

TESTING A SCALE TO MEASURE
FOOD BUSINESS LEGITIMACY

By

RUTH IRENE INMAN

Bachelor of Science in Agricultural Sciences and Natural
Resources - Agricultural Communications
Oklahoma State University
Stillwater, Oklahoma
2006

Master of Science in Agricultural Communications
Oklahoma State University
Stillwater, Oklahoma
2008

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May, 2016

TESTING A SCALE TO MEASURE
FOOD BUSINESS LEGITIMACY

Dissertation Approved:

Dr. D. Dwayne Cartmell II

Dissertation Adviser
Dr. Shelly Sitton

Dr. Robert Terry, Jr.

Dr. Rodney Holcomb

ACKNOWLEDGEMENTS

Throughout the process of conducting my dissertation research, I kept a piece of paper in my desk drawer on which I would write the names of the people I needed to thank in this acknowledgements section. The list continued to grow almost daily.

To my committee, Dr. Dwayne Cartmell, Dr. Shelly Sitton, Dr. Rob Terry and Dr. Rodney Holcomb: each of you have been a part of my life since before this process began, and each of you have contributed to both my professional and academic journey in significant ways. Whether it was providing the educational foundation for my chosen career, providing professional opportunities throughout my graduate studies, or nurturing my ability to apply research to my area of interest – you’ve enhanced my life in more ways than I can express.

To my colleagues and friends in Agricultural Communications Services: thank you for your support and faith in me. I have found my tribe!

To Dr. Clay Dibrell and Dr. Aaron Johnson: Your names pepper this dissertation for a reason! Thank you for the work you did to lay the foundation for my study and for your trust in me to extend your work. Special thanks to Clay for the statistics tutorial!

To Mandy Gross and Dr. Roy Escoubas of the Robert M. Kerr Food & Agricultural Products Center: thank you for your help to make this dissertation happen. I know the

trust that has been established between the FAPC and its clients is invaluable, and I appreciate the opportunity to communicate with your constituents in order to fulfill my educational goals. I certainly hope that my dissertation research can contribute in a meaningful way to help entrepreneurs more successfully bring their products to market.

To my family: Your grace, support, patience, and love is endless. I get emotional trying to express my appreciation. The long days and nights during these last few months while I tackle this last hurdle have been hard for all of us, but the wait is over – I am Ph(inishe)D!

Name: RUTH IRENE INMAN

Date of Degree: MAY, 2016

Title of Study: TESTING A SCALE TO MEASURE FOOD BUSINESS LEGITIMACY

Major Field: AGRICULTURAL EDUCATION

Abstract: A well-developed body of knowledge exists about how small businesses can achieve legitimacy, but the canon of literature is profoundly lacking tangible information about the criteria for legitimacy in the food sector. The purpose of this study was to test, extend, and validate the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007), which seeks to operationalize a scale to measure legitimacy forms and legitimating strategies of food businesses. This study employed a quantitative research design to address the three research objectives for this study. Data for this study were collected with a questionnaire instrument administered on the Internet to a sample of food processors and manufacturers who have worked with the Robert M. Kerr Food & Agricultural Products Center in Oklahoma. Statistical analyses, including descriptive statistics, principal components analysis, and tests of validity and reliability were applied to: a) use the Johnson and Dibrell legitimacy scale to measure the extent to which participating firms engage in behaviors related to legitimacy forms and legitimating strategies, b) evaluate to what extent factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of relationships among items, and c) evaluate reliability and validity of the Johnson and Dibrell legitimacy scale instrument. Findings indicated respondents' firms were more likely to engage conformance strategies and behaviors related to regulatory legitimacy and less likely to engage in manipulation and selection strategies than other legitimating strategies and legitimacy forms. Data from this study reveal nine components contributed to 79.95% of the explained variance in the pattern of relationships among the items, and coefficient values for five of the components exceeded the widely-accepted alpha threshold of .70.

TABLE OF CONTENTS

| Chapter | Page |
|---|------|
| I. INTRODUCTION | 1 |
| Background and Setting | 1 |
| Statement of the Problem | 3 |
| Purpose of the Study | 3 |
| Objectives of the Study | 3 |
| Significance of the Study | 4 |
| Scope of the Study | 5 |
| Assumptions | 5 |
| Limitations | 5 |
| Definition of Terms | 6 |
| II. REVIEW OF LITERATURE | 9 |
| Theoretical Framework | 9 |
| Organizational Legitimacy | 10 |
| Legitimacy forms | 11 |
| Regulative legitimacy | 12 |
| Normative legitimacy | 13 |
| Cognitive legitimacy | 13 |
| Industry legitimacy | 14 |
| Legitimizing strategies | 14 |
| Conformance strategies | 15 |
| Creation strategies | 15 |
| Manipulation strategies | 16 |
| Selection strategies | 16 |
| Legitimacy and Firm Performance | 16 |
| Food Industry Legitimacy | 18 |
| Measures of Legitimacy | 22 |
| Johnson and Dibrell’s Legitimacy Scale | 23 |
| Domain specification | 23 |
| Sample item generation | 23 |
| Data collection | 28 |
| Measure purification | 28 |
| Next steps | 32 |
| Oklahoma Food Production and Processing | 32 |

| Chapter | Page |
|--|------|
| Robert M. Kerr Food and Agricultural Products Center..... | 34 |
| | |
| III. METHODOLOGY | 38 |
| Research Design..... | 38 |
| Instrumentation | 39 |
| Validity and Reliability..... | 39 |
| Participants..... | 40 |
| Response Rate..... | 41 |
| Non-response Bias | 42 |
| Data Collection | 43 |
| Institutional Review Board | 43 |
| Recruitment Procedures | 43 |
| Invitation and reminder email composition | 44 |
| Email headers (to, from, and subject lines)..... | 44 |
| Email scripts..... | 46 |
| Phone recruitment | 47 |
| Consent | 48 |
| Questionnaire Administration..... | 48 |
| Data Analysis..... | 49f |
| Analysis for Objective 1: Descriptive Statistics | 49 |
| Analysis for Objective 2: Exploratory Factor Analysis..... | 50 |
| Analysis for Objective 3: Tests for Reliability and Validity | 51 |
| Reliability Analysis..... | 51 |
| Validity Analysis | 51 |
| | |
| IV. FINDINGS..... | 52 |
| Findings Related to Objective 1..... | 52 |
| Findings Related to Objective 2..... | 57 |
| Findings Related to Objective 3..... | 64 |
| Reliability..... | 64 |
| Reliability of refined components..... | 64 |
| Reliability of Johnson and Dibrell constructs..... | 65 |
| Validity | 66 |
| | |
| V. DISCUSSION | 67 |
| Discussion Related to Objective 1 | 67 |
| Discussion Related to Objective 2 | 68 |
| Discussion Related to Objective 3 | 70 |

| Chapter | Page |
|--|------|
| REFERENCES | 72 |
| APPENDICES | 83 |
| Appendix A: Questionnaire Protocol..... | 84 |
| Appendix B: Recruitment Email Scripts..... | 94 |
| Appendix C: Institutional Review Board Approval..... | 98 |
| Appendix D: Recruitment Phone Script | 102 |
| VITA..... | 103 |

LIST OF TABLES

| Table | Page |
|---|------|
| 1 Pilot Study Coefficient Alphas for Legitimacy Constructs | 32 |
| 2 Recruitment Email Delivery and Open Rates | 44 |
| 3 Recruitment Email Header Information..... | 46 |
| 4 Johnson and Dibrell Legitimacy Scale Item Codes for Statistical Analysis..... | 54 |
| 5 Descriptive Statistics..... | 56 |
| 6 Initial Principal Components Analysis Factor Extraction | 59 |
| 7 Cross-loading and Low-loading Items..... | 60 |
| 8 Rotated Component Loading | 60 |
| 9 Refined Principal Components Analysis Factor Extraction | 61 |
| 10 Refined Cross-loading and Low-loading Items | 62 |
| 11 Refined Rotated Component Loading | 63 |
| 12 Coefficient Alphas for Refined Components..... | 65 |
| 13 Coefficient Alphas for Johnson and Dibrell Legitimacy Constructs..... | 65 |

LIST OF FIGURES

| Figure | Page |
|---|------|
| 1 Legitimacy process model | 17 |
| 2 Survival rates of establishments..... | 18 |
| 3 New product introductions of consumer packaged goods | 19 |
| 4 Johnson and Dibrell legitimacy scale items related to legitimating strategies | 29 |
| 5 Johnson and Dibrell legitimacy scale items related to legitimacy forms | 30 |
| 6 Initial principal components analysis scree plot | 58 |
| 7 Refined principal components analysis scree plot..... | 62 |

CHAPTER I

INTRODUCTION

Background and Setting

Food businesses are particularly resilient to economic fluctuations, “continu[ing] to run and perform relatively better than non-food industries, providing jobs to the economy, feeding the world, and securing safe food to the consumers” (Mattas & Tsakiridou, 2010, p. 212) amid economic recessions worldwide. There are a few explanations for the industry’s hardiness, such as the size of its employment multipliers (Mattas & Tsakiridou, 2010). Its place between the farm and retail sector “constitutes the backbone of the whole supply chain, inextricably connecting thousands of enterprises from the retail sector down the line to the farming sector” (Mattas & Tsakiridou, 2010, p. 215).

Additionally, in the United States and abroad, the increased public interest in safe and healthy food (Mattas & Tsakiridou, 2010) and a steadily rising demand for locally produced food and value-added products (U.S. Department of Agriculture, 2016) has created opportunities for food businesses. In Oklahoma, the Robert M. Kerr Food and Agricultural Products Center (FAPC) on the campus of Oklahoma State University (OSU) in Stillwater helps entrepreneurs capitalize on that demand. In addition to “animal harvesting, food manufacturing, grain milling, sensory profiling, food microbiology and analytical laboratory facilities,” (“About Us,”, 2016, para. 3), FAPC offers a day-long

training session, Basic Training, for aspiring and new food business entrepreneurs. The workshop “helps participants address issues through business planning assistance, market identification, strategies and an explanation of food processing regulations” (“Basic Training, ””, 2016, para. 1). In addition to this training workshop for new firms, FAPC also assists existing value-added businesses and maintains contact with those businesses through an email database with specialized lists (Holcomb, personal communication, September 15, 2015). For example, a list titled “Made in Oklahoma” contains email addresses of representatives of food businesses located in Oklahoma that have utilized FAPC services (Gross, personal communication, March 1, 2016).

Although the food sector is seemingly thriving, food manufacturers and processors are not immune to the “liability of newness” (Stinchcombe, 1965, p. 148), which often is demonstrated by the statistic that only about three quarters of new businesses survive past one year, only half of new businesses survive five years, and only about one third survive beyond 10 years (Bureau of Labor Statistics Business Employment Dynamics, 2011). These statistics have remained steady for decades. However, new *products* in the food sector suffer extremely high failure rates – of the 15,000 to 20,000 new products introduced in the food sector each year, between 80 and 90 percent fail within the first year (Blackburn, 2015; Holcomb, 2010).

Business literature shows entrepreneurs can mitigate the liability of newness through legitimacy, which is “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions” (Suchman, 1995, p. 574). Legitimacy is considered to be a critical contributor to the success of a start-up company because it is a resource that can

be used to access other resources and achieve growth (Zimmerman & Zeitz, 2002).

A well-developed body of knowledge exists about how small businesses can achieve legitimacy, and “how firms attain and maintain legitimacy [remains] a fertile research pursuit” (Dibrell, Craig, Moores, Johnson, & Davis, 2009, p. 47). However, the canon of literature is profoundly lacking tangible information about the criteria for legitimacy in the food sector as well as the key activities required for start-up food businesses to achieve legitimacy and prosper. A better understanding of these benchmarks can provide a vital insight for food entrepreneurs so they can bring their products to the food supply chain more successfully.

Statement of the Problem

Aaron Johnson of the University of Idaho and Clay Dibrell of the University of Mississippi have begun a process to develop an operationalized scale for the four legitimating strategies and four legitimacy forms, but the scale is not yet fully developed.

Purpose of the Study

The purpose of this study was to test, extend, and validate the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007), which seeks to operationalize a scale to measure legitimacy forms and legitimating strategies of food businesses.

Objectives of the Study

The study addressed the following research objectives:

1. Use the Johnson and Dibrell legitimacy scale to measure the extent to which

participating firms engage in behaviors related to legitimacy forms and legitimating strategies.

2. Evaluate to what extent factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of relationships among items.
3. Evaluate reliability and validity of the Johnson and Dibrell legitimacy scale instrument.

Significance of the Study

The results of this study advance the literature related to business legitimacy in the food sector by measuring both the extent to which food manufacturers and processors engage in behaviors related to legitimacy forms and legitimating strategies and the relationships among those behaviors. Additionally, the study adds evidence to the discussion about the criteria that should be used to assess food business legitimacy by extending the work of Aaron Johnson of the University of Idaho and Clay Dibrell of the University of Mississippi to develop an operationalized scale (Johnson, Dibrell, Holcomb, & Craig, 2007) for the four legitimating strategies and four legitimacy forms theoretically argued by Zimmerman and Zeitz (2002).

This study tests Johnson and Dibrell's legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007), adds validity and reliability to the scale, and lays a foundation for other studies that will allow researchers to develop a theoretical roadmap of specific strategic actions start-up food processors can incorporate to intentionally develop legitimacy. Further, entrepreneurs can use the insights from this study to bring products to the food supply chain in the least amount of time while minimizing exposure to economic risk. A

more robust food sector can increase market opportunities for farmers, expand consumer choice, create jobs, and boost economies.

Scope of the Study

This study included individuals involved with a firm that engages in food manufacturing or processing in Oklahoma who were graduates of the Basic Training workshop from the FAPC at OSU and/or individuals subscribed to the “Made in Oklahoma,” email communication lists from FAPC.

Assumptions

The following assumptions were made concerning this study:

1. Respondents were employed with a food business operating in Oklahoma.
2. Respondents and/or their firms have achieved legitimacy.
3. Respondents had the content knowledge necessary to answer the questionnaire questions.
4. Respondents honestly and accurately responded to the questionnaire questions.
5. Respondents were representative of the population.

Limitations

The following limitations were made concerning this study:

1. The population was limited to individuals who have attended the FAPC Basic Training Workshop and/or were included in the FAPC email database.
2. The population included individuals who hold varying roles in their organizations and thus may hold varying levels of content knowledge about their organizations’

strategic decisions.

Definition of Terms

Cognitive legitimacy: One of four forms of legitimacy, which can be achieved based on how well an organization performs from stakeholders' points of view (Suchman, 1995).

Conformance strategies: One of four types of legitimating strategies, conformance strategies are organizational behaviors that “achieve conformity with the demands and expectation of the existing social structure in which the organization is currently positioned” (Zimmerman & Zeitz, 2002, p. 422). Conformance can help an organization achieve legitimacy.

Creation strategies: One of four types of legitimating strategies, creation strategies are organizational behavior that develops “something that did not already exist in the environment” (Zimmerman & Zeitz, 2002, p. 425). Creation can help an organization achieve legitimacy.

Industry legitimacy: One of four forms of legitimacy, which can be achieved based on the legitimacy of the industry in which an organization operates (Zimmerman & Zeitz, 2002).

Legitimacy: “A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions” (Suchman, 1995, p. 574).

Legitimacy forms: A label used to describe four sources from which legitimacy can be derived: regulative, normative, cognitive, and industry (Zimmerman & Zeitz, 2002).

Legitimizing strategies: Purposive actions a new venture can do “to increase visible consistency with the environment by conforming to, selecting, manipulating, and/or creating the environment in which it exists” (Zimmerman & Zeitz, 2002, p. 426).

Liability of newness: A term to describe the phenomenon of higher failure rates among young organizations than older organizations, first introduced by Stinchcombe (1965).

Manipulation strategies: One of four types of legitimating strategies, manipulation strategies refer to organizational behavior that makes “changes in the environment to achieve consistency between the organization and its environment” (Zimmerman & Zeitz, 2002, p. 424).

Normative legitimacy: One of four forms of legitimacy, which can be achieved through compliance with a specific system of values (Aldrich & Fiol, 1994; Scott, 2001). Also referred to as sociopolitical normative legitimacy or moral legitimacy.

Regulative legitimacy: One of four forms of legitimacy, which can be achieved “by visibly conforming to regulations, rules, standards and expectations created by governments, credentialing associations, professional bodies and even powerful organizations” (Zimmerman & Zeitz, 2002, p. 419). Also referred to as sociopolitical regulative legitimacy.

Selection strategies: One of four types of legitimating strategies, manipulation strategies refer to organizational behavior that “allows the organization to select the environment in which it operates” (Zimmerman & Zeitz, 2002, p. 423).

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to test, extend, and validate the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007), which seeks to operationalize a scale to measure legitimacy forms and legitimating strategies of food businesses. The present chapter provides a discussion of organizational legitimacy, which serves as a theoretical framework for the study, followed by an exploration of legitimacy measures and the Oklahoma food production and processing industry. The chapter concludes with an overview of the Robert M. Kerr Food & Agricultural Products Center on the campus of Oklahoma State University.

Theoretical Framework

In research, “theory provides context without which the research could not be meaningful, and research generates and tests theory without which the theory would not have meaning” (Camp, 2001, para. 22). A theoretical framework in a research report is “a set of theoretical assumptions that explain the relationships among a set of phenomena” (Camp, 2001, para. 39). Thus, using a theoretical framework can ground research design and analysis. The theoretical framework that grounds this study is the theory of organizational legitimacy.

Organizational Legitimacy

Organizational legitimacy in business literature has its roots in general institutional and social theory, stemming from the work of Talcott Parsons (1960) and Max Weber (1978) in particular. Subsequent researchers adopted and extended the notion of organizational legitimacy, creating a diverse collection of legitimacy categorizations, including 1) strategic and institutional; 2) pragmatic, moral, and cognitive; and 3) legitimacy building, legitimacy maintaining, and legitimacy repairing (cf. Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Grünhagen, 2008; Hunt & Aldrich, 1996; Scott, 1995a, 1995b; Suchman, 1995).

By the 1990s, legitimacy had become ubiquitous in organizational literature, but as Suchman (1995) noted although “many researchers employ[ed] the term legitimacy, ... few define[d] it” (p. 572). Thus, to provide an anchor for organizational legitimacy and bridge the gap between theorists and practitioners, Suchman conducted an extensive synthesis of this research and developed what has been cited widely and often referred to as a seminal definition of legitimacy. Suchman lauded preceding research streams, concluding “given their disparate foci, the multiple legitimacy literatures display remarkable consistency, and their assertions, remarkable compatibility” (p. 604).

This consistency and compatibility allowed Suchman (1995) to develop an inclusive definition of legitimacy, which explains “legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions” (p. 574).

This definition highlights legitimacy is an “acceptance of an organization *by the*

environment [emphasis added]” (Grünhagen, 2008, p. 76) and characterizes the concept similarly to how Zott and Huy (2007) perceptively and succinctly noted: “legitimacy is socially constructed” (p. 71). Zimmerman and Zeitz (2002) elucidate the importance of the social nature of legitimacy, stating it “is a social judgment of appropriateness, acceptance, and desirability. It is a resource – one that is important to the new venture because it provides access to other resources, and resources are necessary for growth” (p. 418).

Early legitimacy scholars (e.g., Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Hunt & Aldrich, 1996; Scott, 1995a) did not have much to say about how organizations could acquire legitimacy: it was “viewed as something operating largely at the subconscious or preconscious level” (Zimmerman & Zeitz, 2002, p. 421). However, a more contemporary approach to the topic asserts although legitimacy is a socially constructed concept, an organization’s behavior affects external perceptions, and organizations can act with specific strategic action to acquire legitimacy (Pereira & Goldsmith, 2006; Scott, 2001; Suchman, 1995; Zimmerman & Zeitz, 2002).

To operationalize these behaviors, scholars have provided categorization of both types of legitimacy and strategic behaviors organizations can pursue to gain, maintain, or repair legitimacy. An overview follows.

Legitimacy forms. Suchman’s (1995) initial categorization included three forms of legitimacy: pragmatic, moral and cognitive. Other authors (c.f. DiMaggio & Powell, 1983; Scott, 1995a, 2001) refer to *moral legitimacy* as *normative legitimacy*. The present study uses the term *normative legitimacy* to remain consistent with the writing of

Zimmerman and Zeitz (2002). Zimmerman and Zeitz (2002) also extended Suchman's categories, adding "legitimacy derived from the industry in which a new venture operates" (p. 418) as a source of legitimacy. These authors also omitted pragmatic legitimacy from their categorizations. Thus, the theoretical framework for this study mirrors Zimmerman and Zeitz (2002) and considers four sources from which an organization can earn legitimacy:

1. How well the organization complies with rules and regulations (regulative legitimacy) (Aldrich & Fiol, 1994; Scott, 2001),
2. how well the organization adheres to a specific system of values (normative legitimacy) (Scott, 2001; Suchman, 1995; Zimmerman & Zeitz, 2002),
3. how well the organization performs from stakeholders' points of view (cognitive legitimacy) (Suchman, 1995), and
4. the legitimacy of the industry in which the organization operates (industry legitimacy) (Zimmerman & Zeitz, 2002).

Regulative legitimacy. Regulative legitimacy, also referred to as sociopolitical regulative legitimacy, is a form of legitimacy achieved when an organization "visibly conform[s] to regulations, rules, standards and expectations created by governments, credentialing associations, professional bodies and even powerful organizations" (Zimmerman & Zeitz, 2002, p. 419). "The main idea of regulative legitimacy is to show the firm is operating lawfully and fairly" (Sprouse, 2013, p. 20). Deephouse and Carter (2005) reported previous researchers have used government reports to measure regulative legitimacy (cf. Baum & Oliver, 1991; Deephouse, 1996; Singh, Tucker, & House, 1986).

Regulative legitimacy reflects the conformity of organizational action to regulatory standards, and a firm perceived to address regulations and requirements attains more regulative legitimacy compared with peer organizations (Pereira & Goldsmith, 2006). For example, a firm that holds a specific governmental certification and communicates that to stakeholders may gain more regulative legitimacy in the eyes of stakeholders than a firm that does not have such certification.

Normative legitimacy. Normative legitimacy, also referred to as sociopolitical normative legitimacy or moral legitimacy, is a form of legitimacy achieved when an organization “visibly endor[s] and implement[s] values and norms widely held within their various domains of activity” (Zimmerman & Zeitz, 2002, p. 420). Zimmerman and Zeitz (2002) explained several sources of normative legitimacy, including addressing norms and values held by those who control needed resources, endorsements and positive press coverage, and networks of business partners or established organizations. For example, an organization can gain normative legitimacy by extolling certain environmental practices valued by stakeholders.

It is important to note normative legitimacy often reflects norms and values specific to an industry (DiMaggio & Powell, 1983). In other words, what is valued in one industry may not be valued in another and vice versa, so the same action by an organization in one industry may confer legitimacy that it otherwise would not.

Cognitive legitimacy. Cognitive legitimacy is a form of legitimacy achieved when an organization “visibly expous[es] and practice[es] widely held beliefs and assumptions accepted within their various domains of activity” (Zimmerman & Zeitz, 2002, p. 420).

In normative legitimacy, great importance is placed on a moral frame of reference and what an organization should do (Pereira & Goldsmith, 2006). Cognitive legitimacy, on the other hand, often is described a taken-for-grantedness that a specific condition exists within an organization (Aldrich & Fiol, 1994; Suchman, 1995; Zimmerman & Zeitz, 2002). For example, cognitive legitimacy exists when investors assume an entrepreneur with a business degree knows how to effectively manage a business (Zott & Huy, 2007).

Industry legitimacy. As the name implies, industry legitimacy is a form of legitimacy that new ventures can derive “from their industry, adding to the legitimacy they have from other sources” (Zimmerman & Zeitz, 2002, p. 421). Industry legitimacy was first presented by Zimmerman and Zeitz (2002), and although previous scholars did not label this construct, many concluded some industries have more legitimacy than others, and legitimacy can be conferred to organizations within the industry (cf., Aldrich & Fiol, 1994; Hunt & Aldrich, 1996; Scott, 1995a). Therefore, new ventures associated with an industry holding a higher level of legitimacy will have fewer barriers to achieving support “through capital, technology, personnel, customer goodwill, networks, and so forth” (Zimmerman & Zeitz, 2002, p. 421). Similarly, Sprouse (2013) explained the industry must acquire legitimacy before firms can, and “new firms have lower chances of survival in new industries,” (p. 5). If depicted graphically, industry legitimacy follows an S-curve: an industry might have low legitimacy during formation, increase quickly as the industry becomes older and more prevalent, and then decline during maturity (Zimmerman & Zeitz, 2002).

Legitimizing strategies. Beyond describing categories of legitimacy, Zimmerman and Zeitz (2002) “consider[ed] how new ventures can acquire legitimacy in

deliberate, goal-orientated ways” (p. 422). They described four strategies new ventures can use to enhance legitimacy forms: conformance strategies, manipulation strategies, selection strategies, and creation strategies.

Conformance strategies. Conformance strategies refer to organizational behavior that “achiev[es] conformity with the demands and expectation of the existing social structure in which the organization is currently positioned” (Zimmerman & Zeitz, 2002, p. 422). Conformance can help an organization achieve legitimacy. Often, conformance, such as registration with the U.S. Securities and Exchange Commission or following tax laws, is required for a venture to operate legally. Thus, “conformance is the least strategic of the four strategies and is often used by new ventures” (Zimmerman & Zeitz, 2002, p. 423).

Creation strategies. Creation strategies refer to organizational behavior that develops “something that did not already exist in the environment” (Zimmerman & Zeitz, 2002, p. 425). Creation is especially useful for ventures operating in immature industries because they “can act as a pioneer and establish the basis of legitimacy for those who come after it” (Zimmerman & Zeitz, 2002, p. 425). An example of creation is when Internet businesses “create[d] a new business model in which growth and market share, rather than profitability, were seen as primary investment criteria” (Zimmerman & Zeitz, 2002, p. 425).

At times, creation strategies and conformance strategies can be at odds with each other: New ventures can conform to existing structure to acquire legitimacy, but also they can introduce new products or practices that shock existing structure to acquire legitimacy

(Aldrich & Fiol, 1994). Because of the nature of creation, this legitimating strategy requires the most creativity by new ventures.

Manipulation strategies. Manipulation strategies refer to organizational behavior that makes “changes in the environment to achieve consistency between the organization and its environment” (Zimmerman & Zeitz, 2002, p. 424). Suchman (1995) explained organizations can use manipulation to develop contexts that support the specific needs of the organization. For example, organizations can lobby for governmental changes to manipulate the environment and achieve legitimacy. Manipulation involves less change to the environment than creation and more change than do selection and conformance (Zimmerman & Zeitz, 2002).

Selection strategies. Selection strategies refer to organizational behavior that “allows the organization to select the environment in which it operates” (Zimmerman & Zeitz, 2002, p. 423). Selection strategies are most effective when the rules and norms of an environment are known and an organization has “the opportunity and the resources to select those most consistent with an advantageous to it” (Zimmerman & Zeitz, 2002, p. 423). For example, a firm employs a selection strategy when it chooses a location based on tax incentives or when it chooses to produce a specific product because of its profitability. Selection is more strategic than conformance (Zimmerman & Zeitz, 2002).

Legitimacy and Firm Performance

Legitimacy is important in firm performance, particularly for a new organization. A new venture can use legitimating strategies to build legitimacy, which contributes to the availability of resources that in turn support firm survival, growth efficiency, profit, size,

liquidity, success/failure, market share, and leverage (Murphy, Trailer, & Hill, 1996; Zimmerman & Zeitz, 2002). Figure 1 provides a graphic representation of this process.

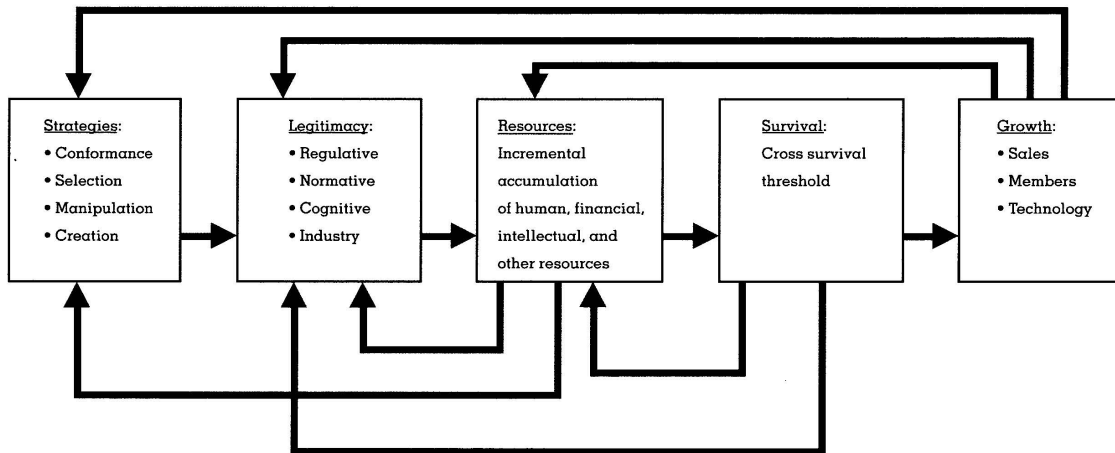


Figure 1. Legitimacy process model (Zimmerman & Zeitz, 2002, p. 415)

Firm survival is the most recognized effect of legitimacy, and in particular, scholars have pointed to legitimacy as a shield against the liability of newness (Aldrich & Fiol, 1994; Murphy et al., 1996; Patel, Xavier, & Broom, 2005; Zimmerman & Zeitz, 2002). The *liability of newness* is a term first coined by Stinchcombe (1965) to explain the statistic that half of all new businesses fail within the first five years. About 10 percent do not survive past one year, and around 65 percent fail within 10 years (Bureau of Labor Statistics Business Employment Dynamics, 2011). These firm survival statistics have remained consistent across decades (see Figure 2).

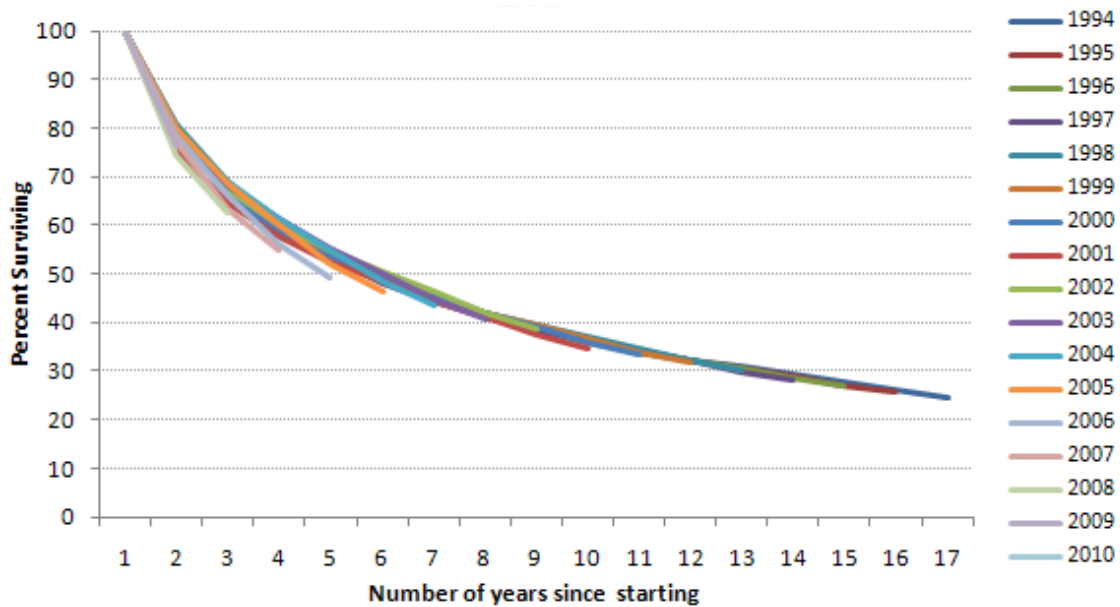


Figure 2. Survival rates of establishments, by year started and number of years since starting, 1994-2010 (Bureau of Labor Statistics Business Employment Dynamics, 2011).

Food Industry Legitimacy

In the food industry, the liability of newness and the risks faced by start-up businesses extend beyond the risks realized in other sectors (Holcomb, Palma, & Velandia, 2013).

The food industry offers an excellent opportunity for examining the concept of legitimacy because the industry as a whole is dynamic, with both supply and demand of all products in a relatively constant state of flux (Holcomb, personal communication, 2016). This dynamic industry nature is made apparent by the large number of new products introduced each year to meet changing consumer tastes and preferences (Figure 3). Of the 15,000 to 20,000 new products introduced in the food sector each year, between 80 and 90 percent fail within the first year (Blackburn, 2015; Holcomb, 2010).

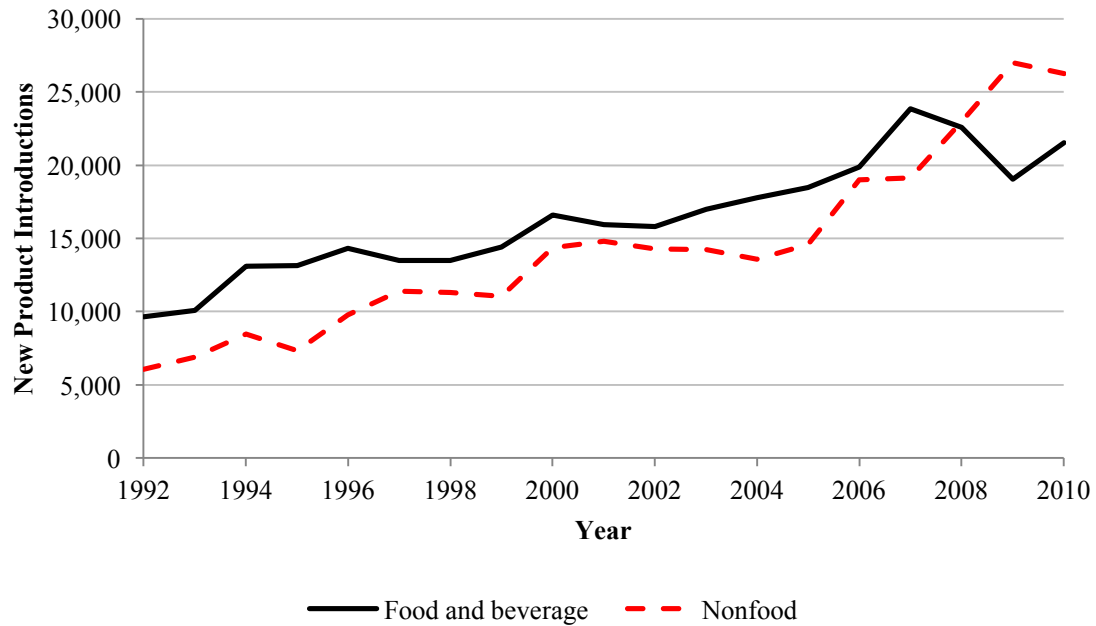


Figure 3. New product introductions of consumer packaged goods, 1992-2010. (USDA-ERS, 2010)

Additionally, the “accelerating speed of change in the food and agribusiness industries is resulting in more risk and uncertainty” (Boehlje, Gray, & Detre, 2005, p. 38), which makes it difficult for food companies to achieve even a minimum level of legitimacy. Widespread changes in the food industry within the past century include food safety regulations, quality management, and supply consistency, making food entrepreneurship and processing today vastly different than the agribusiness function it once served (Paggi, Yamazaki, Ribera, Palma, & Knutson, 2013; Ribera & Knutson, 2011). Gone are the days described by Rausser (1982) in which the risks food businesses encountered were primarily monetary in nature and grouped by cost centers: procurement, production, and marketing. Food entrepreneurs now must consider not only cost centers, but also perceived product safety and quality, firm stability, and the firm’s longevity (Holcomb et al., 2013). Further, as Eastwood et al. (2003) described, distribution barriers are common

in high-value agricultural products, and overcoming these barriers are a significant challenge for new market entrants.

Aaron Johnson, an associate professor of agricultural economics and rural sociology at the University of Idaho who has been studying legitimacy since 2003, explained new food industry firms form strategies along the same categorical outline described by Zimmerman and Zeitz (2002) in their pursuit of legitimacy (Johnson, personal communication, October 8, 2015). In the food industry, as in others, new venture legitimating strategies and the achievement of legitimacy forms have significant overlap (Johnson, personal communication, October 8, 2015). Johnson (personal communication, January 12, 2016) provided the following examples of conformance strategies associated with obtaining sociopolitical regulatory legitimacy:

1. Meat companies must conform processing activities to commonly accepted food safety protocols such as Hazard Analysis and Critical Control Points (HACCP);
2. A packaged foods manufacturer must adopt one of the accepted Global Food Safety Initiative (GFSI) programs to conform to the requirements of a large retailer; or
3. A new acidified foods processor must pursue approval from an FDA food process authority prior to startup.

However, while these anecdotes are grounded in practical experience and observations, the body of literature has little evidence of specific steps food businesses can take to obtain legitimacy. For example, a review of the literature related to food industry

performance standards revealed a number of studies that characterize specific assistance needs of food processors and/or that propose variables for measuring performance and the impact of actions upon business success and growth (Bezat-Jarzębowska, Rembisz, & Sielska, 2012; Hingley, Boone, & Haley, 2010; Hirsch & Gschwandtner, 2015; Ross & Victor, 2013). Yet, the literature overlooks the establishment of firms as legitimate food industry participants, which, as previously discussed, often precedes growth and survival.

Norwood (1974) outlined relevant variables to be considered in measuring and setting standards for business performance, but these measures are primarily relevant for the large, established companies and industries as a whole, as opposed to “younger” startups and developing businesses. Most of those variables identified were based upon per-unit or per-customer costs and returns, not on quantitative or qualitative measures of firm marketability and legitimacy in a highly regulated, highly competitive market. Griffin (1982) examined the potential links between marketing methods and company success, but the focal companies were established food manufacturers in lesser-developed countries. Thus, the findings may not be directly applicable to U.S. firms that face the challenge of developing a niche (or capturing a target market segment) in an arena where a large number of competitors provide a wide variety of value-added products to increasingly discerning consumers.

Several studies have surveyed food processors to determine their needs, but these studies do not examine the actions of the companies, nor do they attempt to link company characteristics and actions to the resulting company needs. Jensen and Pompelli (2000), for example, studied the variance in self-stated needs of Tennessee

food processors related to business demographics and found marketing and logistics assistance is important. However, the study did not examine the links between the actions taken by the firms and the resultant business characteristics and needs.

Likewise, Greenlee, Holcomb, Muske, and Woods (2002) focused on a basic set of firm demographics to assess operational characteristics of Oklahoma's small food processors, yet no assessments were made of the linkages between these operational characteristics and the viability/legitimacy of these firms in their respective market segments.

Measures of Legitimacy

The difficulties of measuring legitimacy are well-documented in the literature (Bozeman, 1993; Diez-Martin, Prado-Roman, & Blanco-Gonzalez, 2013; Low & Johnston, 2008; Suchman, 1995). "Scholars have attempted to measure legitimacy using a variety of indirect proxy measures related to the source of legitimacy" (Zimmerman & Zeitz, 2002, p. 418) (cf., Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Hunt & Aldrich, 1996; Scott, 1995a, 2001; Suchman, 1995).

Diez-Martin et al. (2013) concluded the most common method of measuring legitimacy has been quantitative content analysis (e.g., Deephouse, 1996; Deephouse & Carter, 2005; Low & Johnston, 2008; Ruef & Scott, 1998), followed by semi-structured interviews of managers (e.g., Human & Provan, 2000; Low & Johnston, 2008; Rutherford & Buller, 2007). Elsbach (1994) developed a scale to assess two components of organizational legitimacy outlined by Michener and Burt (1974): 1) internal and

external organizational endorsement and 2) organizational normativity, or attributes legitimate organizations should or do have.

A legitimacy scale most relevant to the topic of the present study currently is being developed by Aaron Johnson of the University of Idaho and Clay Dibrell of the University of Mississippi.

Johnson and Dibrell Legitimacy Scale

Johnson and Dibrell have completed work (Johnson, Dibrell, Holcomb, & Craig, 2007) to develop an operationalized scale for the four legitimating strategies and four legitimacy forms theoretically argued by Zimmerman and Zeitz (2002). They used scale development procedures recommended by Churchill (1979). Churchill (1979) outlined eight steps to scale development: 1) specify the domain, 2) generate sample items, 3) collect data, 4) purify measure, 5) collect data, 6) assess reliability, 7) assess validity, and 8) develop norms. To date, Johnson and Dibrell have completed the first four of these eight steps. A description of their progress follows.

Domain specification. The strategies and forms of legitimacy Johnson and Dibrell used in their scale were grounded and created in the work of Zimmerman and Zeitz (2002). They identified four strategies (i.e., conformance, selection, manipulation, and creation) and four forms of legitimacy (i.e., regulative, normative, cognitive, and industry).

Sample item generation. Johnson and Dibrell next used a Delphi method to generate sample items. Much like the technique's namesake – the ancient Greek site of the Delphic oracle where forecasts and advice were sought – the Delphi technique relies

on the “opinions of identified experts to develop theories and projections for the future” (Bourgeois, Pugmire, Stevenson, Swanson, & Swanson, 2006, p. 1). The Delphi method as recommended by Ulshack (1983) uses a multi-step process in which panelists are asked to indicate their level of agreement to 6-point Likert-type scaled response items. Items are analyzed, and participants are asked to complete subsequent rounds building upon their responses from the previous round until consensus is reached or sufficient information is collected (Delbecq, Van De Ven, Gustafson, & Van De Ven Delberg, 1975). The Delphi technique “operates on the principles that several heads are better than one in making subjective conjectures ... and that experts will make conjectures based upon rational judgment rather than merely guessing” (Weaver, 1971, p. 2688).

Rowe and Wright (1999) characterize the classical Delphi method by four key features: “anonymity, iteration, controlled feedback, and the statistical aggregation of group response” (p. 354). As Bourgeois et al. (2006) note, “the uniqueness of Delphi lies in its reliability, given the variableness of human opinion, and in its ability to be administered remotely and without direct participant interaction” (p. 1). In fact, this anonymity of participants “ensures that the biasing effect of group pressures, dominant individuals and the like does not occur” (Evans, 2007, p. 108).

Furthermore, as Rowe and Wright (1999) note: “with the iteration of the questionnaire over a number of rounds, the individuals are given the opportunity to change their opinions and judgments without fear of losing face in the eyes of the (anonymous) others in the group” (p. 354).

Johnson and Dibrell began their Delphi procedures with 175 researcher-generated items describing legitimating strategies and their corresponding legitimacy forms, which were sent to a panel of academicians who study entrepreneurship and new venture creation. Upon completion of the Delphi process, the panelists reached consensus on 50 items. The 50 items were:

1. Influence industry best practices
2. Choose your product line(s) for profitability
3. Maintain presence in industry through trade shows and industry associations
4. Attending industry trade shows
5. Lobby for new regulatory policies
6. Carrying out processes and procedures at higher standards than associations and professional bodies require
7. Members support the development of shared technical standards for products and processes
8. Members formulate collective responses to external threats and opportunities
9. Select the area for tax incentives
10. Compliance in regulatory record keeping
11. Formalizing human resource management practices (e.g., employee handbook, incentive plan)
12. Organize new industry trade association
13. Champion new environmental practices for the industry
14. Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing)

15. Carrying out processes and procedures at higher standards than regulatory agencies require
16. Measuring and reporting profitability to external and internal key stakeholders
17. Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices)
18. Formalizing how people and groups interact within the company (e.g., organizational structure)
19. Exceed industry environmental norms and standards
20. Identify with low competitive markets
21. Imitate or follow the lead of other competitors
22. Gaining referrals from buyers and/or suppliers
23. Champion new industry norms and standards
24. Generating positive trade press or news coverage
25. Select your location to gain access to needed resources (e.g., labor, raw materials)
26. Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive
27. Select the product line(s) for its growth rate
28. Follow all government regulations
29. Select the area for trade associations who are familiar with your industry's business practices
30. Select the product line(s) based on accepted environmental practices
31. Members cooperate in formulating product standards for the industry

32. Following the rule of law (e.g., OSHA, EPA, labeling laws)
33. Top management team members are properly prepared (e.g., industry experience, college education)
34. Choose your location because of its reputation
35. Employ innovative environmental practices
36. Conform to industry accepted environmental practices
37. Employ innovative distribution methods
38. Meeting financial performance expectations
39. Adopt technologies to integrate with our buyers and/or suppliers
40. Adhere to industry norms and standards
41. Use certifications (e.g., ISOs, organic)
42. Choose your market space for its profitability
43. Belong to prominent industry associations and trade groups
44. Adhere to standard industry human resource management practices
45. Implementation of best practices (e.g., HACCP, good manufacturing practices)
46. Practice incremental product or process innovations
47. Members jointly act to address environmental concerns
48. Members support standards for stabilizing conditions within the industry
49. Dramatically depart from industry norms for your products or processes
50. Promote changes in industry business models

As a method, the Delphi method “is a valid instrument for forecasting and supporting decision-making” (Landeta, 2006, p. 478). The Delphi process of using a panel of experts to reach consensus about the constructs to be measured has built-in content and construct

validity (Tomasik, 2010). For the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007), by merit of consensus, the panel of experts confirmed the face and content validity of the measure.

Data collection. A pilot study of the Delphi-produced questionnaire was sent to a sample of food processors who met the initial criteria of being a food-processing firm in the western United States with an identified respondent in a knowledgeable management position. All scales had the following directions, “based on the past three years, please indicate the extent to which your firm engaged in the following behaviors.” The 7-point Likert-type scale anchors were 1 = “Never,” 4 = “Sometimes” and 7 = “Always.”

Data collection followed the Salant and Dillman (1994) recommended approach for data collection for mail surveys, with two waves of questionnaires. This approach resulted in 62 respondents for the pilot.

Measure purification. Johnson and Dibrell used data from the 62 respondents to conduct an exploratory factor analysis (EFA), which revealed an eight-factor structure for the 50 items included in the instrument, which Johnson and Dibrell named in accordance with the four legitimating strategies and four legitimacy forms. Items relating to legitimating strategies are displayed in Figure 4 and items relating to legitimacy forms are shown in Figure 5.

Next, the researchers examined the items, removed items loading values below .40 (non-loading items) and items with loading values $>.40$ across more than one component with the difference between the loading values was $<.10$ (cross-loading items) (Gorsuch, 1974) from further analysis. The constructs of creation and normative were found not to

demonstrate discriminant validity, and these factors were dropped from further analysis. The remaining factors were selection, manipulation, conformance, regulative legitimacy, industry legitimacy, and cognitive legitimacy.

All items asked respondents: "Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors."

LEGITIMATING STRATEGIES (29 items)

| | |
|--|--|
| <p>Conformance Scales (7 items)</p> <ul style="list-style-type: none"> • Influence industry best practices • Imitate or follow the lead of other competitors • Follow all government regulations • Adhere to industry norms and standards • Use certifications (e.g., ISOs, organic) • Belong to prominent industry associations and trade groups • Adhere to standard industry human resource management practices | <p>Selection Scales (10 items)</p> <ul style="list-style-type: none"> • Choose your market space for its profitability • Choose your location because of its reputation • Select the product line(s) based on accepted environmental practices • Select the area for trade associations who are familiar with your industry's business practices • Select the product line(s) for its growth rate • Select your location to gain access to needed resources (e.g., labor, raw materials) • Identify with low competitive markets • Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing) • Select the area for tax incentives • Choose your product line(s) for profitability |
| <p>Manipulation Scales (8 items)</p> <ul style="list-style-type: none"> • Promote changes in industry business models • Practice incremental product or process innovations • Adopt technologies to integrate with our buyers and/or suppliers • Employ innovative distribution methods • Employ innovative environmental practices • Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive • Champion new environmental practices for the industry • Lobby for new regulatory policies | <p>Creation Scales (3 items)</p> <ul style="list-style-type: none"> • Organize new industry trade association • Champion new industry norms and standards • Dramatically depart from industry norms for your products or processes |

Figure 4. Johnson and Dibrell legitimacy scale items related to legitimating strategies (Johnson, Dibrell, Holcomb, & Craig, 2007).

Since a survey design was used to gather data, data was examined for the presence of common method bias. Following Harman's (1967) recommendation, a principal components factor analysis (PCA) was utilized in which common method bias could be indicated if only one factor, or one factor that accounted for an extensive amount of the variance in the unrotated factor structure, were to be produced.

All items asked respondents: "Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors."

LEGITIMACY FORMS (21 items)

| | |
|---|--|
| <p>Regulative Scales (7 items)</p> <ul style="list-style-type: none"> • Maintain presence in industry through trade shows and industry associations • Carrying out processes and procedures at higher standards than associations and professional bodies require • Compliance in regulatory record keeping • Carrying out processes and procedures at higher standards than regulatory agencies require • Exceed industry environmental norms and standards • Following the rule of law (e.g., OSHA, EPA, labeling laws) • Implementation of best practices (e.g., HACCP, good manufacturing practices) | <p>Normative Scales (4 items)</p> <ul style="list-style-type: none"> • Measuring and reporting profitability to external and internal key stakeholders • Gaining referrals from buyers and/or suppliers • Generating positive trade press or news coverage • Meeting financial performance expectations |
| <p>Industry Scales (5 items)</p> <ul style="list-style-type: none"> • Members support the development of shared technical standards for products and processes • Members formulate collective responses to external threats and opportunities • Members cooperate in formulating product standards for the industry • Members jointly act to address environmental concerns • Members support standards for stabilizing conditions within the industry | <p>Cognitive Scales (5 items)</p> <ul style="list-style-type: none"> • Attending industry trade shows • Formalizing human resource management practices (e.g., employee handbook, incentive plan) • Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices) • Formalizing how people and groups interact within the company (e.g., organizational structure) • Top management team members are properly prepared (e.g., industry experience, college education) |

Figure 5. Johnson and Dibrell legitimacy scale items related to legitimacy forms

(Johnson, Dibrell, Holcomb, & Craig, 2007).

Introduced by Pearson (1901) and Hotelling (1933), PCA is a widely used variable reduction method that produces a smaller set of variables called principal components that account for most of the variance in the original dataset. The PCA produced four factors reflective of the constructs being studied with eigenvalues greater than 1. The first factor accounted for 34% out of a total of 78% of the explained variance, suggesting the

presence and effects of common method bias were insignificant on the outcome of the study.

To establish external validity, the researchers tested for non-response bias through independent t-tests between early and late respondents. Differences between early and late respondents were not significant, indicating there was no response bias in the sample and the instrument demonstrated external validity (Lindner, Murphy, & Briers, 2001). Since no significant differences between early and late respondents were found, the researchers statistically concluded non-respondents were similar to late respondents, and thus the instrument demonstrated external validity.

Although there is some discourse in the literature about whether Likert-type scales should be treated as measuring ordinal or continuous variables (Laerd Statistics, 2016), Johnson and Dibrell chose to treat the scales as measures of continuous variables. The literature supports the treatment of a Likert-type scale as a continuous variable when the scale has seven or more values (Laerd Statistics, 2016). All scales in the pilot had 7-point Likert-type scale anchors.

Creswell (2008) noted “if the items are scored as continuous variables, alpha provides a coefficient to estimate consistency of scores on an instrument” (p. 164). Therefore, Cronbach’s alpha (1951) was calculated to assess the internal consistency of scaled items related to the remaining six constructs in the questionnaire. In general, a Cronbach’s alpha of .70 or greater is regarded as an acceptable level of internal consistency (Nunnally, 1978). The measurement reliabilities for all six remaining constructs were higher than the minimum acceptable level, as indicated by their respective coefficient

alphas, which are displayed in Table 1. Coefficient alphas for the creation and normative constructs are not available.

Table 1

Pilot Study Coefficient Alphas for Legitimacy Constructs

| Construct | α |
|-------------------------|----------|
| Legitimizing Strategies | |
| Conformance | .79 |
| Selection | .74 |
| Manipulation | .87 |
| Creation | N/A |
| Legitimacy Forms | |
| Regulative | .85 |
| Normative | N/A |
| Cognitive | .90 |
| Industry | .85 |

Next steps. The final steps in Johnson and Dibrell’s legitimacy forms and strategies scale development include data collection, another assessment of reliability and validity, and development of norms. Once the eight steps of Churchill’s (1979) scale development process are completed, the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007) will provide a valid, reliable, and operationalized measure to address the challenges of legitimacy measurement.

Oklahoma Food Production and Processing

Many years before Oklahoma became a state in 1907, “there were those who recognized in Oklahoma Territory’s grass and prairie lands the potential for an abundance of agricultural activity; and this vision has certainly become reality” (Green, 1990, p. vii). The state’s climate, soil, and terrain are ideal for food and fiber production (Escoubas, 2014).

Today, Oklahoma ranks in the top 10 nationally in winter wheat, rye, canola, beef cattle and all cattle and calves production ("Oklahoma agriculture: An in-depth look at the state's diverse industry," 2013). Other commodities that add significant value to the state's economy include cotton, peanuts, pecans, sorghum, canola, sesame, sunflowers, hogs, sheep, goats, poultry, vegetable crops and certain fruit crops (Escoubas, 2014). Naturally, the production of these and other agricultural commodities has been a cornerstone of the Oklahoma economy, but the finishing of these commodities to create value-added consumer products was not emphasized until the end of the 20th century (Escoubas, 2014).

In 1981, the late Robert M. Kerr, then a state senator from Altus, brought attention to Oklahoma's deficiencies regarding "further-processing sectors of food and fiber agribusiness" (Escoubas, 2014, p. 1) in a letter to the Oklahoma Legislature. Escoubas (2014) summarized the key points of Senator Kerr's letter:

1. Oklahoma was producing \$3 billion in agricultural products annually, selling that product at wholesale prices to out-of-state buyers, paying the freight to ship that product out of the state for processing and back into the state as a finished product, and then paying retail prices for the finished product;
2. Oklahoma was processing significantly less than 10 percent of its agricultural products, losing value-added jobs and manufacturing-based profit margins, and taxes from processing and finishing; and
3. Oklahoma was losing human capital because people educated in food processing and manufacturing had to find jobs outside of the state.

In the 1980s, Oklahoma accounted for one percent of the national population, but the value-added processing industry in the state was valued at less than .5 percent nationally (Escoubas, 2014). Additionally, the national food processing, retail food, and food service markets were competitive and growing in domestic and global distribution channels (Escoubas, 2014). Because of the relative lack of value-added processing and associated sales in Oklahoma, “Governor Henry Bellmon compared the state’s agricultural industry to a ‘third world type agriculture’ at the 1987 Conference on Expanding Food Processing in Oklahoma” (McConaghy & Holcomb, 2007, p. 4). Thus, Senator Kerr and several other legislators began a movement to increase Oklahoma’s capacity to participate in all aspects of the food marketing chain: producers, processors, retailers, foodservice, and transportation/distribution (Escoubas, 2014; McConaghy & Holcomb, 2007). Today, Oklahoma contributes around 1 percent of the value of shipments, employees, and payroll for national food manufacturing (NAICS, 2013). This increase is due in large part to a hard-fought hurdle to establish a food-processing facility in the state (Escoubas, 2014).

Robert M. Kerr Food and Agricultural Products Center

The Robert M. Kerr Food and Agricultural Products Center (FAPC) on the campus of Oklahoma State University (OSU) in Stillwater has a legislative mandate to “to discover, develop, and deliver technical and business information that will stimulate and support the growth of value-added food and agricultural products and processing in Oklahoma” (Gross, 2000, p. 1). In a yet-to-be published essay about the history of the FAPC, J. Roy Escoubas, current FAPC director, wrote “FAPC is truly a one-of-a-kind, special model for economic development” (Escoubas, 2014, p. 1). The FAPC is the result of the work

started by Senator Kerr to “curb the outflow of Oklahoma’s premium agricultural commodities and launch an effort to convert these premium commodities through value-added manufacturing within Oklahoma” (Escoubas, 2014, p. 2).

The first significant step toward the establishment of the FAPC occurred in 1987, when legislation was passed in Oklahoma mandating cooperation between several state agencies to study the benefits of a food-processing center in Oklahoma (Escoubas, 2014). Later, a working group of representatives from OSU’s Division of Agriculture, now called the Division of Agricultural Sciences and Natural Resources (DASNR); the Oklahoma Department of Agriculture, now called the Oklahoma Department of Agriculture, Food and Forestry (ODAFF); the Oklahoma Department of Commerce; and the Oklahoma Interstate Commerce Commission “recommended a Food-processing Task Force be created to address the issues of the act” (Escoubas, 2014, p. 2).

After the creation of the task force, members organized a food-processing conference in December 1987 and presented a proposal to the Oklahoma legislature in the 1988 session requesting \$400,000 for detailed planning (Escoubas, 2014). The proposal passed both houses but was vetoed by Oklahoma Governor Henry Bellmon (Escoubas, 2014). The task force regrouped, held a retreat with faculty from three colleges at OSU, formed a committee of industry representatives, and again submitted a \$400,000 request to the state legislature during the 1989 session (Escoubas, 2014). The proposal again passed in both houses and was again vetoed by the governor (Escoubas, 2014). The Industry Committee and Food Processing Task Force Committee revised the proposal again, visited similar facilities at other universities, held individual meetings with state legislators, and re-submitted the proposal in the 1990 Oklahoma legislative session

(Escoubas, 2014). The proposal passed unanimously, Governor Bellmon signed it, and a \$400,000 contract was awarded to DASNR to plan the development of a center (Escoubas, 2014).

For the next several years, fundraising and planning activities took place (Escoubas, 2014). Upon passage of a bond package to redirect revenues from tobacco and gambling taxes, OSU was chosen as the location of the center, due largely to its access to the Oklahoma Agricultural Experiment Station (OAES), a state agency and official research arm of DASNR (Escoubas, 2014). Groundbreaking for the Oklahoma Food and Agricultural Products Research and Technology Center was held in 1994, the center was dedicated in 1996, and opened its doors for business in 1997 (Escoubas, 2014; Gross, 2000; McConaghy & Holcomb, 2007).

The building is a 96,000-square-foot facility that houses faculty and staff as well as in-house equipment and laboratory services (McConaghy & Holcomb, 2007). The FAPC provides research and services in the following 15 disciplines: agribusiness economics, analytical chemistry, business planning and marketing, cereal chemistry, communications, food engineering, food chemistry, horticultural processing, meat science, microbiology, oil/oilseed chemistry, pilot processing, product development, quality control and assurance, and value-added wood products ("Adding Value: 2014 annual report," 2014). In 2007, the name of the center was changed to the Robert M. Kerr Food and Agricultural Products Center to honor the late Senator Kerr's role in center's establishment (McConaghy & Holcomb, 2007).

Throughout its history, the FAPC has catered specifically to entrepreneurs and businesses in the food and agricultural sectors through in-house services, on-site technical assistance, business and marketing training programs and workshops (McConaghy & Holcomb, 2007). Annually, the FAPC provides training and education to more than 1,100 industry clients ("2011 Annual Report," 2011). One such training opportunity is Basic Training, "a workshop for food business entrepreneurs that helps participants address issues through business planning assistance, market identification, strategies and an explanation of food-processing regulations" ("Basic Training," 2016, para. 1). The workshop is held six times per year at the FAPC and includes the following topics: "planning your business, health regulations, product and market evaluation, labeling and UPC codes, patents and trademarks, processing and co-packing, liabilities and legalities, and assistance available to entrepreneurs" ("Basic Training," 2016, para. 3). The Basic Training workshop was first held in 1999 and has had more than 1,600 participants (Holcomb, personal communication, March 31, 2016).

CHAPTER III

METHODOLOGY

This purpose of this study was to determine criteria to achieve legitimacy in the food sector. This chapter describes the research design, methods, and procedures to collect and analyze data to identify the relationships among and between legitimacy forms and legitimating forms to meet the study's purpose of testing, extending, and validating the Johnson and Dibrell legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007).

Research Design

This study employed a quantitative research design to address the three research objectives for this study. Data for this study were collected with a questionnaire instrument administered on the Internet, and I used statistical analysis to: a) use the Johnson and Dibrell legitimacy scale to measure the extent to which participating firms engage in behaviors related to legitimacy forms and legitimating strategies, b) evaluate to what extent factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of relationships among items, and c) evaluate reliability and validity of the Johnson and Dibrell legitimacy scale instrument.

Instrumentation

This study extends the scale development work of Johnson and Dibrell's legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007) to measure the four legitimating strategies and four legitimacy forms theoretically argued by Zimmerman and Zeitz (2002). Thus, this study employed a questionnaire instrument developed and piloted by Johnson and Dibrell as part of their scale development process. The instrument consisted of 50 items. A 7-point Likert-type scale (1= "Never," 4 = "Sometimes" and 7 = "Always") was used for each item.

Validity and Reliability

When collecting quantitative data, researchers should strive to select instruments that reliably and validly report scores because valid and reliable measures "lead to meaningful interpretations of data" (Creswell, 2002, p. 153). The more valid a measure, the more accurately it operationalizes the concept the instrument is intended to measure (Creswell, 2002). F. Williams, Rice, and Rogers (1988) noted "validity is analogous to the accuracy with which a dart thrower hits the bull's-eye" (p. 58).

Reliability is the consistency with which a measure will yield the same results when repeated across time and context (Wallen & Fraenkel, 2001). Reliability also refers to the extent to which the responses are free of measurement error. Using the bull's-eye analogy, "reliability is analogous to the precision or consistency with which a dart thrower hits the same point on the target time after time" (F. Williams et al., 1988, p. 61). Both validity and reliability of instruments must be present in quantitative research designs (Creswell, 2002; Wallen & Fraenkel, 2001; F. Williams et al., 1988). For the

instrument in this study, validity and reliability were established in Johnson and Dibrell's (Johnson, Dibrell, Holcomb, & Craig, 2007) pilot study with 62 food processors in the western United States.

Participants

The population for this study was individuals employed or involved with a firm that engages in food manufacturing and processing who have participated in the FAPC Basic Training workshop and/or have been clients of the FAPC since 1997. The accessible population included individuals who have subscribed to the "Basic Training" and/or "Made in Oklahoma" email communications list from FAPC. These email lists are maintained by the FAPC communications manager using the cloud-based marketing software Constant Contact. The accessible population included 835 entries.

To eliminate potential respondents not employed or involved with a firm that engages in food manufacturing and processing, the list was scrubbed on non-relevant entries. The following three sets of criteria were used to remove non-relevant entries: a) entries for Basic Training participants who did not subsequently start a food manufacturing or processing venture; b) entries without email addresses; and c) entries associated with the following company types were removed: non-food agricultural businesses (such as candle makers), universities, career and technology education centers, state and federal agencies, sovereign nations, city governments, news media, commodity groups and nonprofit organizations. The final list of relevant potential respondents contained 344 individuals and associated email addresses.

Response Rate

Recruitment emails were sent to all 835 individuals in the accessible population. For all email correspondence, 231 unique email addresses opened one or more of the messages. Of those 231 unique opens, 134 email addresses were associated with relevant potential respondents. Thus, since 134 of the 344 relevant potential respondents opened one or more of the email communication for this study, the overall open rate was 38.95%. In comparison, a national benchmarking study investigating email response behaviors revealed studies involving email communication with potential respondents have an average 16% email open rate (Matheson, Ross, & Ruben, 2009). Additionally, Matheson et al. (2009) found an average of only 2% of participants who open email communication regarding research studies follow links to additional content. For the present study, 74 of the 344 relevant accessible population (21.51%) followed the link to the questionnaire.

The questionnaire had 100 responses; 97 individuals consented to the study and 3 did not consent. Of the 97 respondents who consented to the study, 62 successfully answered the qualifier question, 34 indicated they were not employed or involved with a firm that engages in food processing or manufacturing, and 1 respondent did not answer the qualifier question. Therefore, since 62 of the 134 relevant potential respondents who opened the email communication for this study successfully completed the questionnaire, the effective response rate was 46.27%. This effective response rate is higher than other studies involving similar populations in the food-processing industry (Dibrell, Craig, & Hansen, 2011; Dibrell et al., 2009; Johnson, Dibrell, & Hanson, 2009).

Non-response Bias

Since this study had an effective response rate of less than 85%, I tested for non-response bias, as it could be a threat to external validity of the results (Kanuk & Berenson, 1975).

There are several strategies researchers employ to address non-response error: researchers can compare respondents to non-respondents on characteristics known a priori, researchers can compare respondents to the population on characteristics known a priori, researchers can follow up with a sample of non-respondents to see if differences exist, and/or researchers can compare early to late respondents (Lindner et al., 2001).

For this study, I chose to compare early to late respondents to assess if nonresponse bias existed. Per the recommendations of Miller and Smith (1983), late respondents were defined as those who responded to the last stimulus and completed the questionnaire after the final reminder email was sent. The data set was cleaned of missing data cases, and the culled data set included data from 40 individuals. Differences between early respondents were compared using Levene's Test of Equality of Variances and independent t-tests on an aggregate representation of all 50 questionnaire items.

Levene's Test revealed the assumption of homogeneity of variance was violated ($p < .05$); therefore I employed Welch-Satterthwaite t-test to correct for this violation.

Welch's t-test revealed no statistically significant difference between early ($N = 22$, $M = 4.52$, $SD = 1.24$) and late ($N = 16$; $M = 4.25$, $SD = 0.64$) respondents at an a priori determined alpha level of .05; $t(33) = 0.89$, $p = 0.380$. Since no significant differences between early and late respondents were found, it was concluded non-respondents were similar to late respondents, and the instrument controlled for non-response bias.

Data Collection

The questionnaire protocol (see Appendix A), recruitment correspondence (see Appendix B) and data collection procedures for this study were designed and administered based on the recommendations of Dillman, Smyth, and Christian (2009) and Ferrell (2005) for an Internet questionnaire.

Institutional Review Board

Oklahoma State University policy and federal regulations require all studies involving human subjects to be approved by the Oklahoma State University Office of University Research Compliance and the Institutional Review Board (IRB) to protect the welfare and rights of human subjects involved in biomedical and/or behavioral research. This study received proper review by the IRB and was granted permission to proceed using application number AG-15-26. A copy of IRB approval forms associated with this study are presented in Appendix C.

Recruitment Procedures

Data for this study were collected between February 9 and March 11, 2016, using the Johnson instrument as described previously, which was introduced to participants via email and administered online using Qualtrics, a web-based survey software system. The first correspondence with potential respondents – an email inviting participation in the study – was sent on February 9, 2016, to all 835 individuals in the accessible population via ConstantContact, an online customer relationship management system. As noted previously, the relevant potential population was 344 individuals, and a qualifier question at the beginning of the questionnaire limited data collection to those individuals of

interest.

Potential participants were sent three additional emails spaced 10 days apart reminding them about the questionnaire. The questionnaire closed 1 day following the last email reminder; the online questionnaire was available for 31 days (see Table 2). This period of time was longer than the 2-week window widely cited in studies employing the TDM for Internet surveys (Dillman et al., 2009). However, as Ferrell (2005) noted, “there is little methodological work on the timing of correspondence” (p. 10). Copies of the email recruitment scripts are included as Appendix B and described subsequently in this chapter.

Table 2

| <i>Recruitment Email Delivery and Open Rates</i> | | | | | |
|--|-------------------|-------------|------------------|---------------|-----------|
| Email Number | Date of email | Number sent | Number Delivered | Number Opened | Open Rate |
| 1 | February 9, 2016 | 835 | 574 | 82 | 14.3% |
| 2 | February 19, 2016 | 835 | 573 | 94 | 16.4% |
| 3 | February 29, 2016 | 835 | 570 | 106 | 18.6% |
| 4 | March 10, 2016 | 835 | 567 | 144 | 25.4% |

Invitation and reminder email composition. As suggested by Ferrell (2005), the invitation and reminder emails for this study were crafted with consideration “about the type of respondent [being] contact[ed], the pre-existing relationship ... with the respondent, and the subject matter of the survey” (p. 3).

Email headers (to, from, and subject lines). The email header, which includes the to, from, and subject lines “needs to induce the respondent to open it and read it” (Ferrell,

2005, p. 4). The subject lines for the four emails sent to respondents for this study are shown in Table 3.

Using the ConstantContact email marketing system allowed me to personalize the to component for all four recruitment emails in the study with the recipient's first and last names and email addresses. They did not use "SPAM-like phrases such as 'Undisclosed participants'" (Ferrell, 2005, p. 4).

Since "the from component should have some degree of familiarity to the respondent," (Ferrell, 2005, p. 4), the initial invitation and the first two of the three follow-up emails were sent using "Robert M. Kerr Food & Agricultural Products Center" in the email from field and fapc@okstate.edu as the from email address since all potential respondents had previously enrolled in email communication from the FAPC. The final reminder email was sent from Rodney Holcomb using the email rodney.holcomb@okstate.edu to package the information "differently in an attempt to appeal to non-responders" (Ferrell, 2005, p. 10). Additionally, Holcomb was a "high power source" (Joinson & Rieps, 2007, p. 1372) because of his role as an FAPC faculty member and Basic Training instructor who has worked directly with almost all of the companies in the potential participant pool. Joinson and Rieps (2007) found a significant correlation between the level of power of the source and response rate.

Finally, the subject line for each of the four emails sent to participants was unique and designed to encourage participation per the recommendations of Ferrell (2005): the subject mentioned the requesting party by name and addressed both how the participant could help the requesting party and personally benefit. A summation of the header

components used in the email invitation and reminders for this study is presented in Table 3.

Table 3

| <i>Recruitment Email Header Information</i> | | | |
|---|---|---|---|
| Email Number | From field (from email) | To field (to email) | Subject field |
| 1 | Robert M. Kerr Food & Agricultural Products Center (fapc@okstate.edu) | Recipient's first and last name (recipient's email address) | You're invited to help FAPC learn how business practices relate to business performance |
| 2 | Robert M. Kerr Food & Agricultural Products Center (fapc@okstate.edu) | Recipient's first and last name (recipient's email address) | Enter for your chance to win two \$50 or five \$20 Visa gift cards! |
| 3 | Robert M. Kerr Food & Agricultural Products Center (fapc@okstate.edu) | Recipient's first and last name (recipient's email address) | Please help FAPC at OSU and enter to win Visa gift cards! |
| 4 | Rodney Holcomb (rodney.holcomb@okstate.edu) | Recipient's first and last name (recipient's email address) | Please spare a few minutes to help the Food & Ag Products Center |

Email scripts. The body text for the solicitation emails was designed with the goal of increasing salience (Dillman, 1978) and encourage participation. Copies of scripts for all four solicitation emails are included in Appendix B. Descriptions of some of the key factors (Ferrell, 2005) consciously included and addressed in the email correspondence in this study follow:

- Salutation: All four recruitment emails were personalized with a salutation addressed to the first name of the potential respondent.
- Explanation of the request: The body text explained why the potential respondent was receiving the email and the purpose of the survey.
- Incentives: To thank participants for their time, I offered inducements for participation – a drawing for two \$50 Visa gift cards and 5 \$20 Visa gift cards, which I purchased. Participants were able to enter their name and address at the end of the questionnaire to enter the drawing. Names were not linked to responses in data reporting, and the prevent-ballot-box-stuffing feature in Qualtrics was used to prevent participants from responding more than once.
- Instructions about how to participate: The recruitment emails included a link to the Qualtrics-based questionnaire.
- Contact information: The signature area of the emails included information about how to contact me.
- Offer to remove: The ConstantContact email system provided a safe unsubscribe option displayed at the bottom of each email correspondence that allowed participants to remove their email from future correspondence.
- Confidentiality statement: The email text included assurance that participation in the questionnaire was voluntary and anonymous.

Phone recruitment. The ConstantContact software records data for email recipients who have opened emails or followed associated links. After the third recruitment email and before the fourth, I made telephone calls to 20 potential respondents who had opened one or more of the previous email correspondence to invite them to participate. However,

since the Qualtrics questionnaire was anonymous, I did not have knowledge as to whether these potential respondents had completed the questionnaire. The IRB-approved script for these phone calls is included as Appendix D.

Consent

Potential respondents who followed the link provided in the email invitation were provided an introduction to the online questionnaire that contained a question for which participants were required to consent to participate in the study to continue to the remaining questionnaire questions (see Appendix A).

Questionnaire Administration

The questionnaire protocol (see Appendix A) was administered online through Qualtrics, a web-based survey software system. “There are several benefits to online surveys, including low cost, wide availability of survey design and implementation tools, ease of implementation including reminders, and built-in features that facilitate data cleaning and improve the survey experience for respondents and researchers” (Monroe & Adams, 2012, p. 6).

The questionnaire instrument was accessible through a private link emailed directly to potential respondents. A qualifier question appeared before relevant scale items asking potential respondents if they were employed or involved with a firm that engages in food manufacturing or processing limited data collection to individuals of interest. Potential respondents who answered “no” to the qualifier question were forwarded to the end of the questionnaire and thanked for their time.

Data Analysis

The research objectives for this study guided the selection of statistical analysis procedures, which included descriptive statistics, an exploratory factor analysis, and test of reliability and validity of items on the Johnson and Dibrell legitimacy scale. Johnson and Dibrell validated this measure under a pilot context, and the statistical analyses conducted in this study add validity and reliability in a differing context. All data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 23 for Mac. The initial data set from the 62 respondents who successfully answered the qualifier question was cleaned of incomplete records, and the culled data set included data from 40 individuals.

“Although sample size is important in factor analysis, there are varying opinions, and several guiding rules of thumb are cited in the literature” (Williams, Brown, & Onsman, 2012, p. 4). While the oft-quoted sample size guidelines from Comrey and Lee (1973) characterize 1,000 or more participants as excellent and less than 100 as poor, several authors (Henson & Roberts, 2006; MacCallum, Widaman, Zhang, & Hong, 1999) warn “such rules of thumb can at times be misleading and often do not take into account many of the complex dynamics of a factor analysis” (Williams, Brown, & Onsman, 2012, p. 4). In the context of this study, since the exploratory factor analysis was being used to refine a scale that later will be confirmed with more rigorous testing and larger populations and samples, the sample size of 40 individuals was deemed adequate.

Analysis for Objective 1: Descriptive Statistics

The first objective of this study was to use the Johnson and Dibrell legitimacy scale to

measure the extent to which participating firms engage in behaviors related to legitimacy forms and legitimating strategies.

I began statistical analyses with a calculation of descriptive statistics for each item on the Johnson and Dibrell legitimacy scale, including means of all responses and standard deviations. Data next were tested for normality assumptions to avoid biases in data interpretation (Pedhazur & Schmelkin, 2013). I visually analyzed frequency histograms for normal distribution and outliers. Normality of distribution was confirmed, and I proceeded to exploratory factor analysis.

Analysis for Objective 2: Exploratory Factor Analysis

The second objective of this study was to evaluate to what extent the factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of relationships among the items

Exploratory factor analysis is used to explain to what extent the factors of the instrument explain the variance in the pattern of relationships among the items (Pedhazur & Schmelkin, 2013). For this study, exploratory factor analysis using principal components analyses with varimax rotation (Gorsuch, 1974) were used to evaluate the factor structure of the scale, investigate the internal structure of the instrument, and refine the instrument by identifying items that cross-loaded on multiple factors.

I calculated eigenvalues, and following the recommendations of Kim and Mueller (1978), variables with eigenvalues of 1.0 or higher were considered for further analysis and variables below that value were disregarded. Scree plots also provided visual confirmation of component cut-off.

Following the recommendations of Gorsuch (1974), items that loaded on more than one factor and items with loadings below .40 were removed from further analysis. I considered factor loading values for items within its corresponding factor, and items with loading values $<.40$ for any component were considered non-loading and removed from further analysis. Additionally, items were identified as cross-loading if the loading values were $>.40$ across more than one component and the difference between the loading values was $<.10$ (Gorsuch, 1974). Cross-loading items were removed from further analysis. Items that displayed loading values $>.40$ on more than one component and had differences between the values of $>.10$ were assigned to the component for which the loading value was highest. Items displaying loading values of $>.40$ on a single component were retained.

Analysis for Objective 3: Tests of Reliability and Validity

Reliability Analysis. The redefined constructs were next evaluated for internal consistency using Cronbach's alpha. As previously explained, this coefficient is useful in reliability evaluation of items scored on continuous variables, as the items in this study are. Alpha levels above .70 indicate acceptable internal consistency among scale items (Nunnally, 1978).

Validity analysis. Next, I examined the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity to confirm construct validity and confirm if exploratory factor analyses were appropriate for the data. KMO values above .5 are considered significant (Pedhazur & Schmelkin, 2013).

CHAPTER IV

FINDINGS

The purpose of Chapter IV is to present the findings related to each of the three objectives of the study.

Findings Related to Objective 1

The first objective of this study was to use the Johnson and Dibrell legitimacy scale to measure the extent to which participating firms engage in behaviors related to legitimacy forms and legitimating strategies. Each item was given a numerical code for statistical analysis. The items and their associated codes are presented in Table 4.

Descriptive statistics for each item on the Johnson and Dibrell legitimacy scale are presented in Table 5. I chose to treat the scales as measures of continuous variables because Johnson and Dibrell did in their pilot study (Johnson, Dibrell, Holcomb, & Craig, 2007) and because the literature supports the treatment of a Likert-type scale as a continuous variable when the scale has seven or more values (Laerd Statistics, 2016). Responses for most items had a range value of 6; however, items 32 (Following the rule of law (e.g., OSHA, EPA, labeling laws)) and 28 (Follow all government regulations) had ranges of only 2 and 3, respectively, with every response for both of these items located in the upper-half of the 7-point Likert-type scale. Therefore, the standard deviation scores for these two items were the lowest of the 50 items scored.

Table 4

Johnson and Dibrell Legitimacy Scale Item Codes for Statistical Analysis

| Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors ... | Item Code |
|---|-----------|
| Influence industry best practices | 1 |
| Choose your product line(s) for profitability | 2 |
| Maintain presence in industry through trade shows and industry associations | 3 |
| Attending industry trade shows | 4 |
| Lobby for new regulatory policies | 5 |
| Carrying out processes and procedures at higher standards than associations and professional bodies require | 6 |
| Members support the development of shared technical standards for products and processes | 7 |
| Members formulate collective responses to external threats and opportunities | 8 |
| Select the area for tax incentives | 9 |
| Compliance in regulatory record keeping | 10 |
| Formalizing human resource management practices (e.g., employee handbook, incentive plan) | 11 |
| Organize new industry trade association | 12 |
| Champion new environmental practices for the industry | 13 |
| Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing) | 14 |
| Carrying out processes and procedures at higher standards than regulatory agencies require | 15 |
| Measuring and reporting profitability to external and internal key stakeholders | 16 |
| Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices) | 17 |
| Formalizing how people and groups interact within the company (e.g., organizational structure) | 18 |
| Exceed industry environmental norms and standards | 19 |
| Identify with low competitive markets | 20 |
| Imitate or follow the lead of other competitors | 21 |
| Gaining referrals from buyers and/or suppliers | 22 |
| Champion new industry norms and standards | 23 |
| Generating positive trade press or news coverage | 24 |
| Select your location to gain access to needed resources (e.g., labor, raw materials) | 25 |
| Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive | 26 |
| Select the product line(s) for its growth rate | 27 |
| Follow all government regulations | 28 |

(continued)

Table 4 (continued)

| Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors ... | Item Code |
|---|-----------|
| Select the area for trade associations who are familiar with your industry's business practices | 29 |
| Select the product line(s) based on accepted environmental practices | 30 |
| Members cooperate in formulating product standards for the industry | 31 |
| Following the rule of law (e.g., OSHA, EPA, labeling laws) | 32 |
| Top management team members are properly prepared (e.g., industry experience, college education) | 33 |
| Choose your location because of its reputation | 34 |
| Employ innovative environmental practices | 35 |
| Conform to industry accepted environmental practices | 36 |
| Employ innovative distribution methods | 37 |
| Meeting financial performance expectations | 38 |
| Adopt technologies to integrate with our buyers and/or suppliers | 39 |
| Adhere to industry norms and standards | 40 |
| Use certifications (e.g., ISOs, organic) | 41 |
| Choose your market space for its profitability | 42 |
| Belong to prominent industry associations and trade groups | 43 |
| Adhere to standard industry human resource management practices | 44 |
| Implementation of best practices (e.g., HACCP, good manufacturing practices) | 45 |
| Practice incremental product or process innovations | 46 |
| Members jointly act to address environmental concerns | 47 |
| Members support standards for stabilizing conditions within the industry | 48 |
| Dramatically depart from industry norms for your products or processes | 49 |
| Promote changes in industry business models | 50 |

Additionally, the mean scores for all items ranged from 1.88 to 6.74. The five items with lowest mean scores included:

- 12: Organize new industry trade association ($M = 1.88$)
- 13: Champion new environmental practices for the industry ($M = 2.53$)
- 9: Select the area for tax incentives ($M = 2.82$)
- 5: Lobby for new regulatory policies ($M = 3.0$)
- 14: Select your location to gain access to needed business services (e.g.,

financing, suppliers, buyers, marketing) ($M = 3.26$)

The five items with the highest means included:

- 32: Following the rule of law (e.g., OSHA, EPA, labeling laws) ($M = 6.74$)
- 28: Follow all government regulations ($M = 6.69$)
- 45: Implementation of best practices (e.g., HACCP, good manufacturing practices) ($M = 6.28$)
- 10: Compliance in regulatory record keeping ($M = 6.16$)
- 40: Adhere to industry norms and standards ($M = 6.05$)

Table 5

Descriptive Statistics

| Variable Code | Range | Min. | Max. | Mean | Std. Deviation | Skewedness |
|---------------|-------|------|------|------|----------------|------------|
| 32 | 2 | 5 | 7 | 6.74 | 0.498 | -1.812 |
| 28 | 3 | 4 | 7 | 6.69 | 0.614 | -2.6 |
| 45 | 6 | 1 | 7 | 6.28 | 1.276 | -2.405 |
| 10 | 6 | 1 | 7 | 6.16 | 1.22 | -2.393 |
| 40 | 6 | 1 | 7 | 6.05 | 1.201 | -2.451 |
| 17 | 6 | 1 | 7 | 5.55 | 1.6 | -1.458 |
| 33 | 6 | 1 | 7 | 5.55 | 1.427 | -1.377 |
| 15 | 6 | 1 | 7 | 5.51 | 1.537 | -1.539 |
| 2 | 5 | 2 | 7 | 5.35 | 1.252 | -0.962 |
| 36 | 6 | 1 | 7 | 5.18 | 1.571 | -1.387 |
| 42 | 5 | 2 | 7 | 5.16 | 1.344 | -0.53 |
| 6 | 6 | 1 | 7 | 5.1 | 1.533 | -1.166 |
| 18 | 6 | 1 | 7 | 4.9 | 1.714 | -0.792 |
| 44 | 6 | 1 | 7 | 4.73 | 1.661 | -0.659 |
| 26 | 6 | 1 | 7 | 4.68 | 1.317 | -0.424 |
| 27 | 6 | 1 | 7 | 4.68 | 1.415 | -0.876 |
| 46 | 6 | 1 | 7 | 4.55 | 1.641 | -0.695 |
| 38 | 6 | 1 | 7 | 4.49 | 1.644 | -0.57 |
| 11 | 6 | 1 | 7 | 4.46 | 1.66 | -0.715 |

(continued)

Table 5 (continued)

| Variable Code | Range | Min. | Max. | Mean | Std. Deviation | Skewedness |
|---------------|-------|------|------|------|----------------|------------|
| 41 | 6 | 1 | 7 | 4.34 | 2.071 | -0.321 |
| 19 | 6 | 1 | 7 | 4.29 | 1.985 | -0.228 |
| 22 | 6 | 1 | 7 | 4.28 | 1.538 | -0.365 |
| 43 | 6 | 1 | 7 | 4.23 | 1.816 | -0.361 |
| 4 | 6 | 1 | 7 | 4.21 | 1.88 | -0.288 |
| 3 | 6 | 1 | 7 | 4.18 | 1.814 | -0.289 |
| 16 | 6 | 1 | 7 | 4.15 | 1.708 | -0.514 |
| 8 | 6 | 1 | 7 | 4.08 | 1.422 | -0.029 |
| 39 | 5 | 1 | 6 | 4.08 | 1.5 | -0.419 |
| 30 | 6 | 1 | 7 | 4.05 | 1.699 | -0.305 |
| 24 | 6 | 1 | 7 | 4.03 | 1.89 | -0.123 |
| 1 | 6 | 1 | 7 | 3.97 | 1.759 | 0.012 |
| 47 | 6 | 1 | 7 | 3.97 | 1.879 | -0.254 |
| 7 | 6 | 1 | 7 | 3.92 | 1.5 | -0.173 |
| 35 | 6 | 1 | 7 | 3.92 | 1.891 | 0.097 |
| 20 | 6 | 1 | 7 | 3.91 | 1.522 | 0.047 |
| 37 | 6 | 1 | 7 | 3.84 | 1.893 | -0.013 |
| 48 | 6 | 1 | 7 | 3.74 | 1.711 | 0.092 |
| 31 | 6 | 1 | 7 | 3.71 | 1.934 | -0.139 |
| 23 | 6 | 1 | 7 | 3.65 | 1.773 | 0.227 |
| 29 | 5 | 1 | 6 | 3.59 | 1.707 | -0.312 |
| 25 | 6 | 1 | 7 | 3.54 | 1.909 | 0.175 |
| 49 | 6 | 1 | 7 | 3.44 | 1.691 | 0.247 |
| 50 | 6 | 1 | 7 | 3.39 | 1.749 | 0.282 |
| 21 | 5 | 1 | 6 | 3.38 | 1.479 | -0.049 |
| 34 | 6 | 1 | 7 | 3.37 | 1.75 | 0.123 |
| 14 | 6 | 1 | 7 | 3.26 | 1.88 | 0.464 |
| 5 | 5 | 1 | 6 | 3 | 1.503 | 0.183 |
| 9 | 5 | 1 | 6 | 2.82 | 1.445 | 0.199 |
| 13 | 6 | 1 | 7 | 2.53 | 1.727 | 0.94 |
| 12 | 5 | 1 | 6 | 1.88 | 1.476 | 1.707 |

Because most of the skewedness values were between -2.0 and 2.0, the results for those items were normally distributed (George & Mallery, 2010). However, results for four items were outside of this range and do not support normal univariate distribution: 10

(Compliance in regulatory record keeping); 28 (Follow all government regulations); 40 (Adhere to industry norms and standards); and 45 (Implementation of best practices (e.g., HACCP, good manufacturing practices)).

Findings Related to Objective 2

The second objective of this study was to evaluate to what extent factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of relationships among the items.

I conducted a principal components analyses with varimax rotation using substitution of mean scores to address missing data. Analysis revealed an initial 13-factor underlying structure with eigenvalues >1.0 . Eigenvalues for these components contributed to 85.66% of the explained variance (Table 6). The first factor accounted for 21.25% of the explained variance, suggesting the presence and effects of common method bias were insignificant on the outcome of the study. A scree plot (Figure 4.1) visually represents these eigenvalues.

Results of the initial principal components analysis revealed 13 items that loaded on more than one factor or had loadings below .40 (see Table 7). These items were removed from all further analysis. Remaining item loadings are represented according to loading value in Table 8.

Table 6

Initial Principal Components Analysis Factor Extraction

| Component | No. of Items | Eigenvalue for Rotated Loadings | % of Variance | Cumulative % |
|-----------|--------------|---------------------------------|---------------|--------------|
| 1 | 21 | 10.41 | 21.25% | 21.25% |
| 2 | 8 | 4.65 | 9.49% | 30.75% |
| 3 | 3 | 3.20 | 6.55% | 37.29% |
| 4 | 4 | 3.04 | 6.20% | 43.50% |
| 5 | 4 | 2.87 | 5.87% | 49.36% |
| 6 | 3 | 2.72 | 5.55% | 54.91% |
| 7 | 4 | 2.68 | 5.48% | 60.39% |
| 8 | 2 | 2.34 | 4.77% | 65.16% |
| 9 | 4 | 2.30 | 4.70% | 69.86% |
| 10 | 2 | 2.23 | 4.55% | 74.41% |
| 11 | 3 | 2.08 | 4.25% | 78.66% |
| 12 | 1 | 1.75 | 3.58% | 82.24% |
| 13 | 1 | 1.67 | 3.42% | 85.66% |

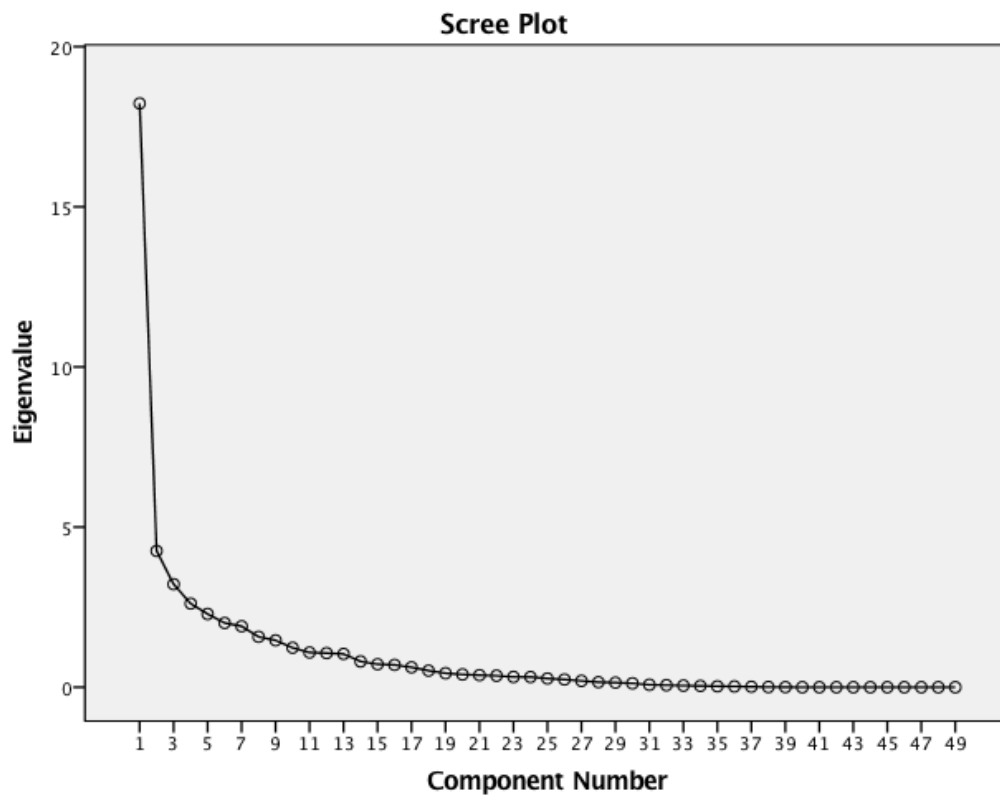


Figure 6. Initial principal components analysis scree plot.

Table 7

Cross-loading and Low-loading Items

| Item Code | Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors ... |
|-----------|---|
| 1 | Influence industry best practices |
| 4 | Attending industry trade shows |
| 9 | Select the area for tax incentives |
| 10 | Compliance in regulatory record keeping |
| 15 | Carrying out processes and procedures at higher standards than regulatory agencies require |
| 23 | Champion new industry norms and standards |
| 25 | Select your location to gain access to needed resources (e.g., labor, raw materials) |
| 28 | Follow all government regulations |
| 33 | Top management team members are properly prepared (e.g., industry experience, college education) |
| 36 | Conform to industry accepted environmental practices |
| 46 | Practice incremental product or process innovations |
| 49 | Dramatically depart from industry norms for your products or processes |
| 50 | Promote changes in industry business models |

Table 8

Rotated Component Loading

| Item Code | Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors | Loading Value | Component |
|-----------|---|---------------|-----------|
| 47 | Members jointly act to address environmental concerns | .822 | 1 |
| 44 | Adhere to standard industry human resource management practices | .813 | 1 |
| 37 | Employ innovative distribution methods | .80 | 1 |
| 16 | Measuring and reporting profitability to external and internal key stakeholders | .786 | 1 |
| 35 | Employ innovative environmental practices | .780 | 1 |
| 11 | Formalizing human resource management practices (e.g., employee handbook, incentive plan) | .778 | 1 |
| 30 | Select the product line(s) based on accepted environmental practices | .774 | 1 |
| 41 | Use certifications (e.g., ISOs, organic) | .734 | 1 |
| 18 | Formalizing how people and groups interact within the company (e.g., organizational structure) | .717 | 1 |
| 48 | Members support standards for stabilizing conditions within the industry | .704 | 1 |

(continued)

Table 8 (continued)

| Item Code | Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors | Loading Value | Component |
|-----------|---|---------------|-----------|
| 29 | Select the area for trade associations who are familiar with your industry's business practices | .619 | 1 |
| 31 | Members cooperate in formulating product standards for the industry | .575 | 1 |
| 43 | Belong to prominent industry associations and trade groups | .840 | 2 |
| 24 | Generating positive trade press or news coverage | .793 | 2 |
| 3 | Maintain presence in industry through trade shows and industry associations | .624 | 2 |
| 34 | Choose your location because of its reputation | .576 | 2 |
| 26 | Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive | .569 | 2 |
| 12 | Organize new industry trade association | .768 | 3 |
| 5 | Lobby for new regulatory policies | .699 | 3 |
| 13 | Champion new environmental practices for the industry | .673 | 3 |
| 45 | Implementation of best practices (e.g., HACCP, good manufacturing practices) | .823 | 4 |
| 40 | Adhere to industry norms and standards | .775 | 4 |
| 7 | Members support the development of shared technical standards for products and processes | .735 | 5 |
| 8 | Members formulate collective responses to external threats and opportunities | .709 | 5 |
| 10 | Compliance in regulatory record keeping | .890 | 6 |
| 17 | Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices) | .683 | 6 |
| 38 | Meeting financial performance expectations | .786 | 7 |
| 21 | Imitate or follow the lead of other competitors | .717 | 7 |
| 20 | Identify with low competitive markets | .823 | 8 |
| 27 | Select the product line(s) for its growth rate | .688 | 8 |
| 22 | Gaining referrals from buyers and/or suppliers | .519 | 9 |
| 42 | Choose your market space for its profitability | .747 | 10 |
| 14 | Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing) | .692 | 11 |
| 6 | Carrying out processes and procedures at higher standards than associations and professional bodies require | .673 | 11 |
| 2 | Choose your product line(s) for profitability | .514 | 11 |
| 32 | Following the rule of law (e.g., OSHA, EPA, labeling laws) | .884 | 12 |
| 39 | Adopt technologies to integrate with our buyers and/or suppliers | .679 | 13 |

I conducted a second principal components analysis with the refined list of items, revealing a refined nine-factor underlying structure with eigenvalues >1.0. Eigenvalues for these components contributed to 79.95% of the explained variance (Table 9). The first factor accounted for 20.96% of the explained variance, suggesting the presence and effects of common method bias were insignificant on the outcome of the study.

Table 9

Refined Principal Components Analysis Factor Extraction

| Component | No. of Items | Eigenvalue for Rotated Loadings | % of Variance | Cumulative % |
|-----------|--------------|---------------------------------|---------------|--------------|
| 1 | 14 | 7.76 | 20.96% | 20.96% |
| 2 | 11 | 4.70 | 12.71% | 33.67% |
| 3 | 7 | 3.73 | 10.08% | 43.76% |
| 4 | 6 | 3.45 | 9.58% | 53.34% |
| 5 | 3 | 2.33 | 6.29% | 59.63% |
| 6 | 5 | 2.13 | 5.75% | 65.39% |
| 7 | 3 | 2.12 | 5.73% | 71.12% |
| 8 | 1 | 1.81 | 4.89% | 76.01% |
| 9 | 3 | 1.46 | 3.94% | 79.95% |

Results of this second principal components analysis revealed 5 items that loaded on more than one factor or had loadings below .40 (see Table 10). These items were removed from all further analysis. Remaining item loadings are represented according to loading value in Table 11.

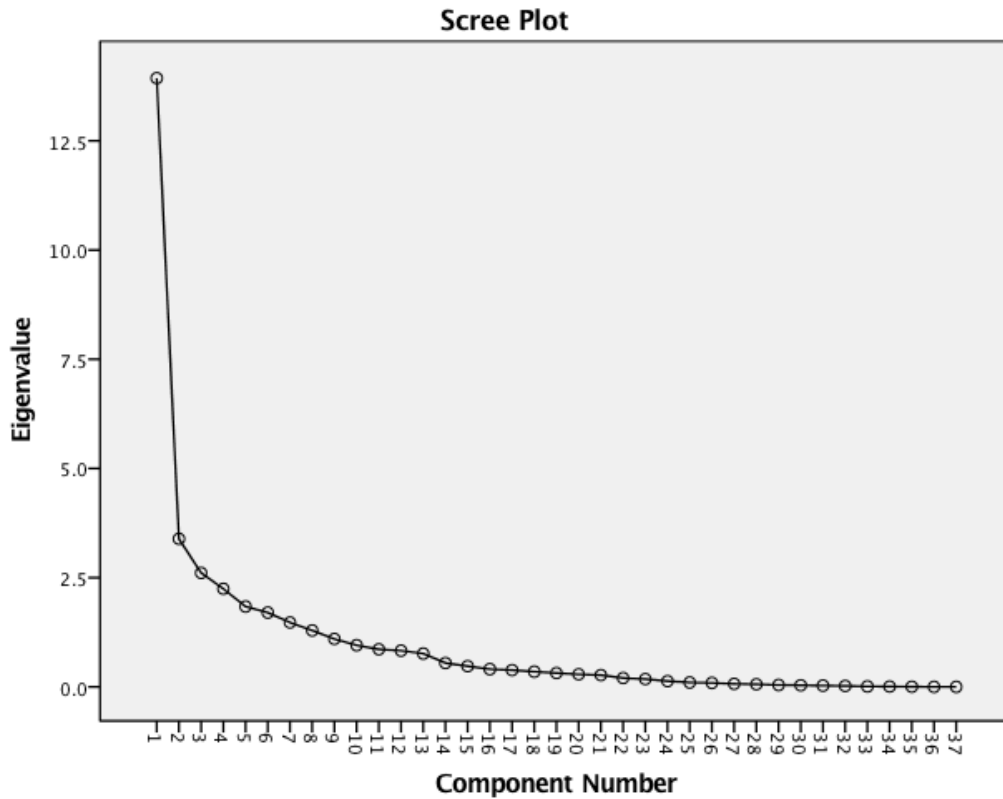


Figure 7. Refined principal components analysis scree plot.

Table 10

Refined Cross-loading and Low-loading Items

| Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors ... | Item Code |
|---|-----------|
| Choose your product line(s) for profitability | 2 |
| Lobby for new regulatory policies | 5 |
| Choose your location because of its reputation | 34 |
| Adopt technologies to integrate with our buyers and/or suppliers | 39 |
| Implementation of best practices (e.g., HACCP, good manufacturing practices) | 45 |

Table 11

Refined Rotated Component Loading

| Item Code | Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors | Loading Value | Component |
|-----------|---|---------------|-----------|
| 11 | Formalizing human resource management practices (e.g., employee handbook, incentive plan) | 0.873 | 1 |
| 44 | Adhere to standard industry human resource management practices | 0.871 | 1 |
| 18 | Formalizing how people and groups interact within the company (e.g., organizational structure) | 0.8 | 1 |
| 47 | Members jointly act to address environmental concerns | 0.762 | 1 |
| 41 | Use certifications (e.g., ISOs, organic) | 0.742 | 1 |
| 16 | Measuring and reporting profitability to external and internal key stakeholders | 0.726 | 1 |
| 37 | Employ innovative distribution methods | 0.698 | 1 |
| 35 | Employ innovative environmental practices | 0.677 | 1 |
| 30 | Select the product line(s) based on accepted environmental practices | 0.655 | 1 |
| 19 | Exceed industry environmental norms and standards | 0.622 | 1 |
| 48 | Members support standards for stabilizing conditions within the industry | 0.598 | 1 |
| 12 | Organize new industry trade association | 0.735 | 2 |
| 13 | Champion new environmental practices for the industry | 0.678 | 2 |
| 31 | Members cooperate in formulating product standards for the industry | 0.647 | 2 |
| 29 | Select the area for trade associations who are familiar with your industry's business practices | 0.591 | 2 |
| 22 | Gaining referrals from buyers and/or suppliers | 0.574 | 2 |
| 43 | Belong to prominent industry associations and trade groups | 0.84 | 3 |
| 24 | Generating positive trade press or news coverage | 0.775 | 3 |
| 3 | Maintain presence in industry through trade shows and industry associations | 0.633 | 3 |
| 26 | Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive | 0.62 | 3 |
| 8 | Members formulate collective responses to external threats and opportunities | 0.862 | 4 |

(continued)

Table 11 (continued)

| Item Code | Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors | Loading Value | Component |
|-----------|---|---------------|-----------|
| 7 | Members support the development of shared technical standards for products and processes | 0.82 | 4 |
| 6 | Carrying out processes and procedures at higher standards than associations and professional bodies require | 0.759 | 4 |
| 27 | Select the product line(s) for its growth rate | 0.84 | 5 |
| 20 | Identify with low competitive markets | 0.728 | 5 |
| 32 | Following the rule of law (e.g., OSHA, EPA, labeling laws) | 0.751 | 6 |
| 40 | Adhere to industry norms and standards | 0.694 | 6 |
| 17 | Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices) | 0.566 | 6 |
| 21 | Imitate or follow the lead of other competitors | 0.757 | 7 |
| 38 | Meeting financial performance expectations | 0.679 | 7 |
| 42 | Choose your market space for its profitability | 0.884 | 8 |
| 14 | Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing) | 0.665 | 9 |

Findings Related to Objective 3

The third objective of this study was to evaluate reliability and validity evidence of the legitimacy scale instrument by Johnson and Dibrell (Johnson, Dibrell, Holcomb, & Craig, 2007).

Reliability

Reliability of refined components. Cronbach's alpha scores were calculated for each of the refined rotated component loadings outlined in Table 12. Alpha coefficients ranged from .610 to .965.

Table 12

| <i>Coefficient Alphas for Refined Components</i> | |
|--|----------|
| Component | α |
| 1 | .965 |
| 2 | .892 |
| 3 | .841 |
| 4 | .881 |
| 5 | .710 |
| 6 | .610 |
| 7 | .693 |
| 8 & 9 | - |

Reliability of Johnson and Dibrell constructs. Since data in this study did not load into constructs mirroring the original categorization of Johnson and Dibrell's scale, I chose to run reliability analyses on variables loaded into these original constructs for comparison. Alpha coefficients for item scores from this study grouped into the original constructs categorized by Johnson and Dibrell ranged from .72 to .93. These values were similar to alpha values found in Johnson and Dibrell's pilot (Table 13).

Table 13

| <i>Coefficient Alphas for Johnson and Dibrell Legitimacy Constructs</i> | | |
|---|---------------------------------------|------------------------|
| Construct | Johnson and Dibrell Pilot α | Current Study α |
| Legitimizing Strategies | | |
| Conformance | .79 | .81 |
| Selection | .74 | .90 |
| Manipulation | .87 | .86 |
| Creation | N/A | .72 |
| Legitimacy Forms | | |
| Regulative | .85 | .80 |
| Normative | N/A | .78 |
| Cognitive | .90 | .83 |
| Industry | .85 | .93 |

Validity

To assess validity, I examined the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity using the refined variables extracted from the principal components analyses outlined previously. When significant (KMO >.50), these tests confirm construct validity and if exploratory factor analyses were appropriate for the data. The KMO was .517 and Bartlett's Test yielded a Chi-square of 868.241 (df =630, p = .000).

CHAPTER V

DISCUSSION

The purpose of Chapter V is to present conclusions based on the results, as well as discuss implications for practice and recommendations for further research.

Discussion Related to Objective 1

The first objective of this study was to use the Johnson and Dibrell legitimacy scale to measure the extent to which participating firms engage in behaviors related to legitimacy forms and legitimating strategies.

Respondents' firms were most likely to engage in following the rule of law and more likely to engage conformance strategies and behaviors related to regulatory legitimacy than other legitimating strategies and legitimacy forms. Additionally, respondents' firms were most uniform in their engagement in following the rule of law and following all government regulations since these two items demonstrated the smallest standard deviation scores. These findings support Zimmerman and Zeitz's (2002) assertion conformance is the least strategic of the four legitimating strategies and thus are the most-often applied strategies.

Conversely, respondents' firms were least likely to create a new trade organization and less likely to engage in manipulation and selection strategies than other legitimating strategies, which deviates from the expectation creation strategies would be least applied as suggested by Zimmerman and Zeitz's (2002) assertion creation strategies are the most strategic of the four legitimating strategies.

Interestingly, four of the five highest-averaging items in this study displayed negative skewedness, meaning most respondents scored those items high, but there were a few outliers who scored those items low. Further investigation about why those outliers scored those items differently than most of the other respondents would be worthy of pursuit for future research.

The finding related to Objective 1 of this study reveal respondent firms indicated consistency regarding some scale items – particularly the items displaying the highest- and lowest-averaging scores. These findings help advance the literature related to food business legitimacy beyond observation and experiences. The canon of literature was lacking research-based evidence about specific steps food businesses can take to obtain legitimacy, and the results of this study, while not generalizable, suggest researchers and practitioners at food-processing centers like the FAPC can make recommendations regarding engagement or lack of engagement in these behaviors to start-up food processors based on research rather than anecdotes.

Discussion Related to Objective 2

The second objective of this study was to evaluate to what extent the factors of the Johnson and Dibrell legitimacy scale instrument explain the variance in the pattern of

relationships among the items.

Data from this study reveal nine components contributed to 79.95% of the explained variance in the pattern of relationships among the items, and 17 cross-loading and/or low-loading items did not contribute to the explained variance in a meaningful way. In statistical terms, this means the 50 items in the questionnaire could be reduced to 33 items representing nine underlying factors and still account for nearly 80% of the variation in responses.

However, the item loading for the nine factors in this study did not mirror Johnson and Dibrell's initial categorization of items into eight factors representing the four legitimating strategies and four legitimacy forms. This means those items that were strongly correlated in their study were not strongly correlated and did not move together consistently in this study. Thus, I do not recommend moving forward with a 33-item, nine-factor scale. Rather, I recommend a menu of future research activities: a) a survey using the 50-item questionnaire administered to a larger sample of a national population in order to increase generalizability, b) a qualitative study using phenomenological focus group study and/or interviews with industry stakeholders to further-refine the 50-item scale from the emic (participant) perspective about what items should be included, c) a new Delphi study to reach consensus about items that should be included on a scale using industry stakeholders (rather than academicians) as panelists.

Further, researchers can use the results from this study to compare this population to other populations – national populations, rural populations, urban populations, populations from specific industry sectors, sole-proprietor populations, and/or large-firm

populations. Researchers also should conduct studies to determine if differences exist among groups within populations, such as geographic regions, firm age, or food sectors.

This broadly collected data could be analyzed using structural equation modeling to model the relationships between latent variables related to food business legitimacy.

Additionally, Data from a research line about food business legitimacy could be paired with research about other business characteristics, such as growth or survival to gain a wider understanding of firm performance. Finally, food-processing and manufacturing firms that have achieved legitimacy should work together with start-ups and food-processing centers like the FAPC to contribute to research and practice that can help entrepreneurs bring products to the food supply chain more successfully.

Discussion Related to Objective 3

The third objective of this study was to evaluate reliability and validity evidence of the Johnson and Dibrell legitimacy scale instrument.

The coefficient values for five of the seven refined components for which reliability could be calculated exceeded the widely accepted alpha threshold of .70 (Nunnally, 1978); the alpha coefficients for component 6 and 7 did not exceed the reliability threshold, but the previous five components contributed to nearly 60% of the explained variance. Thus, the components as revealed in this study are reliable measures.

Additionally, alpha coefficients for variables loaded into the original eight categorizations outlined by Johnson and Dibrell all exceeded the reliability threshold, meaning those constructs also were reliable measures. It is interesting to note the alpha coefficients for the creation and normative scales in Johnson and Dibrell's pilot did not

demonstrate discriminant validity, and those same scales had the two lowest (although still reliable) alpha coefficients in this study.

Yet, while the constructs in this study were reliable, and the chosen statistical analyses used in this study were valid and appropriate, the Johnson and Dibrell legitimacy scale is not yet ready for the next step in scale development. This study included a relatively small number of complete records data analysis ($N = 40$). While this quantity is adequate for principal components analysis, I recommend replicating the study with a random sample taken from a national population to increase generalizability.

The research design used in this study may have affected response rates. This Internet-based survey had 62 relevant respondents, but 22 (35.48%) did not complete the questionnaire in its entirety. I recommend modifying the online instrument to be more user-friendly or using a mail-based instrument in future studies to increase response rate and/or decrease respondent fatigue and/or dropout.

Overall, while more research needs to be conducted in order to finalize the scale, this study extends the scale development work of Johnson and Dibrell's legitimacy scale (Johnson, Dibrell, Holcomb, & Craig, 2007) and contributes to the body of literature about food business legitimacy.

REFERENCES

- 2011 Annual Report. (2011). Stillwater, OK: Robert M. Kerr Food & Agricultural Products Center, Oklahoma State University.
- Adding Value: 2014 annual report. (2014). Stillwater, OK: Robert M. Kerr Food & Agricultural Products Center, Oklahoma State University.
- Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4), 645-670.
- Basic Training. (2016). Retrieved from <http://fapc.biz/workshops/basictraining>
- Baum, J. A., & Oliver, C. (1991). Institutional linkages and organizational mortality. *Administrative Science Quarterly*, 187-218.
- Bezat-Jarzębowska, A., Rembisz, W., & Sielska, A. (2012). *Growth model of agri-food production* (ISBN 978-83-7658-218-4). Retrieved from
- Blackburn, I. (2015). *Speed to market: Capitalizing on demand*. Retrieved from <http://www.markettechniques.com/assets/pdf/Speed2Market.pdf>
- Boehlje, M., Gray, A. W., & Detre, J. D. (2005). Strategy development in a turbulent business climate: Concepts and methods. *International Food and Agribusiness Management Review*, 8(2), 21-40.
- Bourgeois, J., Pugmire, L., Stevenson, K., Swanson, M., & Swanson, B. (2006). The Delphi method: A qualitative means to a better future. Retrieved from.

- http://www.freequality.org/sites/www_freequality_org/Documents/knowledge/
- Bozeman, B. (1993). Understanding the roots of publicness. In B. Sutton (Ed.), *The legitimate corporation* (pp. 63-81). Cambridge, MA: Blackwell.
- Bureau of Labor Statistics Business Employment Dynamics. (2011). Entrepreneurship and the U.S. Economy. Retrieved from <http://www.bls.gov/bdm/entrepreneurship/entrepreneurship.htm>
- Camp, W. G. (2001, Oct. 24, 2008). Formulating and evaluating theoretical frameworks for career and technical education research. *Journal of Vocational Education Research*. Retrieved from <http://scholar.lib.vt.edu/ejournals/JVER/v26n1/camp.html>
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of marketing research*, 16, 64-73.
- Comrey, A. L., & Lee, H. B. (1973). *A first course in factor analysis*. New York, NY: Academic Press, Inc.
- Creswell, J. W. (2002). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Deephouse, D. L. (1996). Does isomorphism legitimate? *Academy of management journal*, 39(4), 1024-1039.

- Deephouse, D. L., & Carter, S. M. (2005). An examination of differences between organizational legitimacy and organizational reputation. *Journal of Management Studies, 44*(2), 329-360.
- Delbecq, A. L., Van De Ven, A. H., Gustafson, D. H., & Van De Ven Delberg, A. (1975). *Group techniques for program planning: A guide to nominal group and Delphi process*. Glevview, IL: Foresman Scott.
- Dibrell, C., Craig, J., & Hansen, E. (2011). Natural environment, market orientation, and firm innovativeness: An organizational life cycle perspective. *Journal of Small Business Management, 49*(3), 467-489.
- Dibrell, C., Craig, J. B., Moores, K., Johnson, A. J., & Davis, P. S. (2009). Factors Critical in Overcoming the Liability of Newness: Highlighting the Role of Family. *Journal of Private Equity, 12*(2), 38-48.
- Diez-Martin, F., Prado-Roman, C., & Blanco-Gonzalez, A. (2013). Beyond legitimacy: Legitimacy types and organizational success. *Management Decision, 51*(10), 1954-1969.
- Dillman, D. A. (1978). *Mail and telephone surveys: The total design method*. New York, NY: Wiley.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail and mixed-mode surveys: The tailored design method*. Hoboken, NJ: Wiley.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*, 147-160.

- Eastwood, D. B., Brooker, J., Hall, C., Rhea, A., Estes, E., & Woods, T. (2003).
Changing produce marketing barriers: A comparison among three southern states.
Agricultural and Applied Economics, 35(2), 297-304.
- Eddy, J., & Graverson, L. (2015). Small businesses in the U.S. on the rise, reversing six-year downward trend [Press release]. Retrieved from
<http://www.kauffman.org/newsroom/2015/12/small-businesses-in-the-us-on-the-rise-in-2015-reversing-six-year-downward-trend>
- Elsbach, K. D. (1994). Managing organizational legitimacy in the California cattle industry: The construction and effectiveness of verbal accounts. *Administrative Science Quarterly*, 39(1), 57-88.
- Escoubas, J. R. (2014). *A brief historical essay: Robert M. Kerr Food & Agricultural Products Center*. Oklahoma State University. Stillwater, OK.
- Evans, C. (2007). Unravelling the mysteries of the oracle: Using the Delphi methodology to inform the personal tax reform debate in Australia. *eJournal of Tax Research*, 5(1), 105-134.
- Ferrell, E. (2005). *Guidelines for survey correspondence: Composing email and traditional mail solicitations for web surveys*. Retrieved from
<http://www.marketstrategies.com/rbdocs/SolicitationGuidelines.pdf>
- George, D., & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference* (10th ed.). Boston, MA: Pearson.
- Gorsuch, R. L. (1974). *Factor analysis*. Philadelphia, PA: Saunders.
- Green, D. H. (1990). *A history of the Oklahoma State University Division of Agriculture*. Stillwater, OK: Oklahoma State University.

- Greenlee, C., Holcomb, R. B., Muske, G., & Woods, M. D. (2002). *Operational characteristics of Oklahoma small food businesses*. Paper presented at the Food Distribution Research Society conference, Miami, FL.
- Griffin, T. (1982). Linking the use of modern marketing methods to company success. *Columbia Journal of World Business*, 17(3), 52-61.
- Gross, M. H. (2000). *The impact of a media day on developing awareness and increased coverage of the Oklahoma State University Food & Agricultural Products Center*. (unpublished master's thesis), Oklahoma State University, Stillwater, OK.
- Grünhagen, M. (2008). *The evolution of entrepreneurs' fund-raising intentions: A multiple case study of financing processes in new ventures*: Gabler Verlag.
- Grusky, D. B., Western, B., & Wimer, C. C. (2011). *The Great Recession*. New York, NY: Russell Sage Foundation.
- Harman, H. H. (1967). *Modern factor analysis*. Chicago: University of Chicago Press.
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66(3).
- Hingley, M., Boone, J., & Haley, S. (2010). *Local food marketing: Factors for growth of small agri-food businesses in the UK*. Paper presented at the 2010 International European Forum, Innsbruck-Igls, Austria.
- Hirsch, S., & Gschwandtner, A. (2015). *Persistent firm profitability in the US and EU food processing industry*. Paper presented at the 2015 AAEA & WAEA Joint Annual Meeting, San Francisco, CA.

- Holcomb, R. (2010). *Food industry overview: Frozen pizza*. Food Technology Fact Sheet, Oklahoma State University. Retrieved from <http://fapc.biz/files/factsheets/fapc103.pdf>
- Holcomb, R., Palma, M., & Velandia, M. (2013). Food safety policies and implications for local food systems. *Choices*, 28.
- Human, S. E., & Provan, K. G. (2000). Legitimacy building in the evolutions of small-firm multilateral networks: A comparative study of success and demise. *Administrative Science Quarterly*, 45(2), 327-365.
- Hunt, C. S., & Aldrich, H. E. (1996). *Why even Rodney Dangerfield has a home page: Legitimizing the world wide web as a medium for commercial endeavors*. Paper presented at the annual meeting of the Academy of Management, Cincinnati, OH.
- Jensen, K., & Pompelli, G. (2000). Marketing and logistics assistance needs of food processors. *Journal of Food Distribution Research*, 31(3), 1-10.
- Johnson, A. J., Dibrell, C. C., & Hanson, E. (2009). Market orientation, innovativeness, and performance of food companies. *Journal of Agribusiness*, 27(1/2), 85-106.
- Johnson, A., Dibrell, C., Holcomb, R. & Craig, J. (2007). *Measuring legitimacy of startups: The development of constructs and their parameters*. The 2007 American Agricultural Economics Association in Portland, OR.
- Joinson, A. N., & Rieps, U.-D. (2007). Personalized salutation, power of sender and response rates to web-based surveys. *Computers in Human Behavior*, 23(3), 1372-1383.
- Kanuk, L., & Berenson, C. (1975). Mail surveys and response rates: A literature review. *Journal of marketing research*, 12(4), 440-453.

- Kim, J., & Mueller, C. W. (1978). *Factor analysis: Statistical methods and practical issues* (Vol. 14). Thousand Oaks, CA: Sage.
- Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological Forecasting & Social Change*, 73, 467-482.
- Li, X., Escalante, C. L., Epperson, J. E., & Gunter, L. F. (2013). Agricultural lending and early warning models of bank failures for the late 2000s Great Recession. *Agricultural Finance Review*, 73(1), 119-135.
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4), 43-53.
- Low, B., & Johnston, W. (2008). Securing and managing an organization's network legitimacy: The case of Motorola China. *Industrial Marketing Management*, 37(7), 873-879.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84-99.
- Matheson, K., Ross, H., & Ruben, M. (2009). eNonprofit benchmark study. *Seattle and San Francisco: M+ R Strategic Services & Nonprofit Technology Network (NTEN)*.
- Mattas, K., & Tsakiridou, E. (2010). Shedding fresh light on food industry's role: the recession's aftermath. *Trends in Food Science & Technology*, 21, 212-216.
- McConaghy, J., & Holcomb, R. B. (2007). FAPC 10-Year Economic Impact Report. Stillwater, OK: Oklahoma State University.

- Michener, A. H., & Burt, M. R. (1974). Legitimacy as a V Base of social influence. In J. T. Tedeschi (Ed.), *Social Power and Political Influence* (pp. 310-348). New Brunswick, NJ: Transaction.
- Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension*, 21(5), 45-50.
- Monroe, M. C., & Adams, D. C. (2012). Increasing response rates to web-based surveys. *Journal of Extension*, 50(6), 6-7.
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36, 15-23.
- NAICS. (2013). Annual survey of manufacturers for NAICS 311 (Food Manufacturing) in Oklahoma & Surrounding States, 1997-2013. Retrieved from <https://www.census.gov/econ/isp/sampler.php?naicscode=311>
- Norwood, L. F. (1974). The use of key performance areas in decision making. *Journal of Food Distribution Research*, 5(2), 22.
- Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.
- . Oklahoma agriculture: An in-depth look at the state's diverse industry. (2013). *Oklahoma Agriculture*, 1, 10-11.
- Paggi, M., Yamazaki, F., Ribera, L., Palma, M., & Knutson, R. (2013). Domestic and trade implications of leafy green marketing agreement type policies and the food safety modernization act for the southern produce industry. *Journal of Agricultural and Applied Economics*, 3, 453-464.
- Parsons, T. (1960). *Structure and process in modern societies*. Glencoe, IL: Wadsworth.

- Patel, A. M., Xavier, R. J., & Broom, G. (2005). *Toward a model of organizational legitimacy in public relations theory and practice*. Paper presented at the International Communication Association Conference, New York, NY.
- Pedhazur, E. J., & Schmelkin, L. P. (2013). *Measurement, design and analysis: An integrated approach*. New York, NY: Psychology Press.
- Pereira, F., & Goldsmith, P. (2006). *Industry illegitimacy and negative externalities: The case of the Illinois livestock industry*. Paper presented at the American Agricultural Economics Association Annual Meeting, Long Beach, CA.
- Rausser, G. C. (1982). *Simple quantitative models for integrative planning frameworks*. Department of Agricultural and Resource Economics, UCB. CUDARE Working Paper No. 220. Retrieved from <http://www.escholarship.org/uc/item/5sv2r3nc>
- Ribera, L. A., & Knutson, R. D. (2011). The FDA's food safety modernization act and its economic implications. *Choices*, 26(4).
- Ross, B. R., & Victor, N. (2013). The role of social capital in nascent agri-food industries: A case study of Michigan Chestnut Growers, Inc. *Journal of Food Distribution Research*, 44(1), 83-89.
- Rowe, G., & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting*, 15(4), 353-275.
- Ruef, M., & Scott, W. R. (1998). A multidimensional model of organizational legitimacy: Hospital survival in changing institutional environments. *Administrative Science Quarterly*, 43(4), 887-904.
- Rutherford, M. W., & Buller, P. F. (2007). Searching for the legitimacy threshold. *Journal of Management Inquiry*, 16(1), 78-92.

- Salant, P., & Dillman, D. a. (1994). *How to conduct your own survey*. New York, NY: Wiley.
- Scott, W. R. (1995a). *Institutions and organizations*. Thousand Oaks, CA: Sage.
- Scott, W. R. (1995b). Introduction: Institutional theory and organizations. In W. R. Scott & S. Christiansen (Eds.), *The institutional construction of organizations* (pp. xi-xxiii). Thousand Oaks, CA: Sage.
- Scott, W. R. (2001). *Institutions and Organizations* (2nd ed.). Thousand Oaks, CA: Sage.
- Singh, J. V., Tucker, D. J., & House, R. J. (1986). Organizational legitimacy and the liability of newness. *Administrative Science Quarterly*, 171-193.
- Sprouse, K. (2013). *Strategies for Building the Market Legitimacy of Entrepreneurial Wineries in a Nascent Wine Region*. (unpublished master's thesis), Michigan State University, East Lansing.
- Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of Organizations* (pp. 153-193). Chicago: Rand McNally.
- Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, 20(3), 571-610.
- Tomasik, T. (2010). Reliability and validity of the Delphi method in guideline development for family physicians. *Quality in Primary Care*, 18, 317-326.
- U.S. Department of Agriculture. (2009). Legitimacy - implications for new venture competitiveness. Retrieved from <http://reeis.usda.gov/web/crisprojectpages/0218721-legitimacy--implications-for-new-venture-competitiveness.html>

- U.S. Department of Agriculture. (2016). Local and Regional Food Systems. Retrieved from <http://www.usda.gov/wps/portal/usda/usdahome?contentid=usda-results-local.html>
- Ulshack, F. L. (1983). *Human resource development: The theory and practice of need assessment*. Reston, VA: Reston Publishing Company.
- USDA-ERS. (2010). New product introductions of consumer packaged goods.
- Wallen, N. E., & Fraenkel, J. R. (2001). *Educational research: A guide to the process*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Weaver, W. (1971). The Delphi forecasting model. *Phi Delta Kappa*, 267-273.
- Weber, M. (1978). *Economy and society*. Berkeley, CA: University of California Press.
- Williams, B., Brown, T., & Onsmann, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3), 1-13.
- Williams, F., Rice, R. E., & Rogers, E. M. (1988). *Research methods and the new media*. New York, NY: The Free Press.
- Zimmerman, M. A., & Zeitz, G. J. (2002). Beyond survival: Achieving new venture growth by building legitimacy. *Academy of Management Review*, 27(3), 414-431.
- Zott, C. Z., & Huy, Q. N. (2007). How entrepreneurs use symbolic management to acquire resources. *Administrative Science Quarterly*, 52(1), 70-105.

APPENDICES

Appendix A: Questionnaire Protocol



Page 1

Determining Criteria for Assessing Food Business Legitimacy

Investigators: Ruth Inman, Agricultural Education and Dr. Rodney Holcomb, Agricultural Economics

Purpose: The purpose of this study is to help determine criteria for assessing food business legitimacy. This study also will provide a vital insight for rural food entrepreneurs so they can successfully bring their products to the food supply chain, thereby increasing market opportunities for farmers and ranchers, expanding consumer choice, creating jobs, and boosting rural economies.

What to Expect: This research study is administered online. Participating in this study will require you to complete one questionnaire. You may skip any question(s) that you do not wish to answer. You will only be expected to complete the questionnaire once. It should take you about 30 minutes to complete.

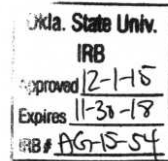
Contact: Ruth Inman | 405-744-4081 | ruth.inman@okstate.edu

If you have questions about your rights as a research volunteer, you may contact Dr. Hugh Crethar, IRB Chair at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

Participant Agreement: I have read the procedures described above. I voluntarily agree to participate and understand that by clicking "I agree" below, I am consenting to participate in this study and am at least 18 years of age. If I choose not to participate, I will click "I Do Not Agree."

I Agree

I Do Not Agree



Page 2

1&2. Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors:

| | Never | | | Sometimes | | | Always |
|--|-------|---|---|-----------|---|---|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Influence industry best practices | | | | | | | |
| Choose your product line(s) for profitability | | | | | | | |
| Maintain presence in industry through trade shows and industry associations | | | | | | | |
| Attend industry trade shows | | | | | | | |
| Lobby for new regulatory policies | | | | | | | |
| Carry out processes and procedures at higher standards than credentialing associations and professional bodies require | | | | | | | |
| Members support the | | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| regulatory policies | | | | | | |
| Carry out processes and procedures at higher standards than credentialing associations and professional bodies require | | | | | | |
| Members support the development of shared technical standards for products and processes | | | | | | |
| Members formulate collective responses to external threats and opportunities | | | | | | |
| Select the area for tax incentives | | | | | | |
| Compliance in regulatory record keeping | | | | | | |
| Formalizing human resource management practices (e.g., employee handbook, incentive plan) | | | | | | |
| Organize new industry trade association | | | | | | |
| Champion new environmental practices for the industry | | | | | | |
| Select your location to gain access to needed business services (e.g., financing, suppliers, buyers, marketing) | | | | | | |
| Carrying out processes and procedures at higher standards than regulatory agencies require | | | | | | |
| Measuring and reporting profitability to external and internal key stakeholders | | | | | | |
| Following established industry practices (e.g., manufacturing processes, sales terms, accounting practices) | | | | | | |
| Formalizing how people and groups interact within the company (e.g., organizational structure) | | | | | | |

| | | | | | | | |
|---|--|--|--|--|--|--|--|
| Exceed industry environmental norms and standards | | | | | | | |
| Identify with low competitive markets | | | | | | | |
| Imitate or follow the lead of other competitors | | | | | | | |
| Gaining referrals from buyers and/or suppliers | | | | | | | |
| Champion new industry norms and standards | | | | | | | |
| Generating positive trade press or news coverage | | | | | | | |

Page 3

5. Based on the past three years, please indicate the extent to which your firm engaged in the following behaviors:

| | Never | | | Sometimes | | | Always |
|---|-------|---|---|-----------|---|---|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Select your location to gain access to needed resources (e.g., labor, raw materials) | | | | | | | |
| Develop new practices (e.g., training, marketing, cost savings) as a means to be more competitive | | | | | | | |
| Select the product line(s) for its growth rate | | | | | | | |
| Follow all government regulations | | | | | | | |
| Select the area for trade associations who are familiar with your industry's business practices | | | | | | | |
| Select the product line(s) based on accepted environmental practices | | | | | | | |
| Members cooperate in formulating product standards for the industry | | | | | | | |
| Following the rule of law | | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| (e.g., OSHA, EPA, labeling laws) | | | | | | |
| Top management team members are properly prepared (e.g., industry experience, college education) | | | | | | |
| Choose your location because of its reputation | | | | | | |
| Employ innovative environmental practices | | | | | | |
| Conform to industry accepted environmental practices | | | | | | |
| Employ innovative distribution methods | | | | | | |
| Meeting financial performance expectations | | | | | | |
| Adopt technologies to integrate with our buyers and/or suppliers | | | | | | |
| Adhere to industry norms and standards | | | | | | |
| Use certifications (e.g., ISOs, organic) | | | | | | |
| Choose your market space for its profitability | | | | | | |
| Belong to prominent industry associations and trade groups | | | | | | |
| Adhere to standard industry human resource management practices | | | | | | |
| Implementation of best practices (e.g., HACCP, good manufacturing practices) | | | | | | |
| Practice incremental product or process innovations | | | | | | |
| Members jointly act to address environmental concerns | | | | | | |
| Members support | | | | | | |

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| standards for stabilizing conditions within the industry | | | | | | | |
| Dramatically depart from industry norms for your products or processes | | | | | | | |
| Promote changes in industry business models | | | | | | | |

Page 4

6. Based on the past three years, please indicate the extent to which your firm emphasized the following activities.

| | Not at All | | To a Moderate Extent | | | To an Extreme Extent | |
|---|------------|---|----------------------|---|---|----------------------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Developing new products | | | | | | | |
| Upgrading existing products' appearance and performance | | | | | | | |
| Producing specialty products | | | | | | | |
| Investing in new R&D facilities to gain a competitive advantage | | | | | | | |
| Innovation in marketing techniques | | | | | | | |

6. Based on the past three years, please indicate your level of agreement with the following statements.

| | Strongly Disagree | | | | Strongly Agree | | |
|--|-------------------|---|---|---|----------------|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| We seem to adopt a rather conservative view when making major decisions. | | | | | | | |
| We have a tendency to support projects where the expected returns are certain. | | | | | | | |
| Operations have generally followed the "tried and true" paths | | | | | | | |
| Our operations can be generally characterized as high risk. | | | | | | | |

7. Based on the past three years, please indicate the pace of change for your industry

| | Slowly | | | | | | Rapidly |
|---|--------|---|---|---|---|---|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Products become obsolete | | | | | | | |
| Core production processes change. | | | | | | | |
| Logistics processes change. | | | | | | | |
| Industry-wide advertising and promotion increases | | | | | | | |

8. Based on the past three years, please indicate the frequency of each of the following items.

| | Infrequently | | | | | | Frequently |
|---|--------------|---|---|---|---|---|------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| New products are introduced | | | | | | | |
| Overall, innovations are implemented | | | | | | | |
| Manufacturing innovations are implemented | | | | | | | |
| Product innovations are introduced | | | | | | | |
| Technological innovations are introduced | | | | | | | |

9. Based on the past three years, please indicate the frequency of each of the following items.

| | Predictable | | | | | | Unpredictable |
|--------------------|-------------|---|---|---|---|---|---------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Sales | | | | | | | |
| Market trends | | | | | | | |
| Competitor actions | | | | | | | |

| | | | | | | | |
|-----------------|--|--|--|--|--|--|--|
| Sales forecasts | | | | | | | |
|-----------------|--|--|--|--|--|--|--|

10. Based on the past three years, please indicate the volatility of each of the following items for your industry.

| | Stable | | | | | | Unstable |
|-----------------|--------|---|---|---|---|---|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Market shares | | | | | | | |
| Industry volume | | | | | | | |

Page 7

11. Based on the past three years, please indicate the importance that you placed on the following indicators of company performance.

| | Not At All Important | | | | | | Extremely Important |
|------------------------------|----------------------|---|---|---|---|---|---------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Sales volume growth | | | | | | | |
| R&D as a percentage of sales | | | | | | | |
| Net profit growth | | | | | | | |
| Return on sales | | | | | | | |
| Ability to fund growth | | | | | | | |
| Return on investment | | | | | | | |

12. Based on the past three years, please indicate the extent to which you were satisfied with your company's financial performance on each of the following criteria.

| | Not At All Satisfied | | | | | | Extremely Satisfied |
|------------------------------|----------------------|---|---|---|---|---|---------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Sales volume growth | | | | | | | |
| R&D as a percentage of sales | | | | | | | |
| Net profit growth | | | | | | | |
| Return on sales | | | | | | | |
| Ability to fund growth | | | | | | | |

13. Based on the past three years, please compare each of the following pairs of statements and indicate which statement you most agree with by circling the number that indicates your level of agreement with the statements. For example, lower numbers indicate stronger agreement with the left-hand statement and higher numbers mean stronger agreement with the right-hand statement.

A "4" means you agree with each statement equally.

13a. In general, the top managers of my company favor ...

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| A strong emphasis on the marketing of tried and true products or services | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | A strong emphasis on R&D technological leadership and innovations |
| Few lines of products or services | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very many new lines of products or services |
| Minor changes in product or service lines | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Dramatic Changes in product or service |

13b. In dealing with its competitors, my company ...

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| Typically responds to actions which competitors initiate | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Typically initiates actions to which competitors then respond |
| Is very seldom the first business to introduce new products or services, administrative techniques, operating technologies, etc. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Is very often the first business to introduce new products or services, administrative techniques, operating technologies, etc. |
| Typically seeks to avoid competitive clashes, preferring a "live-and-let live" posture | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Typically adopts a very competitive, "undo-the-competitors" posture |

13c. In general, the top managers of my company have ...

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| A strong proclivity for low risk projects (with normal and certain rates of return) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | A strong proclivity for high risk projects (with chances of very high returns) |

13d. In dealing with its competitors, my company ...

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| Believe owing to the nature of the environment, it is best to explore it gradually via cautious incremental behavior | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Believe owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives |
| | | | | | | | | Typically adopts a bold, |

Typically adopts a cautious, 'wait-and-see' posture in order to minimize the probability of making costly decisions

aggressive posture in order to maximize the probability of exploiting opportunities

Page 9

14a.

Please answer the following questions:

How many full-time employees did your business employ in 2014?

What year was your company founded?

Approximately what were your total sales in 2014?

How long have you worked in this industry?

How long have you worked at this company?

14b.

Which of the following positions best describes your role in your business? If you have multiple positions, then please indicate your primary or most important position.

14c.

Excluding accounts payables, your debt averages are approximately ...

14d.

Debt lasting more than one year on average is approximately ...

Page 10

15.

ANSWER THIS SECTION IF YOU CONSIDER YOUR BUSINESS A FAMILY BUSINESS. IF NOT, THANK YOU FOR TAKING TIME TO COMPLETE THE SURVEY.

To which generation of your family business do you belong?

Which generation(s) manages the business?

How many family members participate actively in the business?

How many family members do not participate actively in the business but are interested?

How many years of experience has your family had in the industry?

What percentage of the company does the family own?

Q26.

Thanks for participating!

If you would like to enter in the drawing for one of two \$50 Visa gift cards or five \$20 Visa gift cards, please enter your contact information below. If not, simply advance to the end.

Your contact information will not be connected with your responses.

First Name

| | |
|-----------------|----------------------|
| Last Name | <input type="text"/> |
| Mailing Address | <input type="text"/> |
| City | <input type="text"/> |
| State | <input type="text"/> |
| ZIP | <input type="text"/> |



Appendix B: Recruitment Email Scripts

EMAIL SCRIPT

Hello,

As a **Made In Oklahoma company and/or** a graduate of the Basic Training workshop at the Robert M. Kerr Food and Agricultural Products Center, you know the FAPC is dedicated to helping food entrepreneurs.

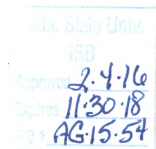
I am a Ph.D. candidate in Agricultural Education at Oklahoma State University working with the FAPC's Dr. Rodney Holcomb to conduct my dissertation research.

Please click here (https://okstatecasnr.az1.qualtrics.com/SE/?SID=SV_5AZ0jABo5DQVrxj) to participate in a survey that will help us understand how business practices relate to business performance in new food businesses.

Your participation is voluntary. Responses to the questions are strictly confidential and will be released only as summaries in which no individual's answers can be identified. The survey should take less than 30 minutes to complete.

Thank you.

Ruth Inman
Communications Specialist
Agricultural Communications Services
Oklahoma State University



EMAIL REMINDER SCRIPT 1

Hello,

Recently, you should have received an email about a research study being conducted at the Robert M. Kerr Food and Agricultural Products Center. I'm writing to remind you the survey is still available at https://okstatecasnr.az1.qualtrics.com/SE/?SID=SV_5AZ0jABo5DQVrxj if you have yet to complete it and to thank you if you have already completed the survey.

As a thank you for your time, **we are offering a drawing for two \$50 Visa gift cards and five \$20 Visa gift cards for seven lucky survey respondents!** To enter the drawing, you'll have a chance to enter your name and address at the end of the survey. Your contact information will not be shared and will not be associated with your responses.
Thank you.

Ruth Inman
Communications Specialist
Agricultural Communications Services
Oklahoma State University



EMAIL REMINDER SCRIPT 2

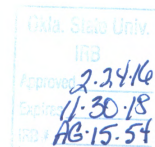
Hello,

Have you entered for your chance to win one of **two \$50 Visa gift cards or five \$20 Visa gift cards?**

We're offering this drawing to thank you for your help conducting a research study at the Robert M. Kerr Food and Agricultural Products Center that will help food entrepreneurs. To enter for your chance to win, simply complete the survey at https://okstatecasnr.az1.qualtrics.com/SE/?SID=SV_5AZ0jABo5DQVrxj. If you'd already completed the survey – thank you!

Thank you.

Ruth Inman
Communications Specialist
Agricultural Communications Services
Oklahoma State University



EMAIL REMINDER SCRIPT – from Dr. Holcomb

Hello,

I hope this email finds you well. I'm writing to ask for your help with a research study we're conducting at the Robert M. Kerr Food & Agricultural Products Center.

You should have received previous emails about this study, and if you have completed our survey – thank you. If not, I'd personally like to ask you to participate in our survey (https://okstatecasnr.az1.qualtrics.com/SE/?SID=SV_5AZ0jABo5DQVrxj) that will help FAPC generate research that will assist entrepreneurs.

Since you've worked with FAPC before, you know how much work the Center does to help entrepreneurs. This study will help us learn more about the key activities required for a start-up to achieve "legitimacy" in the industry, which will allow us to better serve you in the future.

However, we certainly know that you are busy and your time is valuable, so as a thank you, if you complete the survey, you can enter a drawing for one of two \$50 Visa gift cards or five \$20 Visa gift cards.

Thank you very much for your assistance,

Rodney B. Holcomb

114 Food & Ag Products Center
Oklahoma State University
Stillwater, OK 74078-6055
Phone: 405-744-6071
Fax: 405-744-6313
Email: rodney.holcomb@okstate.edu



Appendix C: Institutional Review Board Approval

Oklahoma State University Institutional Review Board

Date: Tuesday, December 01, 2015
IRB Application No AG1554
Proposal Title: Determining criteria for assessing rural food business legitimacy

Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 11/30/2018

Principal
Investigator(s):

| | |
|----------------------|----------------------|
| Ruth Inman | Dwayne Cartmell |
| 441 Ag Hall | 448 Ag |
| Stillwater, OK 74078 | Stillwater, OK 74078 |

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,



Hugh Crethar, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date: Wednesday, February 24, 2016 Protocol Expires: 11/30/2018
IRB Application No: AG1554
Proposal Title: Determining criteria for assessing rural food business legitimacy

Reviewed and Processed as: Exempt
Modification

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

| | |
|---|---|
| Ruth Inman 441 Ag Hall Stillwater, OK 74078 | Dwayne Cartmell 448 Ag Stillwater, OK 74078 |
|---|---|

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Mod to offer a drawing for 2 \$50 and 5 \$20 Visa gift cards. Participants will enter their name for the drawing at the end of the survey and this information will not be linked to responses. 2 follow up emails will be sent as well.

Signature :



Hugh Crethar, Chair, Institutional Review Board

Wednesday, February 24, 2016
Date

Oklahoma State University Institutional Review Board

Date: Thursday, February 04, 2016 Protocol Expires: 11/30/2018
IRB Application No: AG1554
Proposal Title: Determining criteria for assessing rural food business legitimacy

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**
Principal Investigator(s):

| | |
|----------------------|----------------------|
| Ruth Inman | Dwayne Cartmell |
| 441 Ag Hall | 448 Ag |
| Stillwater, OK 74078 | Stillwater, OK 74078 |

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to change inclusion criteria to include graduates of the "Basic Training" workshop from FAPC and/or have subscribed to the "Made in Oklahoma" email communication, revise recruitment script the reflect the new inclusion criteria and add a qualifier question to the online survey.

Signature :



Hugh Cretzer, Chair, Institutional Review Board

Thursday, February 04, 2016
Date

Oklahoma State University Institutional Review Board

Date: Tuesday, March 08, 2016 Protocol Expires: 11/30/2018
IRB Application No: AG1554
Proposal Title: Determining criteria for assessing rural food business legitimacy

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

| | |
|----------------------|----------------------|
| Ruth Inman | Dwayne Cartmell |
| 441 Ag Hall | 448 Ag |
| Stillwater, OK 74078 | Stillwater, OK 74078 |

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Modification to add recruitment calls and email from Dr. Rodney Holcomb

Signature :



Hugh Crethar, Chair, Institutional Review Board

Tuesday, March 08, 2016
Date

Appendix D: Phone Recruitment Script

PHONE SCRIPT - Ruth

Hello - My name is Ruth Inman with the Robert M. Kerr Food & Agricultural Products Center at OSU. I am calling for contact name.

I'm calling today because you have attended the Basic Training workshop at FAPC/are listed as a Made in Oklahoma company who has worked with FAPC.

Recently, you should have received some emails regarding a research study I'm conducting with Dr. Rodney Holcomb that will help us understand how business practices relate to business legitimacy. [allow for a response]

The study includes an anonymous survey, so you may have already completed it, and if so, I can't thank you enough. But, if you haven't already, we would very much appreciate your participation in our study. [allow for a response]

Since you've worked with FAPC before, you know how much work the Center does to help entrepreneurs, and this study will help us collect data that will help us do that even better in the future. However, we certainly know that you are busy and your time is valuable, so as a thank you, if you complete the survey you can enter a drawing for one of two \$50 Visa gift cards or five \$20 Visa gift cards. Could I share a web address with you where you can access the survey or send you another email with a link? [allow for a response – share fapc.biz/legitimacy address if they agree]

Thank you so much for your time, and have a great day.

PHONE SCRIPT - Rodney

Hello – This is Rodney Holcomb with the Robert M. Kerr Food & Agricultural Products Center at OSU. I am calling for contact name.

I'm calling today because you have attended the Basic Training workshop at FAPC/are listed as a Made in Oklahoma company who has worked with FAPC.

Recently, you should have received some emails regarding a research study I'm conducting with a doctoral student names Ruth Inman that will help us understand how business practices relate to business legitimacy. [allow for a response]

The study includes an anonymous survey, so you may have already completed it, and if so, we want to thank you. But, if you haven't already, we would very much appreciate your participation in our study. [allow for a response]

Since you've worked with FAPC before, you know how much work the Center does to help entrepreneurs, and this study will help us collect data that will help us do that even better in the future. However, we certainly know that you are busy and your time is valuable, so as a thank you, if you complete the survey you can enter a drawing for one of two \$50 Visa gift cards or five \$20 Visa gift cards. Could I share a web address with you where you can access the survey or send you another email with a link? [allow for a response – share fapc.biz/legitimacy address if they agree]

Thank you so much for your time, and have a great day.



VITA

Ruth Irene Inman

Candidate for the Degree of

Doctor of Philosophy

Thesis: TESTING A SCALE TO MEASURE FOOD BUSINESS LEGITIMACY

Major Field: Agricultural Education

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma in May, 2016.

Completed the requirements for the Master of Science in Agricultural Communications at Oklahoma State University, Stillwater, Oklahoma in 2008.

Completed the requirements for the Bachelor of Science in Agricultural Sciences and Natural Resources with a major in Agricultural Communications at Oklahoma State University, Stillwater, Oklahoma in 2006.

Experience:

Oklahoma State University, Stillwater, Oklahoma

Communications Specialist, Agricultural Communications Services, June 2015 – present

Graduate Research Associate, College of Agricultural Sciences & Natural Resources, January 2013 – May 2015

Graduate Teaching and Research Associate, Department of Agricultural Education, Communications & Leadership, August 2011 – May 2015

Graduate Research Associate, Department of Natural Resource Ecology and Management, August 2013 – December 2013

Teaching Associate, Department of Agricultural Education, Communications & Leadership, January 2011 – May 2011

Senior Communications Specialist, Spears School of Business, March 2008 – April 2011

Communications Graduate Assistant, Robert M. Kerr Food & Agricultural Products Center, January 2007 – May 2008