforce development. The second purpose was to determine what, if any, utility such visualization would provide for workforce development professionals and board members in a local area with respect to strategic management processes.
Research Questions

To guide this study, the following research questions were asked:

1. What is the design of a workforce development system that fulfills its federally legislated purposes?
2. What, if any, utility does a visual representation of the system design provide to local workforce development professionals and board members with respect to strategic management processes?

Background and Significance

The public workforce development system has existed since the enactment of the first public law that created it, the Comprehensive Employment and Training Act of 1973 (CETA). Public laws typically contain purpose statements, which may be viewed as the reason(s) for why the law was enacted. As such, in this section what will first be discussed are the six purposes of the most recent workforce development system legislation, the Workforce Innovation and Opportunity Act (WIOA) of 2014. This will be followed by a discussion of the relevance of these purposes to the present state of labor, income inequality, and economic development in the United States.

Section 2 of the Workforce Innovation and Opportunity Act of 2014 states the law’s six purposes:

(1) To increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market.
(2) To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system in the United States.
(3) To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the
employers need to succeed in a global economy.

(4) To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers.

(5) To increase the prosperity of workers and employers in the United States, the economic growth of communities, regions, and States, and the global competitiveness of the United States.

(6) For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation. Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)

The complexity added to the workforce development system through this statement of multiple purposes provides further evidence for a systems perspective as well as the need for systems design to fulfill these purposes. To the professional practicing in the field, it might be assumed that the intention of the legislation is to place as a top priority those individuals with “barriers to employment,” (Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)) while perhaps authorizing local areas to give less attention to “improvement in the structure of and delivery of services” (Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)). Such a linear approach to the implementation of this legislation, however, may risk some or all of the six purposes of WIOA going unfulfilled. Conversely, applying a holistic approach to fulfilling the multiple legislative purposes as stated in the law may mean positively affecting societal issues such as skilled labor, income inequality, and economic development to support the “competitiveness of the United States” (Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)).

The fulfillment of these purposes has been an ongoing, unresolved issue of the workforce development system. The Association for Talent Development (2015) discussed skills gaps in
the United States, noting the growing gap in middle-skills jobs, defined as: “…jobs that require more than a high school degree but less than a four-year college degree” (Association for Talent Development, 2015, p. 4). The authors discussed potential reasons for the gaps, and included a lack of investment in training, a knowledge deficit due to retirements, rapid changes in business needs, students not choosing trades as occupations, or not obtaining soft skills in higher education (Association for Talent Development, 2015). Training for employment has been the cornerstone of workforce development legislation since the enactment of the Comprehensive Employment and Training Act (CETA) in 1973. Each law passed since then either contained training in its name or described it as a central activity.

Income inequality has been a growing trend in the United States since the late 1970s, according to an analysis conducted by the Congressional Budget Office (CBO, 2011). The CBO (2011) placed incomes into five quintiles, then added a separate, sixth category for the top 1% of incomes. Findings indicated that from 1979 to 2007, incomes increased for the top 1% by 275%; incomes increased by 65% for those in the uppermost quintile, the 81st to 99th percentiles; for those with incomes in the 21st to 80th percentiles, incomes increased nearly 40%; and for the lowest income earners, those below the 21st percentile, incomes increased 18% over that period (CBO, 2011).

The movement from one income category to another was the topic under study by Silvia et al. (2013), who referred to this movement as “economic mobility” (p. 68). The study reviewed the CBO report’s findings, noting that government assistance was a factor which decreased income inequality to some extent, but tighter federal budgets meant that it was not a reliable form of support (Silvia et al., 2013). In addition, studies suggested that assistance provided to people in lower income brackets to increase their economic mobility would in turn help to
increase labor, productivity, and long-term business growth (Silvia et al., 2013; Benner & Pastor, 2015). Promotion of the economic mobility of individuals within a workforce development system has not been articulated, but the legislation either refers to assisting those at an economic disadvantage (CETA, 1973; JTPA, 1982) and/or to individuals becoming economically self-sufficient (CETA, 1973; WIA, 1998; WIOA, 2014).

The U.S. Department of Commerce, Economic Development Administration, commissioned a report to examine the role of government in economic development (Feldman et al., 2014). The authors made a clear distinction between economic development and economic growth: “While economic growth is simply an increase in aggregate output, economic development is concerned with quality improvements, the introduction of new goods and services, risk mitigation and the dynamics of innovation and entrepreneurship” (Feldman, et al., 2014, p. 1). They also noted that economic growth and economic development differ with respect to focal priorities. With economic growth, they asserted, the focus is on the number of jobs; with economic development, the focus is on employees’ pay, potential for promotion, educational opportunities, the work environment, and the capacity for community support of individual and business development (Feldman et al., 2014). Economic development as a complement to workforce development is explicitly mentioned only in more recent legislation, such as the Workforce Investment Act (WIA) of 1998 and the Workforce Innovation and Opportunity Act (WIOA) of 2014, but the underlying assertion that government’s role is as support for the private sector has been evident since the first system legislation passed during the Nixon Administration (1969-1974) (Levitan & Zickler, 1975).

The systemic nature of workforce development has also evolved since CETA’s passage in 1973. With the passage of the Workforce Investment Act of 1998 (WIA) and the introduction
of one-stop delivery centers, the rhetoric of cross-organizational and cross-sector collaboration has become inherent to the daily operations of workforce development. The legislative language of both WIA and WIOA refers to the partnerships necessary to support “the workforce investment systems” (WIA, 1998, 29 U.S.C. § 2811 (1998)) and “the workforce development systems” (WIOA, 2014, 29 U.S.C. § 3101 (2018)).

The language used in the six purposes (or six-part purpose) of WIOA (2014) further advances the support of jobseekers and vulnerable populations by articulating the need to support “…particularly, individuals with barriers to employment….the increased employment, retention, and earnings of participants,” to “reduce welfare dependency,” and assist with employment that provides “family-sustaining wages” (Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)). The language of this law also furthers the notion of workforce development as a system: “To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system. … To promote improvement in the structure of and delivery of services through the United States workforce development system” (Workforce Innovation and Opportunity Act of 2014, 29 U.S.C. § 3101 (2018)).

The system of workforce development has evolved in major and minor ways over the past forty-five years. The requirements from the U.S. Department of Labor regarding local area plans have become more detailed, requiring a better understanding of strategic planning, plan implementation, and organizational principles for better service delivery. Strategic planning is the starting point, and is a necessary, but not sufficient, condition for the workforce development system to fulfill its legislative purposes. Given the complexities of the system, the varied nature of the populations served, and their diverse needs, the literature suggests a visual depiction of the
workforce development system may provide utility for its local area professionals and board members with respect to their systemic strategic efforts.

Considering the complexity, specificity, and systems approach of the current workforce law, and considering the assertion that the legislative purposes of workforce development have yet to be fulfilled, this research has two intentions. First, it is intended to understand the design of a local area workforce development system that fulfills its federally legislated purposes. Second, it is intended to determine the utility of a visual depiction for workforce professionals’ and board members’ use with systems design, strategic planning, strategic plan implementation, and other strategic management processes.

**Limitations**

The delimitations and limitations of this study were as follows:

1. Although this study concerns the public system of workforce development, and that system includes multiple levels of government, the focus was on the local level.

2. The local level involves many stakeholders, but the roles most responsible for and knowledgeable about strategic planning for a local area were chosen as participants for the modified Delphi survey panel: executive directors and board members of local area workforce development boards.

3. Strategic processes and systems design elements studied were limited to the regulatory structures, legal structures, governance structures, performance and accountability structures, and support structures as they affected local areas.

4. The survey and interview responses may have contained self-report biases. The purposive sampling and voluntary nature of participation in the study likely meant that those who
agreed to participate had pre-existing interest in workforce development planning and/or systems thinking.

5. The systemigram was reviewed by the 12 participants interviewed, rather than by all 18 participants who completed the modified Delphi study. The systemigram was not sent to participants to be reviewed autonomously because systemigrams can be difficult to understand. Storyboarding and dialogue are recommended steps in the methodology.

6. The systemigram is a model of the system, and therefore only an abstraction of the system. It is also a model of an “ideal” system as described by participants familiar with the real system and designed by the researcher.

Assumptions

The following assumptions were made during the course of this study:

1. The purposes of workforce development legislation were intended to be fulfilled.

2. The purposes of these Acts have not been fulfilled.

3. Participants had experience with strategic management processes (i.e., strategic planning) as part of their work with a local board.

4. Participants had an understanding of the public system of workforce development (e.g., a familiarity with the purposes of WIOA, the systems structures mentioned in the limitations section, the components included in the visual representation, etc.) sufficient enough to answer in-depth questions about it.

5. Participants based their responses on their experience and expertise in their relative fields as it applied to the system of workforce development.

6. Visualization has utility for strategic planning and strategic management processes.

7. Systems theory was the appropriate framework for this study.
Procedures

The procedures used in this research involved three phases. Phase One was a modified Delphi survey using professional executive directors and volunteer board members from the field of workforce development. The modified Delphi survey was used to ask executive directors and board members about changes they would make to the workforce development system so that it would fulfill the six purposes of the Workforce Innovation and Opportunity Act (WIOA) of 2014. The Delphi method was modified by presenting participants with pre-written statements to rank in Round 1, and by using future-based, policy, and normative approaches. The modified Delphi survey was conducted in three rounds. Participants’ survey responses in Phase One helped to answer the first research question about the design of a system fulfilling its federally legislated purposes. Responses to a question in Round 1 of Phase One also helped to answer the second research question about the usefulness of a visual depiction of the system for the local board’s strategic planning.

In Round 1, participants were asked to rank 18 statements describing changes to workforce development systems structures (regulatory, governance, performance and accountability, and support structures). The statements were developed by pilot study participants and the researcher. Participants were asked to rank their statement choices in order of importance to the fulfillment of the six purposes of WIOA: 1 being the most important to fulfilling the purposes of WIOA, and 18 being the least important. Participants were also asked to write explanations for their reasoning about their rankings. Participants were also given the opportunity to suggest additional statements. Answers to these questions were quantitatively analyzed or lightly edited, as appropriate, and included with the Round 2 questionnaire.
In Round 2, participants were again asked to rank the statements, including the additional statements created in Round 1. Participants were also asked to write explanations for their reasoning about their rankings. Data from ranked statements were quantitatively analyzed using Kendall’s coefficient of concordance. These data were given back to the participants and included with the Round 3 questionnaire.

In Round 3, participants received summary data from Round 2, and were again asked to rank the statements and to provide their reasoning. Participants were also asked about what they learned by participating in the study and for their participation in subsequent interviews. Summary data after Round 3 were distributed to participants and accompanied by concluding remarks on the study and expressions of appreciation for participants’ time and contributions.

Phase Two of the study concerned systems modeling. A system diagram was developed using the qualitative data collected during the modified Delphi survey. First, a definition of the workforce development system was created from those data. Then computer software was used to diagram the workforce development system according to that definition. Modeling of the system in Phase Two assisted with answering the first research question about the design of a workforce development system fulfilling its federally legislated purposes. The system diagram (‘systemigram’) was used during interviews conducted in Phase Three.

Phase Three of the study concerned post-survey interviews. Follow-up interviews were conducted with participant volunteers using the systemigram of an “ideal” local area workforce development system created in Phase Two. An explanation of the how the diagram was developed and how to read it was provided. Participants were then asked how they would revise the systemigram so that it would more thoroughly depict a system that fulfilled the six purposes of WIOA. Participants were also asked what, if any, utility such a visual depiction of a
workforce development system might have for local area strategic planning. Thus, Phase Three helped to answer both research questions: about the design of a system fulfilling its purposes, and about the utility of a visual depiction of the system in a local board’s strategic planning processes.

**Definition of Terms**

The following definitions are provided to assist with a clear understanding of the concepts used in this study:

**Block Grants** – Block grants are a form of federal funding that allows for greater end-user control. Kraft and Furlong (2015) defined block grants as: “Transfers of federal dollars to the states, where the states have substantial discretion in how to spend the money to meet the needs of their citizens” (p. 494).

**Categorical Grants** – Categorical grants are a form of federal funding that require adherence to relevant federal policies and regulations to receive the monies. Kraft and Furlong (2015) defined categorical grants as: “Transfers of federal dollars to the states where the funding must be used for specific purposes” (p. 494).

**Decentralization** – Within public administration, the definition of decentralization is as follows: “The transfer of policy authority from the federal government to the states” (Kraft & Furlong, 2015, p. 495).

**Design Thinking** – Gharajedaghi (2011) defined design thinking as “The ability to differentiate and integrate at the same time” and noted that “to design is to create an integrated whole from differentiated parts” (p. 138).

**Federalism** – According to Hickok (1990), federalism is a system of governance that includes the management and distribution of powers between federal and state levels; federalism began with
debates, continues to be debated, and as a result, has evolved over time. Hickok (1990) explicitly defined federalism as, “the allocation of governing authority between the national government and the governments of the states” (p. 216).

Systemigrams – Boardman and Sauser (2013), the creators of systemigrams, defined them as “systemic diagrams” and “maps to systemic problems” (p. 5). They also noted that with the presentation of systemigrams: “The ultimate goal is to engineer meaning for the viewer” (Boardman & Sauser, 2013, p. 109).

Systems – “Systems can be described as emergent or designed networks of interconnected functions that achieve an intended outcome” (Jones, 2014, p. 94).

Systems Thinking – “The process of understanding and reasoning how elements in a complex whole influence one another and lead to or result in system behaviors” (Spector et al., 2014, p. 963).

Workforce Development – “Workforce development is the coordination of public and private sector policies and programs that provides individuals with the opportunity for a sustainable livelihood and helps organizations achieve exemplary goals, consistent with the social context” (Jacobs & Hawley, 2009, p. 12).

Summary

This study was designed to address a gap in the literature concerning the strategic planning and systems design of workforce development systems. While several fields of study have conducted research on workforce development, there is no known research concerning the design of workforce development systems at the systems level. One goal of this study was to determine what a workforce development system designed to fulfill its legislated purposes would
look like, and the other goal was to examine the utility of a visual representation for workforce development professionals, volunteer board members, and their strategic management processes.

Further examination of the elements of workforce development, systems theory, systems design, strategic planning, and visualization will be reviewed in Chapter 2, the literature review. The modified Delphi method, systems modeling, and post-survey interviews will be discussed in detail in Chapter 3, methodology. Chapter 4 will provide a discussion of the results, and Chapter 5 will provide the conclusions and recommendations for further study.
CHAPTER 2
REVIEW OF LITERATURE

The aims of this research were to determine what a local workforce development system would look like if it were fulfilling the six purposes of WIOA, and what utility there might be for the use of a visual depiction of that system in strategic management processes. Supporting those aims, Chapter 2 is organized into several sections. First, the public system of workforce development is examined, paying particular attention to the history of regulatory and legislative structures, governance structures, performance and accountability structures, and support structures. In other words, the research question “What is the design of a workforce development system that fulfills its federally legislated purposes?” will be examined by first reviewing the history of these systems and their designs.

Next, a review of the literature concerning strategic planning in workforce development is conducted to determine where gaps in the literature may exist. The third section then describes the theoretical framework of systems theory. The fourth section follows with a review of studies suggesting the use of systems theory in strategic planning. The fifth section reviews studies conducted using visual representations in strategic management processes to support understanding of the utility of visualization in this area. The sixth section follows with a review of studies conducted using systemigrams. Finally, the limitations of the Delphi method and of the Boardman Softs Systems Methodology are discussed in preparation of the methods’ implementation, and the chapter is then summarized.
The Public System of Workforce Development

The public system of workforce development typically consists of three levels of government (federal, state, and local\(^1\)), along with nonprofit and community organizations, educational services and institutions, and local businesses representing in-demand industries. The system operates through state and local area boards located in all fifty states. There are ten states with state-level boards only, and 40 states with state-level boards plus local area boards. There a total of 525 local area boards across the United States and its territories (U.S. Department of Labor, n.d.-c). This research focused on local area boards rather than on state-level boards.

Each workforce development area receives funding distributed by the U.S. Department of Labor to state administrative entities for local area distribution. State-level workforce councils oversee planning and monitoring throughout the state. Local workforce development boards oversee local planning and implementation through the oversight of services provided by nonprofits, schools, and community organizations in local areas.

Local areas’ geographical boundaries are typically determined by the U.S. Department of Labor in concert with state governors and the approval of chief local elected officials. Local workforce board members are appointed by Chief Local Elected Officials (CLEOs or CEOs): board member candidates come from in-demand industries, relevant local and state government agencies, nonprofit organizations, and postsecondary education institutions (Workforce Innovation and Opportunity Act, 2014). Local area workforce development boards create budgets, contract with nonprofit organizations to provide jobseekers training and educational services, oversee the operations of the one-stop centers, and create the areas’ local plans.

\(^1\) As of this writing, there is one local area, the Nineteen Tribal Nations, that is operated by a consortium of Sovereign Tribal Governments, rather than by city or county governments.
Early Workforce Development Programs, Legislation, and Policies

Government involvement in the labor market began before the Great Depression with the authorization of federal funds for use in vocational education opportunities for young people (Mirengoff & Rindler, 1978). During the Depression, work hours and pay were regulated. Post-World War II legislation permanently acknowledged government’s “responsibility to promote maximum employment” (Mirengoff & Rindler, 1978, p. 1).

Mirengoff and Rindler (1978) noted that the design of workforce programs and services was always sensitive to the environment: “The specific design of manpower programs has, from the very beginning, been shaped by the prevailing economic, social, and political climate” (p. 2). The federal labor policy shifts of the 1960s were indicative of this environmental sensitivity, as equal opportunities and poverty reduction were the foci. Levitan and Zickler (1975) summarized the legislative efforts of the 1960s and early 1970s. They described the Manpower Development and Training Act of 1962 as “skill training,” the Economic Opportunity Act of 1964 as consisting of “antipoverty training and work experience programs,” and the Emergency Employment Act of 1971 as “public employment efforts” (Levitan & Zickler, 1975, p. 191).

Establishing a System of Workforce Development

Workforce development became a system of government services during the Nixon Administration (1969-1974) with the passage of the Comprehensive Employment and Training Act (CETA) of 1973 (Levitan & Zickler, 1975). That original system consisted of a network of partnerships with community organizations, connections with private businesses, and affiliations with educational institutions. Since 1973, there have been three other major pieces of workforce development system legislation intended to refine, restructure, and/or strengthen the system: The

Each iteration of the legislation reflected changes in the United States’ economy, labor market, and political ideology. Over the past forty-five years, demographics of local areas have shifted and elected officials have moved in and out of office. Employer needs have changed in accordance with the changing economy, and eligibility rules for participation in workforce programs have changed (Devine & Heckman, 1996). Finally, the federal requirements for local areas’ planning efforts have changed (Wilson & Rice, 1988).

The system of workforce development was originally intended to allow local government officials to have more authority and control over federally legislated programs and services, while they continued to support the needs of jobseekers (Levitan & Zickler, 1974; Mirengoff & Rindler, 1978). Initial legislation was considered mildly effective in achieving that aim (Levitan & Zickler, 1975), but as times changed, so did legislative intents. As the workforce development system grew in response to environmental changes such as technological and economic expansion, changes occurred in how local areas served jobseekers and employers (Mirengoff & Rindler, 1978), in particular, how each Act regulated, structured, and supported local areas.

These regulations, structures, and supports are relevant to developing a clearer understanding of the workforce development system and how a local area’s system might be designed to fulfill its purposes. The next section will describe relevant regulatory and legislative structures of workforce development systems. This will be followed by a discussion of governance, performance and accountability structures; and the review of systems structures will conclude with a discussion of the support structures provided to local areas in the form of technical assistance.
The Structural Design of a Workforce Development System

A review of the workforce development legislation (CETA, 1973; JTPA, 1982; WIA, 1998; WIOA, 2014) and the literature concerning workforce development legislation revealed several themes concerning systems design structures. These themes and structures comprise the organization of this section. The themes are primarily related to systems design and planning efforts of local workforce development systems and include: a) regulation of local areas by federal and state governments through laws and policies (referred to in this study as “Regulatory Structures”); b) the specific, federally legislated purposes of the system (referred to in this study as “Legislative Structures”); c) local area governance and management of service delivery (referred to in this study as “Governance Structures”); d) public accountability and performance (referred to in this study as “Performance and Accountability Structures”); and e) support of local areas through federal and state technical assistance (referred to in this study as “Support Structures”).

Regulatory Structures

With each iteration of workforce development system legislation, including amendments and rule-setting processes, the workforce system became more complex and intricate. The growing complexity of societal needs and resultant legislative goals was reflected in the internal elaboration of the text and regulatory specificity of each Act. The initial legislation (CETA, 1973) contained 45 pages, JTPA (1982) had 78 pages, WIA (1998) totaled 313 pages, and WIOA (2014) has 298 pages.

While workforce development laws, programs, and services have existed in the United States since the Great Depression, most programs that existed during the 1960s and early 1970s were structured so that the federal government worked directly with local service providers.
through categorical grants. The federal funds for programs operated during the Johnson Administration (1963-1969) were distributed in the form of categorical grants (Levitan & Zickler, 1975). Categorical grants provided federal funds for specific purposes (Rosenbloom et al., 2015) and included a form of direct, federal regulation of local programs and services.

The proliferation of the various categorical grants issued by the federal government and supplied to urban areas around the country drew both support and consternation from the Nixon Administration (1969-1974) and from some members of Congress. Opposition to the use of categorical grants for workforce development programs concerned the duplication of services in local areas and the resultant inefficiency and wasteful spending (Levitan & Zickler, 1974; Levitan & Zickler, 1975). The duplication of services translated to a duplication of federal funds.

The Nixon Administration (1969-1974) therefore changed the way federal funding was provided to state and local governments. Before Nixon, with categorical grants and their centralized distribution, federal funds came with more strings attached: federal control, in the form of regulations and policies. As part of Nixon’s “New Federalism,” and through a concept referred to as “revenue sharing,” the federal government instead provided funds to the states in a decentralized way and with fewer conditions, in the form of block grants (Rosenbloom et al., 2015, p. 114).

The **Comprehensive Employment and Training Act of 1973**. The Comprehensive Employment and Training Act (CETA) of 1973 was one of the first pieces of legislation to fund programs with block grants (Levitan & Zickler, 1975; Mirengoff & Rindler, 1978). Block grants were intended to fund local area programs without the federal restrictions and control that existed in categorical grants; ideally, thereby supporting choice and customization by giving control to those more familiar with the populations and programs at the local level. These block grants
were described in Title I of CETA: “CETA consists of six titles. The first provides the basic block grants to states and localities to allow them to design their own versions of skill training, job placement, and other employment programs for the unemployed and underemployed” (Levitan & Zickler, 1975, p. 192).

Amendments to CETA eventually led to the law containing eight titles (Mirengoff & Rindler, 1978), and led to assertions by some public policy scholars that the law was more of a “hybrid” of categorical grants and block grants (Barnow, 1993; Mirengoff & Rindler, 1978). McKinley (1979) summarized CETA as follows:

The Comprehensive Employment and Training Act (CETA) was hailed as the new, rational response to the preceding piecemeal manpower programs. CETA mandated decentralization of program administration through ‘unconditional’ revenue sharing providing federal funding for discretionary use by state and local governments. The law established general guidance for the use of these funds. Decisions about specific programs were to be made by state and local manpower officials after a comprehensive analysis had been made of local labor markets and goals stated based on the identification of relevant social needs. (p. 533)

McKinley (1979) discussed changes that occurred since CETA’s enactment with respect to federal funding. One of the primary intentions of CETA was to reduce the wasteful spending that both Congress and the Nixon Administration (1969-1974) agreed existed during the Johnson Administration’s (1963-1969) use of categorical grants. However, in 1968 the Johnson Administration spent an estimated $2 billion per year (spread across many federal workforce initiatives), while in 1979 Congress budgeted $10 billion per year for CETA spending: recipients of the additional monies were primarily the federally directed programs that were still funded by categorical grants (McKinley, 1979).

The Job Training Partnership Act of 1982. Concerns for potential loopholes in the law and how resources were allocated led to more amendments of CETA during the Carter Administration (1977-1981), and eventually to the passage of the Job Training Partnership Act of
1982 during the Reagan Administration (1981-1989). These amendments and new legislation were part of a shift away from cooperative federalism and a move toward coercive federalism (Barnow, 1993; Kincaid, 1990). Kincaid (1990) described coercive federalism as that “in which the federal government reduced its reliance on fiscal tools to stimulate intergovernmental policy cooperation and increased its reliance on regulatory tools to ensure the supremacy of federal policy” (p. 139).

Notable changes to the regulatory and legislative structures contained within JTPA were that the states (specifically, the office of the governor) had more authority and more duties, and were to monitor and certify local areas and local councils (Barnow, 1993). Other changes were that the private sector had a primary role in local area decision-making and that performance standards were to be set and met by local areas (Barnow, 1993). Training included basic skills and vocational training, and public service employment programs were not included in JTPA (Barnow, 1993).

Wilson and Rice (1988) did a study comparing administrators’ experiences of working with CETA programs and then shifting to operating under the new law, JTPA. They were especially interested in the difference between working with state agencies versus federal agencies as the primary overseers. They surveyed 19 of 31 areas in Ohio and conducted personal interviews. They found that administrators agreed that there were fewer federal requirements, but also noted that those had been replaced by a greater number of state requirements. Survey respondents also believed that the state was more restrictive and less understanding of local issues than the federal level of government had been (Wilson & Rice, 1988). The authors included an analysis comparing 1985 JTPA budget and unemployment numbers with those from 1976 of CETA, and determined that the previous CETA concentration of funds in urban areas
was substantially diminished: funds had been more widely distributed around the entire state (and away from urban areas) under JTPA (Wilson & Rice, 1988).

**The Workforce Investment Act of 1998.** More changes occurred in the U.S. economy that prompted amendments to JTPA (1982), and eventually led to the passage of the Workforce Investment Act (WIA) of 1998. Under WIA, some of the notable changes were that local areas were required to establish “one-stop centers” to provide core, intensive, and training services for customers, while local boards were required to select one-stop operators for the one-stop centers and include a board committee dedicated to youth programs and services (Beaulieu, 1999, p. 3). Collaboration among the agencies to be included in the one-stop centers was a topic of interest for researchers, as were the training services provided to jobseekers.

Hawley et al. (2005) studied the potential correlations between organizational collaborations in adult education services, workforce development, and businesses and the earnings of adult participants in WIA. They used a mixed-methods design, including existing program data, surveys of adult education administrators, and interviews with adult education administrators. Their findings indicated that strength and formality of collaborations were positively correlated with increased quarterly earnings for workers (all quarterly dollar amounts were below $300 with higher earnings going to white men) (Hawley et al., 2005).

Melendez et al. (2015) conducted longitudinal case studies of three regional workforce development organizations. Regional collaborations were discussed initially within the framework of Workforce Innovation in Regional Economic Development (WIRED) grants supplied by the George W. Bush Administration (2001-2009) in 2005 (Melendez et al., 2015). Their findings indicated that the two more successful of the three areas utilized one organization
to oversee the funds and administration of the region, while the less streamlined and collaborative regional organization did not have such authority (Melendez et al., 2015).

Nisbet et al. (2017) discussed their qualitative study of four states’ local workforce areas. They examined the boards’, directors’, and case managers’ perspectives on supporting higher education completion as a workforce training activity. They found there were three WIA policies that impeded the use of higher education completion: Individual Training Accounts, High-Demand Occupations, and the strength of a local area’s relationship with higher education institutions (Nisbet et al., 2017).

**The Workforce Innovation and Opportunity Act of 2014.** The funding provided by the Workforce Investment Act of 1998 needed to be reauthorized by the U. S. House of Representatives, but the reauthorization was stalled; in part due to concerns over government spending (U. S. House of Representatives, 2011). Prior to the Workforce Innovation and Opportunity Act becoming law, Republican members of the House Subcommittee on Higher Education and Workforce Training held hearings over a two-year period. The hearings included testimony from executives and leaders in the workforce development system who made recommendations about ways to improve the existing legislation (the Workforce Investment Act of 1998), and to make the system work better for both jobseekers and employers (U. S. House of Representatives, 2011). The Director of Workforce Development in the state of Utah provided input, stating, “We do not need stand-alone systems. We need an integrated model so that we can serve these different populations. But at the end of the day we have to be competitive. … And we have got to let businesses tell us what they need so we can respond quickly and get people back to work” (U. S. House of Representatives, 2011, p. 35).
Putting together new legislation that would refocus, realign, and redesign the workforce development system involved several policy actors. Primary actors were Republicans from the House of Representatives, including the original H.R. 803 author, Virginia Foxx, Ed.D. (Congress.gov, 2014). Dr. Foxx was the Chairperson for the Subcommittee on Higher Education and Workforce Training and was therefore a committee member on the House Committee for Education and the Workforce (Congress.gov, 2014). Another policy actor was the Chairperson of the Committee for Education and the Workforce, also a Republican: Representative John Kline of Minnesota (Congress.gov, 2014). Congressman Kline’s remarks at the markup of the bill in the House of Representatives included, “We can no longer afford to postpone job training reform. President Obama has urged us to turn the ‘unemployment system into a re-employment system’” (Education and the Workforce Committee, 2013, para. 6).

During the two-year research period, Congressional committees also utilized the Government Accountability Office to research local area workforce development agencies around the country to discover how they obtained their employer data and what issues they had in filling jobs for employers (U.S. Government Accountability Office, 2013). Partial results of this research described the U.S. Department of Labor’s support of an initiative (now in place in the new law) called Career Pathways. Career Pathways initiatives help clarify the process of assisting less educated jobseekers and create a stronger bridge to filling the talent pipeline for employers (U.S. Government Accountability Office, 2013).

After this research was conducted and hearings were held, Representative Foxx put forth the resulting legislation, H.R. 803, with twenty-three House Republican co-sponsors (Congress.gov, 2014). Once passed in the House, the bill was sent to the Senate where minor
amendments were made. The most notable amendment was to rename the bill the Workforce Innovation and Opportunity Act (Congress.gov, 2014).

Support for the work Congress performed on the new legislation included backing from labor unions, the private sector, and advocacy groups for vulnerable populations (U.S. Senate Committee on Health, Education, Labor, & Pensions, 2014). Once the bill was passed in the Senate and support from interest groups grew, the House easily passed the Workforce Innovation and Opportunity Act with votes from both parties. The bill was signed into law by President Obama on July 22, 2014 (Congress.gov, 2014).

**Legislative Structures: Preambles and Purposes**

Workforce development legislation has evolved since 1973, as demonstrated by the specificity and lengthy detail articulated in the Workforce Investment Act of 1998 and the Workforce Innovation and Opportunity Act of 2014. However, an examination of the preambles of each of the four Acts indicates that the intentions of legislators have remained consistent over the years: to provide training and education for employment to those who need it. The preambles of each Act are listed in Table 1.

|-----------------------------------------------------------|
These initial statements indicate the subject of each piece of workforce legislation and briefly describe what the law is about. Within each law, below the preamble and the table of contents, is the law’s stated purpose: why it was written and whom it was intended to serve. In the early years of workforce development legislation, the stated purposes of CETA (1973) and JTPA (1982) were similar: both laws were enacted for the purposes of helping those at an economic disadvantage, along with other unemployed populations (CETA, 1973; JTPA, 1982). The purposes of CETA and JTPA are included in Table 2.

Table 2. Purposes of CETA (1973) and JTPA (1982)

<table>
<thead>
<tr>
<th>Statement of Purpose</th>
<th>CETA (1973)</th>
<th>JTPA (1982)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is the purpose of this Act to provide job training and employment opportunities</td>
<td>It is the purpose of this Act to establish programs to prepare youth and</td>
<td>It is the purpose of this Act to establish programs to prepare youth and unskilled adults for entry into the labor force and to afford job</td>
</tr>
<tr>
<td>for economically disadvantaged, unemployed, and underemployed persons, and to</td>
<td>unskilled adults for entry into the labor force and to afford job training</td>
<td>training to those economically disadvantaged individuals and other individuals facing serious barriers to employment, who are in special need of such training to obtain productive employment.</td>
</tr>
<tr>
<td>assure that training and other services lead to maximum employment opportunities</td>
<td>to those economically disadvantaged individuals and other individuals facing</td>
<td>JTPA, 1982, 29 U.S.C. § 1501 (1994)</td>
</tr>
<tr>
<td>and enhance self-sufficiency by establishing a flexible and decentralized system of</td>
<td>serious barriers to employment, who are in special need of such training to</td>
<td></td>
</tr>
</tbody>
</table>

As noted in the stated purpose of CETA (1973), one reason the law was written was to form a system. According to Levitan and Zickler (1975), at the same time the system was formed, the law also worked to fulfill its unstated purpose: “legislatively decentralization” (p. 192). The rhetoric of JTPA’s (1982) purpose further refined its predecessor’s legislation. Specific modifications to the language concerning populations served by the law included prominent attention paid to youth and the first mention of people “facing serious barriers to employment” (JTPA, 1982, 29 U.S.C. § 1501 (1994)).
In the more recent legislation, WIA (1998) and WIOA (2014), the purpose statements became more detailed and more complex. In the Workforce Investment Act of 1998, adult education was included as part of the workforce development legislation (as Title II) and contained its own purpose statement. As a result, Titles I and II of WIA (1998) had two separate purpose statements rather than one overall statement of purpose.\(^2\) The purposes of WIA and WIOA are listed in Table 3.

Notable shifts in the WIA and WIOA purpose statements concerned language about producing results with and for customers. The intention of the Workforce Investment Act of 1998 to “increase the employment, retention, and earnings” (WIA, 1998, 20 U.S.C. § 9201 (1998)) of jobseekers was a subtle shift from previous laws. With the addition of adult education and literacy in Title II of WIA, the purpose indicated a longer-term system focus than had existed with previous legislation.

The Workforce Innovation and Opportunity Act of 2014 also had a separate purpose statement for Title II, but elected to state an overall purpose as well, in six parts. The ambitious and inclusive language of the multi-part purpose addressed the workforce development system, the need to increase earnings of jobseekers, provide quality employees to employers, and the need to enhance the country’s economic competitiveness (WIOA, 2014). The purposes of WIA (1998) and WIOA (2014) are more intricate and complex than CETA (1973) and JTPA (1982), and seem to suggest working toward longer-term goals, such as that of an educated workforce contributing to the betterment of local communities and the country as a whole.

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\(^2\) Title IB is the primary title of interest to this dissertation, and therefore is the specific purpose statement included in Table 3, WIA (1998) column.
Table 3. Purposes of WIA (1998) and WIOA (2014)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Title IB: Workforce Investment Services. The purpose of this subtitle is to provide workforce investment activities, through statewide and local workforce investment systems, that increase the employment, retention, and earnings of participants, and increase occupational skill attainment by participants, and, as a result, improve the quality of the workforce, reduce welfare dependency, and enhance the productivity and competitiveness of the Nation. (WIA, 1998, 29 U.S.C. § 2811 (1998))</td>
<td></td>
<td>The purposes of this Act are the following: (1) To increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market. (2) To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system in the United States. (3) To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the employers need to succeed in a global economy. (4) To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers. (5) To increase the prosperity of workers and employers in the United States. (6) For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation. (WIOA, 2014, 29 U.S.C. § 3101 (2018))</td>
</tr>
</tbody>
</table>

3 Title II of both WIA and WIOA refers to the Adult Education and Family Literacy Act. The initial language used in Title II of WIOA is virtually identical to WIA’s Title II language. Additional language of WIOA’s Title II concerns postsecondary education, career pathways, English language learners, mathematics, and civics education.
After the preambles and purposes of the laws, each of the Acts describes how the law will be carried out, how much money will be allocated and by whom, and when the law would go into effect (CETA, 1973; JTPA, 1982; WIA, 1998; WIOA, 2014), allowing public resources to be used. The organization and arrangement of the text of each law occurs through its Titles. The organization through titles is discussed in the next section on governance structures.

**Governance Structures**

Aside from a Congressional concern about the inefficiencies of workforce development services was a concern for the *effectiveness* of those services. It was determined that control over workforce development services needed to be decentralized from the federal level of government to the states and local areas (Levitan & Zickler, 1975). The many outcomes from decentralization concern the governance of the workforce development system.

Local control, input, and oversight of workforce development in areas across the country were first provided by the Comprehensive Employment and Training Act of 1973 to local elected officials (referred to as “Prime Sponsors”) and a volunteer governing board called a “Planning Council” (CETA, 1973). Local elected officials were eligible to become Prime Sponsors if their geographical area had a population of at least 100,000 people. In some cases, state governors or a conglomerate of local governments were the Prime Sponsors (CETA, 1973).

The Job Training Partnership Act of 1982 had the same governance structure: local elected officials and a volunteer board called a “Private Industry Council” (JTPA, 1982). The Workforce Investment Act of 1998 also used that structure but called their local area boards “Workforce Investment Boards” (WIA, 1998). In the Workforce Innovation and Opportunity Act of 2014, the local boards are called “Local Workforce Development Boards” (WIOA, 2014).
During the time of CETA (1973), it was the chief local elected officials, as “Prime Sponsors,” (“Prime Sponsor’s Planning Councils,” p. 843) who were responsible for preparing and submitting a strategic/local plan for their area. Beginning with JTPA (1982), that responsibility fell to the local board, or “Private Industry Council” (29 U.S.C. § 1513 (1994)). Strategic planning has remained the responsibility of the local area board ever since.

Table 4. Primary Functions of Local Area Councils and Boards: 1973-2014

<table>
<thead>
<tr>
<th>Council/Board Name</th>
<th>Planning Council</th>
<th>Private Industry Council</th>
<th>Workforce Investment Board</th>
<th>Local Workforce Development Board</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Council/Board Functions</strong></td>
<td>-Make recommendations about the plan, goals, and policies; -Monitor/evaluate programs; -Ongoing analyses of employment and training needs. (CETA, 1973, p. 843, “Prime Sponsor’s Planning Councils”)</td>
<td>-Provide policy guidance; -Exercise oversight in partnership with local elected officials…; -Determine procedures for the development of the job training plan…; -Select as a grant recipient and entity to administer the job training plan…; -Prepare a budget…; -[May] incorporate, and solicit and accept contributions and grant funds. (JTPA, 1982, 29 U.S.C. § 1513 (1994)).</td>
<td>-Local plan; -Selection of operators and providers; -Selection of One-Stop Operators; -Identification of eligible providers; -Budget and administration; -Program oversight; -Negotiation of local performance measures; -Employment statistics system (assist governor and Wagner-Peyser); -Employer linkages; -Connecting, brokering, and coaching. (WIA, 1998, 29 U.S.C. § 2832 (1998)).</td>
<td>-Local plan; -Regional labor market analysis; -Convening, brokering, leveraging; -Employer engagement; -Career Pathways development; -Proven and promising practices; -Technology; -Program oversight; -Negotiation of local performance accountability measures; -Selection of operators and providers -Coordination with education providers; -Budget and administration; -Accessibility for individuals with disabilities. (WIOA, 2014, 29 U.S.C. § 3122 (2018)).</td>
</tr>
</tbody>
</table>
Local workforce development boards are one of the primary entities of a local area. These are volunteer boards, and they work in partnership with other primary systems entities such as local elected officials, government agencies, educational organizations, businesses, and nonprofit/community organizations to provide employment-related training to jobseekers and to provide local employers with skilled workers. Therefore, these partnering entities work together to serve dual customer bases of jobseekers and employers. The other responsibilities and functions of local area boards or councils (as they evolved over the years) are depicted in Table 4.

As Levitan and Zickler (1975) noted, the shift in authority from the federal government to state and local levels of government was “a first attempt in legislating decentralization” (p. 192). The hope was that the Comprehensive Employment and Training Act of 1973 would reduce the wasteful spending and increase the effectiveness of programs through shared authority at the federal, state, and local levels. Locally based programs were delivered in accordance with the law, arranged by each law’s Titles. A review of the Titles of each Act portrays the broad view of how Congress intended services to be delivered (and the legislative purposes to be addressed). The various titles of each Act are described in Table 5.

Under Title I, workforce development programs and services have been the focus. Training programs and services for jobseekers were described and supported under this Title in all four Acts. As Mirengoff and Rindler (1978) noted about workforce development under Title I of CETA: “The assumption that employment and training programs will assist in the development of human capital is still the fundamental premise of the structurally oriented programs of Title I” (p. 6).
Under Title II, approaches to serve the most vulnerable populations varied. CETA (1973) chose to offer government jobs to employ those in need. JTPA (1982) focused on training for those in need. WIA (1998) and WIOA (2014) both concentrated their efforts on educating those in need. Title III programs, services, and foci also differed across the four Acts. CETA (1973) grouped all programs serving vulnerable populations under this title. JTPA (1982) used Title III to serve dislocated workers, or those laid off from their previous employment. WIA (1998) and WIOA (2014) both supported employment services through amendments to the Wagner-Peyser Act under Title III.

Table 5. Title Descriptions of Workforce Development System Legislation: 1973-2014

<table>
<thead>
<tr>
<th></th>
<th>Title I</th>
<th>Title II</th>
<th>Title III</th>
<th>Title IV</th>
<th>Title V</th>
<th>Title VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>JTPA (1982)</td>
<td>Job Training Partnership</td>
<td>Training Services for the Disadvantaged</td>
<td>Employment and Training Assistance for Dislocated Workers</td>
<td>Federally Administered Programs</td>
<td>Miscellaneous Provisions</td>
<td>N/A</td>
</tr>
<tr>
<td>WIOA (2014)</td>
<td>Workforce Development Activities</td>
<td>Adult Education and Literacy</td>
<td>Amendments to the Wagner-Peyser Act</td>
<td>Amendments to the Rehabilitation Act of 1973</td>
<td>General Provisions</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Similarly, with Title IV, primary differences existed between the earlier Acts. CETA (1973) brought Job Corps into the workforce development system in its Title IV, while JTPA (1982) included Job Corps with other “Federally Administered Programs” serving vulnerable populations. WIA (1998) and WIOA (2014) included Job Corps under Title I. As the later Acts
demonstrated with other Titles, WIA (1998) and WIOA (2014) both contained amendments to the Rehabilitation Act in their versions of Title IV. These amendments assisted in addressing the needs of those with disabilities by officially bringing vocational rehabilitation into the workforce development system.

*Performance and Accountability Structures*

Workforce development funds are authorized by Congress, distributed by the federal level of government to the states, then distributed by states to the local areas for the procurement and delivery of programs and services (Levitan & Zickler, 1975). These funds have legally prescribed intents, and lawmakers and regulators concerned with the performance and accountability of local areas, states, and the federal level of operations have the authority to oversee their work on behalf of the public. Federal funds are limited resources. Therefore, the performance and accountability of local areas with respect to the use of funds are important variables in efficient and effective operations (Levitan & Zickler, 1974) as well as for the fulfillment of the federally legislated purposes.

*The Comprehensive Employment and Training Act of 1973 (CETA).* A large study conducted on CETA, produced by Mirengoff and Rindler (1978) and published by the National Academy of Sciences, included the participation of “28 prime sponsors” or workforce development service delivery areas, and spanned approximately three years (p. xi). The purpose of the study was to determine the effectiveness of workforce development programs in Title I as compared to previous categorical programs.

Findings indicated that under CETA, management, accountability, and planning improved somewhat over the categorical approach previously used (Mirengoff & Rindler, 1978). However, job placements were lower compared to previous programs, and the participants in
CETA were more self-sufficient than they were in previous programs (Mirengoff & Rindler, 1978). The difficulties faced by workforce development areas were summarized in a statement by the authors: “The dilemma of manpower policy is its seemingly paradoxical emphasis on job placement, while it urges the enrollment of the least employable” (Mirengoff & Rindler, 1978, p. 6).

Performance and accountability during the early years of CETA became known issues. Wachter (1978) asserted that the Comprehensive Employment and Training Act of 1973 was not training workers for employment, but rather was merely employing low-skilled workers in public service jobs. He argued that the law was merely providing temporary employment to those who wanted to earn more than they could by receiving welfare, and that the policy would likely lead to inflation (a primary concern at that time). Wachter’s (1978) concern was that CETA was being used to provide more jobs to unskilled workers in public service positions, without delivering training. Wachter (1978) proposed training unskilled workers for employment in the private sector and promoted providing them high enough wages to make the wages more appealing than welfare payments.

Congress wanted to help ensure that public programs and services were both efficient and effective, and that public funds were spent as they were intended; therefore, workforce development areas were audited. Auditors were typically employed through the U.S. General Accounting Office (GAO), later renamed the Government Accountability Office, or the U.S. Department of Labor’s Office of Inspector General (OIG). The Office of Inspector General did not officially exist until 1978 (U.S. Department of Labor, 1979), and during the earlier years of CETA audits were not regularly conducted.
The first semiannual report of the Department of Labor’s Office of Inspector General (OIG) primarily discussed ways in which the Employment and Training Administration could better manage local areas and the audits’ findings (U.S. Department of Labor, 1979). The report authors initially discussed administrative items, such as the need for a better system to manage information, and the use of computers to simplify the more complex audits in the future. In the report’s section covering investigations, there were findings of fraud and embezzlement, and the results of criminal prosecutions of a few people involved with workforce development (U.S. Department of Labor, 1979).

**The Job Training Partnership Act of 1982 (JTPA).** As with CETA, a large study of JTPA’s effectiveness was procured by the U.S. Department of Labor: The National JTPA Study. Bloom et al. (1997) were researchers for the study and summarized their findings in an article published in *The Journal of Human Resources.* The National JTPA Study included 16 local areas, nearly 16,000 participants, and used randomized assignment in its design, delaying program participation of those in the control group by 18 months (Bloom et al., 1997).

The JTPA study included a cost-benefit analysis to help determine whether the programs and services offered to jobseekers were worth more than the cost to deliver them. Findings from The National JTPA Study indicated that “a modest positive impact” occurred in earnings for both women and men who participated in JTPA programs, but no such impact occurred for youth (Bloom et al., 1997, p. 556). The overall results from the cost-benefit analysis indicated that the net benefits to “society as a whole” and to adult participants were positive, but to youth they were neutral to negative (Bloom et al., 1997, p. 572).

Additionally, the authors studied whether JTPA affected participants’ General Educational Development (GED) completion. They noted that participation in JTPA had a
statistically significant impact for women and female youth, and a positive impact for adult men. All three groups had completion rates at least ten percentage points higher than their respective control groups (Bloom et al., 1997).

During the years JTPA was active, Devine and Heckman (1996) discussed the inequities of JTPA’s rules for participant eligibility. One of their main points was that the rules favored the poor and unemployed but discouraged or even excluded the working poor (Devine & Heckman, 1996, p. S100-S101). Another point was that family income was the determining factor, rather than individual income, and that “family” was implicitly intended to mean a steady, traditional unit in society (Devine & Heckman, 1996, p. S102). The authors’ conclusions about the correlation between policy rules and program performance were straightforward: “In general, the JTPA eligibility rules produce outcomes that are inequitable. Our approach emphasizes that program allocation rules may be efficient screening devices for attaining a particular objective, but efficient rules may be inequitable” (Devine & Heckman, 1996, p. S103).

Lawmakers had grown concerned with unresolved issues from the implementation of CETA and how to resolve them during the implementation and management of JTPA. In 1984, Senator Sam Nunn requested that the U.S. General Accounting Office review fraud and abuse cases during all of the CETA program years. Senator Nunn asked that the GAO provide recommendations to assist in the prevention of such fraud and abuse occurring in JTPA programs (U.S. General Accounting Office, 1984).

The General Accounting Office’s review of previous Office of Inspector General audits and investigations revealed that most issues concerned program delivery at the local level, involved contractors who provided services, and resulted from a lack of internal controls (U.S. General Accounting Office, 1984). In the introduction to its report, the General Accounting
Office (1984) implied that the issues experienced under CETA with local entities were likely already remedied due to JTPA’s new structure. Under JTPA, “…the 57 states and territories replaced cities, counties, and consortia as the grantees responsible for direct oversight of the subgrantees,” and that, “An important similarity between JTPA and CETA is that most funds are spent at the local level by locally-based program delivery systems” (U.S. General Accounting Office, 1984, p. i).

The Office of Inspector General (OIG) within the U.S. Department of Labor initially drew attention to incidents of fraud and waste of JTPA funds in September of 1987 (U.S. Department of Labor, 1988, p. 15). Within the semiannual report, several examples of cases adjudicated were described as instances of fraud against the federal government to abscond with JTPA funds (U.S. Department of Labor, 1988, p. 53-54). The OIG implied that the use of time and expertise of its officers for criminal investigations was an unnecessary and inefficient use of resources (U.S. Department of Labor, 1988):

> The problems relating to the Job Training Partnership Act (JTPA) program have created many new challenges for OI [Office of Investigations] Special Agents. Poorly written contracts, lack of uniform substantive program regulations and administration, the disparity in the implementation of regulations and reporting requirements, and other problems associated with combating fraud and waste have been previously reported. Little has been done to correct these administrative problems. (p. 53)

The oversight and monitoring that had been decentralized under JTPA and shifted to the states was found to be inadequate. As GAO authors noted: “State agencies, which have the primary responsibility for overseeing JTPA implementation, often failed to identify improper reporting of costs, questionable uses of on-the-job training, and inadequate procurement practices occurring at the SDAs [service delivery areas] included in our review” (U.S. General Accounting Office, 1991, p. 30). Several instances of misuses of public funds were discovered over a ten-month audit of six states and 12 local areas.
The conclusion with respect to federal government involvement was: “Labor’s oversight has been limited to providing broad policy guidance with limited technical assistance and scrutiny of program implementation. As a result, problems at the state and local levels were not detected” (U.S. General Accounting Office, 1991, p. 34). The findings led the General Accounting Office to recommend greater oversight by the Department of Labor to support the states’ monitoring of local areas with respect to the proper allocation of funds, such as internal funds used for such expenditures as salaries, as well as procurement of service delivery contracts for training (U.S. General Accounting Office, 1991).

**The Workforce Investment Act of 1998 (WIA).** The performance of local areas during the Workforce Investment Act was also examined through an extensive study procured by the Department of Labor, Employment and Training Administration (Fortson et al., 2017). Known as “The WIA Gold Standard Evaluation,” researchers examined the effectiveness of Adult and Dislocated Worker Programs through a randomized experiment involving 28 of the local areas and 34,429 participants (Fortson et al., 2017, p. v). The 28 local areas’ participants were randomly assigned to receive one of three levels of service: core, intensive, or full (including training) to help determine whether training programs assisted job seeking adults achieve results. Some of the findings indicated that: “Providing WIA-funded training did not increase earnings or employment rates in the 30 months after random assignment” (Fortson et al., 2017, p. 67). However, participants in the intensive services group, who received one-on-one case manager and staff support, did see increases in earnings.

Researchers also conducted a cost-benefit analysis. They found: “Providing training funded by the Adult and Dislocated Worker programs does not produce positive net benefits for customers, taxpayers, or society as a whole over the 30-month study period” (Fortson et al.,
2017, p. 117). However, the study was conducted after the recession of 2007-2008, with most data collection occurring during 2012 when many areas were still experiencing high unemployment (Fortson et al., 2017).

The authors noted the findings did not necessarily mean that training was ineffective. A factor that may have affected the results was a large reduction in the amount of federal funding for training during the years the study occurred (Fortson et al., 2017). The goal of the study was to examine training for adult and dislocated workers (Fortson et al., 2017), similar to the studies conducted on CETA (Mirengoff & Rindler, 1978) and JTPA (Bloom et al., 1997), rather than to examine the workforce development system and its effectiveness.

The differences between WIA and JTPA were discussed in a report to the Senate Subcommittee from the Director of Employment, Safety, and Training at the U.S. General Accounting Office (Nilsen, 2002). The director’s statement contained references to surveys, interviews, and data collected during site visits over the previous two years. The results concerned how well recipients of cash assistance through Temporary Assistance for Needy Families (TANF) programs and their required employment services were coordinated through the Workforce Investment Act’s workforce development “one-stop system” (Nilsen, 2002, p. 1).

Nilsen (2002) first provided context for his statement by discussing the primary differences between JTPA and WIA: a) that WIA focused on “providing services to the general public;” b) that WIA required areas to coordinate workforce development services with other government services in “a centralized service delivery structure – the one-stop center system;” c) that WIA services no longer emphasized training as the only solution, but rather offered three levels of service (core, intensive, and training); and d) that WIA focused more on measuring local area performance, with an emphasis on job obtainment and retention (p. 3-4). With respect
to the coordination of workforce development services and TANF, Nilsen (2002) noted, “Forty-four states reported that most of their one-stop centers had informal linkages” (p. 7). However, drawbacks to the Workforce Investment Act included its performance measures (Nilsen, 2002) that seemed to encourage the practice of serving clients needing fewer services to obtain and/or maintain employment; which in turn meant less service focus on those who needed more support, such as TANF clients. Other structural issues Nilsen (2002) noted persist today: issues with various federal reporting requirements; reluctance to share information due to the confidentiality of clients’ information; and government organizations using different, “incompatible” computer software programs (p. 13).

Beyond structural limitations that had the potential to thwart the collaboration WIA encouraged, Nilsen (2002) noted some contextual and communication issues that made meaningful coordination difficult: the way different federal agencies operationalized “work” or “self-sufficiency” (Nilsen, 2002, p. 15). Even slight variations in how agencies defined and tracked performance created confusion and frustration for state and local administrators. As Nilsen (2002) stated to Congress:

For example, one state official was concerned that the state TANF agency was focused more on meeting work participation rates than on designing programs that might help TANF clients become self-sufficient. WIA, on the other hand, has a different set of performance measures geared toward client outcomes, including the degree to which clients’ earnings change over time and whether or not clients stay employed. (p. 15)

It was during the Workforce Investment Act of 1998 that local areas began to work directly with employers as potential suppliers of employment opportunities, and began to view workforce development services from both clients’ perspectives (jobseekers’ and employers’), and cultivated customer service attitudes and environments in the one-stop centers (Nilsen, 2002).
During the years the Workforce Investment Act of 1998 was in effect (1998-2014), the GAO and OIG continued their evaluations, despite the technology bubble, 9/11 attack, and the recession. Some audits concerned the spending of funds that were part of the post-recession Recovery Act (U.S. Department of Labor, 2014; U.S. Department of Labor, 2017), to ensure that monies were spent as intended. The findings showed local areas were in compliance (U.S. Department of Labor, 2014; U.S. Department of Labor, 2017) and included recommendations for improvements (U.S. Department of Labor, 2017).

**Support Structures: Federal and State Technical Assistance**

With each new iteration of legislation, oversight and regulation seemed to be the preferred remedies. Technical assistance became more important as more issues arose during the implementation of workforce development legislation. The U.S. Department of Labor (DOL) and its Employment and Training Administration (ETA) sought ways to support the local areas with efficiency and effectiveness.

In the Office of Inspector General’s first semiannual report (U.S. Department of Labor, 1979) was a letter from the Secretary of Labor addressing then Senator Walter Mondale. The Secretary assured Senator Mondale the Department of Labor was in action about the findings in the report, and that the ETA was in the process of establishing “independent monitoring units within each of the more than 450 CETA prime sponsors. In this way, greater assistance can be given to the program so that they can exert their own controls on their own funds before problems develop” (U.S. Department of Labor, 1979, p. 4).

During the JTPA years, the GAO (1984) also stressed the role of Private Industry Councils (PICs) and the inclusion of business representatives in their membership as an aspect of managing accountability and performance. The GAO authors (1984) noted: “PICs play a key role
in JTPA because they are responsible for SDA [Service Delivery Area] monitoring and oversight, setting policy, and providing guidance with respect to activities relating to the job training plan in the SDA” (p. 2). The report authors (GAO, 1984) also noted this response:

“Labor further stated that because the administration of JTPA is essentially a state function, its review mechanism and guides focus on state systems and procedures to assure compliance” (p. 17). With respect to monitoring and program management going forward, the GAO authors (1984) noted:

The Job Training Partnership Act requires oversight and monitoring at the federal, state, and local levels. … In addition, various organizations within each state, including PICs, chief local elected officials, and the state job training coordinating councils, must monitor and oversee the local operation of JTPA programs. … The JTPA requires strong internal controls with specific oversight responsibilities for the states. … In addition, the legislation requires the chief local elected officials, the private industry councils, and the governors, to review and approve local controls of SDA organizations described in job training plans. (p. 13)

During the recent recession years, WIA was in effect (1998 – 2014), and the Office of Inspector General audited local areas’ spending of post-recession funds. The OIG (2014) report determined that funds were spent as intended, and that jobseeker participation rates increased during the recession. Findings also indicated that while participation numbers and rates increased dramatically during the recession, the results were much lower after the funding levels returned to lower, pre-recession levels. The authors (U.S. Department of Labor, 2014) concluded, “Higher participation combined with limited funds strained the system as a whole” (p. 6). The Employment and Training Administration’s response to the OIG’s report was similar to the Department of Labor’s response to other reports (U.S. Government Accountability Office, 2012; U.S. Government Accountability Office, 2013): “ETA stated it recognized some local areas could benefit from technical assistance. … ETA said it would provide such assistance, as needed” (U.S. Department of Labor, 2014, p. 3).
The preceding review was intended to assist with examining the research question: What is the design of a workforce development system that fulfills its federally legislated purposes? Reviewing how the system was and is designed may help with understanding how to design a more effective system. The next sections on strategic planning, systems theory, visualization, and systemigrams will further explore that question as well as this question: What, if any, utility does a visual representation of the system design provide to local workforce development professionals with respect to strategic management processes?

**Strategic Planning in the Workforce Development System**

Planning has been challenging for workforce development, even before its formulation as a system. Mirengoff and Rindler (1978) noted the improvements and inherent difficulties in their longitudinal report on CETA:

> The process and substance of local planning for manpower programs has improved, although it is still largely a routine for obtaining funding. A large majority of the local planning councils are passive. But a significant number are quite active, and there is substantially more local participation in decision making than there was in the pre-CETA period. (p. 9)

In a report about the Workforce Innovation and Opportunity Act of 2014 and how it differed from the Workforce Investment Act of 1998, the Government Accountability Office authors (2016) noted, “Among other changes, WIOA requires greater coordination of strategic planning, services, and performance measurement. Specifically, WIOA includes new requirements for state workforce development plans” (p. 1). The report authors conducted case studies in five states. They described the ways each state approached the state planning elements of career pathways, industry sectors, and regionalization (U.S. Government Accountability Office, 2016). The results included information from interviews with state board members and state agency staff, and a review of documentation.
Strategic planning guidelines on page seven of the report (U.S. Government Accountability Office, 2016) referenced a previous GAO report issued in June of 1996. The 1996 GAO guide explained the importance of strategic planning, setting goals, and using performance data to guide continuous improvement that aligned with the agency’s mission (U.S. General Accounting Office, 1996). The guide authors noted the importance of identifying missions and what to base missions on: “Each plan must include a comprehensive mission statement based on the agency’s statutory requirements” (U.S. General Accounting Office, 1996, p. 13).

Concerning the 1996 planning elements, GAO authors (2016) asserted that: “Under WIOA, states are required to address all of these aspects of strategic planning: Involving stakeholders. … Assessing the environment. … Aligning activities and resources” (p. 8). Government Accountability Office authors (2016) also noted the verbal confirmation received from case study participants in the five local areas:

Officials in each of the five states told us that they intended their state plans to provide a high-level vision that allows regions and local areas the flexibility to develop workforce strategies that respond to specific regional and local needs. (p. 8)

In preparation for WIOA, the Department of Labor’s Employment and Training Administration Advisory System (ETA) issued a Training and Employment Guidance Letter (TEGL) to states to support their planning efforts (U.S. Department of Labor, 2016). The law (WIOA, 2014) specifies the elements a local area’s strategic plan should cover, such as the local area’s labor market information, including in-demand industries, occupations, and statistics on educational attainment. Other areas concern goals, performance, and strategies for how goals would be achieved (WIOA, 2014). There is no guidance about the system of workforce development, however, or about the relationships among system entities.
Theoretical Framework: Systems Theory

Systems theory as a proposed or utilized framework was discussed earlier within the context of the scholarly fields that support workforce development. Some of those fields applied systems thinking more directly than others. In this section, systems theory will be examined as a subject somewhat removed from any context, to better estimate its value for this research.

Skyttner (2005) summarized various theories, definitions, and the history of general systems theory in the second edition of his reference book, General Systems Theory: Problems, Perspectives, Practice. In it he explained that systems theory came about in part due to a perceived lack of communication and shortcomings to societal problem-solving; perceptions that were shared by some scientists, such as Ludwig von Bertalanffy and Kenneth Boulding (Skyttner, 2005). Boulding (1956) referred to General Systems Theory as “the skeleton of science” (p. 208) and his hierarchical framework describing the abstract structure of the theory as a “system of systems” (p. 202). However, it was von Bertalanffy who was credited with the initial development of General Systems Theory (Skyttner, 2005; von Bertalanffy, 1972).

As a biologist, von Bertalanffy (1972) was interested in studying the whole of living beings rather than only their parts and understanding the relationship between the parts and the holistic properties that arose because of those interactions. In his article, “The History and Status of General Systems Theory,” von Bertalanffy (1972) stated that General Systems Theory “consists of the scientific exploration of ‘wholes’ and ‘wholeness’” (p. 415). He defined a system as “a set of elements standing in interrelation among themselves and with the environment” (von Bertalanffy, 1972, p. 417).

von Bertalanffy (1972) also discussed perception and its importance in determining reality, noting that perception pertains to objects as solid objects as well as to abstractions. He
discussed the “reality” of systems boundaries and the concepts of systems and interrelationships (von Bertalanffy, 1972):

Ultimately all boundaries are dynamic rather than spatial. Hence an object (and in particular a system) is definable only by its cohesion in a broad sense, that is, the interactions of the component elements. In this sense an ecosystem or social system is just as ‘real’ as an individual plant, animal, or human being, and indeed problems like pollution as a disturbance of the ecosystem, or social problems strikingly demonstrate their ‘reality.’ Interactions (or more generally, interrelations), however, are never directly seen or perceived; they are conceptual constructs. … Thus the distinction between ‘real’ objects and systems as given in observation and ‘conceptual’ constructs and systems cannot be drawn in any common-sense way. (p. 422)

Skyttner’s (2005) review of various systems theories and approaches included the systems engineering approach, comprised of the activities of “Systems analysis. … Systems design. … Implementation. … and … Operation” (p. 472-475). These activities are somewhat similar to the strategic management processes described by Eppler and Platts (2009) in this study’s introduction: “analysis, development, planning, and implementation” (p. 43). The utilization of systems theory in management is well-known through its application in strategic planning and operations.

The theoretical aspects of systems design may also be familiar, as described by C. West Churchman. Churchman (1963, 1971) described systems of inquiry and their designs from an epistemological perspective. Beginning with logic and rational knowledge building, then moving to empiricism, and finally to Hegel’s dialectic, Churchman (1971) provided the foundation and justifications for what could be described as a system of systems design of inquiry based on Edgar Singer, Jr.’s work.

Singer’s epistemological views included teleology and experimentalism, and he argued that iterative progress toward an ideal image was, in essence, the work of systems design (Krikorian, 1962). Churchman (1971) stated that Singer’s Inquiry System was based on Hegel’s
dialectic; purposefully juxtaposing the “real” and the “ideal” in its design (p. 199). In one of Singer’s (1911) earliest works, “Mind as an Observable Object,” he described the real and ideal aspects of his philosophy:

The beginning of our epistemological building is not a datum which might be known by itself … but just at any point at which it occurs to us to ask ourselves, What is it you know? and, How do you know it? … from this point stretch out two wearily endless ways. The one leads toward, but never arrives at, the real object; the other leads toward, but never culminates in, the bare datum. (p. 185)

Besides being a philosopher, Singer had also been an assistant to William James at Harvard and was interested in the concept of aesthetics (Nahm, 1957). Singer was also interested in the study of measurement, known as metrology (Churchman, 1971). The design of Singer’s system of inquiry as it applies to the modified Delphi method will be discussed in greater detail in the “Singerian Inquiry Approach” later in this chapter.

Finally, Skyttner (2005) discussed some of the methodologies based in systems theory, such as Checkland’s (1999) Soft Systems Methodology (SSM), and its use in decision making and strategic management processes. Soft Systems Methodology was designed for application in situations that are difficult to quantify or operationalize, situations that deal primarily with interrelationships between entities and between people; situations in which the use of visualization is possible and may be beneficial (Checkland, 1999; Skyttner, 2005). Particular aspects of SSM were used in this study and will be discussed in chapter three.

One final point here on SSM is that in Checkland’s (1999) review of his Soft Systems Methodology he discussed its origins. Soft Systems Methodology was at least partially based upon the work of Sir Geoffrey Vickers and the appreciative systems approach Sir Vickers used in public policy making and implementation. As Checkland (1999) stated, “In summary, SSM
can be seen as a systemic learning process which articulates the working of ‘appreciative systems’ in Vickers’ sense” (p. A41).

Vickers (1983b) described appreciative systems as mental models for decision making based on the human needs to reflect reality, to communicate with others, and to be satisfied. In his initial description of appreciative systems for use in making policy decisions, Vickers (1965/1983a) noted:

In my psychological analysis linking judgments of fact and value by the concept of appreciation, I stress the importance of the underlying appreciative system in determining how situations will be seen and valued. … I am particularly concerned with the reciprocal process by which the setting of the appreciative system is itself changed by every exercise of appreciative judgment. (p. 22, italics in original)

The connections required between workforce development systems entities and the collaboration needed across sectors, industries, and regions seem to indicate systems theory is a good fit for this research. Considering the decision making, strategic management processes, and value judgments workforce development professionals face, the framework needed becomes clear. Systems theory as the theoretical framework for this study was therefore applied to the structural design, visual depictions, and general understanding of the workforce development system. Considering the multiple stakeholders and levels of government involved in workforce development, the system was also considered as Boulding (1956) described: a system of systems.

**Systems Theory in Strategic Planning**

In a supplemental issue of *Public Administration Review*, Borins (2010) reviewed the history of strategic planning as both a private sector and public sector tool. He recounted Robert McNamara’s role in the tool’s rise to prominence: “McNamara elevated strategic planning from the individual armed forces to the department level, housing it in the systems analysis and financial management units” (p. S220). Borins (2010) also suggested that strategic planning
lacked a theoretical grounding, and that it could benefit from such. Another author included in
the same supplemental issue, Brown (2010), also asserted that what was missing from strategic
planning and thinking in public sector organizations was theory.

Brown (2010) defined strategy as “The development and execution of a plan of action to
guide behavior in pursuit of organizational goals” (p. S212) and discussed the traditional
understanding of strategic planning as one in which environments were competitive. He and
other authors have noted that a competitive environment is not always the case for public sector
organizations (Bryson et al., 2017; Cina & Cummings, 2018; Moore, 1995; Poister et al., 2010).
Brown’s (2010) view was that without theory behind the tools, strategic planning and its related
actions were unlikely to be successful. Theory provides understanding and supports critical
thinking; it would therefore allow managers more fluidity and creativity in their decision-making
and actions toward achieving strategic goals (Brown, 2010).

The importance of effective planning and decision-making in the public sector was also
highlighted by Head and Alford (2015), who asserted that the wicked problems faced by public
administrators called for effective approaches. They defined wicked problems as “those that are
complex, unpredictable, open-ended, or intractable” (Head & Alford, 2015, p. 712). They argued
that such problems could not be resolved with a rational, analytical, deductive approach: systems
thinking was one approach they recommended (Head & Alford, 2015).

Mintzberg (1994) described the effect the environment can have on planning, “According
to the premises of strategic planning, the world is supposed to hold still while a plan is being
developed and then stay on the predicted course while that plan is being implemented” (p. 110).
What is meant by “the world” or the environment may differ for an organization, according to
several factors. Skyttner (2005) broadly defined the environment in terms of systems as, “both
that which is outside of the direct control of the system and any phenomenon influencing the processes and behavior of the system” (p. 63-64).

A holistic approach to planning was also advocated by public policy researchers in New Zealand. Cina and Cummings (2018) discussed the importance of obtaining feedback on strategies for implementation purposes, from both internal and external stakeholders. In terms of systems, Skyttner (2005) described feedback as “a basic strategy which allows a system to compensate for unexpected disturbances” (p. 82). Taking a systemic view of strategic plan implementation, Cina and Cummings (2018) noted several features of feedback collection, based upon a study of several other English-speaking countries’ internal revenue service agencies. Feedback was effective, in part, because it was designed into the respective systems, and designed as a nearly continuous loop from both within the system and from its environment (Cina & Cummings, 2018).

**Visualization in Strategic Planning**

Another approach to more effective strategic planning has been to incorporate visualization. How managers understand and communicate the strategies they create is relevant to organizations and scholars alike, but visualization has not been commonly studied in public workforce development settings. However, the qualitative case studies reviewed in this section were all conducted within workplace settings. Conceptual and theoretical frameworks for the studies in this section varied and did not include systems theory. Table 6 displays categorizations of the studies based upon their conceptual or theoretical foundations.

With respect to the types of visualizations studied, several studies used typical, two-dimensional business visuals such as PowerPoints, charts, maps, and graphs (Kaplan, 2011; Knight et al., 2018; Mills et al., 1998; Paroutis et al., 2015; Yates, 1985). The visual displays
assisted managers with analysis of past decisions and the development of future strategies. Yates (1985) conducted an historical case study of the conglomerate Du Pont and its use of graphs in its business operations from the early 1900s to 1949. Graphics in business in the early 1900s were used to “facilitate analysis and communication” (Yates, 1985, p. 7). Yates (1985) also suggested that the use of graphs at that time correlated with the use of scientific management.

Table 6. Categories of Conceptual and Theoretical Frameworks of Visualization Studies

<table>
<thead>
<tr>
<th>Categories of Frameworks</th>
<th>Concepts and Theories</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management practices, processes, and tools</td>
<td>Deliberate/emergent strategies; strategy-as-practice (SAP) approach; visualization in strategic management processes; visuals as tools for analysis and communication</td>
<td>Bititci et al. (2016); Eppler and Platts (2009); Mills et al. (1998); Whittington et al. (2006); Yates (1985)</td>
</tr>
<tr>
<td>Learning theories</td>
<td>Piaget’s cognitive development; Gardner’s multiple intelligences; embodied realism; semiotics; Vygotsky’s activity theory; affordances theory</td>
<td>Bürgi and Roos (2003); Heracleous and Jacobs (2008); Knight et al. (2018); Miettinen and Virkkunen (2005); Paroutis et al. (2015)</td>
</tr>
<tr>
<td>Epistemic objects theory / Epistemic cultures theory</td>
<td>Meaning of an epistemic object is not fixed, but rather emerges from the object’s use; epistemic cultures derive meaning and expertise from specific practices/activities (with objects)</td>
<td>Jarzabkowski et al. (2013); Kaplan (2011); Werle and Seidl (2015)</td>
</tr>
</tbody>
</table>

Another visualization study used computer software to create a strategy map. Each participant had a computer to use for inputting ideas anonymously, and the collective map was controlled by the facilitator (researcher) for all participants to see and discuss (Paroutis et al., 2015). There were also studies that examined the use of three-dimensional artifacts and those with formats using multiple visual representations. Some researchers used LEGO® blocks (Bürgi & Roos, 2003; Heracleous & Jacobs, 2008), while another used a cardboard cube (Whittington et al., 2006).
The organizations focused on developing and/or implementing strategies. Communication was important and was highlighted with the use of metaphors, teamwork, creativity, and the visual models. Miettinen and Virkkunen (2005) showed the interrelatedness of visual artifacts alongside the iterative and cyclical nature of all four strategic management processes (analysis, development, planning, and implementation).

Researchers also addressed the inherent dependent, cyclical, and/or iterative nature of managers’ work with visuals. Jarzabkowski et al. (2013) noted the interdependence and interrelatedness of the visual artifacts that managers used to implement strategies. Werle and Seidl (2015) studied the interrelatedness of visual representations and the interdependence with managers’ ideas concerning the development of strategies.

Making ideas tangible, synthesizing information, better coordination of departments, inclusion and engagement of staff, and the continuity of vision and strategies were some of the benefits described when using visualization in strategic management processes (Bititci et al., 2016; Eppler & Platts, 2009; Whittington et al., 2006). Other short-term outcomes or benefits described from the use of visualization were the surfacing and examination of assumptions, the identification of historical patterns, the generation of ideas, productive and objective discourse, and decision making (Bürgi & Roos, 2003; Heracleous & Jacobs, 2008; Kaplan, 2011; Knight et al., 2018; Miettinen & Virkkunen, 2005; Mills et al., 1998; Werle & Seidl, 2015). Finally, the short-term outcomes of efficiency, effectiveness, and return on investment (ROI) were also noted as benefits of using visualization in strategic planning and management processes (Jarzabkowski et al., 2013; Paroutis et al., 2015; Yates, 1985).

Research has shown that the use of visualization with strategic planning has been beneficial in some private sector organizations. These benefits were cited in less complex
organizations than the public system of workforce development. The use of visualization in more complex systems is addressed next.

**Systemigrams**

Systemigrams are visual depictions of a system that have been in use since the late 1990s. Boardman and Sauser (2013) referred to a systemigram as “a description of a system” that “is itself a system, albeit an abstract system” (p. 105). The boundaries, entities, and connections between system entities are represented in systemigrams; a visual description of the system is presented along with the use of “nodes” as nouns and verbs as “links” (Boardman & Sauser, 2013, p. 106). Common uses of systemigrams include gaining a better understanding of complex systems, communication of processes within organizations, and the collective production of system objectives, needs, relationships, and/or definitions (Blair et al., 2007; Boardman & Sauser, 2013; Conroy & Soltan, 1998; Eigbe et al., 2015; Mehler et al., 2010; Prins et al., 2015; Ramsay et al., 1996; Sauser et al., 2011; Sherman et al., 1996).

Within complex systems, an understanding of the system’s entities, relationships, and their visualization is an important component for the promotion of dialogue and deepening appreciation of the interdependencies of those entities (Blair et al., 2007; Mehler et al., 2010). Mehler et al (2010) found that the use of the systemigram allowed the U.S. National Security System’s stakeholders to “visualize how different objectives relate to each other” (Discussion: Systemigrams as Descriptive Tools, para. 1). They also found that the systemigram allowed them “to synthesize the content more readily than when it is in a more abstract, natural language form” (Mehler et al., 2010, Discussion: Systemigrams as Descriptive Tools, para. 1).

Within single-system organizations such as engineering and manufacturing firms, the communication of processes provided by systemigrams allowed for a simplified view of design
processes (Conroy & Soltan, 1998) and cultural change (Sherman et al., 1996). According to Conroy and Soltan (1998): “The systemigram provides a rather simplistic overview of the often quite complex processes that need to be undertaken in multidisciplinary design intensive capital projects” (p. 359). When working directly with groups of stakeholders in complex or single organizational systems to produce collective outcomes or products, systemigrams provided an approach and technique to do so using systems theory. Systemigrams were used to determine the common needs of project managers in Federal Aviation Administration testing and evaluation centers (Eigbe et al., 2015) as well as to determine the common objectives for the training of project managers within an engineering company (Ramsay et al., 1996).

Another collective outcome systemigrams helped produce involved a definition deemed important to a complex system. Sauser et al. (2011) were interested in the concept of resilience as a strategy within the U.S. Department of Homeland Security (DHS) to assist with better preparation for and recovery from emergencies. As the departments within DHS were already connected to one another, the threat of emergencies made them all much more vulnerable, and the strategy of resilience that much more important; agreement on a definition of resilience was the first step toward making it a strategy (Sauser et al., 2011). The authors decided to use the Boardman Soft Systems Methodology and a systemigram to assist with a collective definition of resilience. They noted of the systemigram that “it provides a systemic approach through which decision-makers can continue discovering new thoughts and ideas on resilience using conceptual collaboration among stakeholders” (Sauser et al., 2011, p. 2).

Prins et al. (2015) used both systemigrams and Fuzzy Cognitive Maps (FCM) to define and understand the crucially close dependencies between multiple complex systems during and after manmade and natural disasters. Specifically, Prins et al. (2015) interviewed subject matter
experts, then used their collective input to visualize the relationships using systemigrams and fuzzy cognitive maps. The primary collective need was to assist in the determination of relationships between systems entities concerned with consequence analysis and consequence management prior to and after disasters with mass casualties: what would happen following those initial tragedies, and how issues would be managed (Prins et al., 2015).

In that research, the systemigram displayed the qualitatively interdependent nature of the relationships, while the fuzzy cognitive map displayed the quantitative interdependency of the relationships as direct or inverse (Prins et al., 2015). The authors noted: “Systemigrams were found to be an important first step in understanding causality and structure. The FCM technique was found to be useful in identifying the importance of critical factors and processes that drive the behavior of the system” (Prins et al., 2015, p. 200). As a recommendation for government practitioners, the authors proposed a “federated system of models” to assist with more thorough and effective consequence analysis and management (Prins et al., 2015, p. 200).

The use of a systemigram in this study was as a visual representation to assist with the understanding and potential planning of an “ideal” local workforce development system. Ackoff and Gharajedaghi (1996) discussed the importance of using models consistent with the type of system under study: social systems should, among other things, use models that allow for democratic choice, “interactive planning,” and enable “learning and adaptation” (p. 21-22). The systemigram used in this study was intended as a prompt for participants to assist with the design of a system that would fulfill its federally legislated purposes. For the purposes of this research, both systems design and strategic planning are considered strategic management processes that could be used toward purpose fulfillment.
Gharajedaghi (2011) noted the importance of design thinking for systems design. When discussing his “Operating Principles of Design Thinking,” Gharajedaghi (2011) explained:

To design is to choose rather than predict the future. … To design a social system is to produce a clear and explicit image of the desired outcome. It should remove the fear of the unknown. … Design is the instrument of innovation. Innovation starts by questioning the sacred assumptions and denying the commonly accepted constraints with playful reflections on technology and market opportunities. Finally, design thinking is the ability to differentiate and integrate at the same time. Design is the most effective tool of integration: to design is to create an integrated whole from differentiated parts. (p. 137-138, italics in original)

Thus, the design of a complex social system such as workforce development required interaction with a model that not only allowed freedom of choice, but also called forth an innovative and courageous spirit from the study participants to “produce a clear and explicit image” (Gharajedaghi, 2011, p. 138) of what the system would look like if it fulfilled its purposes.

The preceding reviews helped explore the two research questions: 1) What is the design of a workforce development system that fulfills its federally legislated purposes?; and 2) What, if any, utility does a visual representation of the system design provide to local workforce development professionals and board members with respect to strategic management processes? Through this literature review, the structural design of the system as it has existed was examined, and a tool to depict an effective system design was explored. The potential utility and possible benefits of a visual representation of the system were also reviewed. Next, prior to a discussion of the methodology used in this study, the epistemological approach will be discussed, followed by a review of the limitations of both the Delphi Method and the Boardman Soft Systems Methodology.

**Singerian Inquiry Approach**

A Singerian Inquiry Delphi approach was suggested by Mitroff and Turoff (1975/2002) in their chapter entitled, “Philosophical and Methodological Foundations of Delphi” (p. 17).
Based on Churchman’s 1971 review of some of the primary philosophers of science, Mitroff and Turoff (1975/2002) summarized Churchman’s work while describing the Delphi method from several philosophical perspectives: Liebnizian, Lockean, Kantian, Hegelian, and Singerian. They described the philosophies to explain that the justifications and rationales for each perspective are valid – there is no right approach – and that other perspectives not mentioned could be just as valid and relevant. The choice of epistemology, they suggested, depended upon the researcher’s worldview, and the research design (Mitroff & Turoff, 1975/2002).

The Singerian Inquiry Delphi approach, however, was noted by the authors as an approach inclusive of all the other approaches discussed. The Singerian Inquiry approach was a model whose strength was the breadth of its reach in terms of problems it could examine, and one that treated participants as part of the design of the Delphi (Mitroff & Turoff, 1975/2002). Their recommendations for a Singerian Inquiry Delphi study design included exploring how participants were affected by the study and that what participants learned should be included as part of the design (Mitroff & Turoff, 1975/2002). They also noted the systems/holistic nature of a Singerian Inquiry Delphi and its perspective of truth (Mitroff & Turoff, 1975/2002):

Truth is pragmatic; i.e., the truth content of a system is relative to the overall goals and objectives of the inquiry. A model of a system is teleological, or explicitly goal-oriented, in the sense that the “truth” of the model is measured with respect to its ability to define (articulate) certain systems objectives, to propose (create) several alternate means for securing these objectives, and finally, at the “end” of the inquiry, to specify new goals (discovered only as a result of the inquiry) that remain to be accomplished by some future inquiry. (p. 31, italics in original)

Using a Singerian Inquiry approach to this research meant the inclusion of other systems of inquiry (such as rational and empirical) and their approaches to the Delphi method were “swept” into it (Richardson et al., 2001, p. 51; Mitroff & Turoff, 1975/2002, p. 33). The Singerian Inquiry approach also meant that the purposes of the system were explored through
systems modeling and post-survey interviews. Finally, it meant that the results from the study encouraged further exploration and research.

Engels and Kennedy (2007) used a Singerian approach to their larger study that included a Delphi survey. They noted the similarity between a Singerian Inquiry System and a constructivist epistemology. They also asserted that as the Delphi was considered to be similarly devised from a “constructionist paradigm;” it was a sound fit and a “potential method of naturalistic or Singerian inquiry” (Engels & Kennedy, 2007, p. 434).

Applying a Singerian Inquiry lens to two organizations, Richardson et al. (2001) noted: “The value in a Singerian organization is primarily found in what is hard to measure: tacit knowledge, the chemistry of the employees, teamwork, open debate, and adaptability to change” (p. 55). The hard-to-measure elements of social systems serving a variety of stakeholders, such as workforce development systems, would likely also benefit from a Singerian Inquiry approach. This study applied a Singerian Inquiry approach by including participant perspectives for a purpose: to help understand the design of an effective and innovative workforce development system.

**Limitations of the Delphi Method**

There are limitations to the Delphi method, regardless of whether modifications are used or whether systems theory comprises the method’s approach. The limitations of the method are discussed in this section in light of the epistemological underpinnings discussed earlier. The procedural details of the method will be discussed in chapter three.

The most obvious limitation of the Delphi method is that participants are providing their own opinions rather than facts, and that these opinions are primarily validated through agreement or consensus rather than by more objective means (Mitroff & Turoff, 1975/2002). In a similar
discussion, de Loe et al. (2016) conducted a literature review of Delphi studies and found that “many articles provided little or no information on the reliability and validity of measurements and on design choices” (p. 86). In response to assertions like these, it should be noted that the ontological, epistemological, and methodological concerns underlying such arguments may be inconsistent with those of the method under study (Engels & Kennedy, 2007; Hays & Singh, 2012; Mitroff & Turoff, 1975/2002). Nevertheless, recommendations for overcoming these limitations were: a) to allow for elaboration on the issues by members (de Loe et al., 2016); or b) to conduct “member checking” (Hays & Singh, 2012, p. 206; Glaw et al., 2017, p. 7).

Participants were provided the opportunity to elaborate in each round of the study. Member checking occurred de facto through feedback to participants across Delphi rounds (Engels & Kennedy, 2007).

One issue noted in policy Delphi studies is the potential to skew questions such that participants’ choices may become biased, or participants may become confused by the questions (Preble, 1983; Turoff, 1970). Another issue that Turoff (1970) noted is that there is no way to really control the outcome of a Delphi study once it has begun. Both issues suggest sound design should be planned and then implemented at the outset of the study.

Another potential limitation of the method is the time between rounds (Preble, 1983; Turoff, 1970), which may produce an historical threat to validity (Campbell & Stanley, 1963). The amount of time between rounds is dependent on the design, but more directly on the amount of time the analysis and preparation of the next round’s survey materials take. Preble (1983), who conducted a review of the use of the Delphi in public administration research, noted some researchers “did not treat the interval between rounds as a potentially significant variable,” nor did they “examine participant commitment or fatigue” (p. 82). These concerns may be
considered maturation threats (Campbell & Stanley, 1963) and were managed through the use of appreciative communications with participants between rounds and when results and surveys were distributed.

**Limitations of the Boardman Soft Systems Methodology**

Consistent with other visual data approaches, one limitation of the Boardman Soft Systems Methodology (BSSM) is a lack of positivistic, “scientific rigor” (Sauser et al., 2011, p. 14). There are defined steps to be taken when using the method, but there is no clear guidance when moving from the step of defining a system with only language to that of depicting the same system using computer software. This issue may also be mitigated with “member checking” (Hays & Singh, 2012, p. 206; Glaw et al., 2017, p. 7). In this portion of the study, member checking was conducted by reviewing the systemigram with participants in a later step. Researchers using the BSSM are advised to show the systemigram and ask stakeholders (or participants) for revisions (Boardman & Sauser, 2013; Cloutier et al., 2015; Sauser et al., 2011, Warren, 2018). The number of possible interpretations in the BSSM is multiplied when participants are asked for their input, creating more reliance on this requisite dialogue with researcher and participants, through the use of visual representation (Blackbeard & Lindegger, 2015; Glaw et al., 2017). Finally, due to the potential for many interpretations, such as in other visual methods research, the results from the BSSM research are not generalizable (Glaw et al., 2017).

**Summary**

This chapter began by examining the workforce development system: as it has existed and as it currently exists. The design of the regulatory structures, legislative structures, governance structures, performance and accountability structures, and support structures was
discussed in detail to present an image of the “real” workforce development system. This examination was followed by discussions of strategic planning in workforce development, the theoretical framework of systems theory, systems theory in strategic planning, visualization in strategic planning, the use of systemigrams in strategic management processes, the Singerian Inquiry approach used in this study, the limitations of the Delphi method, and the limitations of the Boardman Soft Systems Methodology.

Chapter 3 will discuss the details of the mixed methods used for this study. The three phases of a modified Delphi survey, systems modeling, and post-survey interviews will be discussed. The chapter will also include a description of the data collection procedures and data analysis processes.
CHAPTER 3
METHODOLOGY

The purpose of this research was to examine the design of a workforce development system that fulfills its federally legislated purposes, and to explore whether a visual representation would be useful for the planning of such a system. In Chapter 2, the literature review assisted with an understanding of the “real” system, or the system “as it is,” by reviewing the systems design structures and analyzing current and historical laws, regulations, and policies. This chapter describes the methods used for an examination of what an “ideal” workforce development system might include, and whether the visualization of that system might be helpful when strategizing how to fill the gaps that may exist between current reality and progression toward an ideal.

This chapter is organized as follows: a brief discussion of the mixed-methods approach is presented, including a brief review of an earlier pilot study, and the resultant adjustments made to the main study; then the Delphi method and its modifications for this main study will be discussed. Next, the data collection procedures will be described, including participant sampling, participant selection criteria, and recruitment. This will be followed by a description of the administration of modified Delphi rounds. Included in the description of the administration of rounds will be the use of a “Consultation Council” for reviewing surveys prior to distribution, and for providing interrater reliability during qualitative data analyses in subsequent phases. Next, a description of the modified Delphi survey questions will be reviewed. A description of how the data will be analyzed will follow, including how consensus and dissensus were operationalized. This will be followed by a discussion of the Boardman Soft Systems Methodology and the development of the visual representation used during one-on-one
interviews that were completed after the survey rounds. A description of the interview process and protocol will follow. Finally, a summary of these topics will conclude the chapter.

**Mixed-Methods Approach**

The first research question asked: What is the design of a workforce development system that fulfills its federally legislated purposes? The second research question asked: What, if any, utility does a visual representation of the system design provide to local workforce development professionals and board members with respect to strategic management processes? To attempt to answer these questions, a review of previous legislation in Chapter 2, the literature review, was conducted. The literature review provided a better understanding of how the system has been designed in the past and is designed now, and suggested support for the assertion that the federally legislated purposes in workforce development have not yet been fulfilled.

An exploration of the design of a workforce development system that would fulfill its legislated purposes involved consulting with experts from the field of workforce development using the Delphi method. Questions about an “ideal” system were asked. The modeling of an ideal system was created first in language through a modified Delphi survey. A visual depiction was created from the language the participants as experts used in the survey. A systemigram provided a visual depiction and was developed using the Boardman Soft Systems Methodology (BSSM) (Boardman & Sauser, 2013). The utility of such a visual depiction was also posed as a question for participants as experts within the system to address.

**Pilot Study**

A two-round pilot study was initially conducted to explore the articulation and modeling of an “ideal” system in an online Delphi survey. The first round of the survey contained open-ended questions about structural changes to be made to the workforce development system and
questions about the systemigram. Round 2 contained a ranking-type question about structural changes to be made to the workforce development system and questions about the systemigram. After Round 2, four participants were interviewed about the study design and its feasibility (Fraser et al., 2018; Leon et al., 2011; Malmqvist et al., 2019). Their feedback informed the research redesign and revised methods described later in this chapter.

The purpose of the pilot study was to determine whether such an all-inclusive, online research design was feasible (Fraser et al., 2018; Leon et al., 2011; Malmqvist et al., 2019). Some elements were feasible, while others were not; there were strengths and weaknesses revealed during the pilot study. All of the strengths and weaknesses noted in pilot study participants’ feedback informed the redesign of the main study (Fraser, et al., 2018; Leon et al., 2011).

**Study Redesign**

As a result of the feedback from participants in the pilot study, it was determined that the main study, reviewed next, should consist of three separate phases: 1) a modified Delphi survey asking participants to rank statements according to the importance of fulfilling WIOA purposes; 2) systems modeling by the researcher, using the Boardman Soft Systems Methodology and data from the modified Delphi survey; and 3) post-survey interviews with individual participants to review and discuss the systemigram and its potential utility for strategic planning purposes. The 18 pre-written statements used in Round 1 of the main study were derived from the pilot study and from the literature and are discussed in greater detail in the section on “Survey Questions.”
The mixed-methods approach to this study included three rounds of a modified Delphi survey that produced both quantitative and qualitative data, as well as individual interviews that produced qualitative and visual data. Similar to the visual explanation used by Warren (2018) to depict data collection and analysis in a portion of his dissertation, Figure 1 depicts the flow of data manipulation.

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4CATWOE stands for “customers … actors … transformation process … Weltanschauung [worldview] … owners … and the environmental constraints” (Checkland, 1999, p. 18).
activities from one round to the next, and from one phase to the next, in the design of this dissertation research.

**Phase One: The Modified Delphi Survey**

The Delphi method was developed with the intention of improving decision making. Dalkey (1969) and others began work on the Delphi method in 1953 as studies on “iteration with controlled feedback” (p. 15). The method quickly became popular, especially in government agencies engaged in policy analysis (Turoff, 1971). According to Turoff (1971): “The Delphi method is basically defined as a method for the systematic solicitation and collation of informed judgments on a particular topic” (p. 317).

The Delphi method typically involves a number of professionals, stakeholders, or other groups of people providing their anonymous insights, opinions, and/or expertise to forecast trends or provide input for policy formulation (de Loe et al., 2016). The questions asked of participants could be qualitative (e.g., open-ended questions), quantitative (e.g., Likert scale questions), or both. Data provided by participants are analyzed and returned to participants, sometimes with an adjusted scenario (Turoff, 1975/2002). This iterative process of participant input, researcher analysis, and feedback of results to participants then repeats, usually for three to four rounds (de Loe et al., 2016).

Three broad goals of various Delphi methods are relevant to this study. The goal of classical or traditional Delphi studies is to forecast the future, using a consensus-based approach (de Loe et al., 2016; Novakowski & Wellar, 2008; Preble, 1983). Another approach to the Delphi method is known as a policy Delphi. The policy Delphi seeks out disagreement, or dissensus, to foster a more balanced approach to policy making to help make more informed policy decisions (Manley, 2013; Novakowski & Wellar, 2008; Turoff, 1971; Turoff 1975/2002; Turoff & Hiltz,
1996). A third goal of Delphi methods is to determine “what should be, given current knowledge. … about a preferred future state or process,” and was referred to as a normative Delphi by Novakowski and Wellar (2008, p. 1486, italics in original). They based their idea of a normative Delphi on a review of technological forecasting methods by Joseph P. Martino (1999). In that work, Martino (1999) described leading indicators as a forecasting method in which the indicators would provoke further future-based questions and ideas for what the concept, situation, project, etc. should become.

The modified Delphi method used in this study incorporated all three of these approaches. The study ideally sought consensus on the design of a workforce development system using a future-based scenario. Modifications to the traditional Delphi method included Novakowski and Wellar’s (2008) normative Delphi approach aimed at describing “a preferred state” (p. 1486), and the policy Delphi approach that allowed for dissensus as well as consensus (Manley, 2013; Novakowski & Wellar, 2008; Turoff, 1971; Turoff 1975/2002; Turoff & Hiltz, 1996). Considering the diverse economic and geographic locations participants came from, and the diverse local workforce development boards they represented, differing views were also expected and included.

Novakowski and Wellar (2008) described the similarities in methods despite differences in objectives of the three types of Delphi studies (forecasting, normative, and policy):

As a research process, each Delphi category shares the same overall structure in terms of group communication, anonymity, iteration, and central tendency. However, due to differences in research objectives and/or application domains (identification of preferred futures, forecasting, or policy alternatives), a choice must be made about which type of Delphi exercise is appropriate for a particular planning research issue or problem. (p. 1487)

In this modified Delphi, the methods used were similar to those used in other Delphi studies. However, there does not seem to be a rationale behind Novakowski and Wellar’s (2008)
suggestion that only one of the three approaches should be used. On the contrary, taking a Singerian Inquiry approach to this study would suggest that all three goals be “swept” in (Richardson et al., 2001, p. 51; Mitroff & Turoff, 1975/2002, p. 33). The Singerian Inquiry Approach to a Delphi study was encouraged by Mitroff and Turoff (1975/2002) and was discussed by them as inclusive of several epistemological philosophies, including teleology, and inclusive of participants’ learning and education in the research design.

Based on feedback from the pilot study and on the literature concerning methods of conducting a Delphi survey, this study was modified in three ways: a) by using pre-written statements to be ranked in Round 1, instead of asking open-ended questions; b) by including the normative Delphi objective of determining an effective systems design for workforce development; and c) by incorporating the policy Delphi objective of including diverse points of view. Finally, although not technically a modification from the original Delphi method, this study also included the framing of questions from a futuristic, forecasting Delphi perspective.

**Data Collection**

This section reviews participant sampling, participant selection criteria and recruitment. It also reviews the administration of Delphi rounds and the use of a “Consultation Council.” Part of the administrative support provided by the consultation council members included producing interrater reliability for qualitative data analyses.

**Participant Sampling**

Purposive sampling was used to select local workforce development areas. Choosing from a sampling frame of approximately 500 local areas throughout the United States (U.S. Department of Labor, n.d.-c.), selected local areas were geographically and economically diverse. Geographical diversity meant that local areas were chosen from the Northeastern,
Southern, Midwestern, and Western regions of the United States (U.S. Bureau of Labor Statistics, n.d.). Economic diversity meant that selected local areas contained a range of median household incomes. Areas included were those that had incomes below the national median, those within the range of the national median income, and local areas that had incomes above the national median. Median income ranges were guided by U.S. Census Bureau (2018) data as displayed in Figure 2.

Figure 2. Guidelines for Median Household Income Ranges

Participant Selection and Recruitment Criteria

Participants were either active members of a local area’s workforce development board, or they held the professional position of executive director to their local area’s workforce development board (or an equivalent position). Participants were recruited through emails and telephone calls.

The expertise sought for this study included experience with the public system of workforce development and its strategic planning and management processes. Some of the literature on policy Delphi studies suggested that diversity among participants’ professions assisted with supporting diverse points of view (Buck et al., 1993; de Loe, 1995; Ottman et al., 2017, Turoff, 1975/2002). However, Delbecq et al. (1975) conducted Delphi studies that included both varied and unvaried professions and found that results were more dependent on the number of participants in the study than on the diversity of the sample’s professions. Regarding the composition of policy Delphi participants, Bloor et al. (2015) noted: “A Delphi group tasked to consider policy recommendations will need to include some panelists with policy expertise. Balance is critical, but representativeness is not” (p. 66-67). Therefore, this study included executive directors with policy expertise, as well as board members with diverse areas of expertise. Board members are volunteers and thus likely to be less familiar with the regulatory and legislative sides of the public system of workforce development.

The professional position of executive director (or equivalent) held by participants in this study provided consistency in the understanding of workforce development systems and their design, derived through common experiences in that profession. The Workforce Innovation and Opportunity Act of 2014 also mandated that local area boards were the entities responsible for the development of local area plans. Executive directors to local area boards manage the board
and the planning process, while board members are tasked with ensuring a local plan is developed.

Board members as volunteers are appointed by the Chief Local Elected Officials in a local area (WIOA, 2014), and come from the private sector, nonprofit sector, and other levels and departments of government, such as education, vocational rehabilitation, and employment services. The executive directors’ expertise with the law and the workforce development system may either be complemented by or contradicted by the views of the board members. The diverse geographical locations and economic conditions sampled for this study were also intended to contribute to differences in perspectives.

**Criteria for Participation.** The criteria for executive directors’ participation were at least five years’ experience in workforce development, and at least two of those years as an executive director (or equivalent) to a local area board. No education requirements were applied. The participants in this study provided “informed judgments” rather than “expert” judgments, as use of the word expert may indicate a level of education not necessarily required to obtain the needed input (Turoff, 1971, p. 317). The only criterion for board members was that their status as a board member was active and would remain active throughout the study’s duration.

**Recruitment of Participants.** With respect to the number of participants to include in a Delphi study, Delbecq et al. (1975) recommended limiting uniform groups to 30 participants. Turoff (1975/2002) suggested that for policy Delphi studies, the number of participants recruited should remain between 10 and 50. The limit of 50 participants was due to the potential for numerous participant comments regarding their reasoning for ranking statements. A desire to maintain feasible analyses of so many comments from each round led Turoff (1975/2002) to
suggest 50 participants as the upper limit (Turoff, 1975/2002). The number of participants recruited for Phase One of this study was 26.

**Administration of Delphi Rounds**

Dalkey (1969) summarized the Delphi method’s three process components as “Anonymous response. … Iteration and controlled feedback” (p v). The iterative nature of the Delphi Rounds helped support consensus (de Loe et al., 2016) but also allowed participants to change their minds and to support their statements, choices, or rankings with reasons (Turoff, 1970). Iteration is a product of participants’ review of results and responses from multiple rounds. Iterations are connected with the third component of controlled feedback: the analysis from the Delphi researcher(s) presented to the participants for their subsequent review (Dalkey, 1969).

The administration of rounds included the steps taken to ensure all participants’ data were collected, thoroughly analyzed, and returned to participants with feedback in a timely manner. The administration of rounds was supported by a “Consultation Council” described in the next section. The Round 1 survey was distributed to participants via the survey website, SurveyGizmo. Participants were asked to rank pre-written statements in order of their importance to fulfilling the six purposes of WIOA. Completed surveys were collected and analyzed to determine the level of agreement/disagreement, and to derive statements for the Round 2 questionnaire. Any suggestions for additional statements were added to the list to be ranked in Round 2, and any statements by participants containing reasons for rankings were lightly edited. The analysis, edited reasons for rankings, and Round 2 survey questions were reviewed by the Consultation Council, then submitted to participants via the survey website.
The Round 2 survey asked participants to rank statements, again in order of importance to fulfilling the six purposes of WIOA and gave participants the opportunity to explain their reasoning for why they ranked statements the way they did. Completed Round 2 surveys were then collected and analyzed for agreement/disagreement. The statements on reasons for rankings were lightly edited. The analysis, edited reasons for rankings, and Round 3 survey questions were reviewed by the Consultation Council. The analyzed data and edited comments were again distributed to participants in Round 3, asking to them to: 1) rank the statements again based on the new input; 2) provide any further reasoning for their rankings based on the new input; and 3) answer two final questions about what they learned by participating in the study and whether they would be willing to participate in a follow-up interview.

As Preble (1983) suggested, the interval of time between rounds was treated as a variable in this study. Addressing this variable included assisting with retention of participants by sending thank you cards between rounds, and supporting participation with emails, phone calls, or text messages (Fan & Yan, 2010). Thank-you cards were sent at the conclusion of each round expressing appreciation for participants’ contributions and ongoing participation. Follow-up with participants who had not completed their surveys within two days included email, telephone, or text-message reminders (Fan & Yan, 2010). Participants also received email updates on the analysis process. This communication process was repeated in all three rounds. Distribution of a final summary report of results occurred after the third round and included concluding remarks and expressions of appreciation for participants’ contributions to the study.

Consultation Council. Three people were recruited as Consultation Council Members during the pilot study and again during the main study. Each council member was required to
have a doctoral degree and: a) teach systems (thinking or theory); or b) have experience working with government agencies; or c) both teach systems and work with government agencies.

The Consultation Council served four purposes: 1) to provide face validity to the survey questions prior to the distribution to participants; 2) to answer any questions that might arise from study participants during the study; 3) to review results and summaries between Delphi rounds; and 4) to provide interrater reliability for qualitative data analyses. Regarding the first purpose, council members received and reviewed survey questions prior to the distribution to participants. Consultation Council members’ educational backgrounds, systems expertise, and/or government experience were considered sufficient for determining face validity (Leedy & Ormrod, 2013). Council members discussed their questions, feedback, and/or requests for clarification with the researcher, and edits were made to the survey questions prior to their distribution to the study participants.

Regarding the second purpose, the concern was to eliminate researcher bias that may arise by responding to participants’ questions directly. Council Members would have reviewed any responses prior to the researcher sending them to the participant, but there were no questions during this phase of the study. Regarding the third purpose, the Consultation Council reviewed each summary report prior to its distribution to participants. This review provided a check for clarity of communication and verification of quantitative results.

Regarding the fourth purpose, the Consultation Council contributed to interrater reliability (Hays & Singh, 2012) by agreeing or disagreeing with survey question development and data analyses by the researcher. Interrater reliability was determined by Miles and Huberman (1994) to be a ratio of the “number of agreements divided by the total number of agreements plus disagreements” (Chapter 4, p. 64). The total number of agreements plus disagreements in each
instance varied with the task. For example, during survey reviews the number of possible agreements was dependent upon the number of items in the survey; for qualitative data analyses the number of possible agreements was based on the number of resultant themes. All items were revised by the researcher until an interrater reliability ratio of 0.75 or greater was achieved (Hays & Singh, 2012, p. 308). Interrater reliability scores are included in Chapter 4, Results.

Survey Questions

The survey instrument for Round 1 of this study was designed by the researcher and included statements derived from participants’ responses to questions in the pilot study. Round 1 of the main study contained eight demographic questions, six Likert-scale questions, and one ranking question containing 18 statements to be ranked. There were two additional questions that provided text boxes for participants to include their reasoning about rankings and suggestions for additional statements to be ranked. The eight demographic questions included those about experience, board member role, type of local board (city, county, multiple entities, or nonprofit), education, age, gender, race, and geographical region. Five of the Likert-scale questions asked about participant familiarity with the legislation, systems thinking, planning, and innovation. The sixth Likert-scale question was a statement about the utility of a visual depiction of a local workforce development area for a local board’s strategic planning. The ranking question and questions with text boxes allowed participants to contribute their knowledge, experience, and insights freely (Preble, 1983).

Open-ended and Likert-scale survey questions were based on the conceptual framework of systems thinking, systems design, strategic planning, and visualization. The conceptual framework literature used to assist with the development of the survey instrument included: Ackoff’s Interactive Planning (2001); previous Delphi research and discussion (Corben &
Wolstenholme, 1994; Klenk & Hickey, 2011; Manley, 2013; Ottman et al., 2017; Turoff, 1975/2002; the Singerian Inquiry system (Churchman, 1971; Mitroff & Turoff, 1975/2002); and other literature reviewed in Chapter 2. Survey questions were face-validated with the Consultation Council prior to participant delivery.

Preceding the survey questions was a section providing participants with a brief background and a future-based scenario (Ackoff, 2001; Manley, 2013) to encourage participation and creative or innovative contributions. Klenk and Hickey (2011) first asked participants to imagine they were part of a committee designing an ideal research network in the future. They then asked participants to complete a prompt designed to elicit ideas about various structural elements of the design. The background scenario used in Round 1 of this study described a situation in which the participants were in charge of designing a local workforce development area in the year 2030, while the current legislation (WIOA) was still in effect. Participants’ specific instructions in Round 1 were to: a) rank the statements in the order of their importance for fulfilling the six purposes of WIOA; b) provide their reasoning for ordering the statements in that way; and c) write their own statements to be ranked in the next round. Only item “a” was required in each round; items “b” and “c” were optional.

**Round 1 Questions**

There were 18 statements for participants to rank in Round 1 (see Appendix I). Twelve of the statements were derived from participant responses to open-ended questions in Round 1 of the pilot study. The other six statements were developed by the researcher using systems thinking principles (Adams et al., 2014; Whitney et al., 2015), the Singerian Inquiry approach (Churchman, 1971; Mitroff & Turoff, 1975/2002), and the literature review in Chapter 2.
Asking participants to rank questions rather than supply their own responses in Round 1 was a result of feedback from participants in the pilot study. It was also supported by Corben and Wolstenholme (1994) who conducted a Delphi study designed to assist in the development of a system dynamics model. They began their Delphi by asking open-ended questions in the first round, but subsequently included questions that asked experts to organize a pre-existing list of factors according to their order of importance (Corben & Wolstenholme, 1994). Questions in this study asked participants to prioritize a list of prepared statements about structural changes needed for the workforce development system to fulfill its federally legislated purposes.

The open-ended questions in Round 1 were intended to allow participants to share their opinions and judgments as freely as possible. Thus, the inclusion of text boxes for participants’ reasoning on their choices and their suggestions for additional statements. Schmidt (1997) suggested that: “To maximize the chance of unearthing the most important issues, the respondents should be encouraged to submit as many issues as possible in the first phase” (p. 768). Turoff (1975/2002) encouraged participants to explore and express their reasons and arguments for making the choices they made. The purpose was to reveal assumptions and encourage debate that might clarify and specify differing positions on the policy issue under study. That clarity and specificity would then later help policy analysts and decision makers (Turoff, 1975/2002).

The ranking question and open-ended questions supported research question one: What is the design of a workforce development system that fulfills its federally legislated purposes? The Likert-scale statement in Round 1 that asked about the utility of a visual depiction of a local workforce development area for a local board’s strategic planning provided some support for the
second research question. The research questions were also supported by the systems modeling in Phase Two and the interviews conducted in Phase Three of this study.

**Round 2 Questions**

In Round 2 participants received the quantitative results from the previous round: the level of agreement, and a list of the statements with their average ranks. They also received a summary of participants’ reasoning, followed by a new list to be ranked that included new statements contributed by participants, two additional demographic questions, and one additional Likert-type question. Participants were presented with a brief version of the future-based scenario explicitly asking them about the “ideal” workforce development system. Turoff (1975/2002) suggested the preparation of multiple scenarios as a possible design choice of policy Delphis, and Delbecq et al. (1975) discussed altering questions between rounds in traditional Delphi surveys. Participants were also provided a copy of the six purposes of WIOA (WIOA, 2014).

Participants were again asked to rank, in order of importance, statements about changes to systems design structures (Corben & Wolstenholme, 1994) to fulfill the purposes of the Workforce Innovation and Opportunity Act of 2014. In Round 1 there were two suggestions for additional statements, thus there were 20 total statements to be ranked in Round 2. Participants were made aware that “A number of lower-ranked statements may be eliminated” after Round 2. The questions for Round 2 are included in Appendix J.

**Round 3 Questions**

In Round 3 participants received the quantitative and qualitative results from the previous round. The results included the level of agreement, a list of the statements with their average
ranks, and a summary of participants’ reasoning. They then reviewed a brief future-based scenario and systems theory concepts, followed by a new list of 20 statements to be ranked.

Round 3 also included one final question, and a request for participants to be interviewed after the survey was complete. The final question in Round 3 asked participants to reflect on what they learned as a result of their participation so far. The request made of participants was about interviews to be conducted after the survey rounds were complete. The instructions asked interested participants to indicate their willingness to participate by writing their name in a text box and let them know they would be contacted by the researcher with further details. The questions for Round 3 are included in Appendix K.

Data Analysis

Data analyses took place between each round. Quantitative analysis involved the use of Kendall’s coefficient of concordance (Kendall’s \( W \)) to determine whether, and to what degree, consensus existed with respect to participants’ rankings of the statements. According to Schmidt (1997): “Using \( W \), one can make a realistic determination of whether any consensus has been reached, whether the consensus is increasing, and the relative strength of consensus” (p. 765). Concordance is measured on a scale of zero (no agreement) to 1 (complete agreement), and a scale of consensus was operationally defined for this study based on Schmidt’s (1997) terms of “Weak agreement. … Moderate agreement. … Strong agreement,” ranging from a Kendall’s \( W \) of 0.30 to 1.00 (p. 767). Disagreement was operationalized by using a Kendall’s \( W \) of 0 \(<\) 0.30. These operationalized categories and their delineations are depicted in Table 7.

The average rank of each statement was also calculated. Statements about participants’ reasoning were edited lightly and placed into a table for distribution. Any additional statements participants supplied were added to the list to be included in the Round 2 questionnaire. Efforts
were made to limit the total number of statements to be ranked to 20. This number was chosen for ease of completion for participants, and to help provide an overall shorter survey completion time (Fan & Yan, 2010).

Table 7. Operationalization of Consensus and Dissensus (Schmidt, 1997)

<table>
<thead>
<tr>
<th></th>
<th>Kendall’s Coefficient of Concordance (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Agreement</td>
<td>W: &gt; 0.70</td>
</tr>
<tr>
<td>Moderate Agreement</td>
<td>W: 0.50 &lt; 0.70</td>
</tr>
<tr>
<td>Weak Agreement</td>
<td>W: 0.30 &lt; 0.50</td>
</tr>
<tr>
<td>Disagreement</td>
<td>W: 0 &lt; 0.30</td>
</tr>
</tbody>
</table>

**Handling Disagreements**

The traditional Delphi method aims to achieve group consensus (de Loe et al., 2016; Preble, 1983). Policy Delphi studies highlight dissensus (Turoff, 1971). This study included both consensus and dissensus, with the goal of learning about purpose-driven systems and their possible designs. Dissensus was anticipated, and it was handled by simply including it along with all other participant contributions.

**Phase Two: Systems Modeling**

The Boardman Soft Systems Methodology (BSSM) is an application of systems thinking that supports the bounding, defining, describing, visualizing, and understanding of complex systems, processes, and their relationships (Blair et al., 2007; Boardman & Sauser, 2013; Eigbe et al., 2015; Ramsay et al., 1996; Sauser et al., 2011; Sherman et al., 1996). Based upon the work of Peter Checkland (1999) and his Soft Systems Methodology (Sauser et al., 2011), BSSM uses computer software instead of manual drawings to create what are referred to as “systemic diagrams” or “systemigrams” (Boardman & Sauser, 2013, p. 5). Figure 3 depicts the role of
Boardman Soft Systems Methodology in this research and how the methodology relates to the three phases of the study and to the Singerian Inquiry Approach taken overall.

Figure 3. The Role of the Boardman Soft Systems Methodology (BSSM) in this Research

Steps in the Boardman Soft Systems Methodology

There are seven steps in the Boardman Soft Systems Methodology (Sauser et al., 2011):

*Step 1 – The Problem Situation: Unstructured.* The problem situation is first experienced, as it is, by the researcher (or stakeholder). …

*Step 2 – The Problem Situation: Expressed.* In this step, a description of the situation within which the problem occurs is formulated. …

*Step 3 – Structured Text.* Conceptualize the problem situation in structured text. The Structured Text identifies the key elements with attention to systems thinking modeling and analysis requirements, i.e. systemigrams.

*Step 4 – Systemigram Design.* Creation of a systemigram model as designed from the Structured Text to capture and represent the essence of the original conceptual thinking.

*Step 5 – Dramatization and Dialogue.* At this step the systemigram model is dramatized via storyboarding to the stakeholders. This is done so that the model and reality can be compared and contrasted. …
Step 6 – Feasible, Desirable Changes. At this step the identification of feasible and desirable changes are deciphered from the previous step, understanding that they are likely to vary. Desirable asks if it is technically an improvement? Feasible asks if it fits the culture?

Step 7 – Action to Improve the Problem Situation. Every individual or collective input that is deemed Desirable or Feasible is incorporated into the model. Only contributions that answer “no” to one of the two questions presented in Step 6 are dismissed. (p. 4-5, italics in original)

In this dissertation research, “Step 1 – The Problem Situation: Unstructured,” and “Step 2 – The Problem Situation: Expressed,” (Sauser et al., 2011, p. 4) were completed through the literature review. The next step, “Step 3 – Structured Text – “ (Sauser et al, 2011, p. 5) was completed in Phase 2 of this study using the ranked statements from Round 3 and the reasoning statements from all three rounds of the modified Delphi phase of this study. The next step, “Step 4 – Systemigram Design” (Sauser et al., 2011, p. 5) also occurred in Phase Two, and took place between the completion of the modified Delphi rounds and the beginning of the post-survey interviews. The next steps, “Step 5 – Dramatization and Dialogue,” and “Step 6 – Feasible, Desirable Changes,” (Sauser et al., 2011, p. 5) were completed during Phase Three of this study, in the Post-Survey Interviews. Finally, the major component(s) implied in “Step 7 – Action to Improve the Problem Situation,” (Sauser et al., 2011, p. 5) were beyond the scope of this dissertation research and were not completed. The minor components of Step 7, such as incorporating input into the systemigram and revising it, were completed after the interviews in Phase Three. Sauser et al. (2011) also recommended that the seven steps be repeated until the problem/situation was “solved … improved … or … insights have been gained” (p. 5). Such a repetition of steps was beyond the scope of this study. However, insights gained will be discussed in Chapters 4 and 5.
Step 3 of BSSM

The “Structured Text” (Sauser et al., 2011, p. 5) of the Boardman Soft Systems Methodology (Boardman & Sauser, 2013) was taken from the qualitative data produced during the modified Delphi phase. During the subsequent analysis and creation of the systemigram, Checkland’s (1999) Soft Systems Methodology was also used to assist with understanding the system, how participants viewed the system, and how it might fulfill its federally legislated purposes. A “root definition” (Checkland, 1999, p. A22) of an “ideal” local workforce development system was developed based on that data.

In the development of the root definition, customers of the system were identified, as well as the actors. The transformational processes that occurred were included, as well as owners and the worldviews of system participants (Checkland, 1999). Finally, the surrounding environment was considered; in other words, a “CATWOE analysis” (customers, actors, transformation process, worldview, owner(s), environmental constraints) of the system was conducted (Checkland, 1999, p. 18). The performance of this analysis, development of the root definition, and the resulting systemigram were accomplished with consideration of the recommendation, “Real-world knowledge does inform model building, but, crucially, must not dominate it” (Checkland, 1999, p. A26, italics in original). Three versions of a root definition were developed and reviewed by the Consultation Council. Council members compared the definitions with the data analysis to determine which most closely represented the participants’ rankings and reasoning statements. The resulting root definition was used as the textual description needed to design the systemigram, in accordance with Boardman and Sauser’s (2013) method.
Step 4 of BSSM

Boardman and Sauser’s SystemiTool (Systems Engineering Research Center, n.d.) software was used to create a systemigram of the system, based upon the textual description of the “ideal” system. Each circle, or “node,” on the diagram contained the nouns from the system description, while verbs (and some prepositional phrases) were attached to the lines connecting each circle to “link” the nouns (Boardman & Sauser, 2013, p. 106). The systemigram was then prepared for storyboarding presentation by placing sections of the diagram on separate slides of a PowerPoint presentation. The presentation was delivered to the interview participants via the web conferencing platform, Zoom, as described in the next phase of the study. The chosen “root definition” (Checkland, 1999, p. A22) and the resultant systemigram are included in Chapter 4, Results.

Phase Three: Post-Survey Interviews

Steps 5, 6, and 7 of the Boardman Soft Systems Methodology (BSSM) were followed during the post-survey interview phase of this study. “Step 5 – Dramatization and Dialogue –” (Sauser et al., 2011, p. 5) used storyboarding or sectioning of the systemigram to better explain the complexities and relationships depicted. This step also allowed the researcher to obtain feedback from participants about how the diagram compared to data from the modified Delphi phase, and any new input participants had about the “ideal” workforce development system. This step was addressed using the first question of the interview protocol, as seen in Table 9. Questions two and three of the protocol addressed “Step 6 – Feasible, Desirable Changes,” (Sauser et al. 2011, p. 5) by asking explicitly if there were any elements of the diagram that did not fit the culture of workforce development (i.e., were not feasible) and if there were any other technical improvements to be made (i.e., desirable). “Step 7 – Action to Improve the Problem
Situation,” (Sauser et al. 2011, p. 5) occurred after the interviews and involved participants reviewing the revised systemigram.

**Step 5 of BSSM**

The initial part of the interview process was to review the systemigram created in Phase Two: Systems Modeling. The storyboarding approach recommended by Boardman and Sauser (2013) was used to walk through the systemigram one strand at a time. This was done using PowerPoint slides presented online through the web conferencing platform, Zoom. The first question was asked as each section was reviewed: “Compared to the final ranked statements from Round 3 of the modified Delphi survey and to the ‘root definition,’ (Checkland, 1999, p. A22) what revisions to this systemigram would you suggest?” The five interview questions were devised in accordance with a connection to the modified Delphi, with Steps 5 and 6 of the BSSM, with the second research question of this study, and with the Singerian Inquiry approach. The interview protocol is displayed in Table 9.

Table 8. Interview Protocol

<table>
<thead>
<tr>
<th>Interview Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compared to the final ranked statements from Round 3 of the modified Delphi survey and to the “root definition,” (Checkland, 1999, p. A22) what revisions to this systemigram would you suggest?</td>
</tr>
<tr>
<td>2. Are there any elements of this systemigram that do not fit the culture of workforce development (i.e., are not feasible)?</td>
</tr>
<tr>
<td>3. Are there any other revisions you think would technically be an improvement (i.e., are desirable)?</td>
</tr>
<tr>
<td>4. Thinking of traditional strategic planning visuals, such as quantitative graphs or SWOT analysis, what utility, if any, would a visual depiction of a local workforce development system have for a board’s strategic planning?</td>
</tr>
<tr>
<td>5. Is there anything else you would like to say about your experience participating in this study?</td>
</tr>
</tbody>
</table>
**Step 6 of BSSM**

After the storyboarding was complete, the entire systemigram was displayed to participants. Question two was asked: “Are there any elements of this systemigram that do not fit the culture of workforce development?” After participants responded and the researcher took notes, the third question was asked: “Are there any other revisions you think would technically be an improvement?” and the researcher noted responses.

**Step 7 of BSSM**

Only the minor components of this step were completed. This step’s minor components concerned the revisions made to the systemigram (Sauser et al., 2011) based upon participant input received during and after interviews. Data from responses to questions one, two, and three of the interview protocol concerned the systemigram. Responses to those questions were analyzed to discern nodes and links to include in a revised version of the systemigram. The revised systemigram was distributed to interview participants for any additional feedback. Their feedback was incorporated into the final version of the systemigram displayed in Chapter 4.

**Utility of a Visual Depiction and Experience Participating**

Question four of the interview protocol asked participants to consider other visual representations commonly used in strategic planning processes. Examples were given, such as strengths, weaknesses, opportunities, and threats (SWOT) analysis, and quantitative graphs. They were asked, in part: “What utility, if any, would a visual depiction of a local workforce development system have for a board’s strategic planning?”

Finally, participants were asked if there was anything else they would like to say about their participation in the study. Participants were thanked for their contributions and commitment, and the interview was concluded. Responses to questions four and five of the
interview protocol were aggregated and analyzed using constant comparative analysis (Glaser, 1965) and themes were reviewed with the Consultation Council until an interrater reliability score of at least 0.75 was reached. The results are included in Chapter 4.

Summary

This chapter reviewed the methods used in this research. Executive directors and board members of local area boards were the study participants, and were asked to provide their judgments when answering questions about the design of a local workforce development system so that it would fulfill the six purposes of the Workforce Innovation and Opportunity Act of 2014. A Consultation Council was used to provide face validity to survey questions prior to distribution, to review results and data summaries between modified Delphi rounds, and to provide interrater reliability for qualitative data analyses in all phases of the study.

The mixed methods used in this study included three phases. Phase One was a modified Delphi survey. Phase Two of this study concerned systems modeling and included steps 3 and 4 of the Boardman Soft Systems Methodology (BSSM). A textual description of the “ideal” workforce development system was developed from qualitative data collected in Phase One. A systemigram of the “ideal” workforce development system was then designed from that textual description. Phase Three consisted of individual interviews with participants recruited from Round 3 of the modified Delphi survey and the completion of steps 5 – 7 of BSSM. During the interviews, participants were shown the systemigram in sections, then in its entirety while the researcher asked five questions. Three of the interview questions helped to gather input on revisions to the systemigram. The fourth question asked about the utility of a visual depiction of a workforce development system for strategic planning. The fifth and final question asked participants about their experience during the study.
Chapter 4 will discuss the results of the mixed methods used for this study. Analyses from each of the three phases: the modified Delphi, systems modeling, and post-survey interviews will be reviewed. Chapter 5, Conclusions and Recommendations, will follow.
CHAPTER 4

RESULTS

This study was conducted to address two research questions: 1) What is the design of a workforce development system that fulfills its federally legislated purposes?; and 2) What, if any, utility does a visual representation of the system design provide to local workforce development professionals and board members with respect to strategic management processes? The literature review in Chapter 2 described the workforce development system as it has been and as it currently exists. The methods section in Chapter 3 described the approach to depicting the “ideal” workforce development system that would fulfill its federally legislated purposes. Chapter 3 included a brief description of a pilot study that tested feasibility and resulted in a redesign of the approach to the main study. Chapter 3 also described the approach to answering the second research question about the utility of a visual depiction of the workforce development system for strategic planning purposes.

This chapter will describe results from implementing the methods used to explore the two research questions. This chapter is organized as follows: a) the results from the pilot study will be presented; b) the results from Phase One: The Modified Delphi Survey will be presented; c) results from Phase Two: Systems Modeling will be presented; d) results from Phase Three: Post-Survey Interviews will be presented. A description of how the Consultation Council was used within each phase will also be included. The chapter will conclude with a summary.

Pilot Study

A two-round pilot study was initially conducted to explore the articulation and modeling of an “ideal” system in an online Delphi survey. Institutional Review Board approval was obtained prior to recruitment and data collection (see Appendix A). The first round of the survey
contained open-ended questions about structural changes to be made to the workforce development system according to each of the six purposes of WIOA, and also included questions about a systemigram. Round 2 contained a ranking-type question about structural changes to be made to the workforce development system and questions about the systemigram.

Five participants were invited to complete the survey. Four participants began Round 1, and three participants completed it. Three participants began Round 2, and two participants completed it. Demographic data collected from participants included experience, age, gender, education, and race. The results are included in Table 9. Participants had an average of 27 years of experience and two participants had master’s degrees (n = 3). The majority of participants were women (n = 2), and all three participants described their race as White.

<table>
<thead>
<tr>
<th>Demographic Element</th>
<th>Mean</th>
<th>(n = 3)</th>
<th>Frequency</th>
<th>(n = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience in workforce development</td>
<td>27 years</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>60 years</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender/Female</td>
<td>n/a</td>
<td></td>
<td>66.67%</td>
<td></td>
</tr>
<tr>
<td>Education/Master’s degree</td>
<td>n/a</td>
<td></td>
<td>66.67%</td>
<td></td>
</tr>
<tr>
<td>Race/White</td>
<td>n/a</td>
<td></td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Analyses were conducted after each round. Open-ended questions from Round 1 were edited, analyzed, and statements to be ranked in Round 2 were developed (see Appendix B). Consultation Council Members reviewed the analysis, and an interrater reliability score of 0.92 was achieved. Results from Round 1 included a list of 25 statements created by participants that were ranked in Round 2 (see Appendix C). Results from Round 2 included a measure of agreement about the ranking of statements using Kendall’s coefficient of concordance. Kendall’s \( W \) was 0.45. The measure revealed “weak agreement” (Schmidt, 1997, p. 767), but was based on
rankings of only two participants, and was not directly related to the pilot study’s purpose of testing feasibility (Fraser et al., 2018; Leon et al., 2011; Malmqvist et al., 2019). After Round 2, four participants were interviewed about the study design and its feasibility (Fraser et al., 2018; Leon et al., 2011; Malmqvist et al., 2019). Their feedback informed the research redesign and revised methods described later in this chapter.

The online Delphi survey that pilot study participants completed in Round 1 included two primary tasks: a) write descriptions of structural changes that should be made to a workforce development local area so that it would fulfill its federally legislated purposes; and b) provide instructions to the researcher to make changes to a visual depiction of a local workforce development system by following an instruction protocol (e.g., “add a large green circle labeled ‘Participant Coaches’ and connect it with thickest blue lines to ‘Workforce Development Programs and Services’”). Pilot study participants were provided a set of systems principles to assist with the writing of their descriptions (see Appendix D), and guidelines for providing instructions about changes to the systemigram (see Appendix E).

The online Delphi survey that pilot study participants completed in Round 2 included a ranking question: participants were asked to rank the statements devised from the first round, in order of importance to fulfilling the six purposes of the Workforce Innovation and Opportunity Act of 2014 (WIOA). Pilot study participants were also asked to provide instructions to the researcher on revisions to be made to the systemigram. The purpose of the pilot study was to determine whether such an all-inclusive, online research design was feasible (Fraser et al., 2018; Leon et al., 2011; Malmqvist et al., 2019). Some elements were feasible, while others were not; there were strengths and weaknesses revealed during the pilot study.
One strength of the pilot study was that participants found the ranking-type question in Round 2 to be simpler to complete and more educational than the open-ended question on system structures included in Round 1. One pilot study participant noted about the ranking-type question that, “I learned more from the ranking. It forced me to think about priorities.” Another strength was the Consultation Council process: data were first analyzed by the researcher, then formatted into a table for easier review by the Consultation Council members (see Appendix B). Analyses were reviewed in a timely manner, and changes were made by the researcher and reviewed again by the consultation council members as needed.

The primary weakness revealed during the pilot study concerned the systemigram questions. The systemigram that pilot study participants viewed is included in Appendix F. During post-survey interviews, pilot study participants stated they found the systemigram questions confusing, were frustrated by the instructions about making revisions to the systemigram (see Appendix E), and were concerned about the amount of time the survey took to complete because of the systemigram questions. The systemigram that was revised according to pilot study participants’ instructions is included in Appendix G. All of the strengths and weaknesses noted in pilot study participants’ feedback informed the redesign of the main study (Fraser, et al., 2018; Leon et al., 2011).

**Study Redesign**

As a result of the feedback from participants in the pilot study, it was determined that the main study, reviewed next, should consist of three separate phases: 1) a modified Delphi survey asking participants to rank statements according to the importance of fulfilling WIOA purposes; 2) systems modeling by the researcher, using the Boardman Soft Systems Methodology and qualitative data from the modified Delphi survey; and 3) post-survey interviews with individual
participants to review and discuss the systemigram and its potential utility for strategic planning purposes. The 18 pre-written statements used in Round 1 of the main study were derived from the pilot study and from the literature.

**Phase One: The Modified Delphi Survey**

The modified Delphi survey was conducted in three rounds. Institutional Review Board (IRB) approval was obtained prior to recruitment and data collection (see Appendix H). Participants were recruited from January 31 – February 24, 2020. Notices were first sent to executive directors known to the researcher. Those executive directors were asked to share information about the study and invitations to participate with professionals in national and regional associations concerned with the public system of workforce development. Invitations to participate were then made directly to executive directors (or those in equivalent positions) by phone call, email, or both, using a database the researcher built from the CareerOneStop.org website (U.S. Department of Labor, n.d.-c). Invitations were then made to board chairs and board members using the same methods and database. Members of the Consultation Council were also recruited during that time.

Round 1 of the Delphi Survey was conducted from March 2 – March 16, 2020; 21 people completed the round. Round 2 was conducted from March 23 – April 9, 2020; 18 people completed the round. Round 3 was conducted from April 13 – April 17, 2020; 18 people completed the round. Data analyses were conducted by the researcher between rounds, and reviews of the surveys and resultant analyses were conducted between rounds by the Consultation Council.
Consultation Council

In Phase One, the Consultation Council provided face validation for each round’s survey, reviewed the reported results between rounds, and reviewed the final report after Round 3 prior to its distribution to participants. Prior to Phase One, council members had one week to initially respond, and one week to respond to revisions to the Round 1 survey. Between Rounds 1 and 2, the data analysis and consultation council member reviews, feedback, revisions, and review process were completed in six days. Between Rounds 2 and 3 the process was completed in 4 days. The final report of results and its review/revision process took two weeks to complete.

Feedback was received from council members, and adjustments were made to survey questions and reports of results to provide more clarity. Adjustments were made until an interrater reliability score of 0.75 or higher was achieved. Prior to distribution of the Round 1 survey, an interrater reliability score of 0.90 was achieved. Between rounds 1 and 2 council members reviewed the reported results from Round 1 and the Round 2 survey, and an interrater reliability score of 0.92 was achieved. Between Rounds 2 and 3 a similar review of reported results and the Round 3 survey resulted in an interrater reliability score of 0.94. After Round 3 a final report of results was produced; prior to its distribution to participants, an interrater reliability score of 0.94 was achieved.

Participant Recruitment

The U.S. Department of Labor (n.d.-c) website, CareerOneStop.org, was used to collect contact information for each local area’s Executive Director and Board Chair. Data were migrated to an Excel spreadsheet and organized by state, then coded to identify in which U.S. Census region (U.S. Bureau of Labor Statistics, n.d.) the local area belonged: Midwest,
Northeast, South, or West. States that acted as one large “local” or statewide area were not included in this study. Figure 4 displays the states included in each region.

Figure 4. U.S. Census Region Dividing Lines

![Map of the United States showing regions](https://www.bls.gov/cpi/regional-resources.htm)


Economic diversity was incorporated using 2017 median household income data. Data for local areas that consisted of only one government entity (e.g., one city or one county) were collected from the U.S. Census Bureau’s “American Fact Finder” website (2019), resulting in 142 local areas with a single data point. Those single-entity local areas were placed in a designated section of the spreadsheet, and the area’s corresponding median income data was included in a column next to it. A sort was then conducted in that section of the spreadsheet by
income: lowest to highest. Income ranges were guided by a U.S. Census Bureau map of 2017 median household income data (2018), as displayed and described in Chapter 3, Figure 2. Table 10 displays the ranges of median income: below, within, and above, used in this study.

Table 10. Median Household Income Ranges Defined

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Median Income</td>
<td>$0</td>
<td>$50,051</td>
</tr>
<tr>
<td>Within Median Income</td>
<td>$50,052</td>
<td>$64,783</td>
</tr>
<tr>
<td>Above Median Income</td>
<td>$64,784</td>
<td>$100,000+</td>
</tr>
</tbody>
</table>

Purposive recruitment was conducted, and invitations were made to both Executive Directors and Board Members from single-entity areas first, based upon income range and region. The remaining local areas consisted of multiple counties, towns, cities, or a combination of cities, towns, and/or counties. Purposive sampling in those areas was conducted based upon geographical area. The median household incomes for those areas were retrieved after a participant was recruited. An “average median” (Allen et al., 2016, p. 3) was then calculated for each those recruited areas, to obtain a single data point for each area. The single data point made the identification and discernment of economic diversity uniform across regions. Regional and income data were then used to continue to purposively sample the country’s local areas to obtain geographical and economic diversity until 26 participants were recruited.

Executive Directors were contacted first and were asked to communicate the information to board members. Executive Directors known to this researcher were also contacted and asked to distribute information to their professional associations. Board chairs contacted directly were from local areas not previously contacted, and those who agreed to participate were also asked to
communicate the information to other board members. Table 11 displays the total number of people invited to participate, and the numbers of those who accepted the invitations and subsequently participated in Round 1 of the modified Delphi survey.

A total of 80 people from 25 states were invited to participate in this study. Executive directors (or those in equivalent positions), board chairs, and board members. Twenty-six people from 20 states agreed to participate. Twenty-one people from 16 states completed the first round of the modified Delphi survey, resulting in a response rate of 80.8%. Fifteen executive directors, four board chairs, and two board members completed the first round. Fourteen executive directors, two board chairs, and two board members completed the second and third rounds, resulting in a retention rate of 85.7%. Table 12 displays the number of participants who completed Round 1 from each geographical region, by median income range.

<table>
<thead>
<tr>
<th>Geographical Region</th>
<th>Invited</th>
<th>Agreed to Participate</th>
<th>Participated in Round 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)</td>
<td>12</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Northeast (CT, MA, ME, NH, NJ, NY, PA, RI, VT)</td>
<td>22</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>South (AL, AR, D.C., DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV)</td>
<td>29</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY)</td>
<td>17</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>26</td>
<td>21</td>
</tr>
</tbody>
</table>
Table 12. Round 1 Participation by Geographical Region and Income Range

<table>
<thead>
<tr>
<th>Geographical Region</th>
<th>Below Median Income</th>
<th>Within Median Income</th>
<th>Above Median Income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>50.0% ((n = 2))</td>
<td>25.0% ((n = 1))</td>
<td>25.0% ((n = 1))</td>
<td>19.05% ((n = 4))</td>
</tr>
<tr>
<td>Northeast</td>
<td>25.0% ((n = 1))</td>
<td>25.0% ((n = 1))</td>
<td>50.0% ((n = 2))</td>
<td>19.05% ((n = 4))</td>
</tr>
<tr>
<td>South</td>
<td>42.9% ((n = 3))</td>
<td>42.9% ((n = 3))</td>
<td>14.2% ((n = 1))</td>
<td>33.3% ((n = 7))</td>
</tr>
<tr>
<td>West</td>
<td>0% ((n = 0))</td>
<td>83.3% ((n = 5))</td>
<td>16.7% ((n = 1))</td>
<td>28.6% ((n = 6))</td>
</tr>
<tr>
<td>Total</td>
<td>28.6% ((n = 6))</td>
<td>47.6% ((n = 10))</td>
<td>23.8% ((n = 5))</td>
<td>100% ((n = 21))</td>
</tr>
</tbody>
</table>

Demographic Analysis

The majority of participants were executive directors or those in equivalent positions \((n = 15)\), followed by board chairs \((n = 4)\), and board members \((n = 2)\). The years of experience participants had in their roles ranged from two years to over 20 years. A plurality of participants indicated they had between 11 and 20 years of experience in their role \((n = 7)\). Table 13 displays participants’ roles and years of experience.

Table 13. Board Roles and Years of Experience in Roles

<table>
<thead>
<tr>
<th>Board Role ((n = 21))</th>
<th>Years of Experience ((n = 21))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Director (or) equivalent</td>
<td>0-2 years</td>
</tr>
<tr>
<td>Percentage ((Frequency))</td>
<td>(n = 15)</td>
</tr>
<tr>
<td>71.4%</td>
<td>19.0%</td>
</tr>
</tbody>
</table>
Participants were asked about the type of board they represented: government or nonprofit. Participants described representing single government entities such as a county (n = 6), a city (n = 1), multiple government entities such as combinations of cities and counties or more than one county (n = 6), and nonprofit organizations that serve single or multiple entities (n = 8). Table 14 displays the number of participants representing each type of board.

Table 14. Type of Board Organization

<table>
<thead>
<tr>
<th></th>
<th>Government Entity/Entities (n = 13)</th>
<th>Nonprofit Organization (n = 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage (Frequency)</td>
<td>City (n = 1)</td>
<td>County (n = 6)</td>
</tr>
<tr>
<td></td>
<td>4.8%</td>
<td>28.6%</td>
</tr>
</tbody>
</table>

Participants were also asked about their gender, education, race, ethnicity, and age. The majority of participants were women (n = 12) and had master’s degrees (n = 12). The majority of the participants were White (n = 19). One participant identified as Asian, one participant identified as Black or African American, and two participants identified as Hispanic, Latino, or of Spanish descent. Table 15 displays these data. Participants’ ages ranged from 25 – 66, and the average age was 55.8 years. Table 16 displays these data.

Table 15. Gender, Education, Race, and Ethnicity

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Gender (n = 21)</th>
<th>Education (n = 20)</th>
<th>Race (n = 21)</th>
<th>Hispanic (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Bachelor’s</td>
<td>Master’s</td>
</tr>
<tr>
<td>Percentage</td>
<td>57.1% (n = 12)</td>
<td>42.9% (n = 9)</td>
<td>38.1% (n = 8)</td>
<td>57.1% (n = 12)</td>
</tr>
<tr>
<td>(Frequency)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 16. Average Age and Age Range

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>55.8 years</td>
</tr>
<tr>
<td>Age Range</td>
<td>25 – 66 years</td>
</tr>
</tbody>
</table>

**Responses to Likert-Type Questions**

This section includes data from questions that asked participants to rate their responses using either a 4-point or 6-point Likert-type scale. The first question asked: How familiar are you with WIOA, with previous legislation, with strategic planning, and with systems thinking? Response options were very unfamiliar, unfamiliar, familiar, or very familiar. A majority of participants considered themselves very familiar with WIOA \((n = 16)\) and with strategic planning \((n = 13)\), and familiar with other legislation \((n = 13)\) and systems thinking \((n = 12)\). Figure 5 displays these data.

![Figure 5. Familiarity with Laws, Practices, and Thinking](image)
The next question asked: How would you rate your comfort level with innovation? Response options were: very uncomfortable, uncomfortable, comfortable, very comfortable. The majority of participants were very comfortable with innovation \((n = 14)\), while the remainder stated they were comfortable with it \((n = 7)\). These data are displayed in Figure 6.

**Figure 6. Level of Comfort with Innovation**

How would you rate your comfort level with innovation? 
\(n = 21\)

- Very uncomfortable: 0.0%
- Uncomfortable: 0.0%
- Comfortable \((n = 7)\): 33.3%
- Very comfortable \((n = 14)\): 66.7%

Participants were also prompted to indicate their level of agreement with the following statement: I consider myself to be a creative person. Response options included: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. A plurality of participants agreed with the statement \((n = 8)\), others strongly agreed \((n = 6)\), and a small proportion somewhat agreed \((n = 2)\). The question was not required, and some participants chose not to answer \((n = 1)\), and one participant strongly disagreed (4.8%). These data are displayed in Figure 7.
Figure 7. Consideration of Creativity

Finally, participants were asked about their level of agreement with the following statement: A visual depiction of a local workforce development system would be useful for a local board’s strategic planning process. Response options also ranged from strongly disagree to strongly agree on a six-point Likert-type scale. A majority of participants strongly agreed with the statement \((n = 13)\), and the remainder either agreed \((n = 7)\) or somewhat agreed \((n = 1)\). These data are displayed in Figure 8.

Figure 8. Utility of a Visual Depiction of the System

A visual depiction of a local workforce development system would be useful for a local board’s strategic planning process. \((n = 21)\)
**Round 1: Ranking Question Scenario**

The primary question of the modified Delphi survey asked participants to rank previously written statements. The statements were about structural changes that should be made to the workforce development system so that it would fulfill the Six Purposes of the Workforce Innovation and Opportunity Act of 2014 (WIOA). Participants were also asked to provide their reasoning for ranking items the way they did overall, and to provide new statements to be ranked in the next round.

The participants were initially presented with a future-based scenario prior to the ranking question. The scenario asked participants to imagine the year was 2030 and that they were tasked with guiding their local board toward fulfilling the six purposes of the Workforce Innovation and Opportunity Act. The Six Purposes of WIOA were displayed within the survey for participants to review. Participants were then asked to rank a list of statements in order of importance for fulfilling those six purposes. The complete scenario is included in Appendix I. The initial list of 18 statements participants viewed as part of the ranking question in Round 1 is also included in Appendix I.

**Round 1: Rankings**

Responses were collected via the online survey platform, SurveyGizmo, and analyzed. An initial analysis was conducted on the ranked statements to determine the level of agreement or disagreement among the 21 participants who completed Round 1. The statistical program SPSS was used to calculate a measure of concordance, Kendall’s $W$. The results from Round 1 indicated a Kendall’s $W$ of 0.37. Table 17 displays each level of agreement or disagreement and its measure (Schmidt, 1997).
Table 17. Levels of Agreement and Disagreement (Schmidt, 1997)

<table>
<thead>
<tr>
<th>Levels of Agreement</th>
<th>Kendall’s Coefficient of Concordance (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Agreement</td>
<td>$W: &gt; 0.70$</td>
</tr>
<tr>
<td>Moderate Agreement</td>
<td>$W: 0.50 &lt; 0.70$</td>
</tr>
<tr>
<td>Weak Agreement</td>
<td>$W: 0.30 &lt; 0.50$</td>
</tr>
<tr>
<td>Disagreement</td>
<td>$W: 0 &lt; 0.30$</td>
</tr>
</tbody>
</table>

**Average Rankings: Round 1**

Using SPSS, the average rank of each statement was also calculated. Statements were arranged according to their average, from the lowest number (indicating the highest ranking) to the highest number (indicating the lowest ranking). The top five statements and their resultant average ranks from Round 1 are displayed in Table 18. The complete list of average rankings from Round 1 is included in Appendix I.

Table 18. Top Five Average Ranks of Statements: Round 1

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Top Five Ranked Statements: Round 1</th>
<th>Average Rank</th>
<th>Original Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>3.57</td>
<td>D.</td>
</tr>
<tr>
<td>2.</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>4.71</td>
<td>A.</td>
</tr>
<tr>
<td>3.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>4.81</td>
<td>L.</td>
</tr>
<tr>
<td>4.</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>6.43</td>
<td>B.</td>
</tr>
<tr>
<td>5.</td>
<td>Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td>7.00</td>
<td>I.</td>
</tr>
</tbody>
</table>
Round 1: Reasoning Statements

Participants were asked to explain their overall reasoning for ranking statements in the order that they did. The question was voluntary, and participants typed their responses into a text box. The data were downloaded from the survey website and placed into an Excel spreadsheet. Data were then lightly edited and placed in a table for review by participants in the following round. A complete list of the reasoning statements from Round 1 is provided in Appendix I. Excerpts from the reasoning participants provided for ranking statements the way they did are displayed in Table 19.

Table 19. Excerpts from Statements of Reasoning for Rankings from Round 1

<table>
<thead>
<tr>
<th>Excerpts from Participants’ Statements of Reasoning for Rankings: Round 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>I tried to focus on the employer customer first and system related items first.</td>
</tr>
<tr>
<td>I ranked answers having to do with the structure of governance first, because I feel we need to have that answered before we consider performance or partnerships, however those become equal in importance if not more so.</td>
</tr>
<tr>
<td>Statements that reinforce local voice and strength were placed first, increasing and enhancing participant services fell second on my list and could be as important as the first section of statements! I believe all 18 statements are relevant. The statements that relate to existing services fell into the third category in my list.</td>
</tr>
<tr>
<td>Business should be at the heart of 100% of planning. Career paths should be developed with jobs across skill levels and resource investment should follow that model. Local area boards know their communities best. Give them the funding and hold them accountable for performance.</td>
</tr>
<tr>
<td>In my experience our local board had good alignment with industry and the positions that are in demand. In addition, I think it is important to align funds at the local level for maximum efficiency. I also believe there should be strong accountability with those funds at the local level, to ensure the money is being utilized effectively.</td>
</tr>
<tr>
<td>The WIOA organization that I serve has historically been very successful in meeting WIOA goals. My rankings are based on those goals and accomplishments.</td>
</tr>
<tr>
<td>The partnership between the local workforce board and regional employer base is the key to success. We have demonstrated that in our region.</td>
</tr>
</tbody>
</table>
Round 1: Suggestions for Additional Statements

Lastly in Round 1, participants were asked to include their ideas for statements that would support the workforce development system’s fulfillment of the Six Purposes of WIOA. These responses were also placed into an Excel spreadsheet, edited lightly, and placed into the ranking question in the next round’s survey for participants to rank. The results of this question are displayed in Table 20.

Table 20. Suggestions for Additional Statements to Be Ranked in Round 2

<table>
<thead>
<tr>
<th>Participants’ Suggestions for Additional Statements to Be Ranked in Round 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry should take the lead on developing public workforce development programs so that they are totally aligned with their needs.</td>
</tr>
<tr>
<td>Industry sector analysis and priorities bring focus to our work and help us best serve both employers and jobseekers in alignment with WIOA’s six purposes.</td>
</tr>
</tbody>
</table>

Round 2: Ranking Question Scenario

Analyses of Round 1, review by the Consultation Council members, and preparations for the Round 2 survey took one week to complete. Participants were emailed a link to the Round 2 survey and asked to complete it within one week. Within the Round 2 survey, participants were shown the results from Round 1: the Kendall’s $W$ statistic, the average ranks for each statement, and the reasoning participants provided for why, overall, participants ranked the statements the way that they did. Participants were also provided a display of the context for the Kendall’s $W$ statistic, as shown in Figure 9.

Prior to asking participants to re-rank the statements, a future-based scenario similar to that in the first round was presented. Participants were specifically prompted to imagine they
were designing the ideal workforce development system focused on fulfilling the Six Purposes of WIOA. The purposes were summarized, and participants were again provided text of the Six Purposes of WIOA to review prior to ranking the list of statements that followed. The complete scenario and the list of 20 statements participants ranked in Round 2 are included in Appendix J.

Figure 9. Context for Kendall’s $W$ Results

| $0 = \text{complete disagreement}$ | $0.50 = \text{neither agree nor disagree}$ | $1.00 = \text{complete agreement}$ |

Round 2: Rankings

Round 2 survey responses were collected via the online survey platform and analyzed. An initial analysis was conducted on the ranked statements to determine the level of agreement or disagreement among the 18 participants who completed Round 2. SPSS was used to calculate the level of concordance with Kendall’s $W$. The results from Round 2 indicated a Kendall’s $W$ of 0.41. Table 17 displays each level of agreement or disagreement and its description.

Average Rankings: Round 2

Using SPSS, the average rank of each statement from Round 2 was calculated. Statements were arranged according to their average, from the lowest numbers (indicating the highest rankings) to the highest numbers (indicating the lowest rankings). The top five statements and their resultant average ranks from Round 2 are displayed in Table 21. A complete list of the average rankings from Round 2 is included in Appendix J.
Table 21. Top Five Average Ranks of Statements from Round 2

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Top Five Ranked Statements: Round 2</th>
<th>Average Rank</th>
<th>Original Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>3.28</td>
<td>A.</td>
</tr>
<tr>
<td>2.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>5.28</td>
<td>L.</td>
</tr>
<tr>
<td>3.</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>5.67</td>
<td>D.</td>
</tr>
<tr>
<td>4.</td>
<td>Industry sector analysis and priorities bring focus to our work and help us best serve both employers and jobseekers in alignment with WIOA's six purposes.</td>
<td>5.89</td>
<td>T.</td>
</tr>
<tr>
<td>5.</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>5.94</td>
<td>B.</td>
</tr>
</tbody>
</table>

**Round 2: Reasoning Statements**

Participants were again asked to explain their overall reasoning for why they ranked statements in the order that they did. The question was voluntary, and participants typed their responses into a text box. The data were downloaded from the survey website and placed into an Excel spreadsheet. Data were then lightly edited and placed in a table for review by participants in the following round. Excerpts of the reasoning participants provided for why they ranked statements the way they did in Round 2 are displayed in Table 22. A complete list of participants’ reasoning statements from Round 2 is included in Appendix J.
Table 22. Excerpts from Statements on Reasoning for Rankings: Round 2

<table>
<thead>
<tr>
<th>Excerpts from Participants’ Statements of Reasoning for Rankings: Round 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many unemployed citizens live in the rural areas and need access to training. It is also difficult for those of us who have never experienced generational poverty to understand the needs of that group. Having members on the boards who come from vulnerable populations would help us understand the true and underlying needs of those individuals.</td>
</tr>
<tr>
<td>Workforce Boards can only affect a portion of quality of life; while we need to be aware of it and addressing holistic needs, we cannot be held responsible for them. For industry to be a focus of boards, some sort of measurement should be derived to measure the system-wide work that is involved.</td>
</tr>
<tr>
<td>Questions of Governance &amp; structure still need to be dealt with first, if there is any question as to how to set this up locally.</td>
</tr>
<tr>
<td>I prioritized my rankings to reflect that accountability, oversight and industry involvement are key to fulfilling the six purposes of the WIOA.</td>
</tr>
</tbody>
</table>

Round 2: Suggestions for Additional Statements

Lastly in Round 2, participants were asked to add their ideas for statements to be added to the list to be ranked in Round 3. Participants were asked to include statements that would support the ideal workforce development system’s fulfillment of the Six Purposes of WIOA. Participants were notified that statements receiving the lowest rankings in the analysis of Round 2 data would likely be eliminated from the list in Round 3. The results of suggestions for additional statements to be ranked in Round 3 are displayed in Table 23.

Table 23. Suggestions for Additional Statements to Be Ranked in Round 3

<table>
<thead>
<tr>
<th>Participants’ Suggestions for Additional Statements to Be Ranked in Round 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-based learning should be part of training programs to better address employer needs for experienced workers.</td>
</tr>
<tr>
<td>Services need to be reasonably and systematically linked to changing allotments in WIOA funding.</td>
</tr>
<tr>
<td>Find a way to make labor market and community asset data more relevant to the local areas.</td>
</tr>
<tr>
<td>Give one stop operators the authority to ensure partners are not siloed, but work together as a team.</td>
</tr>
<tr>
<td>Local workforce boards should be able to form a nonprofit affiliate.</td>
</tr>
</tbody>
</table>
Integration and alignment of funding streams is vital in order to most effectively serve workforce system customers: have funding flow to LWDBs for utilization in accord with local strategic plans as developed by the board.

**Round 3: Ranking Question Scenario**

Analyses of Round 2, review by the Consultation Council members, and preparations for the Round 3 survey took four days to complete. Participants were emailed a link to the Round 3 survey and asked to complete it within one week. In the Round 3 survey, participants were first shown the results from Round 2: the Kendall’s $W$ statistic, the average ranks for each statement, and the list of reasoning statements participants provided for ranking the statements in the order that they did. Participants were also shown a display of context for the Kendall’s $W$ statistic, as shown in Figure 9.

Prior to asking participants to re-rank statements, participants were presented with a future-based scenario similar to those in the first two rounds. The scenario again asked participants to imagine they were in charge of designing the *ideal* workforce development system focused on fulfilling the Six Purposes of WIOA, which were summarized in the scenario and included in full. Participants were also provided four general systems principles to consider. The complete scenario and the list of 20 statements participants ranked in Round 3 are included in Appendix K.

**Round 3: Rankings**

Responses to the Round 3 survey were collected via the online survey platform and analyzed. An initial analysis was conducted on the ranked statements to determine the level of agreement or disagreement among the 18 participants who completed Round 3. SPSS was used
to calculate Kendall’s $W$. The results from Round 3 indicated a Kendall’s $W$ of 0.41. Table 17 displays each level of agreement and disagreement and its description.

**Average Rankings: Round 3**

Using SPSS, the average rank of each statement was also calculated. Statements were arranged according to their average, from the lowest numbers (indicating highest rankings) to the highest numbers (indicating the lowest rankings). The statements and their resultant average ranks from Round 3 are displayed in Table 24.

**Table 24. Average Ranks of Statements from Round 3**

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Ranked Statements: Round 3</th>
<th>Average Rank</th>
<th>Original Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>3.28</td>
<td>A.</td>
</tr>
<tr>
<td>2.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>5.28</td>
<td>L.</td>
</tr>
<tr>
<td>3.</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>5.67</td>
<td>D.</td>
</tr>
<tr>
<td>4.</td>
<td>Integration and alignment of funding streams is vital in order to most effectively serve workforce system customers: Have funding flow to LWDBs for utilization in accord with local strategic plans as developed by the board.</td>
<td>5.89</td>
<td>H.</td>
</tr>
<tr>
<td>5.</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>5.94</td>
<td>B.</td>
</tr>
<tr>
<td>6.</td>
<td>Industry sector analysis and priorities bring focus to our work and help us best serve both employers and jobseekers in alignment with WIOA’s six purposes.</td>
<td>7.00</td>
<td>T.</td>
</tr>
<tr>
<td>7.</td>
<td>Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td>10.50</td>
<td>I.</td>
</tr>
<tr>
<td>8.</td>
<td>Work-based learning should be part of training programs to better address employer needs for experienced workers.</td>
<td>11.00</td>
<td>O.</td>
</tr>
<tr>
<td>9.</td>
<td>Career Pathways need to include clear steps that indicate probable wage increases for appropriate progress, similar to apprenticeship programs.</td>
<td>11.11</td>
<td>M.</td>
</tr>
</tbody>
</table>
Table 24. Average Ranks of Statements: Round 3 (cont.)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement</th>
<th>Average Rank</th>
<th>Initial Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Find a way to make labor market and community asset data more relevant to the local areas.</td>
<td>11.33</td>
<td>Q.</td>
</tr>
<tr>
<td>11.</td>
<td>The state workforce board should only deal with state-level policy rather than allocating funding.</td>
<td>11.56</td>
<td>F.</td>
</tr>
<tr>
<td>12.</td>
<td>Give one stop operators the authority to ensure partners are not siloed, but work together as a team.</td>
<td>12.06</td>
<td>J.</td>
</tr>
<tr>
<td>13.</td>
<td>Services need to be reasonably and systematically linked to changing allotments in WIOA funding.</td>
<td>12.28</td>
<td>P.</td>
</tr>
<tr>
<td>14.</td>
<td>Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
<td>12.50</td>
<td>G.</td>
</tr>
<tr>
<td>15.</td>
<td>Find a way to support employers in developing and retaining their staff.</td>
<td>12.50</td>
<td>K.</td>
</tr>
<tr>
<td>16.</td>
<td>Where possible, combine workforce and economic development departments.</td>
<td>12.72</td>
<td>C.</td>
</tr>
<tr>
<td>17.</td>
<td>Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
<td>13.50</td>
<td>E.</td>
</tr>
<tr>
<td>18.</td>
<td>Clear connections need to be in place between WIOA and apprenticeship opportunities so that jobseekers and employers can take advantage of them in a seamless, customer-centered design way.</td>
<td>14.06</td>
<td>R.</td>
</tr>
<tr>
<td>19.</td>
<td>Industry should take the lead on developing public workforce development programs so that they are totally aligned with their needs.</td>
<td>16.06</td>
<td>S.</td>
</tr>
<tr>
<td>20.</td>
<td>Local workforce boards should form a nonprofit affiliate.</td>
<td>16.28</td>
<td>N.</td>
</tr>
</tbody>
</table>

Retention of Ranked Statements Across Rounds and WIOA Purposes

When the modified Delphi survey began, the list of 18 statements to be ranked in Round 1 contained 12 statements developed by pilot study participants and six statements developed by the researcher. The list of 20 statements ranked in Round 3 and displayed in Table 24 retained ten statements by pilot study participants, two by the researcher, and included all eight statements developed by the main study participants in the first two rounds. In the top five ranked statements from Round 3, four were crafted by pilot study participants: three were
Round 3: Reasoning Statements

In Round 3, participants were again asked to explain their reasoning for ranking statements in the order that they did. The question was voluntary, and participants typed their responses into a text box. The data were downloaded from the survey website and placed into an Excel spreadsheet. Data were then lightly edited and placed in a table for review by participants at the conclusion of the modified Delphi survey phase of the study. The reasoning participants provided for ranking statements the way they did in Round 3 is displayed in Table 25.

Table 25. Statements on Reasoning for Rankings from Round 3

<table>
<thead>
<tr>
<th>Participants’ Statements on Reasoning for Rankings: Round 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statements pertaining to accountability and service delivery structure/strategy received the highest ranking. I believe they are the foundation to fulfilling the purposes of WIOA.</td>
</tr>
<tr>
<td>Focus on alignment of systems and local leadership/authority.</td>
</tr>
<tr>
<td>Each LWFB [local workforce board] deals with different challenges and the frontline service providers are the most appropriate entity to determine their funding priorities, not the state. Industry needs to be engaged/involved in order to ensure that their needs, both current and future, are being/will be met. Having both Workforce and Economic Development under one department would help ensure that their priorities and efforts are aligned. You can't have economic development without a workforce, and a main purpose of workforce development is to support economic development.</td>
</tr>
<tr>
<td>Employment opportunities can be very different throughout a state. It is important that local workforce boards have the ability to support the needs of the local communities.</td>
</tr>
<tr>
<td>While our local area needs are constantly changing I have ranked the statements above based on placing the local board in a position that provides the ability to convene and move partners in the same agreed upon direction. This will also allow the local board to effectively allocate funding and improve the economy.</td>
</tr>
<tr>
<td>I am disappointed that rural communities were eliminated since a large segment of our county is rural. Rural communities, because of transportation and other infrastructure problems, are the most challenging. I thought Question P was too vague. I think we can't rely on industry to be forward thinking and preparing for the future - they are too focused on short term profits.</td>
</tr>
<tr>
<td>Industry sector analysis remains a best practice for prioritizing program funding to the benefit of jobseekers as well as employers.</td>
</tr>
</tbody>
</table>
Table 25. Statements on Reasoning for Rankings from Round 3 (cont.)

<table>
<thead>
<tr>
<th>Statements on Reasoning for Rankings from Round 3 (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local control by the LWDB [local workforce development board] is key. That has to be established as part of the governing structure, the culture. The interests of Business, Employers and Industry Sectors are not excluded or second place by doing this; business/employers are meant to be the driving force on LWDBs as well.</td>
</tr>
<tr>
<td>Funding and service delivery should match. We are often asked to do more service delivery with less funding, which isn't always realistic.</td>
</tr>
<tr>
<td>Question P I really didn't understand well enough to be sure on my ranking. My thought about Question P is that decisions would be made from the top down, which concerns me. Question G: family feedback is unclear.</td>
</tr>
<tr>
<td>Start by providing LWDBs with the authorizing environment and resources necessary to carry out the work, then tighten the linkages to business to ensure relevancy of training/skill development/credential investments, then align service delivery to execute the work.</td>
</tr>
<tr>
<td>Current experience and understanding of how things currently work affect my ranking; i.e. what type of employers/industry in in the region available to partner in the ways the ranking describes.</td>
</tr>
<tr>
<td>In an ideal system the workforce boards would have &quot;real&quot; authority over all titles rather than the current focus on Title1B funding streams. State labor market data is very unreliable and lags behind actual demand in many cases -especially in rural areas where employers do not post openings in the state labor market exchange system. Holistic career counseling is a great goal but attempting to involve the entire family could be sabotaging to the person we are trying to assist if the family dynamic is a barrier to his/her success.</td>
</tr>
</tbody>
</table>

**Round 3: What Participants Learned**

One of the final questions in the Round 3 survey asked participants to complete the following prompt: "By participating in this research so far, I have learned…" Responses were downloaded from the survey website, edited lightly, and placed in a table for review by participants at the conclusion of the study. The results are displayed in Table 26.

Table 26. Participants’ Statements About What Was Learned by Participating

<table>
<thead>
<tr>
<th>Statements About What Was Learned by Participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>To view valued workforce development system design and priorities through the lens of other Executive Directors.</td>
</tr>
<tr>
<td>I have learned that our board has accomplished some very important things in the past 20 years, and I have also learned some approaches that are different from the ones we have taken.</td>
</tr>
<tr>
<td>Not as many respondents prioritized providing LWFB budget/fund allocation authority.</td>
</tr>
</tbody>
</table>
Table 26. Participants’ Statements About What Was Learned by Participating (cont.)

<table>
<thead>
<tr>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>That there is an understanding that there is still opportunity for improving workforce development</td>
</tr>
<tr>
<td>boards.</td>
</tr>
<tr>
<td>More about the implications of the six WIOA purposes. It is interesting to see how others evaluate</td>
</tr>
<tr>
<td>and rate the statements.</td>
</tr>
<tr>
<td>Others share my views of the importance of good industry sector analysis and strategies.</td>
</tr>
<tr>
<td>How to better frame and conceptualize the conversation about the interaction of LWDBs and the</td>
</tr>
<tr>
<td>business community.</td>
</tr>
<tr>
<td>Areas of importance for workforce leaders across the country and new ways of looking at WIOA.</td>
</tr>
<tr>
<td>That there is so much more to learn and retain. Need to really listen to the people on the front lines.</td>
</tr>
<tr>
<td>About the diverse topics that are important to other Workforce Development Executives and a</td>
</tr>
<tr>
<td>reflection of their organizational structure.</td>
</tr>
<tr>
<td>That I'm not the only one who thinks business needs a strong voice in developing the local workforce</td>
</tr>
<tr>
<td>systems.</td>
</tr>
<tr>
<td>That there are different perspectives on what an integrated workforce system looks like, and that's</td>
</tr>
<tr>
<td>good.</td>
</tr>
<tr>
<td>Commonality of issues among LWDBs, including role of LWDB and focus on business as key customer.</td>
</tr>
<tr>
<td>The basic tenets of WIOA align with what I think needs to happen to create labor market success.</td>
</tr>
<tr>
<td>Proposed elements for strengthening WIOA systems are well within reach---not even far stretches.</td>
</tr>
<tr>
<td>I have learned how very different applications of WIOA statutes might be in different locales. A rural</td>
</tr>
<tr>
<td>perspective differs from urban even though we follow the same statutes. The flexibility in the existing</td>
</tr>
<tr>
<td>system which allows local boards to create and support a system that works for them in their unique area</td>
</tr>
<tr>
<td>also contributes to a lack of &quot;brand&quot; for the workforce system.</td>
</tr>
</tbody>
</table>

**Phase Two: Systems Modeling**

The first phase of this study involved three rounds of a modified Delphi survey. Analyses and results included rankings of statements about the ideal workforce development system. Phase Two of this study involved developing a textual description of the “ideal” workforce development system from the qualitative data collected during Phase One. The data were used as a basis for designing a visual representation of the “ideal” system. The modified Delphi survey data were first aggregated, analyzed, and synthesized to develop the textual description. The textual description was then used to design a visual depiction of the “ideal” workforce.
development system in the form of a systemigram. The systemigram was designed using the free software program, SystemiTool (Systems Engineering Research Center, n.d.).

**Consultation Council**

In Phase Two, the Consultation Council reviewed three “root definitions” (Checkland, 1999, p. A22) or textual descriptions of the workforce development system the researcher prepared. The council members compared the three definitions to the aggregated qualitative data and resultant themes. Council members determined which of the three definitions best represented the data and the themes from the analysis. Their decision determined which definition was used as the basis for the design of the systemigram: an interrater reliability score of 1.00 was achieved.

**Boardman Soft Systems Methodology**

As noted in Chapter 3 of this study, steps one through six of the seven-step Boardman Soft Systems Methodology (Boardman & Sauser, 2013) were fully applied to this research, and step seven was partially applied to this research. Steps one and two concerned developing an understanding of the environment, history, and components associated with the overall system (Sauser et al., 2011). Those two steps were completed through the literature review of this dissertation. The third step concerned the development of a textual description of the system under study (Boardman & Sauser, 2013). This description was based on the qualitative data collected during the modified Delphi phase of this research: the ranked statements from Round 3, and the reasoning statements from all three rounds. The resultant description was used in the fourth step to design the systemigram (Sauser et al., 2011). Steps five, six, and part of step seven were completed during Phase Three of this study, and will be discussed in the next section.
Step 3 of BSSM

The third step of the Boardman Soft Systems Methodology is “Structured Text” (Sauser et al., 2011, p. 5). The structured text in this study included the qualitative data from the modified Delphi survey conducted in Phase One: specifically, the ranked statements from Round 3 and the reasoning statements from all three rounds. Data were placed in an Excel spreadsheet for analysis. In this study, the third step also incorporated a component of Checkland’s (1999) Soft Systems Methodology. The component, “CATWOE” analysis, is a process to identify the system elements of “customers … actors … [the] transformation process … Weltanschauung [worldview] … owners … and the environmental constraints” (Checkland, 1999, p. 18). The CATWOE components were used as predetermined themes for the qualitative data to help identify elements of the “ideal” workforce development system.

Qualitative data were analyzed to determine which ranked statements from the Round 3 survey and which reasoning statements from all three rounds fit within specific categories of CATWOE. For example, a reasoning statement from Round 3 that noted: “Business should be our primary customer and should play a key role in guiding the workforce system design,” was categorized as a system “Customer.” During the analysis it was discovered that owners were not explicitly identified by participants (e.g., chief local elected officials, the Department of Labor, governors, etc., were not mentioned). The role of owner was not included in the “root definition” (Checkland, 1999, p. A22). Table 27 displays examples of ranking and reasoning data and their corresponding CATWOE element(s).
### Table 27. Examples of CATWOE Analysis

<table>
<thead>
<tr>
<th>Excerpts of Ranked Statements from Round 3; Reasoning from All Rounds</th>
<th>Excerpts of Themes/Categories: CATWOE Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business should be our primary customer and should play a key role in guiding the workforce system design.</td>
<td>Employers/Businesses/Industry Sectors are the primary Customers as well as the guides of the Board/System.</td>
</tr>
<tr>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>The local board is the primary Actor and should have “authority” over the system (i.e., practically be the “Owner” of the system) and the “flexibility” to adapt to changing needs.</td>
</tr>
<tr>
<td>The partnership between the local workforce board and regional employer base is the key to success.</td>
<td>Alignment of services to industry demands is a Transformation process.</td>
</tr>
<tr>
<td>Aligning with employer needs in key industry sectors is the guiding principle.</td>
<td>Business and Industry should guide the local board by setting priorities and utilizing industry sector, labor market, and community data analyses; the system’s responsiveness to this business guidance should be measured (Worldview).</td>
</tr>
<tr>
<td>The state workforce board should only deal with state-level policy rather than allocating funding.</td>
<td>State workforce boards are Environmental constraints.</td>
</tr>
</tbody>
</table>

Three “root definitions” (Checkland, 1999, p. A22) were developed from the data and were shared with the Consultation Council members. Members were asked to discern which of the three definitions best represented the data and the resultant themes. Consultation Council Members agreed on the following root definition as the best representation of the data and themes:

> The Local Board selects, oversees, and authorizes funds for workforce development programs and services in the area. This oversight is conducted with integrity and accountability and allows the Local Board to flexibly adapt to changing economic and business needs, while also serving the rural parts of the area. Businesses are the primary customer of this demand-driven system. Workforce development programs and services such as Career Pathways are designed and aligned with industry sectors in the area and these programs are provided the proper resources to span skill levels. Apprenticeship programs are clearly connected with WIOA programs and services as well. Work-based learning is provided to existing employees, and talent is developed from an early age to
encourage jobseeker potential, creativity, and entrepreneurship. The State Workforce Board is responsible for policies only at the state level. The Local Board designs performance and accountability structures for the local area, giving One-Stop Operators the authority to ensure partners work together; training job center staff to use holistic, team-based approaches when providing services; and encouraging the consolidation of economic development and workforce development departments.

The other two definitions viewed by the Consultation Council are included in Appendix L.

**Step 4 of BSSM**

The fourth step of the Boardman Soft Systems Methodology is “Systemigram Design” (Sauser et al., 2011, p. 5). The systemigram was created using Boardman and Sauser’s (2013) SystemiTool, a free software program downloaded from the Systems Engineering Research Center (n.d.). Nouns and verbs from the “root definition” (Checkland, 1999, p. A22) were used to create nodes and links in the system diagram. After the systemigram was created, it was separated into segments according to communicable functions. Each segment’s visual file was then placed into a PowerPoint presentation as a portion of the system diagram for participants to view. The PowerPoint presentation of the systemigram was delivered to participants during interviews conducted in the third and final phase of the study.

**Phase Three: Post-Survey Interviews**

The first phase of this study involved three rounds of a modified Delphi survey. Analyses and results included rankings of statements about the ideal workforce development system. The second phase of this study involved the analysis and synthesis of statements from Phase One. The synthesis formed the textual description of the design of a systemigram of the “ideal” workforce development system. Phase Three of this study involved interviewing participants to obtain their initial feedback about the systemigram design, to gain their feedback about the utility of a visual depiction of the workforce development system, and to provide them a revised version of the systemigram after interviews were complete to obtain final feedback. Table 28
depicts these three phases and the points at which Steps 3-7 of the Boardman Soft Systems Methodology were completed.

Table 28. Summary of Phases One, Two, and Three: Results, Analyses, and Steps of BSSM

<table>
<thead>
<tr>
<th>Phase One: Modified Delphi</th>
<th>Phase Two: Systems Modeling (Steps 3-4 of BSSM)</th>
<th>Phase Three: Post-Survey Interviews (Steps 5-6, part of Step 7 of BSSM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Round 1 Results:</strong></td>
<td><strong>Analysis:</strong></td>
<td><strong>Interviews:</strong></td>
</tr>
<tr>
<td>- Kendall’s W</td>
<td>- Round 3 Ranked Statements</td>
<td>- Development of the systemigram explained to participants</td>
</tr>
<tr>
<td>- Average Ranks</td>
<td>- Reasoning Statements from all three rounds</td>
<td>- Each section of the systemigram was displayed (Step 5 of BSSM)</td>
</tr>
<tr>
<td>- Reasoning Statements</td>
<td>- “CATWOE Analysis” (Checkland, 1999, p. 18) conducted</td>
<td>- Five-question interview protocol was delivered (Questions 1-3 addressed Step 6 of BSSM)</td>
</tr>
<tr>
<td>- Suggestions for Additional Statements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Round 2 Results:</th>
<th>Synthesis:</th>
<th>Textual Analysis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Kendall’s W</td>
<td>- Three “root definitions” (Checkland, 1999, p. A22) developed</td>
<td>- Responses to question four (utility of visuals for strategic planning) were analyzed for themes</td>
</tr>
<tr>
<td>- Average Ranks</td>
<td>- Consultation Council Members identified one definition most representative of data</td>
<td>- Responses to final question five (anything else to say) were analyzed for themes</td>
</tr>
<tr>
<td>- Reasoning Statements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Suggestions for Additional Statements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Round 3 Results:</th>
<th>Design of Systemigram:</th>
<th>Systemigram Revisions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Kendall’s W</td>
<td>- Using root definition, nouns became nodes, verbs became links</td>
<td>- Responses to questions 1-3 were analyzed for suggestions to revise systemigram</td>
</tr>
<tr>
<td>- Average Ranks</td>
<td>- Systemigram was storyboarded into sections for presentation in interviews</td>
<td>- Revisions were made to systemigram</td>
</tr>
<tr>
<td>- Reasoning Statements</td>
<td></td>
<td>- Systemigram was storyboarded and sent for final feedback</td>
</tr>
<tr>
<td>- Statements About What Was Learned by Participating</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overview of Phase Three

The final question of the modified Delphi survey asked participants if they were interested in participating in the final phase of the study: individual interviews that were to be conducted online or over the phone. Sixteen people expressed interest in learning more about the interviews. Participants were emailed the details and informed that the interview topic would be a visual depiction of the ideal workforce development system. Each participant was also sent a consent form to review. Twelve participants consented to be interviewed. Schedules and formats (phone or web) were confirmed, and a separate web conferencing link was sent to each participant.

All interviews were conducted using the web conferencing platform, Zoom, and lasted an average of 45 minutes. The researcher initially explained the interview topic and how the systemigram was created: that qualitative data from the modified Delphi were used to develop both a textual and visual depiction of the “ideal” workforce development system. The systemigram was displayed in segments, and the first question from the interview protocol was asked and answered while reviewing the segments. The entire systemigram was displayed while the remaining four questions were asked and answered.

After the interviews were complete, revisions were made to the systemigram based on input from interview participants. The revised systemigram was sent to interview participants with a request for final input. That input was incorporated into the revised systemigram displayed later in this chapter.

Consultation Council

In Phase Three, the Consultation Council reviewed themes identified from data obtained during the final two interview questions: about the value of visual depictions for strategic
planning purposes, and if there was anything else they would like to say about their experience participating in the study. The interrater reliability score for the review of these data was 1.00. Results of the analysis will be discussed later in this section.

**Interview Participants**

Twelve people agreed to be interviewed for the final phase of this research. Each participant received a separate consent form for this phase of the study. Participants were contacted and interviews scheduled by email. Once scheduled, a link to their individual Zoom web conferencing session was emailed to each participant.

Interview participants represented all geographical regions and income ranges, though not all income ranges were represented within each geographical region. Five participants were from the West, three participants were from the Midwest, two participants were from the Northeast, and two participants were from the South. Three were from areas in the below median income range, six were from areas within the median income range, and three were from areas in the above median income range. These data are displayed in Table 29.

Table 29. Geographical and Economic Data of Interview Participants’ Local Areas

<table>
<thead>
<tr>
<th></th>
<th>Below Median Income</th>
<th>Within Median Income</th>
<th>Above Median Income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>8.33% (n = 1)</td>
<td>8.33% (n = 1)</td>
<td>8.33% (n = 1)</td>
<td>25.0% (n = 3)</td>
</tr>
<tr>
<td>Northeast</td>
<td>8.33% (n = 1)</td>
<td>0% (n = 0)</td>
<td>8.33% (n = 1)</td>
<td>16.7% (n = 2)</td>
</tr>
<tr>
<td>South</td>
<td>8.33% (n = 1)</td>
<td>8.33% (n = 1)</td>
<td>0% (n = 0)</td>
<td>16.7% (n = 2)</td>
</tr>
<tr>
<td>West</td>
<td>0% (n = 0)</td>
<td>33.3% (n = 4)</td>
<td>8.33% (n = 1)</td>
<td>41.6% (n = 5)</td>
</tr>
<tr>
<td>Total</td>
<td>25.0% (n = 3)</td>
<td>50.0% (n = 6)</td>
<td>25.0% (n = 3)</td>
<td>100% (n = 12)</td>
</tr>
</tbody>
</table>
Demographic analysis showed that the majority of participants were women \((n = 7)\), and a majority of participants indicated a master’s degree level of education \((n = 8)\). One participant identified as Asian, and one participant identified as Black or African American. The average age of interview participants was 57.2 years, and ages ranged from 41 – 65. Tables 30 and 31 display these data.

### Table 30. Gender, Education, Race, and Ethnicity of Interview Participants

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Gender ((n = 12))</th>
<th>Education ((n = 12))</th>
<th>Race ((n = 12))</th>
<th>Hispanic ((n = 12))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>Female 58.0% ((n = 7))</td>
<td>Bachelor’s 33.3% ((n = 4))</td>
<td>Asian 8.33% ((n = 1))</td>
<td>No 100% ((n = 12))</td>
</tr>
<tr>
<td>(Frequency)</td>
<td>Male 42.0% ((n = 5))</td>
<td>Master’s 66.7% ((n = 8))</td>
<td>Black 8.33% ((n = 1))</td>
<td>White 83.33% ((n = 10))</td>
</tr>
</tbody>
</table>

### Table 31. Average Age and Age Range of Interview Participants

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>57.2 years</td>
</tr>
<tr>
<td>Age Range</td>
<td>41 - 65 years</td>
</tr>
</tbody>
</table>

The roles of executive director (or equivalent position), board chair, and board member were each represented by interview participants. A range of experience was represented, from 0-2 years through 20+ years. A plurality of participants interviewed had between 11 and 20 years of experience \((n = 5)\). These data are displayed in Table 32.

Finally, the form of organization for local areas was not completely represented: there was no representation of local areas that were comprised of single cities. Half of the interview participants were from areas served by nonprofit organizations \((n = 6)\), one quarter were from
areas representing single counties \( (n = 3) \), and one quarter were from areas representing multiple governmental entities \( (n = 3) \). These data are displayed in Table 33.

### Table 32. Roles and Years of Experience of Interview Participants

<table>
<thead>
<tr>
<th>Board Role ( (n = 12) )</th>
<th>Years of Experience ( (n = 12) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Director (or equivalent)</td>
<td>0-2 years</td>
</tr>
<tr>
<td>Board Chair</td>
<td>Board Member</td>
</tr>
<tr>
<td>Percentage</td>
<td>(Frequency)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Government Entity/Entities ( (n = 6) )</th>
<th>Nonprofit ( (n = 6) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>County</td>
</tr>
<tr>
<td>Percentage</td>
<td>(Frequency)</td>
</tr>
<tr>
<td>(n = 0)</td>
<td>(n = 3)</td>
</tr>
</tbody>
</table>

**Interview Process and Review of the Systemigram**

Interviews were conducted with 12 participants using the online web conferencing platform, Zoom. Interviews took place between May 11 – May 21. Interviews took an average of 45 minutes to complete. Each interview began with the researcher thanking participants for their participation and asking if they were able to see the slides and hear the researcher clearly\(^5\).

The researcher explained the purpose of the interview: to present a diagram (systemigram) of the “ideal” workforce development system and to obtain each participant’s

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\(^5\) The principles of universal design were not incorporated into the development of the systemigram(s) in this study. Future research utilizing the SystemiTool software should consider a diverse range of users when designing systemigrams, to achieve the broadest applications.
input on the systemigram by asking them specific questions about it. Participants were told the agenda for the interview: a) first, an explanation of how the diagram was developed would be reviewed; b) the systemigram would then be shown in sections; c) a display of the whole systemigram would follow; d) questions would be asked of them throughout the presentation; and e) notes on their remarks would be typed concurrently by the researcher.

**Explanation of How the Diagram was Developed**

A slide containing the average rankings of statements from Round 3 of the Modified Delphi survey was displayed. Participants were asked to review the ranked statements by reading them silently. It was explained to the participant(s) that the statements from Round 3 rankings and the reasoning statements from all three rounds (not displayed) were aggregated and analyzed using CATWOE analysis, as a part of Checkland’s Soft Systems Methodology (Checkland, 1999). The resultant analyzed parts were then synthesized into a “root definition,” (Checkland, 1999, p. A22) or description of the ideal workforce development system. A slide displaying the root definition was then shown to participants and they were asked to read it silently to themselves.

**Step 5 of BSSM**

Phase Three of this study began with the completion of step five of the Boardman Soft Systems Methodology (Boardman & Sauser, 2013) during participant interviews. Steps one and two of the Boardman Soft Systems Methodology were completed during the literature review in Chapter 2; steps 3 and 4 were completed during Phase Two of this study. Step five of the BSSM is “Dramatization and Dialogue” (Sauser et al., 2011, p. 5). The researcher briefly discussed with interview participants the use of Boardman’s Soft Systems Methodology (Boardman & Sauser, 2013) to create the systemigram using the textual description. Before advancing to the slides
displaying the system diagram, participants were reminded that the visual depiction would first be seen in sections, then the whole systemigram would be shown. Participants were shown the slide depicting the first section of the systemigram, and the researcher explained that each section was to be read beginning in the upper left corner and working down to the bottom right corner of the diagram.

The researcher read the first section of the diagram, pointing to each node and link as she went. She began by reading the text in the large green node in the upper-left corner of the diagram and working toward the bottom right corner: “Local workforce development boards serve designated geographical areas (rural, metro, and suburban) with primary customers, considered to be industry sectors, applying needed skills to create and support a demand-driven system fulfilling the six purposes of WIOA.” After reading the remaining strings of nodes and links in a similar fashion, the researcher asked participants the first question in the interview protocol: “Compared to the final ranked statements from Round 3 of the modified Delphi survey and to the ‘root definition,’ (Checkland, 1999, p. A22) what revisions to this systemigram would you suggest?” The first section shown to participants is displayed in Figure 10.

The researcher typed notes of participants’ responses. Several of the participants discussed the dual nature of customers the system serves. Some participants remarked that who the primary customers are depends on the economy and whether there is a recession. One participant noted, “Three months ago, the [economic] landscape was dramatically different” (P1).
Figure 10. Section 1 of the Systemigram of the *Ideal* Workforce Development System: During Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
A few of the participants noted that, concerning jobseekers, vulnerable populations and barriers were not mentioned. Regarding the inclusion of vulnerable populations, one participant commented, “That’s what makes us different from a placement agency” (P8). Another participant noted: “The system as designed was always about those who had the greatest barriers, and our job was to get them ready … and now we’ve got many, many, many more [due to the] displacement of people in the restaurant industry – maybe they had multiple jobs – those went away. That gap has been widened. It’s now a chasm, it seems” (P10).

After participants indicated that they were ready for the next section, the slide displaying the second section was presented. The researcher read the first strand of the diagram on the second section. She again began reading from the green node in upper left corner of the systemigram, and read down to the ending purple node in the bottom right corner: “Local workforce development boards have authority to select and oversee workforce development programs and services providing needed skills to create and support a demand-driven system fulfilling the six purposes of WIOA.”

Several comments were made about the second section. Some of the participants discussed local boards’ authority and flexibility with funds and with program oversight as part of the “ideal” workforce development system. One participant commented that “Authority and flexibility are the two major tenets of any leadership” (P10). Another remarked that “The authority frightens many of the board members” (P8). Overall, participants responded positively to the flexibility and authority, and several comments concerned how important flexibility and authority would be to an ideal system.
Figure 11. Section 2 of the Systemigram of the *Ideal* Workforce Development System: During Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
Several participants also discussed the importance of supportive services, such as transportation, child care, and mental health services, to workforce development programs. A few of the participants specifically spoke about TANF (Temporary Assistance for Needy Families) funds. One participant noted that workforce development receives funding for jobseekers, not employers: “Funding streams don’t follow employers at all. It’s all about jobseekers and vulnerable populations” (P1). Other participants focused on the board’s authority and flexibility as they relate to policies.

Participants also discussed the node “Workforce Development Programs and Services,” and the important role education plays. Several participants described the strong relationships they have with community and/or technical colleges in their areas and how important those are for the work of Career Pathways. Participants indicated that they did not see a viable path toward the future without those relationships. Participants pointed out that workforce development is more effective when supportive services are included. Finally, one participant brought up “career guidance,” (P12) and its primary role and connection to the other services, programs, and education discussed. The second section of the diagram as it was presented to participants is displayed in Figure 11.

As the questions were asked, the researcher returned to previously viewed slides in the deck, to the Round 3 rankings slide, or to the slide containing the “root definition” (Checkland, 1999, p. A22), if needed. In so doing, participants were able to refresh their recollection and make a comparison to the systemigram, in response to the first question. References to the definition and/or rankings occurred most often while viewing the slide depicting the third section of the systemigram.
Figure 12. Section 3 of the Systemigram of the *Ideal* Workforce Development System: During Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
The researcher began the third slide by reading one strand of the diagram: “Local workforce development boards design performance and accountability structures encouraging merged departments to support a demand-driven system fulfilling the six purposes of WIOA.” In section three of the systemigram, several participants commented on the lack of data mentioned in the diagram. Participants noted that data were used frequently in their one-stop centers; data help guide understanding of what actions need to be taken with respect to industry sectors and placements. Participants indicated that they could not imagine the system without data, and both data and analysis were mentioned in the Round 3 rankings. Two of the participants also discussed the importance of including community development alongside economic and workforce development. One participant remarked “I see workforce development where economic and community development meet” (P6).

Another participant focused on the importance of partners and stakeholders to the health of the system. The partnerships that were there to be built as a result of the design of the system was emphasized: “One of the benefits of this system is the board’s outsourcing of services. … If you don’t outsource, you have status quo investment – and then you have a harder time adapting” (P4). Section three of the systemigram is displayed in Figure 12.

The researcher moved to the next slide and read the fourth section of the systemigram: “Local workforce development boards communicate with state workforce boards developing policies only at the state level to support a demand-driven system fulfilling the six purposes of WIOA.” At times, rather than compare the diagram to the rankings and “root definition” (Checkland, 1999, p. A22) of an ideal system, participants responded with how the systemigram compared to their own local area, and explained how the two differed. This occurred most often on the slide depicting the fourth section of the systemigram.
Figure 13. Section 4 of the Systemigram of the *Ideal* Workforce Development System: During Interviews

Note. The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
Several participants commented on the existing role of the state workforce board in their area. Some participants stated they had no interaction with that board, others referred to them as “rubber stamp boards.” Some participants found state workforce boards to be too controlling; another participant suggested the state board was a political body, not a governing body. There were a few participants who felt the ideal system would include more involvement with and/or more communication from the state workforce board. One of the participants suggested the state workforce board should have a role in the alignment of the system. Another participant suggested that the role of Chief Local Elected Officials (CLEOs) would be helpful with bringing state workforce boards into alignment with local areas and purpose fulfillment.

Participants also discussed the role of technical assistance in the workforce development system. Those who spoke about it suggested that monitoring of local areas by state administrators was the only form of technical assistance, and participants found it insufficient. Others described technical assistance from the federal level in a similar manner. One participant specifically mentioned the need for electronic signatures during monitoring. Participants described the monitoring process as time-consuming and cumbersome, primarily due to the state and federal insistence on “wet signatures.” The fourth section of the systemigram is displayed in Figure 13.

**Step 6 of BSSM**

Step six of the Boardman Soft Systems Methodology is “Feasible, Desirable Changes” (Sauser et al., 2011, p. 5). Participants were asked two more questions about the systemigram in accordance with this step. The whole systemigram was displayed on the last slide of the presentation while these questions were asked. The first question was: Are there any elements of this systemigram that do not fit the culture of workforce development (i.e., are not feasible)?
The next question asked of the participants was: Are there any other revisions you think would technically be an improvement (i.e., are desirable)? Notes were made in response to these questions. One comment made was that the “Local Workforce Development Board” node was too simplistic. The participant did not think that node depicted the diversity of thought that exists on a local board, nor did it indicate the complexity of making decisions amidst such diversity of thought. Similarly, with the ending node, “A Demand-Driven System Fulfilling the Six Purposes of WIOA,” the participant asked, “What are the six purposes again?” (P10) pointing to a sense of completeness that was missing from the original version of the systemigram they were viewing.

Other remarks about the whole systemigram included those that reflected concerns about individual local areas versus the “ideal” system. For example, one participant commented that “It doesn’t include the state office, which to me has been a problem” (P4). The participant was referring to the state administration office rather than the State Workforce Board. The state administration office was not discussed during the modified Delphi rounds and was not included in the textual or visual description of the “ideal” workforce development system.

Another participant chuckled and said, “It looks like a stargazer map. You need a sextant to figure this out” (P10). Others thought that the diagram reflected the complexity of the system: “It makes me think that the root definition is very easy, in and of itself, but once you get into it, it looks kind of like this” (P6). Another participant noted: “It is an impressive snapshot of our system. This is how many pieces – if just one color changes or one pathway changes – it changes the whole thing” (P8). The whole systemigram as it was presented during interviews is displayed in Figure 14.
Figure 14. Systemigram of the *Ideal* Workforce Development System: During Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
Final Interview Questions and Resultant Themes

The last two interview questions of the five-question protocol were asked of the participants. The fourth question asked: Thinking of traditional strategic planning visuals, such as quantitative graphs or SWOT analysis, what utility, if any, would a visual depiction of a local workforce development system have for a board’s strategic planning? The fifth and final interview question asked: Is there anything else you would like to say about your experience participating in this study? These questions were analyzed in an Excel spreadsheet, themes were identified, and those themes and data were reviewed by the researcher’s Consultation Council: an interrater reliability score of 1.00 was achieved.

Themes Concerning the Utility of a Visual Depiction

The first theme concerning question four was, “Utility is dependent on individual perspective.” This theme indicated that the utility of a visual depiction of the system depended on individual board members: some would find visuals very useful; others would wonder what they were for or would not understand them. The second theme, “Separate pieces of the systemigram would be easier for board members to understand,” simply suggested that the sections of the diagram should be displayed to board members, at least initially, to promote understanding of the system.

The third theme was, “Visual depictions in general have several uses in strategic planning processes.” This theme indicated that participants saw the value of a visual depiction of the system to assist with strategic planning. Visual depictions provide a roadmap for users; help to solve problems; offer a way to view regionalism; depict continuity and process flow; and provide an understanding of the system, its parts, roles, and processes. Finally, Theme 4 was “Uses of the systemigram as a visual representation include explaining and understanding the workforce
development system.” This theme indicated that participants discerned several benefits from the systemigram as a visual depiction. The benefits included: allowing for understanding in less time so the board could better lead the system; allowing for deeper strategic planning; and helping explain the workforce system to new board members, elected officials, state-level policy makers, and business people. The resultant themes and examples of responses to question four are displayed in Table 34.

**Themes Concerning Participants’ Experiences**

The last question asked during interviews gave participants an opportunity to express themselves about their participation in the study overall. Responses and themes that emerged from the analysis of this question concerned comparisons to other participants’ thinking, what participants learned from one another, and appreciation for research in the field of workforce development. Responses were consistent with those from Round 3 of the modified Delphi in Phase One of the study.

Table 34. Themes and Examples of Responses from Question 4: Visuals and Strategic Planning

<table>
<thead>
<tr>
<th>Themes</th>
<th>Response Excerpts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1: Utility is dependent on individual perspective.</td>
<td>-“Some would eat it up and others would be more tactical – what’s going to resonate with some will lose others. What they [board members] would say is, ‘What of this is something we should do something about? If this is aspirational, what problem are we fixing?’” (P1).</td>
</tr>
<tr>
<td>Theme 2: Separate pieces of the systemigram would be easier for Board Members to understand.</td>
<td>-“This type would be too much for our board…They need something less defined – not quite as abstract. Like the pieces you have…When you put it all together it’s a little overwhelming. It gets really busy if you haven’t adapted to the smaller pieces” (P3).</td>
</tr>
<tr>
<td></td>
<td>- “When I look at the whole together it’s too much for me. I couldn’t get my way from green to purple. And that’s what people experience when they come in – go from green to purple and follow all of these rules” (P2).</td>
</tr>
</tbody>
</table>
| Theme 3: Visual depictions in general have several uses in strategic planning processes. | - “I think it would be really helpful. One of the struggles workforce has is how to explain workforce” (P6).  
- “Having a standard - a roadmap” (P7).  
- “There would be some asset mapping that would take place – additionally, something that referenced regionalism would work” (P9).  
- “Absolutely the model is critical. Then moving to how to apply it in the strategic planning process - as an educational tool for how it is that people understand what it is that we’re supposed to be doing” (P10). |
| Theme 4: Specific uses of the systemigram as a visual representation include resolution within the system, and explaining and understanding the workforce development system. | - “When we have disputes or discontinuity within the system this gives a very good way of finding out where the problem is and how to resolve that problem” (P2).  
- “Reduce the time to understand the system so they [board members] can lead the system. Stakeholders and elected officials: county, city, state leaders – make sure they can fully understand this in a visual way would be helpful to board members. It’s hard to lead a system when you don’t fully understand it” (P6).  
- “Use this as a training for new board members or elected officials and explain how the system functions and our role in it….business person coming in…This could help discretely talk thru each one, “We design the system and we have purview,” as opposed to the traditional, “Congress provides…” There are many different diagrams we’ve used over the years, but this one is valuable…Meetings in strategic planning with the board…talk about elements of this…Incorporate planning and use this…policy-level, state-level people…show them how the system operates” (P12)  
- “What you’re trying to do is drive back to this final purple [node with the Six Purposes of WIOA in the bottom right] which is why or how we exist, and most staff are focused on the green bubble [node with the Local Workforce Development Boards in the upper left]. People see models, but they don’t necessarily see systems. So how to communicate systems thinking along with the model…The world doesn’t operate sequentially anymore, and local boards definitely do not operate that way anymore. “Pillars of excellence” is the new word for a silo. So, you can now be super amazing and stand alone in a field by yourself – but that's not how you succeed. You have to succeed in a system. And many of the old models are people – people who are pillars of excellence and have no idea how to do this” (P10). |

Participants compared and contrasted their thinking with others’ thinking, as noted in themes one and two. Participants also remarked about what they learned from other participants by reading their reasoning statements and seeing their suggestions for statements to be ranked.
Finally, participants expressed appreciation for research conducted in the field of workforce development. The resultant themes and examples of responses are displayed in Table 35.

### Table 35. Themes and Examples of Responses from Question 5: Participants’ Experiences

<table>
<thead>
<tr>
<th>Themes</th>
<th>Response Excerpts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1: How much other people think the way I do.</td>
<td>“It’s been interesting to see where my thoughts have aligned with other people's thoughts” (P7).</td>
</tr>
<tr>
<td>Theme 2: How differently other people think from the way I do.</td>
<td>“I found it very positive. Obviously different people from around the country – different groups – comments...made me wonder where they’re coming from…never looked at it that way. I didn’t necessarily agree with everybody” (P5).</td>
</tr>
<tr>
<td>Theme 3: I learned from some of the ideas people had.</td>
<td>- “It’s kind of opened my eyes a bit ... seeing comments. ... I never thought of it that way. We don’t live in that world. I thought that [including past job-seeking customers from vulnerable populations on the board] was really a good suggestion – best thing I got out of this whole survey” (P3).</td>
</tr>
<tr>
<td></td>
<td>- “One of the things this did was it really got me looking more at the six purposes and thinking in that direction” (P11).</td>
</tr>
<tr>
<td>Theme 4: General appreciation for the academic work being done.</td>
<td>“The workforce system needs more academic study and then elucidation ... the workforce system is often unknown – the more we can highlight its existence and efficacy and think more of alignment. ... The workforce system has long been under understood. ... WIOA [Workforce Innovation and Opportunity Act of 2014] passing, almost unanimously, bespeaks the fact that it is relevant” (P12).</td>
</tr>
</tbody>
</table>

### Revisions to the Systemigram

One purpose of conducting the interviews in Phase Three was to obtain input from participants about possible revisions to the sytemigram. The first three questions of the five-
question interview protocol concerned potential revisions to the system diagram. Participants’ responses to the first three questions were transferred to an Excel spreadsheet. Rather than analyzing for qualitative themes, the data were analyzed for suggestions of potential nodes and links with which to revise the systemigram of the “ideal” workforce development system.

A copy of the systemigram displayed during interviews was saved and coded for each interview participant. The revisions each participant suggested were included along the top margin of their respective systemigram in the form of nodes and links. The suggestions were reviewed, duplications were removed, and revisions were then added to the main diagram. The revised main systemigram was then storyboarded for presentation to the participants and their final input was obtained.

A total of 62 suggestions were made by the 12 participants interviewed. After removing 34 items (18 duplicates, seven excluded items, and nine items subsumed within other suggestions), the net result was 28 revisions made to the systemigram. There were four reasons for excluding suggestions: a) the suggestion was in direct conflict with another suggestion that received more support from participants; b) the suggestion was not specific enough to implement; c) the suggestion was not feasible to implement; or d) the suggestion referred to the participant’s local area rather than to the “ideal” workforce development system.

There were 18 suggestions concerning section one of the diagram; eight of them were duplicates. The most commonly suggested item on the first section of the systemigram was to incorporate “Primary Customers” and “Secondary Customers” into one node. The revision was made, with the blue node “Dual Customers” created as a replacement.
Figure 15. Section 1 of the Revised Systemigram of the Ideal Workforce Development System: After Interviews

Note. The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
Two of the participants also suggested that the pink “Creativity” node and green “Potential” node related to entrepreneurship needed to be placed together within the “Jobseekers” node; making that revision would be more consistent with the “root definition” (Checkland, 1999, p. A22) of the system. Suggestions were also made to include “Barriers” and “Vulnerable Populations” within the “Jobseekers” node. One participant suggested including “Increased Wages” to make the diagram more consistent with the Round 3 rankings. The revised version of the first section is displayed in Figure 15.

There were 17 suggestions made concerning the second section of the systemigram; one was a duplicate, and five suggestions were subsumed within other nodes. Several suggestions were made about the “Workforce Development Programs and Services” node. Examples of suggestions not included in the revised version were to add community colleges and technical colleges; these were subsumed within the broader category of postsecondary education.

Similarly, suggestions to include TANF (Temporary Assistance for Needy Families) and SNAP (Supplemental Nutrition Assistance Program) were subsumed under “Supportive Services” within the “Workforce Development Programs and Services” node. Another suggestion concerning that node was to revise “Work-Based Learning” to read “Occupational Skills Training.” That change was made. Another participant also suggested adding “Adult Basic Education” and “Career Guidance” within “Workforce Development Programs and Services,” noting their importance and distinctiveness for fulfilling the six purposes. Three participants made comments and suggestions about the “Needed Skills” node. Two participants suggested adding more specific categories such as job skills, soft skills, and financial skills, to better depict the depth and range of skills required to support jobseekers and employers. The revised version of section two of the systemigram is displayed in Figure 16.
Figure 16. Section 2 of the Revised Systemigram of the *Ideal* Workforce Development System: After Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items. OJT stands for on-the-job training. WEX stands for work experience.
There were 13 suggestions made that concerned section three of the systemigram; five were duplicates. Several participants suggested including data and labor market information, to be more consistent with the definition and rankings. One participant suggested placing a node that read, “Data/Labor Market Information” between the green beginning node of “Local Workforce Development Boards” and the yellow node “Performance and Accountability Structures.”

Another suggestion concerned the “Performance and Accountability Structures” node. One participant noted that One-Stop Operators and Job Center Staff worked in One-Stop Centers. The participant suggested that adding a node labeled “One-Stop Centers” would more accurately depict the performance and accountability structures of local areas, and would support the “ideal” design.

There were several suggestions made to change the term “Merged Departments” in the blue node to a descriptor that was less restrictive. There were also two suggestions to include community development within that blue node, in concert with workforce development and economic development. The revisions were made: the node was retitled “Coordinated Functions,” and the smaller node of “Community Development” was included along with those of “Workforce Development” and “Economic Development.”

Suggestions were also made to revise the node “Holistic, Team-Based Approaches.” Participants discussed the ideal nature of such an inclusive description and indicated that TANF and/or SNAP programs could also be subsumed within it. One participant also noted that an ideal addition to holistic, team-based approaches would be the process of “Referrals” among agencies, providers, and partners within the system. The revised version of section three of the systemigram is displayed in Figure 17.
Figure 17. Section 3 of the Revised Systemigram of the *Ideal* Workforce Development System: After Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
There were eight suggestions that concerned section four of the systemigram; three were duplicates. An example of a suggestion in this section that was excluded because it was not specific enough was a participant’s suggestion that “The ‘State Workforce Board’ needs to be involved in system alignment.” When asked for further specificity about how that might be depicted, the participant was unable to elaborate.

An example of a suggestion that was excluded due to infeasibility was to the suggestion to include Chief Local Elected Officials (CLEOs or CEOs). As “Owners” of the system (Checkland, 1999, p. 18), CLEOs would not appear on this diagram, but rather would be considered a level above it, as a part of “the wider system” (Checkland, 1999, p. A24). The suggestion was also considered to be a reference to a participant’s local area rather than to the “ideal” workforce development system, as it was not mentioned by participants outside that area. However, their point was that for the “ideal” system to develop, the skills and connections elected officials possess could provide valuable contributions for systems design and effectiveness.

Participants had suggestions for how to improve the relationship and communication between state and local workforce boards. One suggestion that was included was made by three participants, who suggested that the link depicting “communication with” the “State Workforce Board” and the “Local Workforce Development Boards” should have arrows at both endpoints, to indicate more open dialogue between the two governing bodies. Another suggestion included in revisions to this section was to incorporate “Strategies” along with “Policies” as a function of the state workforce boards. The idea of working with the state workforce board on strategies and strategic planning is part of the design of the existing system as well. The revised version of section four is displayed in Figure 18.
Figure 18. Section 4 of the Revised Systemigram of the *Ideal* Workforce Development System: After Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items.
There were six suggestions made by participants concerning the systemigram as a whole; one was a duplicate. The last two interview questions were asked while viewing the entire diagram and concerned technical and feasible revisions. One of the questions asked for further revisions based on the culture of workforce development, and the other question asked about any further revisions that would technically be an improvement. There were no suggested revisions that related to the culture of workforce development. Regarding the question about revisions that would technically be an improvement, two participants suggested making the lines different colors to help highlight the sections of the systemigram. One participant suggested color-coding the nodes, but defining the colors for overlapping functions and roles was not feasible.

Another participant suggested indicating the “importance” (P11) of a node by making it larger. However, the specifics of how much larger to make the node, how that would be determined, etc., made that suggestion infeasible as well. Finally, a participant suggested adding roles to the beginning node of “Local Workforce Development Boards” and adding shortened versions of the six purposes to the ending node. The revised version of the whole systemigram is displayed in Figure 19.

**Step 7 of BSSM**

The final step of the Boardman Soft Systems Methodology is “Action to Improve the Problem Situation” (Sauser et al., 2011, p. 5). The systemigram created in this study was of an “ideal” workforce development system fulfilling its federally legislated purposes. The major component of taking action implied in this step was outside the scope of this dissertation. However, minor components of this step, such as incorporating feedback, making revisions to the systemigram, and reviewing those changes with participants, were completed and described in this section.
Figure 19. Revised Systemigram of the *Ideal* Workforce Development System: After Interviews

*Note.* The recommendation on the use of color in the Boardman Soft Systems Methodology is to help make the systemigram easier to read. During interviews, specific colors were mentioned by participants. In some instances the colors helped identify the topics. The colors themselves do not denote meaning, importance, or ranks of the items. OJT stands for on-the-job training. WEX stands for work experience.
The storyboarded version of the revised systemigram was sent to participants in a slide presentation on May 28, 2020; the four revised sections and the whole revised systemigram were included. Participants were asked to review the presentation and to provide any final comments or suggestions for revisions. Suggestions for final revisions were received from two participants on May 29, 2020. Their revisions are included in the revised systemigrams in Figures 16 and 19. The two participants each had a suggestion for final revisions about the same area of the systemigram, and the suggestions were similar enough to one another that they were incorporated into one item.

One of the final suggestions was to reinstate “Work-Based Learning” within the “Workforce Development Programs and Services” node. The other suggestion was to include internships, on-the-job trainings (OJTs), and work experience (WEX) along with apprenticeships, under a more generally titled node. The general category became an additional container node entitled “Work-Based Learning.” The suggested programs were included within that node, and that node was placed into the larger container node of “Workforce Development Programs and Services.” Those revisions were sent to the two participants who suggested them, and both participants approved of the changes.

Summary

In this chapter, results from conducting the three phases of this study were reviewed. Phase One included a review of results from three rounds of the modified Delphi survey: demographic analysis, responses to Likert-type questions, measures of concordance, and average rankings from each round were presented. Statements about participants’ reasoning and suggestions for additional statements to be ranked were reviewed from each round.
Results from Phase Two included the presentation of qualitative analysis of data collected in Phase One and the development of a visual depiction of the “ideal” workforce development system. The analyzed data came from Round 3 ranked statements and from the reasoning statements in Rounds 1, 2, and 3. Data were aggregated, then analyzed using Checkland’s (1999) “CATWOE analysis” (p. 18). The resulting textual description of the “ideal” workforce development system was presented as the foundation for developing the systemigram.

Results from Phase Three included interviews conducted with participants using a web conferencing platform and a presentation of the systemigram in storyboarded form. Data from interviews that concerned the systemigram were analyzed for nodes and links. Data from interview questions unrelated to the systemigram were analyzed for themes and reviewed by Consultation Council Members. Revisions to the systemigram were made and then distributed to participants for final input; minor suggestions were received and included.

Next, Chapter 5 will present a formal discussion of this research and the conclusions drawn from these results. This will be followed by a review of the limitations and implications of the research. The study will conclude with recommendations for future research and practice.
CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This chapter reviews the conclusions made from this research, the findings that support those conclusions, and how the findings relate to prior research. The conclusions will be followed by a discussion on the limitations of this research. The chapter will conclude with a review of recommendations for practice and future research.

Purpose of the Study and Review of the Research Questions

The federally legislated purposes of workforce development systems in the United States have not been fulfilled and have increased in scope and complexity since the first workforce development system legislation was passed in 1973. The current legislation, the Workforce Innovation and Opportunity Act of 2014, contains multiple purposes. The reason the fulfillment of these purposes is important is that they describe helping individuals with barriers find employment, supporting the prosperity of employees and employers, improving the quality of services, and increasing the country’s competitiveness (WIOA, 2014). The fulfillment of these purposes by local workforce development areas would benefit employers by helping to fill the gap of “middle-skills jobs” (Association for Talent Development, 2015, p. 4), would benefit jobseekers by helping to decrease income inequality in the United States (Silvia et al., 2013), and would benefit communities by promoting economic development over economic growth (Feldman et al., 2014).

The first purpose of the study was to explore the design of a local workforce development area fulfilling its federally legislated purposes. The first research question was associated with this purpose:
1. What is the design of a local workforce development system that fulfills its federally legislated purposes?

This “ideal” workforce development system was developed with the Boardman Soft Systems Methodology: it was described textually based on participant data from the modified Delphi survey, and it was depicted visually using SystemiTool software.

The second purpose of this study was to determine the utility of such a visual depiction for the strategic planning processes carried out by local area board members and executive directors. The second research question was associated with this purpose:

2. What, if any, utility does a visual depiction of the system design provide to local workforce development professionals and board members with respect to strategic management processes?

This question was addressed quantitatively in Round 1 of the modified Delphi survey, and qualitatively in post-survey interviews.

Conclusions: The “Ideal” Workforce Development System

There were three conclusions about the first research question: What is the design of a local workforce development system that fulfills its federally legislated purposes? This question has also been referred to throughout this study as the design of the “ideal” workforce development system. The conclusions concern the nature of the “ideal” workforce development system and the primary role within that system.

1. Complexity is an Important, Intentional Characteristic of the “Ideal” System

Complexity is an important aspect of the workforce development system that was intentionally depicted in the ideal system. The notion that complexity exists in the workforce development system has been articulated in other research (Fortson et al., 2017; Hawley et al., 2005;
Melendez et al., 2015; Nilsen, 2002; Scully-Russ, 2015). As Mirengoff and Rindler (1978) noted in their study of CETA: “The dilemma of manpower policy is its seemingly paradoxical emphasis on job placement, while it urges the enrollment of the least employable” (p. 6). This seemingly paradoxical emphasis may be at the heart of why the workforce development system, as it exists in reality, has only grown more complex over the years.

The intentional inclusion of complexity in the “ideal” system by participants occurred first in the modified Delphi phase when participants described their reasoning for ranking statements in a particular order. Priorities varied and evolved over rounds, but the needs of the customers, system, stakeholders, and board were continuously discussed. For example, one participant’s reasoning statement in Round 1 was: “I tried to focus on the employer customer first and system related items first.” In Round 2 one participant’s reasoning for ranking statements in a particular order was: “I prioritized my rankings to reflect that accountability, oversight, and industry involvement are key to fulfilling the six purposes of the WIOA.”

Participants’ reasoning and their suggestions for statements to be ranked in future rounds added complexity, but also added dimension to discussion, as noted in policy Delphi research (Buck et al., 1993; de Loe et al., 2016; Klenk & Hickey, 2011; Manley, 2013; Ottman et al., 2017) as well as normative Delphi research (Novakowski & Wellar, 2008).

The intentional inclusion of complexity in the ideal system was also demonstrated during the interview phase of the study when participants made their suggestions for revising the systemigram. This also occurred when the revised systemigram was sent to participants for final input. Two participants submitted suggestions for final input into the same area of work-based learning. Each participant advocated for the inclusion of a separate, but related, and specific component to place within that sub-node of the systemigram. The inclusion of additional
Complexity contributed to the overall depiction of the system as well as to the fulfillment of the systems’ purposes. Their suggestions complicated the systemigram, but also completed it: their suggestions represented the efforts of jobseekers, employers, and the results of their relationship with one another. The visual depiction of how various customers, providers, partners, programs, and services relate is a primary objective of systemigrams (Boardman & Sauser, 2013; Mehler, et al., 2010; Prins et al., 2015; Ramsay et al., 1996; Sauser et al., 2011).

Complexity as an important and intentional characteristic of the “ideal” system suggests that purpose fulfillment does not require simple solutions or a simplification of the system. The complexity primarily results from the intertwined, interdependent relationships found within the system. Each element of the systemigram discussed with participants had meaning for them, and each suggestion concerned serving customers, supporting partners, developing relationships, and/or designing a resilient, demand-driven, purpose-guided system. This finding of relational complexity and its importance is also consistent with research conducted by Hawley et al. (2005) concerning the importance of multi-sector, multi-organizational collaborations and their correlation with positive programmatic results. Participants were very clear about the interdependent nature of the elements, and that the relationships they described and suggested were revisions required to thoroughly depict the ideal system.

2. Simplicity Becomes a Characteristic of the “Ideal” System When Every Role Contributes to the Fulfillment of the Purposes

Complicated explanations about the system of workforce development may result from system actors’ insistence on the importance of the intertwined, interdependent relationships, as noted earlier. When every role is focused on fulfilling the purposes (i.e., when the big picture comes into view), the point of the system becomes obvious, and the confusion that often
surrounds complexity disappears. In his discussion of systems design, Gharajedaghi (2011) described a similar phenomenon, noting that “to design a social system is to produce a clear and explicit image of the desired outcome” (p. 138). The complexity is still there in the system because the relationships are still there, but the fog of confusion about the complexity lifts, and is replaced by clarity of simplicity.

Simplicity as a characteristic of the “ideal” system was notable during the interviews with participants while viewing the systemigram as a whole. One participant addressed the connection between complexity and simplicity: “It is an impressive snapshot of our system. … If just one color changes or one pathway changes – it changes the whole thing” (P8). Seeing the connections, the links between nodes may have provided participants with an understanding of the structural importance of those connections.

That understanding may have been relevant to the recognition of the purposes of the system as the guiding direction allowing simplicity to emerge. For example, simplicity was also expressed by participants who discussed the going “from green to purple,” (P2) within the systemigram and “looking more at the six purposes and thinking in that direction” (P11). Some participants readily grasped the importance of the connections, the structural design, and how simplicity represented by the systemigram may support purpose fulfillment. As another participant noted, “One of the struggles workforce has is how to explain workforce,” suggesting that the systemigram helped explain the system of workforce development (P6). Insights about simplicity despite system complexity are consistent with the literature on the use of systemigrams (Eigbe et al., 2015; Mehler et al., 2010). Once simplicity is present, more effective action becomes possible, as discussed in the next section, and in the section on recommendations.
3. Local Boards are the “Ideal” Systems’ Leaders

Since the inception of the workforce development system, volunteer boards have been placed at the center of the local workforce areas’ activities, and progressively given more responsibility (see Table 4 in Chapter 2). Despite the growth of responsibilities assigned to local boards over the years, the most recent law does not describe local boards as leaders of the system. This presented a systems imbalance that the participants in this study seemed to resolve with their consistent ranking across Rounds 2 and 3 of the statement: “The local board should be the governing authority and should be held accountable for performance and educational outcomes.” This top-ranked statement received an average rank of 3.28 in Round 2 \((n = 18)\) and an average rank of 2.44 in Round 3 \((n = 18)\), indicating that more participants ranked the statement higher in the third round.

This study may have provided an opportunity for participants to lead the “ideal” system by exploring it through the modified Delphi rounds and through the systemigram by contributing to the redesign of the system and speculatively communicating about it to others. In the “ideal” system the governance structure with local boards as leaders was the most important. This became apparent during the CATWOE analysis and development of the root definition of the “ideal” system. For example, the top-ranked statement mentioned above was used to categorize local boards as the “actors” of the system (those responsible for the transformation process) but could also have been used to categorize them as the system “owners” (see Table 27 in Chapter 4; Checkland, 1999, p. 18). Participants’ statements were strong enough to suggest that local boards could take “ownership” of their local areas and that they have the desire to produce the outcomes described by the six purposes of WIOA.
Local boards as the leaders of the “ideal” system was also evident in the systemigram, as depicted by the large green node in the upper left corner of the diagram. Everything else within the system emanated from the local boards’ node, supported their decision-making, service delivery, and performance. The systemigram was based on the root definition, which was based on the qualitative reasoning statements and third round rankings from the modified Delphi survey.

These findings were likely due to the worldview of the participants as executive directors, board chairs, and board members. However, the redesign of systems governance structures would allow for local area boards to lead the systems in their areas. The systemigram also seemed to reinforce the leadership drive of participants. Several participants commented on the value of the systemigram as a way to explain the system to new board members. As one participant remarked, “It’s hard to lead a system when you don’t fully understand it” (P6).

During interviews, several participants also discussed issues within the real system that obstructed the local boards’ leadership. In some areas the constraints were discussed at the state level. Other participants mentioned the federal level: either as a constraint, or as an absent check on the state level’s control. These concerns were consistent with previous research (Wilson & Rice, 1988) and reports from the GAO (U.S. General Accounting Office, 1984; 1991) about issues with state-level administrations during the time JTPA was in effect. With a clearer understanding of the “ideal” system, how it is configured, and what its purposes are, board members would be more likely to take effective action toward fulfilling the systems’ purposes. The notions of understanding and communicative potential provided by the systemigram were also supported in the literature (Blair et al., 2007; Boardman & Sauser, 2013; Mehler et al., 2010; Ramsay et al., 1996; Sauser et al., 2011; Sherman et al., 1996).
Conclusions: Utility of a Visual Depiction of the System

Along with workforce system legislation and the workforce system itself, the strategic planning of local workforce development areas has also become more complex over the years (U.S. Government Accountability Office, 2016). The suggestion that a government agency’s mission is to fulfill its federally legislated purposes further complicates planning and design. The second purpose of this study was to determine the utility of a visual depiction of the system for strategic planning purposes. The second research question asked:

2. What, if any, utility does a visual depiction of the system design provide to local workforce development professionals and board members with respect to strategic management processes?

There were two conclusions regarding this research question; both concern the meaning and understanding provided by participants’ review of the systemigram.

4. The Systemigram Acts as an Epistemic Object

One element of local boards’ strategic plans describes the workforce development activities in their respective local areas. As such, the plans and its activities are relevant to the fulfillment of the law’s six purposes. The potential utility of a visual depiction of the workforce development systems’ planning processes was not previously known. Participants indicated that the systemigram and other visual depictions would be beneficial for local boards’ planning. This was indicated in Round 1 of the modified Delphi survey by the high level of agreement with the statement about visuals in planning, as depicted in Figure 8 of Chapter 4. Participants strongly agreed (61.9%, n = 13), agreed (33.3%, n = 7), or somewhat agreed (4.8%, n = 1) with the statement that a visual depiction would be useful for strategic planning purposes. These findings triangulated with the qualitative data collected during interviews.
The systemigram as a specific form of visual depiction of the system also acted as an epistemic object. This was supported by research on the use of visuals in strategic planning. An epistemic object or “object of enquiry” (Miettinen & Virkkunen, 2005) is a visual depiction or physical item from which people learn. The meaning derived from such an object is not fixed, but emerges from using or viewing the object (Jarzabkowski et al., 2013; Kaplan, 2011; Werle & Seidl, 2015). Werle and Seidl (2015) expanded on the notion of epistemic objects by suggesting: “Materiality is thereby understood as structuring the social world” (p. S69).

During the interviews conducted in phase three of this study, several participants suggested various meanings of the system diagram. They described insights into how to view the system, how customers viewed the system, and how the system could be better described and understood. Miettinen and Virkkunen (2005) suggested: “Models and concepts … serve as [the] means of making visible already developed possibilities, contradictions and emergent alternative solutions of a practice” (p. 442). The purpose of presenting a systemigram, as described by Boardman and Sauser (2013), is also consistent with this idea: “The ultimate goal is to engineer meaning for the viewer” (p. 109). The meaning garnered as the utility of a visual depiction of the system for local boards may lead to more effective planning, learning, and teaching about the system.

5. The Systemigram Supports Analytical Thinking by Making Holistic Thinking

Explicit

While viewing the entire systemigram, participants did not have to think about the two basic tenets of the system: whole and parts. Because they could see a model of the whole system, they were able to focus on the details of suggesting needed revisions to nodes and links of the systemigram. One participant discussed the possibilities of the holistic view, noting that
communication about the workforce development system could shift from talking about it in a linear fashion with, “the traditional [explanation], ‘Congress provides’…” to a more holistic approach such as, “We design the system and we have purview” (P12). The effectiveness of a holistic approach to strategic planning is supported in the literature (Cina & Cummings, 2018; Head & Alford, 2015). This finding was also similar to the findings of researchers using other types of visuals in strategic planning, describing the benefits of using visuals as surfacing assumptions for examination, identifying patterns, and synthesizing information (Bititci et al., 2016; Bürgi & Roos, 2003; Eppler & Platts, 2009; Heracleous & Jacobs, 2008; Knight et al., 2018; Mills et al., 1998).

Viewing the systemigram in its entirety allows holistic thinking to become explicit and frees the mind’s attention to perform the analytical thinking inherent in strategic planning. This would suggest that holistic thinking and analytical thinking are complementary constructs rather than competing constructs, in line with Checkland’s (1999) assertion that “systems thinking and analytical thinking will come to be thought of as the twin components of scientific thinking” (p. 74-75).

**Limitations**

There were several limitations to this study. First, this study examined the local area level of workforce development. The system of workforce development also includes the state level and the federal level; those levels were not studied. Thus, the perspectives shared in this research are limited in terms of a systems view.

Second, participants in this study held the roles of executive directors (or those in equivalent positions), board chairs representing business, and board members representing economic development. Board membership in local areas is comprised of more diverse roles,
with representatives from vocational rehabilitation, adult education, higher education, employment services, community-based organizations, and other organizations. Thus, the sample was not representative of the population of local boards.

Third, this study examined several structures of the workforce development system: the regulatory, legal, governance, performance and accountability, and support structures, and how local areas were affected by them. It did not include other structures such as communication. This, too, limited the perspectives shared in this research in terms of a systems view.

Fourth, the study’s methods relied on self-reporting and volunteerism of participants. While data were triangulated between the modified Delphi survey and the interviews, and member checking was conducted concerning revisions to the systemigram, participants were purposively sampled and likely already interested in strategic planning and/or systems thinking. Participants’ worldviews informed their contributions to the modified Delphi surveys and their suggestions for revisions to the systemigram.

Fifth, the systemigram was reviewed by the 12 participants interviewed, rather than by all 18 participants who completed the modified Delphi survey. Participation was voluntary and participants were asked in the final round of the modified Delphi if they would be interested in participating in interviews. Rather than sending or posting the systemigram for participants to view autonomously, the steps in the Boardman Soft Systems Methodology were followed. Systems research is dynamic, and systemigrams can be difficult to understand. Storyboarding with dialogue are recommended steps in the methodology.

Finally, the systemigram is a model of the system, an abstraction of the system, and “all models are wrong, but some are useful” (Boardman & Sauser, 2013, p. 108). The systemigram is a model of an “ideal” system as described by participants familiar with the real system. The
researcher’s perspective and interpretation also informed the development of the systemigram and the revisions to it.

**Recommendations for Practitioners**

1. One recommendation is for local boards to use a visual depiction of the system in their strategic planning sessions, during regular board meetings, and in meetings with customers, partners, and stakeholders. Several participants mentioned they planned to do this. Increasing the number of people who understand the system, the purpose(s) of the system, and their role(s) in the system, may allow for more ideas and suggestions about how to fulfill the system’s purposes.

2. State and local workforce boards should actively work on building relationships between them. Both boards are composed of volunteer members: some have applied to become members; others have been appointed to serve. The coercive versus cooperative nature of federalism that has existed since JTPA was enacted (Barnow, 1993) may support the illusion that one level of government is “higher” than another and may unnecessarily impede the needed relationship building. However, a series of meetings scheduled and designed by state and local board chairs, with agendas focused on the fulfillment of the legislation’s purposes, may serve as a proper approach for areas seeking to strengthen their relationships.

3. Legislators should carefully consider the roles, components (Checkland, 1999), and purpose(s) of a system when writing the next iteration of workforce development law. Applying systems thinking may help legislators better understand the structural and environmental needs and conditions faced by local areas, jobseekers, and employers, and help develop more effective systems solutions.
Recommendations for Research

1. Further research should entail an exploration of the system as viewed by those who work at the state and federal levels of government. Whether such exploration involves a system diagram or interviews about the existing diagram, these public administrators’ perspectives should be included in future research. Similarly, a review of the “ideal” systems design as perceived by other local area partners, stakeholders, and board members representing the roles of education, vocational rehabilitation, employment services, etc., would provide valuable insights into designing a more effective system.

2. Further research also needs to be conducted on the support structures of the workforce development system. Technical assistance provided as monitoring connotes a punitive approach to supporting local areas that is based on lagging indicators and is not likely to support the fulfillment of the law’s purposes. Beyond an exploration of the perspectives of state-level and federal-level administrators, an understanding of the design and purposes of technical assistance provided to local levels may lead to the identification of needed improvements.

3. Finally, future research into the communication structures of the system is warranted. This research examined several other structures of the system, but not the communication structures. Communication as defined by Skyttner (2005) is “The transference of meaning between systems by the conveying of information” (p. 207). Communication could be studied between boards and other entities, between levels of government, executive directors within states and/or across the country, customers and one-stop centers, etc. Communication is an important systems principle (Checkland, 1999) that will likely have a profound effect on the systems of workforce development.
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APPENDIX A: PILOT STUDY

HUMAN SUBJECTS REVIEW APPROVAL

DATE: October 4, 2019
TO: Philip Reed
FROM: Old Dominion University Education Human Subjects Review Committee
PROJECT TITLE: [1495374-1] Local Workforce Development, Federally Legislated Purposes, and a Systemigram: A Systems Design Delphi Study (Pilot Study)
REFERENCE #: New Project
ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: October 4, 2019
REVIEW CATEGORY: Exemption category # 2

Thank you for your submission of New Project materials for this project. The Old Dominion University Education Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Laura Chezan at (757) 683-7055 or lchezan@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Education Human Subjects Review Committee's records.
APPENDIX B: PILOT STUDY

ROUND 1 ANALYSIS

Table B.1. Analysis of Responses to Open-Ended Questions: Round 1

<table>
<thead>
<tr>
<th>Original participant responses from Round 1:</th>
<th>Statements derived from data – to be used in Round 2 for participants to rank:</th>
<th>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would provide separate non-training funding in the federal grant as part of the local funding allocation to address the specific non-work-related barriers to employment. This would be in addition to funding allocated for &quot;support services&quot;.</td>
<td>1. Allocate funding to address barriers in addition to funding for support services.</td>
<td>1. _____</td>
</tr>
<tr>
<td>First of all - All funding would be awarded to one entity so that there is no conflict of interest. Within the awarded agency a section would be formed that all staff have the knowledge, skills and ability to work with the population without concern about whose client they are, and how to fund using the holism principle to prepare a strategic plan for each client with the input of the client and/or family. This provides services without concern about who pays for what - work as a well-oiled team.</td>
<td>2. Take a holistic approach to funding and service provision for vulnerable populations (i.e., eliminate the competition and/or concern for funding awards among multiple agencies by designating one agency to serve the population).</td>
<td>2. _____</td>
</tr>
<tr>
<td>To support the purpose better triage and pathway mechanisms need to be put in place in order to determine who are most in need and can most benefit from WIOA services.</td>
<td>3. Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
<td>3. _____</td>
</tr>
<tr>
<td>4. Begin by clearly identifying customers who are most in need and those who would most benefit from workforce development services.</td>
<td>4. _____</td>
<td></td>
</tr>
<tr>
<td>Original participant responses from Round 1:</td>
<td>Statements derived from data – to be used in Round 2 for participants to rank:</td>
<td>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</td>
</tr>
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</tr>
<tr>
<td>Restructure the hierarchy of the current system. Eliminate the merit system requiring state staff to provide Wagner-Peyser/Employment Services and allocate federal Wagner-Peyser (and Vocational Rehabilitation ) to local areas and allow the blending of funds to fulfill needs of local community.</td>
<td>5. Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>5. _____</td>
</tr>
<tr>
<td>Workforce development and economic development should be one department. Again, funding centralized. If an educational agency is accredited they should be able to provide training without ETPL. The LWDB would oversee the entire structure using the Requisite Saliency principles.</td>
<td>6. Where possible, combine workforce and economic development departments.</td>
<td>6. _____</td>
</tr>
<tr>
<td></td>
<td>7. Reduce overlapping requirements for educational institutions (e.g., accreditation and ETPL attainment).</td>
<td>7. _____</td>
</tr>
<tr>
<td></td>
<td>8. Each entity should co-locate with the others to foster the needed interdependence between them.</td>
<td>8. _____</td>
</tr>
</tbody>
</table>
Table B.1. Analysis of Responses to Open-Ended Questions: Round 1 (cont.)

WIOA Purpose 3: “To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the employers need to succeed in a global economy.”

<table>
<thead>
<tr>
<th>Original participant responses from Round 1:</th>
<th>Statements derived from data – to be used in Round 2 for participants to rank:</th>
<th>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</th>
</tr>
</thead>
</table>
| At the end of the day - the one thing that defines the relevancy of workforce efforts is the answer to the question "How many people did you help get a job last week/month/year?" It is the most difficult question to answer since this data is dependent on wage records which create such a lagging indicator or an inefficient method of acquiring "supplemental data" which does not capture all outcomes. An adjustment needs to be made to be able to capture job placement data closer to "real-time" so that the workforce efforts will hold more relevance. Currently the lag time of "entered employment Q2 and Q4 after exit" does not allow the system to know "now" how it is doing, creating a reactionary system rather than a proactive one. | 9. To improve quality and relevance, real-time job placement data is needed. | 9.  

10. The local board should be the governing authority and should be held accountable for performance and educational outcomes.  

11. The local board should increasingly be guided by industry sectors regarding needed skills, etc. | 10.  

11.  

If the power is truly with the local boards there should be less intervention. Such as the by-laws, governance, etc., should be locally developed. Then the LWDB would be held accountable for their performance and be held accountable for outcomes. The LWDB would be responsible also for educational outcomes. Many of the jobs in 2030 have not even been thought of at this time. Technology is going to be more and more needed with skilled workers. Artificial intelligence will be used more and robots - the workforce will begin to look very different. Will need guidance more and more from industry - Don't know if the state and federal governments will be able to keep up.
Table B.1. Analysis of Responses to Open-Ended Questions: Round 1 (cont.)

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<table>
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<tr>
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<tbody>
<tr>
<td>12.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
</tr>
<tr>
<td>12.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Contracting for services and their execution should be strategically planned and designed into the system.</td>
</tr>
<tr>
<td>13.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Services need to be made more available and easily consumable to be most relevant to those who need them. Strong system design is needed to execute a well written strategic plan paired with good contract management for execution.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td></td>
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<tr>
<td>13.</td>
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</tbody>
</table>
Table B.1. Analysis of Responses to Open-Ended Questions: Round 1 (cont.)

WIOA Purpose 4: “To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers.”

<table>
<thead>
<tr>
<th>Original participant responses from Round 1:</th>
<th>Statements derived from data – to be used in Round 2 for participants to rank:</th>
<th>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Allocate funding for all core partners to the local areas leaving only state level policy under the state workforce board. 2. Mandate that at a minimum all core partner staff be certified through standard competencies and hired at the local level.</td>
<td>14. The state workforce board should only deal with state-level policy rather than allocating funding. 15. Establish and certify standard competencies for all core-partner staff. 16. Require all core-partner staff be hired at the local rather than state level.</td>
<td>14. _____ 15. _____ 16. _____</td>
</tr>
<tr>
<td>17. Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td></td>
<td>17. _____</td>
</tr>
<tr>
<td>18. Define our identity as a workforce development system.</td>
<td></td>
<td>18. _____</td>
</tr>
<tr>
<td>19. Identify the support structures that will help us develop into our identity as a workforce development system.</td>
<td></td>
<td>19. _____</td>
</tr>
<tr>
<td>20. Develop structures that will meet the requirements of government while being responsive and adaptable to change as needed.</td>
<td></td>
<td>20. _____</td>
</tr>
</tbody>
</table>

The workforce system must look at the future of the workforce and governance structures must look at the performance and accountability structures that will measure responsiveness to the industries. Need to decide who we want to be and what support structures will help to get us there. Don't know that government can or will keep up with the changes coming.

High performing structures and programs have the flexibility to adapt and change as needed which doesn't fit well with traditional government structures. A for-profit structure is likely best suited to maximize outcomes with nonprofit as a second runner up.
Table B.1. Analysis of Responses to Open-Ended Questions: Round 1 (cont.)

WIOA Purpose 5: “To increase the prosperity of workers and employers in the United States, the economic growth of communities, regions, and States, and the global competitiveness of the United States.”

<table>
<thead>
<tr>
<th>Original participant responses from Round 1:</th>
<th>Statements derived from data – to be used in Round 2 for participants to rank:</th>
<th>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</th>
</tr>
</thead>
</table>
| Employer assessment of their own job descriptions to ensure they align with absolute education/skill requirements. A clear vision in each region so that the general population can understand the direction elected officials are leading for workforce development so that services and strategies can be aligned to support the vision. | 21. Ask employers to ensure alignment between their job descriptions and education/skill requirements.  
22. Develop an understandable and accessible vision for each geographical region, communicated by elected officials to the general population to support strategic alignment. | 21. _____  
22. _____ |
| Everyone working together to make strategic plan that can be modified as thing change. If everyone is able to go the same direction I believe we would increase prosperity of the country and the results would increase prosperity of the workers and employers. | 23. Develop a flexible strategic plan that encourages engagement and participation. | 23. _____ |
| no response | n/a | n/a |
Table B.1. Analysis of Responses to Open-Ended Questions: Round 1 (cont.).

WIOA Purpose 6: “For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation.”

<table>
<thead>
<tr>
<th>Original participant responses from Round 1:</th>
<th>Statements derived from data – to be used in Round 2 for participants to rank:</th>
<th>Consultation Council Member’s agreement/disagreement with analysis (Y = agree; N = disagree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminate the disconnect between state level agencies and local workforce area by adjusting the funding and staffing models and eliminate state staff at the local level. Local areas/boards hold a tremendous amount of responsibility with limited authority over state partners who have competing priorities - where state staff at the local level are beholden to the state agency - not the local board.</td>
<td>n/a - repeated elsewhere.</td>
<td>n/a</td>
</tr>
<tr>
<td>The adjustments would need to be centralized: service - funding to be sufficient to provide what jobseekers need to allow them to develop their skills, based on their interests and abilities.</td>
<td>n/a - repeated elsewhere.</td>
<td>n/a</td>
</tr>
<tr>
<td>If people are happy and challenged they will remain with employers and become self-sufficient. To get people off welfare it must be worth it - They need to be able to work and pay expenses with the skills employers are looking for. Sometimes mothers in particular are better off financially to stay on welfare looking at all the expenses associated with working. Why do we have H1B visas when we should be preparing our people to be able to have those jobs?</td>
<td>24. Find a way to support employers in developing and retaining their staff.</td>
<td>24. _____</td>
</tr>
<tr>
<td>Through a combination of assessments, education and career pathway/work-based learning along with financial literacy and strong employer relationships you could accomplish the above objectives.</td>
<td>25. Use the tools of assessments, education, career pathways, work-based learning, and financial literacy training while developing strong relationships with employers to support workforce investment activities that will lead to a skilled, quality workforce that is economically self-sufficient and contributing to a productive Nation.</td>
<td>25. _____</td>
</tr>
</tbody>
</table>
## APPENDIX C: PILOT STUDY

### RANKED STATEMENTS FROM ROUND 2

Table C.1. Ranked Statements from Round 2

<table>
<thead>
<tr>
<th>Original Letter</th>
<th>Statements from Pilot Study: Round 2</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>2</td>
</tr>
<tr>
<td>A</td>
<td>Where possible, combine workforce and economic development departments.</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
<td>5</td>
</tr>
<tr>
<td>R</td>
<td>The state workforce board should only deal with state-level policy rather than allocating funding.</td>
<td>6</td>
</tr>
<tr>
<td>F</td>
<td>Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
<td>7</td>
</tr>
<tr>
<td>S</td>
<td>Take a holistic approach to funding and service provision for vulnerable populations (i.e., one agency to serve the population).</td>
<td>8</td>
</tr>
<tr>
<td>Q</td>
<td>Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td>9</td>
</tr>
<tr>
<td>J</td>
<td>Establish and certify standard competencies for all core-partner staff.</td>
<td>10</td>
</tr>
<tr>
<td>E</td>
<td>Find a way to support employers in developing and retaining their staff.</td>
<td>11</td>
</tr>
<tr>
<td>G</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>12</td>
</tr>
<tr>
<td>K</td>
<td>Begin by clearly identifying customers who are most in need and those who would most benefit from workforce development services.</td>
<td>13</td>
</tr>
<tr>
<td>M</td>
<td>Require all core-partner staff be hired at the local rather than state level.</td>
<td>14</td>
</tr>
<tr>
<td>Y</td>
<td>Allocate funding to address barriers in addition to funding for support services.</td>
<td>15</td>
</tr>
<tr>
<td>H</td>
<td>Use the tools of assessments, education, career pathways, work-based learning, and financial literacy training while developing strong relationships with employers.</td>
<td>16</td>
</tr>
<tr>
<td>U</td>
<td>Define our identity as a workforce development system.</td>
<td>17</td>
</tr>
<tr>
<td>C</td>
<td>Identify the support structures that will help us develop into our identity as a workforce development system.</td>
<td>18</td>
</tr>
<tr>
<td>L</td>
<td>To improve quality and relevance, real-time job placement data is needed.</td>
<td>19</td>
</tr>
<tr>
<td>N</td>
<td>Contracting for services and their execution should be strategically planned and designed into the system.</td>
<td>20</td>
</tr>
<tr>
<td>T</td>
<td>Develop an understandable and accessible vision for each geographical region, communicated by elected officials to the general population to support strategic alignment.</td>
<td>21</td>
</tr>
<tr>
<td>W</td>
<td>Develop structures that will meet the requirements of government while being responsive and adaptable to change as needed.</td>
<td>22</td>
</tr>
</tbody>
</table>
Table C.1. Ranked Statements from Round 2 (cont.)

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>O.</td>
<td>Reduce overlapping requirements for educational institutions (e.g., accreditation and ETPL attainment).</td>
<td>23</td>
</tr>
<tr>
<td>P.</td>
<td>Develop a flexible strategic plan that encourages engagement and participation.</td>
<td>24</td>
</tr>
<tr>
<td>V.</td>
<td>Each entity should co-locate with the others to foster the needed interdependence between them.</td>
<td>25</td>
</tr>
</tbody>
</table>
APPENDIX D: PILOT STUDY

HANDOUT ON SYSTEMS PRINCIPLES

The following is a list of some of the principles used in systems thinking. These principles are listed and defined here for you to use as a resource when writing about the structural changes you would make to the workforce development system. They are provided as a resource and as a summary of work by Whitney et al. (2015). It is up to you whether you use the terms in your responses.

Complementarity – The panorama of perspectives is evident with the principle of complementarity, as the validity of diverse points of view are acknowledged. An understanding of the system differs for each individual, and each contribution is necessary, but insufficient, to comprehending the system in its entirety.

Emergence – Emergence occurs when parts are brought together and the arising result is something that did not exist before. Emergence may be expected or intentional. Emergence is a product of both systems thinking and design thinking.

Equifinality – Equifinality means that there are no wrong doors – there are many ways to do things right. Goals may be achieved a number of ways, and divergent strategies will converge in the end.

Feedback - Feedback is a system principle that indicates guidance for the system: when outputs are produced, information about those outputs are relayed to the decision-making entity and used to improve the inputs, processes, and transformations for better system results (e.g., reduced system variability).

Holism – Thinking holistically means being able to see the big picture: both as a result of the parts working together and as something beyond the parts and their connections. Holism is a study of big picture thinking.

Hierarchy - The principle of hierarchy is a way of considering the structure of a system: it denotes the internal elaboration of the system, and is the simplest way in which emergence occurs. Hierarchy is formed by multiple smaller entities combining into a larger entity within a system and forming a new level or layer within the system, ad infinitum.

Information Redundancy – When working to create change, information redundancy acts as a reminder that there are multiple channels of communication. Communication requires a messenger, message, and receiver. Communicating with others often means finding the channel to which they will tune in. and pay attention to the message.

Multifinality - Multifinality means that even though efforts or initiatives may have the same starting point, multiple end points are possible.

Pareto Principle - The vast majority of the production of a system will come from a much smaller proportion of the system.

Recursion - Recursion indicates that rules or procedures resulting in resolution of issues at the level below will work for the level above it.

System Relaxation Time - Relaxation time is a description of the period(s) between environmental disturbances for a system. It is important to note that a system requires some relaxation time to avoid unnecessary and potentially detrimental emergence.

Requisite Saliency - The prioritizing of systems design elements is highlighted by the principle of requisite saliency. This principle is a reminder that equality does not exist when it comes to allocating resources, and choices must be made as to the importance of some design factors when compared to others. The result will not only indicate designers’ / stakeholders’ values, but will also shape the design itself.
Guidelines for Providing Instructions to Revise the System Diagram

To provide instructions to the researcher regarding changes or revisions to the system diagram, please review these guidelines and type responses to the following information in the appropriate online survey question textbox for each revision you see is needed:

1. Shape;
2. Color of Shape;
3. Text Label for the Shape;
4. Size of Shape;
5. Thickness of Line;
6. Color of Line;
7. Other shape(s) on the diagram the line(s) should connect with.

Table E. 1. System Diagram Key: Shapes and Colors

<table>
<thead>
<tr>
<th>Shapes</th>
<th>Examples</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circle(s)</td>
<td></td>
<td>Organization(s)/Partners</td>
</tr>
<tr>
<td>Rectangle</td>
<td></td>
<td>Stakeholders</td>
</tr>
<tr>
<td>Rounded Rectangle</td>
<td></td>
<td>Services or Outcomes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shape Color</th>
<th>Examples</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td></td>
<td>WFD Local Area/Core Partners</td>
</tr>
<tr>
<td>Light Blue</td>
<td></td>
<td>Services provided</td>
</tr>
<tr>
<td>Orange</td>
<td></td>
<td>Community Organizations/Providers of Services</td>
</tr>
<tr>
<td>Purple</td>
<td></td>
<td>Chief Local Elected Officials/Registered Voters</td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td>State Government/Aencies</td>
</tr>
<tr>
<td>Dark Blue</td>
<td></td>
<td>Customers (Jobseekers and Employers)</td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td>Individual and Economic Outcomes</td>
</tr>
<tr>
<td>Blue-Green</td>
<td></td>
<td>Community Outcomes</td>
</tr>
</tbody>
</table>
APPENDIX E: GUIDELINES FOR PROVIDING INSTRUCTIONS FOR SYSTEMIGRAM REVISIONS (cont.)

Using the Key (above) to guide your understanding of the system diagram, please provide instructions to revise it. For example, after looking at the system diagram you might think that it is missing a type of stakeholder organization. You would then instruct the researcher to insert a “Rectangle.” You might also write that the rectangle be “Orange.” Please also write the text label that should be included in the shape. For example, “Training Partner,” “Economic Development Agency,” etc.

Next, please consider the size of the new shape you suggested, as well as the size of the existing shapes on the diagram, according to the meanings listed in the Key. You will also want to consider what the relationships are to other shapes, using the Key’s descriptions about lines. Please provide instructions on shape size and connections (expressed with lines), according to the Key (below). For example, you might instruct the researcher to make the new orange rectangle representing a new stakeholder organization a “Larger Size,” and connect it to existing shapes on the diagram (which you list) using “Thicker Line” in a “Green” color.

You might also think the existing shapes, colors, and lines should be adjusted. Please feel free to provide instructions to revise existing shapes, lines, and colors using these guidelines as well.

Table E. 2. System Diagram Key: Shape Size, Line Thickness, and Line Color

<table>
<thead>
<tr>
<th>Shape Size</th>
<th>Examples (Title or description)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Size</td>
<td>Job-seekers and employers; Chief Local Elected Officials; Registered Voters; entities within other entities (smaller circles within larger circles)</td>
<td>Has high importance to the system, but has a fairly simple structure.</td>
</tr>
</tbody>
</table>
| Larger Size    | Community Organizations; State Government; services; individual and community outcomes; Neighboring Local Workforce Development Area | a) Has high importance, and a more complex structure; or  
b) Has high importance, and requires more complex production; or  
c) Has lower importance, but higher complexity. |
| Largest Size   | Workforce Development Local Area                                                              | Has high importance and the most complex structures.                                          |

<table>
<thead>
<tr>
<th>Lines between Shapes: Thickness of Lines</th>
<th>Examples</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Line</td>
<td></td>
<td>Regular communication between entities is needed.</td>
</tr>
<tr>
<td>Thicker Line</td>
<td></td>
<td>More than regular communication between entities is needed.</td>
</tr>
<tr>
<td>Thickest Line</td>
<td></td>
<td>Nearly constant communication between entities is needed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lines between Shapes: Color of Lines</th>
<th>Examples</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td></td>
<td>Communication must be handled tactfully and diplomatically.</td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td>Communication primarily concerns resources (fiscal and other), and requires “give and take” or a collaborative effort.</td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td>Communication is open, creative, and collegial.</td>
</tr>
</tbody>
</table>
APPENDIX F: PILOT STUDY

SYSTEMIGRAM
APPENDIX G: PILOT STUDY

REVISED SYSTEMGRAM
APPENDIX H:

HUMAN SUBJECTS REVIEW APPROVAL

DATE: January 29, 2020
TO: Philip Reed
FROM: Old Dominion University Education Human Subjects Review Committee
PROJECT TITLE: [1550575-1] Local Workforce Development, Federally Legislated Purposes, and a Systemigram: A Mixed-Methods Study
REFERENCE #:
SUBMISSION TYPE: New Project
ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: January 29, 2020
REVIEW CATEGORY: Exemption category # 2

Thank you for your submission of New Project materials for this project. The Old Dominion University Education Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Laura Chezan at (757) 683-7055 or lchezan@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Education Human Subjects Review Committee's records.
APPENDIX I:

ROUND 1 SURVEY

Demographic Questions (multiple choice or fill-in-the blank)
1. What is your role with the workforce development board? (e.g., executive director, business representative, vocational rehabilitation, etc.)
2. How many years of experience do you have in that role?
3. Which type of workforce board do you represent? (e.g., city, county, or nonprofit)
4. What is your gender?
5. What is your age?
6. What is the highest level of education you have completed?
7. What is your race?
8. In which region of the country are you located?

General Questions (Likert scale: 1-4 or 1-6)
9. How would you rate your familiarity with WIOA?
10. How familiar are you with other workforce development legislation, such as WIA, JTPA, CETA, or others?
11. What is your familiarity with strategic planning in the public sector?
12. What is your familiarity with systems thinking?
13. How would you rate your comfort level with innovation?
14. Rate your level of agreement with the following statement: A visual depiction of a local workforce development system would be useful for a local board’s strategic planning process. 1) strongly disagree, 2) disagree, 3) disagree somewhat, 4) agree somewhat, 5) agree, 6) strongly agree.

Ranking Question
Please read the following context before answering the next question.

The average time span of workforce development system legislation is 13.7 years, but the trend was that each piece of legislation lasted at least as long as the one before it: CETA lasted 9 years (1973-1982); JTPA lasted 16 years (1982-1998); and WIA lasted 16 years (1998-2014). Considering the average time span and the trend, you are being asked to imagine that WIOA will be in effect until the year 2030. Think about which industry sectors and occupations might be in demand, how services might have evolved by that time, and how relationship-building and connections between partners and stakeholders might have progressed by then.

Now imagine that you are either the Executive Director of a local area workforce development system or on the Local Area Workforce Development Board in the same role you now hold in the year 2030 (and you have the enthusiasm, interest, and energy to do the job). Your “mission” is to guide and/or support the board, core partners, and other stakeholders toward the fulfillment of the six purposes of WIOA. Consider strategic planning and system design topics such as: marketing, services, management, structures, policies, programs, communication, and relationships between entities.

There are 18 statements listed in the question that follows. Each statement was written to support the fulfillment of some aspect of one of the WIOA purposes.

Drag and drop each of the statements from the left to the right of your screen to arrange them in order of importance to fulfilling the six purposes of WIOA.*
**Six Purposes of WIOA:**

(1) To increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market.

(2) To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system in the United States.

(3) To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the employers need to succeed in a global economy.

(4) To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers.

(5) To increase the prosperity of workers and employers in the United States, the economic growth of communities, regions, and States, and the global competitiveness of the United States.

(6) For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation. (WIOA, 2014)

15. Please rank the following statements in order of importance to fulfilling the six purposes of WIOA*.

1 = Most important to fulfilling the six purposes.

18 = Least important to fulfilling the six purposes.
Table I.1 Statements to Be Ranked in Round 1

<table>
<thead>
<tr>
<th>Statements to Be Ranked in Round 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
</tr>
<tr>
<td>B. Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
</tr>
<tr>
<td>C. Where possible, combine workforce and economic development departments.</td>
</tr>
<tr>
<td>D. The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
</tr>
<tr>
<td>E. Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
</tr>
<tr>
<td>F. The state workforce board should only deal with state-level policy rather than allocating funding.</td>
</tr>
<tr>
<td>G. Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
</tr>
<tr>
<td>H. Take a holistic approach to funding and service provision for vulnerable populations (i.e., one agency to serve the population).</td>
</tr>
<tr>
<td>I. Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
</tr>
<tr>
<td>J. Establish and certify standard competencies for all core-partner staff.</td>
</tr>
<tr>
<td>K. Find a way to support employers in developing and retaining their staff.</td>
</tr>
<tr>
<td>L. Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
</tr>
<tr>
<td>M. Career pathways need to include clear steps that indicate probable wage increases for appropriate progress, similar to apprenticeship programs.</td>
</tr>
<tr>
<td>N. One-stop centers need to be allowed and encouraged to work with nonprofit volunteers who could mentor, coach, and support jobseekers for three to five years, while providing aggregate reports to employers on their coaching progress.</td>
</tr>
<tr>
<td>O. Past job-seeking customers from vulnerable populations should have membership on local boards.</td>
</tr>
<tr>
<td>P. Rural area services need to become mobile (use vans to travel the area and offer assessments, educational services, discuss potential opportunities for jobseekers and employers.</td>
</tr>
<tr>
<td>Q. Performance measures should include quality of life indicators for jobseekers, such as living situation, safe neighborhood rating, number of days of work missed and reasons, grades at school, training certificates earned, etc.</td>
</tr>
<tr>
<td>R. Clear connections need to be in place between WIOA and apprenticeship opportunities so that jobseekers and employers can take advantage of them in a seamless, customer-centered design way.</td>
</tr>
</tbody>
</table>

16. Please use the text box below for one or both of the following:
   a) If you would like to explain your reasoning for the way you ranked the previous items, and/or
   b) If you would like to suggest additional statements to be ranked by participants in the next round.
APPENDIX J:

ROUND 2: REVIEW OF RESULTS FROM ROUND 1 AND SURVEY

1. The statements you and other participants ranked in Round 1 were compared to determine what level of agreement or disagreement there was among the 21 participants’ rankings. Agreement/disagreement was measured on a scale from zero to one:

\[0 = \text{complete disagreement}] \quad [0.50 = \text{neither agree nor disagree}] \quad [1.00 = \text{complete agreement}]

The measure for agreement/disagreement from Round 1 of this study was 0.37, indicating that diverse perspectives were included in this initial round.

However, the goal of this study is not to achieve agreement, but rather to better understand the design of a local area that is explicitly, intentionally, and thoroughly fulfilling the six purposes of the Workforce Innovation and Opportunity Act (WIOA).

The level of agreement is provided as an informative measure of comparison.

In addition to the level of agreement, the average ranks for each statement were calculated and are displayed in the table below. In Round 1, you were asked to rank the statements according to their importance for fulfilling on the six purposes of WIOA: 1 = most important, 18 = least important.

Lower numbers in the table indicate higher-ranked / more important statements, and higher numbers indicate lower-ranked / less important statements. Reviewing the average ranks may provide support for your views, may motivate you to advocate more strenuously for your views, or may inspire you to contribute a new statement to the list.

Please review each of the statements below and its average rank.

<table>
<thead>
<tr>
<th>Original Letter</th>
<th>Statement</th>
<th>Average Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>3.57</td>
</tr>
<tr>
<td>A.</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>4.71</td>
</tr>
<tr>
<td>L.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>4.81</td>
</tr>
<tr>
<td>B.</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>6.43</td>
</tr>
<tr>
<td>I.</td>
<td>Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td>7.00</td>
</tr>
<tr>
<td>M.</td>
<td>Career pathways need to include clear steps that indicate probable wage increases for appropriate progress, similar to apprenticeship programs.</td>
<td>8.33</td>
</tr>
</tbody>
</table>
Table J. 1. Average Ranks of Statements from Round 1 (cont.)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Statement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.76</td>
<td>C. Where possible, combine workforce and economic development departments.</td>
<td></td>
</tr>
<tr>
<td>9.00</td>
<td>K. Find a way to support employers in developing and retaining their staff.</td>
<td></td>
</tr>
<tr>
<td>9.86</td>
<td>E. Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
<td></td>
</tr>
<tr>
<td>10.86</td>
<td>G. Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
<td></td>
</tr>
<tr>
<td>10.95</td>
<td>J. Establish and certify standard competencies for all core-partner staff.</td>
<td></td>
</tr>
<tr>
<td>11.00</td>
<td>P. Rural area services need to become mobile (use vans to travel the area and offer assessments, educational services, and discuss potential opportunities for jobseekers and employers).</td>
<td></td>
</tr>
<tr>
<td>11.10</td>
<td>R. Clear connections need to be in place between WIOA and apprenticeship opportunities so that jobseekers and employers can take advantage of them in a seamless, customer-centered design way.</td>
<td></td>
</tr>
<tr>
<td>11.14</td>
<td>H. Take a holistic approach to funding and service provision for vulnerable populations (i.e., one agency to serve the population).</td>
<td></td>
</tr>
<tr>
<td>11.19</td>
<td>N. One-stop centers need to be allowed and encouraged to work with nonprofit volunteers who could mentor, coach, and support jobseekers for three to five years, while providing aggregate reports to employers on their coaching progress.</td>
<td></td>
</tr>
<tr>
<td>13.52</td>
<td>Q. Performance measures should include quality of life indicators for jobseekers, such as living situation, safe neighborhood rating, number of days of work missed and reasons, grades at school, training certificates earned, etc.</td>
<td></td>
</tr>
<tr>
<td>13.62</td>
<td>O. Past job-seeking customers from vulnerable populations should have membership on local boards.</td>
<td></td>
</tr>
</tbody>
</table>

2. Several of the participants provided their reasoning and comments about the statements they ranked, and these are listed in the table below.

Reading through the reasoning and comments will provide a sense of other Executive Directors' and Board Members' perspectives that you may find useful.

Please review participants' explanations of their reasoning and their comments.
I tried to focus on the employer customer first and system related items first.

I ranked answers having to do with the structure of governance first, because I feel we need to have that answered before we consider performance or partnerships, however those become equal in importance if not more so.

Statements that reinforce local voice and strength were placed first, increasing and enhancing participant services fell second on my list and could be as important as the first section of statements! I believe all 18 statements are relevant. The statements that relate to existing services fell into the third category in my list.

Business should be at the heart of 100% of planning. Career paths should be developed with jobs across skill levels and resource investment should follow that model. Local area boards know their communities best. Give them the funding and hold them accountable for performance.

I believe LWDBs need to have additional authority from the Act that includes the governance of the local system, deployment of funding from the various titles, and that it should align with and be accountable for educational and employment outcomes of the industry sectors that drive the regional economy. Overall, LWDBs and the communities they serve would benefit from more flexibility and autonomy to develop service strategies and improve the local infrastructure to achieve workforce development goals.

In my experience our local board had good alignment with industry and the positions that are in demand. In addition, I think it is important to align funds at the local level for maximum efficiency. I also believe there should be strong accountability with those funds at the local level, to ensure the money is being utilized effectively.

On the measurement questions: my comment on this is I feel staff is working too hard to get the measures: the client is not the top priority. Measurements should fall naturally and be simple so that we can see if there is a need, or if we need to do something else, and if people are performing. All areas have different needs, so this should be more flexible.

The WIOA organization that I serve has historically been very successful in meeting WIOA goals. My rankings are based on those goals and accomplishments.

The partnership between the local workforce board and regional employer base is the key to success. We have demonstrated that in our region.

Flexibility at the local level is key to ensure that the system adapts effectively to the local needs of the community and economy. We focus significant effort on ensuring our participants are addressing their skills gaps, but do not focus as an industry on the skills gaps within our own employees, which needs to change for us to be relevant. I agree that Title I and III funding should be combined, which will take a significant policy overhaul, but I'm not convinced that Title IV services would be implemented effectively under the local board.

#Q is not realistic in terms of to maintaining contact with working customers 3-5 years after beginning empl reports to employers - they will know more than we do about a participant's attendance and attitude. #R is no be impossible to garner and report safe neighborhood ratings as our participants move frequently, and numb and reasons is private information that the participant does not have to share nor will an employer. We alrea training and certificates gained but the more personal information would be impossible to gather. #P might b asked by stating that rural services have unique barriers to service and must use alternative methods. Lack of areas makes the mobile lab idea impractical for some and is very costly.

*Results from rating questions such as "How familiar are you with WIOA?" and demographic questions such as those asked about your level of experience, education, etc. will be summarized and presented after the third and final round.
3. Please indicate your level of agreement with the following statement: I consider myself to be a creative person. 1) strongly disagree, 2) disagree, 3) disagree somewhat, 4) agree somewhat, 5) agree, 6) strongly agree.

Please review the following context before ranking the items below:

Imagine that ten years from now, you are in charge of designing the ideal workforce development system. This ideal system is focused on the fulfillment of the six purposes of WIOA: that vulnerable populations find employment, that people are earning family-sustaining wages; that employers, educators, and service providers of all kinds are aligned and aware of their common purpose and are improving the quality of the system as a result. Finally, it means that you are responsible for designing a system in which your local area experiences economic growth that contributes to the competitiveness of the nation.

Keeping these system design responsibilities in mind, how would you rank the following statements, in terms of how important they are to your ensuring the fulfillment of the six purposes of WIOA**?

**Six Purposes of WIOA:**
(1) To increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market.
(2) To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system in the United States.
(3) To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the employers need to succeed in a global economy.
(4) To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers.
(5) To increase the prosperity of workers and employers in the United States, the economic growth of communities, regions, and States, and the global competitiveness of the United States.
(6) For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation. (WIOA, 2014)

4. Please rank the following statements in order of importance to fulfilling the six purposes of WIOA**. A number of lower-ranked statements may be cut after this round.

1 = Most important to fulfilling the six purposes,
20 = Least important to fulfilling the six purposes.
Table J.3. Statements to Be Ranked in Round 2

<table>
<thead>
<tr>
<th>Statements to Be Ranked in Round 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
</tr>
<tr>
<td>B. Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
</tr>
<tr>
<td>C. Where possible, combine workforce and economic development departments.</td>
</tr>
<tr>
<td>D. The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
</tr>
<tr>
<td>E. Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
</tr>
<tr>
<td>F. The state workforce board should only deal with state-level policy rather than allocating funding.</td>
</tr>
<tr>
<td>G. Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
</tr>
<tr>
<td>H. Take a holistic approach to funding and service provision for vulnerable populations (i.e., one agency to serve the population).</td>
</tr>
<tr>
<td>I. Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
</tr>
<tr>
<td>J. Establish and certify standard competencies for all core-partner staff.</td>
</tr>
<tr>
<td>K. Find a way to support employers in developing and retaining their staff.</td>
</tr>
<tr>
<td>L. Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
</tr>
<tr>
<td>M. Career pathways need to include clear steps that indicate probable wage increases for appropriate progress, similar to apprenticeship programs.</td>
</tr>
<tr>
<td>N. One-stop centers need to be allowed and encouraged to work with nonprofit volunteers who could mentor, coach, and support jobseekers for three to five years, while providing aggregate reports to employers on their coaching progress.</td>
</tr>
<tr>
<td>O. Past job-seeking customers from vulnerable populations should have membership on local boards.</td>
</tr>
<tr>
<td>P. Rural area services need to become mobile (use vans to travel the area and offer assessments, educational services, discuss potential opportunities for jobseekers and employers.</td>
</tr>
<tr>
<td>Q. Performance measures should include quality of life indicators for jobseekers, such as living situation, safe neighborhood rating, number of days of work missed and reasons, grades at school, training certificates earned, etc.</td>
</tr>
<tr>
<td>R. Clear connections need to be in place between WIOA and apprenticeship opportunities so that jobseekers and employers can take advantage of them in a seamless, customer-centered design way.</td>
</tr>
<tr>
<td>S. Industry should take the lead on developing public workforce development programs so that they are totally aligned with their needs.</td>
</tr>
<tr>
<td>T. Industry sector analysis and priorities bring focus to our work and help us best serve both employers and job-seekers in alignment with WIOA’s six purposes.</td>
</tr>
</tbody>
</table>

*Results from rating questions such as “How familiar are you with WIOA?” and demographic questions such as those asked about your level of experience, education, etc. will be summarized and presented after the third and final round.*
5. Please provide your reasoning for ranking the above statements the way you did.
6. Please list any statement(s) that should be added to the list.
7. What is your marital status?
8. Are you of Hispanic, Latino, or Spanish origin?
APPENDIX K:

ROUND 3: REVIEW OF RESULTS FROM ROUND 2 AND SURVEY

1. The statements you and other participants ranked in Round 2 were compared to determine what level of agreement or disagreement there was among the 18 participants' rankings. Agreement/disagreement was measured on a scale from zero to one:

\[ 0 = \text{complete disagreement} \quad [0.50 = \text{neither agree nor disagree}] \quad [1.00 = \text{complete agreement}] \]

The measure of agreement/disagreement from the first round of this study was 0.37. The measure of agreement/disagreement from Round 2 was 0.41. This indicates slight movement in the direction of agreement from the first round to the second round.

As mentioned previously, the goal of this study is not to achieve agreement, but rather to better understand the design of a local area that is explicitly, intentionally, and thoroughly fulfilling the six purposes of the Workforce Innovation and Opportunity Act (WIOA).

The level of agreement is provided as an informative measure of comparison.

In addition to the level of agreement, the average ranks for each statement were calculated and are displayed in the table below. In Round 2, you were asked to rank the statements according to their importance for fulfilling on the six purposes of WIOA: 1 = most important, 20 = least important.

Lower numbers in the table indicate higher-ranked / more important statements, and higher numbers indicate lower-ranked / less important statements. Reviewing the average ranks may provide support for your views, or may motivate you to advocate more strenuously for your views.

Please review each of the statements below and its average rank.

2. Several of the participants provided their reasoning and comments about the statements they ranked, and these are listed in the table below. Reading through the reasoning and comments will provide a sense of other Executive Directors' and Board Members' perspectives that you may find useful. Please review participants' explanations of their reasoning and their comments.
Table K.1. Average Ranks of Statements from Round 2

<table>
<thead>
<tr>
<th>Original Letter</th>
<th>Statement</th>
<th>Average Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
<td>3.28</td>
</tr>
<tr>
<td>L.</td>
<td>Services need to be more flexible, adaptable, and relevant to clients’ and employers’ needs.</td>
<td>5.28</td>
</tr>
<tr>
<td>D.</td>
<td>The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
<td>5.67</td>
</tr>
<tr>
<td>T.</td>
<td>Industry sector analysis and priorities bring focus to our work and help us best serve both employers and jobseekers in alignment with WIOA’s six purposes.</td>
<td>5.89</td>
</tr>
<tr>
<td>B.</td>
<td>Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
<td>5.94</td>
</tr>
<tr>
<td>I.</td>
<td>Develop a measure for the workforce system’s responsiveness to industry sectors.</td>
<td>8.94</td>
</tr>
<tr>
<td>M.</td>
<td>Career pathways need to include clear steps that indicate probable wage increases for appropriate progress, similar to apprenticeship programs.</td>
<td>9.50</td>
</tr>
<tr>
<td>E.</td>
<td>Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
<td>9.89</td>
</tr>
<tr>
<td>C.</td>
<td>Where possible, combine workforce and economic development departments.</td>
<td>10.28</td>
</tr>
<tr>
<td>K.</td>
<td>Find a way to support employers in developing and retaining their staff.</td>
<td>10.39</td>
</tr>
<tr>
<td>F.</td>
<td>The state workforce board should only deal with state-level policy rather than allocating funding.</td>
<td>10.78</td>
</tr>
<tr>
<td>R.</td>
<td>Clear connections need to be in place between WIOA and apprenticeship opportunities so that jobseekers and employers can take advantage of them in a seamless, customer-centered design way.</td>
<td>10.89</td>
</tr>
<tr>
<td>G.</td>
<td>Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
<td>11.06</td>
</tr>
<tr>
<td>S.</td>
<td>Industry should take the lead on developing public workforce development programs so that they are totally aligned with their needs.</td>
<td>12.89</td>
</tr>
<tr>
<td>H.</td>
<td>Take a holistic approach to funding and service provision for vulnerable populations (i.e., one agency to serve the population).</td>
<td>13.11</td>
</tr>
<tr>
<td>J.</td>
<td>Establish and certify standard competencies for all core-partner staff.</td>
<td>13.28</td>
</tr>
<tr>
<td>P.</td>
<td>Rural area services need to become mobile (use vans to travel the area and offer assessments, educational services, and discuss potential opportunities for jobseekers and employers).</td>
<td>13.78</td>
</tr>
<tr>
<td>N.</td>
<td>One-stop centers need to be allowed and encouraged to work with nonprofit volunteers who could mentor, coach, and support jobseekers for three to five years, while providing aggregate reports to employers on their coaching progress.</td>
<td>15.17</td>
</tr>
<tr>
<td>O.</td>
<td>Past job-seeking customers from vulnerable populations should have membership on local boards.</td>
<td>16.39</td>
</tr>
<tr>
<td>Q.</td>
<td>Performance measures should include quality of life indicators for jobseekers, such as living situation, safe neighborhood rating, number of days of work missed and reasons, grades at school, training certificates earned, etc.</td>
<td>17.61</td>
</tr>
</tbody>
</table>
Participants’ Statements of Reasoning for the Rankings from Round 2

<table>
<thead>
<tr>
<th>Many unemployed citizens live in the rural areas and need access to training. It is also difficult for those of us who have never experienced generational poverty to understand the needs of that group. Having members on the boards who come from vulnerable populations would help us understand the true and underlying needs of those individuals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry needs should be at the forefront in order to align education to the needs of business. Workforce should be the convener and measured on how well industry needs are met. There are so many variables working with employers and jobseekers, that there should be more flexibility at the local level to meet needs of employers and jobseekers.</td>
</tr>
<tr>
<td>Workforce Boards can only affect a portion of quality of life; while we need to be aware of it and addressing holistic needs, we cannot be held responsible for them. For industry to be a focus of boards, some sort of measurement should be derived to measure the system-wide work that is involved.</td>
</tr>
<tr>
<td>Questions of Governance &amp; structure still need to be dealt with first, if there is any question as to how to set this up locally.</td>
</tr>
<tr>
<td>I prioritized my rankings to reflect that Accountability, Oversight and Industry Involvement are key to fulfilling the 6 purposes of the WIOA.</td>
</tr>
<tr>
<td>Aligning with employer needs in key industry sectors is the guiding principle followed by allowing the LWDB to lead with flexibility and sufficient resources.</td>
</tr>
<tr>
<td>The statements related to the role the local workforce board plays and the responsibilities that should ultimately rest with the board are among the first selections. The statements focus next on working with career pathways with the assistance of businesses. Business is the second priority with as much weight given to the system, staff and training. I believe all the statements are relevant. They don't all hold the same significance in this survey.</td>
</tr>
<tr>
<td>While I think a holistic approach is important, I don't think one agency is the answer. Our partners have expertise that we need, and we shouldn't duplicate services. One problem is that the one stop operator doesn't have the authority to resolve issues. Employers often are not thinking ahead; they are too concerned with short term goals, so some don't see the tsunami that's coming. That's one reason so many businesses go under - they don't prepare for a different future.</td>
</tr>
<tr>
<td>L. Every area is different and would have to adjust to be a good fit. C. They would be enhancing each other. G. If these means we have the one stop operator bringing all the partners as team approach, I like it. P. Rural areas are a big concern, but I think there are more than the van approach to look at. I not sure why this is so singled out? S. I don't think any single sector should take the lead; it creates a narrow vision. H. I like the holistic approach, but not through a single agency. I like working with an agency that knows their stuff. Why recreate the wheel?</td>
</tr>
<tr>
<td>Question Q - not realistic to include all these quality of life indicators Question S - Industry should absolutely be involved in helping to develop workforce development programs, but their focus is on their businesses and not development workforce programs.</td>
</tr>
<tr>
<td>We need to have a demand driven system.</td>
</tr>
<tr>
<td>While my ranking shows a priority of guidance and input from employers to drive the system, they are not positioned well to lead the development of public policy.</td>
</tr>
<tr>
<td>The system needs to be guided more by industry, but also must have ability to adapt to changes in industry need.</td>
</tr>
</tbody>
</table>
Table K.2. Statements of Reasoning for the Rankings from Round 2 (cont.)

<table>
<thead>
<tr>
<th>Statements of Reasoning for the Rankings from Round 2 (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving as a partner on the board under WIA and moving into staff to the board for past 15 years gives me a different perspective about business importance in preparing future workers to become independent family-sustaining wage earners. Quality of life indicators would be extremely cumbersome and dependent on the self-evaluations of the participants? Asking employers to ensure alignment... seems to be asking employers to dictate rather than guide training providers. Many employers in rural America have limited training options and must work as partners with local educational institutions - not &quot;ensure&quot; or dictate.... confusing statement.</td>
</tr>
<tr>
<td>Authority for the workforce system design, implementation, and outcomes should be vested in the LWDB as comprised of local stakeholder leadership. Funding should also align with this structure so that services can be fully integrated and supported. Engagement with industry is key to informing and driving investment strategies. A trained, professional staff is vital to the delivery of quality services, as well.</td>
</tr>
</tbody>
</table>

*Results from rating questions such as "How familiar are you with WIOA?" and demographic questions such as those asked about your level of experience, education, etc. will be summarized and presented after this third and final round.

Please review the following context before ranking the items below:

Imagine that ten years from now, you are in charge of designing the ideal workforce development system. This ideal system is focused on the fulfillment of the six purposes of WIOA: that vulnerable populations are among those finding employment, that people are earning family-sustaining wages; that employers, educators, and service providers of all kinds are aligned and aware of their common purpose and are improving the quality of the system as a result. Finally, it means that you are responsible for designing a system in which your local area experiences economic growth that contributes to the competitiveness of the nation.

The following general systems theory concepts may support the responsibility of designing the ideal system:

- Appreciating the system holistically, from its collective essence, may provide new perspectives;
- A system at its optimum is continuously being balanced and adjusted;
- Communication between interconnected, interrelated entities is a support for system structures;
- The perspectives from other system entities (organizations, partners, stakeholders, and staff) add requisite value to the system as a whole.

Keeping these system design responsibilities in mind, how would you rank the following statements, in terms of how important they are to your ensuring the fulfillment of the six purposes of WIOA**?
**Six Purposes of WIOA:**

(1) To increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market.
(2) To support the alignment of workforce investment, education, and economic development systems in support of a comprehensive, accessible, and high-quality workforce development system in the United States.
(3) To improve the quality and labor market relevance of workforce investment, education, and economic development efforts to provide America’s workers with the skills and credentials necessary to secure and advance in employment with family-sustaining wages and to provide America’s employers with the skilled workers the employers need to succeed in a global economy.
(4) To promote improvement in the structure of and delivery of services through the United States workforce development system to better address the employment and skill needs of workers, jobseekers, and employers.
(5) To increase the prosperity of workers and employers in the United States, the economic growth of communities, regions, and States, and the global competitiveness of the United States.
(6) For purposes of subtitle A and B of title I, to provide workforce investment activities, through statewide and local workforce development systems, that increase the employment, retention, and earnings of participants, and increase attainment of recognized postsecondary credentials by participants, and as a result, improve the quality of the workforce, reduce welfare dependency, increase economic self-sufficiency, meet the skill requirements of employers, and enhance the productivity and competitiveness of the Nation. (WIOA, 2014)

3. Please rank the following statements in order of importance to fulfilling the six purposes of WIOA**.
   **1 = Most important to fulfilling the six purposes,**
   **20 = Least important to fulfilling the six purposes.**

Table K.3. Statements to Be Ranked in Round 3

<table>
<thead>
<tr>
<th>Statements to Be Ranked in Round 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The local board should be the governing authority and should be held accountable for performance and educational outcomes.</td>
</tr>
<tr>
<td>B. Funding allocations should be provided directly to local areas (e.g., Titles III and IV) to better support the alignment and meet the needs of local communities.</td>
</tr>
<tr>
<td>C. Where possible, combine workforce and economic development departments.</td>
</tr>
<tr>
<td>D. The local board should increasingly be guided by industry sectors regarding needed skills, etc.</td>
</tr>
<tr>
<td>E. Ask employers to ensure alignment between their job descriptions and education/skill requirements.</td>
</tr>
<tr>
<td>F. The state workforce board should only deal with state-level policy rather than allocating funding.</td>
</tr>
<tr>
<td>G. Train staff within the single agency on how to best serve the clientele using a holistic, team-based approach to service: plan each client’s approach and include input from clients’ families.</td>
</tr>
</tbody>
</table>
H. Integration and alignment of funding streams is vital in order to most effectively serve workforce system customers: Have funding flow to LWDBs for utilization in accord with Local Strategic Plans as developed by the board.

I. Develop a measure for the workforce system’s responsiveness to industry sectors.

4. Please provide your reasoning for ranking the above statements the way you did.
5. Please complete the following prompt: “By participating in this research so far, I have learned…”
6. I would consider participating in a follow-up interview as part of the final phase of this dissertation research!
   - Interviews will be conducted online and/or over the phone, and are estimated to take 30 - 45 minutes.
   - Interviews will be scheduled to occur during the weeks of May 11th - 15th and May 18th - 22nd.

If you would consider participating in an interview, please provide your name and best phone number to reach you in the text box below and Tracey Regenold will contact you.

Thank you!
APPENDIX L:

ROOT DEFINITIONS

1) Funding for workforce services is provided by the Department of Labor directly to the workforce development board in a local area, including rural parts of the area. The Local Board selects, oversees, and authorizes the funds for all workforce programs and services in the area; this allows the Local Board the flexibility to adapt to changing economic and business needs. The State Workforce Board is responsible only for policies at the state level. Workforce development programs and services are aligned with industry sectors, including: Career Pathways, apprenticeships, work-based learning for existing employees, and entrepreneurship. The Local Board also designs performance and accountability structures for the local area: giving One-Stop Operators the authority to ensure partners work together; training staff to use holistic, team-based approaches to services; combining workforce and economic development departments; and developing Career Pathways across skill levels with the resources to do so. Employers/businesses/industry sectors are the primary customers of this demand-driven system.

2) The Local Board oversees, authorizes, and funds all workforce development programs and services in the area, including rural parts of the area. With the guidance of businesses and industry, the Board has the flexibility to adapt to a changing economy and to align programs and services with the needs of businesses in the area. As the primary customer of the workforce development system, businesses from the region’s industry sectors are the most knowledgeable about the data and priorities that will best serve both workforce and economic development. Service providers are overseen by the One-Stop Operator, ensuring that core and other partners are working under the guidance of the Board and Industry Sectors to align services with the demand-driven system.

3) The Local Board selects, oversees, and authorizes funds for workforce development programs and services in the area. This oversight is conducted with integrity and accountability, and allows the Local Board to flexibly adapt to changing economic and business needs, while also serving the rural parts of the area. Businesses are the primary customer of this demand-driven system: Workforce development programs and services such as Career Pathways are designed and aligned with industry sectors in the area and these programs are provided the proper resources to span skill levels. Apprenticeship programs are clearly connected with WIOA programs and services as well. Work-based learning is provided to existing employees, and talent is developed from an early age to encourage jobseeker potential, creativity, and entrepreneurship. The State Workforce Board is responsible for policies only at the state level. The Local Board designs performance and accountability structures for the local area: giving One-Stop Operators the authority to ensure partners work together; training job center staff to use holistic, team-based approaches when providing services; and encouraging the consolidation of economic development and workforce development departments.
VITA

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Master of Public Administration (May 2016), Arizona State University
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Associate of Arts in Psychology (May 2012), Phoenix College

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PUBLICATIONS


PRESENTATIONS


PROFESSIONAL MEMBERSHIPS

Association for Educational Communications & Technology
Systemic Design Association