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LEGITIMACY OF LOCAL FOOD IN THE U.S. MARKET: COMPARATIVE CONSUMER PERSPECTIVES

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LEGITIMACY OF LOCAL FOOD IN THE U.S. MARKET: COMPARATIVE
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THESIS

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A thesis submitted in partial fulfillment of the requirements for
the degree of Master of Science in Agricultural Economics in
the College of Agriculture at the University of Kentucky

By

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2016

ABSTRACT OF THESIS

LEGITIMACY OF LOCAL FOOD IN THE U.S. MARKET: COMPARATIVE

CONSUMER PERSPECTIVES

Measures of legitimacy have been described in terms of four legitimacy types, regulatory, normative, cognitive, and industry. This study provides one of the first and only empirical examinations of legitimacy, particularly with an application to local foods and sheds light on how consumers view various types of legitimacy related to local food. To apply the concept of legitimacy to local foods marketing, we take an empirical survey asking about consumer perspectives of local food, along with different shopping behavior questions.

Using cumulative logit models, results of the legitimacy models suggest that core consumers are more likely to place a high value on the most of the legitimacy measures such as certifications, freshness and quality, environmentally friendly practices and direct purchase from the producers. The value that the core and to some extent the mid-level consumers place on different legitimacy measures have important implications for the marketing, merchandising, and product positioning by marketers, grocers, and retailers that are selling products with local characteristics. Implications and marketing recommendations are given based on the findings.

KEYWORDS: Legitimacy, Local Foods, Legitimacy Measures, Cumulative Logit Model

Ali Asgari

December 9, 2016

LEGITIMACY OF LOCAL FOOD IN THE U.S. MARKET: COMPARATIVE
CONSUMER PERSPECTIVES

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Chapter I: Introduction

The purpose of this study is to expand the application of legitimacy, defined in the business literature as a "social judgment of acceptance, appropriateness, and desirability" (Zimmerman and Zeitz, 2002), to the concept of local food by capturing consumers' perception of local food, and comparing that to the drivers influencing their purchasing decisions across different groups, considering their level of engagement to local food. The existing body of literature does not provide the criteria for legitimacy analyzed in an empirical state from a consumer's viewpoint. This study fills in this information gap.

In order to understand the demand for local food, there has been an increased effort to understand consumer purchasing behavior and their attitudes toward local food. In an imperfect market where information about their behavior is limited, national surveys, and comparing local food demand alongside mainstream food systems helps give a look into what drives consumers to buy locally. We bring legitimacy into the local food discussion since there are grocery entities that have not traditionally been marketing food products as local, but noticed their consumers are more interested in local foods than before and they might lose market share to farmers' market or other natural foods and local retailers like Whole Foods. Therefore, latecomers such as Walmart, Kroger, Meijer, and other big natural grocery stores are trying to capture a larger portion of the local food market share, but first, they have to overcome the liability of newness problem since they are new entrants into this market.

The second justification for looking at the issue of legitimacy and applying it to the context of local food, markets, and institutions is that illegitimate product marketed as local can undermine the legitimate market. The "market for lemons" argument (Akerlof, 1995) describes how the whole market could be influenced by consumers' several bad experiences with one product. Likewise, some retailers in the food market that sell local foods that are not legitimate could put a bad name on local foods in general, adversely impacting those retailers that are more focused on local products. Consumers receive mixed signals in the marketplace when the local product is not actually available or they experience false marketing. For instance, companies like Walmart want to appeal to the customers that they care about the environment, sustainability, health care, communities, and so forth. Despite their successful promotions and marketing campaigns, consumer protection groups believe that they are not as environmentally driven as they claim and their efforts are greenwashing intended to change the image of the company (Henderson and Weber, 2016). The rationale to look at these issues of legitimacy is the view to help producers and vendors to move toward better overall market performance and to understand what consumers are seeking with respect to different types and measures of legitimacy. Also, it is a practical service to apply the existing theoretical framework that has been developed by Zimmerman and Zeitz (2002) to the agriculture and food markets.

The structure of the thesis is as follows: Chapter 2 provides a literature review of organizational legitimacy and background information on the local food industry. Chapter 3 introduces the empirical model used in this research. Chapter 4 describes the survey design and data. Chapter 5 presents the descriptive statistics and hypotheses of the

demographic portion of the survey. Chapter 6 presents the results of the proportional odds

models. Finally, in Chapter 7, the conclusions and implications of the study are

addressed.

Chapter II: Background and Literature Review

2.1 *Theoretical Framework*

Both economists and sociologists have investigated legitimacy of organizations. The economists claim that the efficiency of organizational design and productivity of the production procedures are essential factors for the survival and growth of any business (Williamson, 1985). On the other hand, sociologists claim that economic competence is not enough and institutional support is necessary for the success of the business (Granovetter, 1985, Hannan and Freeman, 1984). Shane and Foo (1999) indicated the influence of an appropriately socialized explanation, and argued that institutional legitimacy improves the economic explanations for the business success.

Suchman (1995) stated that the early management theorists described organizations strongly limited to, and defined by, the environment that surrounds them. The social system establishes the environment in wich the organization engages. For businesses that are new to the market, this environment is divided into a series of segments such as social choice and preference, regulations and policies, product, workforce, financial, and technology. Zimmerman and Zeitz (2002) categorized these environments into local, regional, national, and international. They argue that industries have a significant role in creating such environments for the organizations. These organizations face different environmental factors and requirements which are unique to their organization, and no organization is consistently perfect with all of the

environments. For organizational success, it is necessary to be as free as possible from any uncertainty about the combination of environmental factors the organization chooses.

Social actors, however, are not usually capable of choosing the right action or the right way of doing something because there is a lack of clarity and evidence with regards to goal setting. When confronted with this vagueness, the morals, standards, guidelines, and models that are socially acceptable will help people overcome this uncertainty in order to make the right decisions. For example, based on this economic model, investors strategically allocate capital with the expectation of a future financial return, and an organization can have access to this financial resource by showing the capability of providing the proper return on investment. The investors' decisions are permeated with hesitation, but legitimacy can provide assurance by indicating that the organization is well established; devoted to the morals, standards, guidelines, and models; capable of using proper means; and proceed along the proper path to achieve desirable goals. When faced with uncertain decisions, legitimacy provides signals to reduce financiers' uncertainty of investment (Zimmerman and Zeitz, 2002).

Dowling and Pfeffer (1975) explained the presence of three moderately interconnected sets of organizational behaviors: "those that are economically viable, those that are legal, and those that are legitimate" (p. 124). Allured by these organizational behaviors, organizations will put forth the effort to engage in activities that will allow them to accomplish integrating all three behaviors. Organizations try to harmonize the social values related to their activities and the standards of proper actions in the social system. In the context of agriculture and food markets, various types of food retailers and the local foods market that these retailers are trying to engage are examples

of these organizations and social systems. As long as there is congruency between these two value systems, the organizational legitimacy exists (Ashforth and Gibbs, 1990, Dowling and Pfeffer, 1975). Otherwise, there is a threat to the legitimacy of the organization when a real or possible discrepancy exists between the two systems. According to Dowling and Pfeffer (1975), these threats take the form of "legal, economic, and other social sanctions" (p. 122).

On the one hand, legitimacy of the organization is the result of the legitimation process endorsed by the main organization, and on the other hand, the activities influencing related norms and values engaged by other organizations. Dynamic social norms and values instigate the organizational transformation, legitimation (Dowling and Pfeffer, 1975). Zimmerman and Zeitz (2002) indicated that legitimacy is a "relationship between the practices and utterances of the organization and those that are contained within, approved of, and enforced by the social system" or market in which the organization exists (p. 416).

The operation process and output, along with the goal or activity sphere of the organizations are the decisive factors in organizational legitimacy. Although Dowling and Pfeffer (1975) considered legitimacy as a constraint, they looked at it as a dynamic constraint which "changes as organizations adapt, and as the social values which define legitimacy change and are changed" (p. 126). By taking the mutable social norms and values into consideration, organizations can take different actions to become legitimate. First and foremost, organizations can adjust their means and ends to comply with legitimacy definitions. Second, they can modify the legitimacy definition to fit into the current practices of the organization. Lastly, organizations can make an effort to closely

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connect with symbols, values, or other organizations that have a robust social legitimacy construct.

2.2 *Definition of Legitimacy*

Throughout the years, researchers have presented various legitimacy definitions with different degrees of particularity. One of the earliest organizational behavior scholars, Maurer (1971), provided legitimacy with a categorized and precise definition stating that "legitimation is the process whereby an organization justifies to a peer or superordinate system its right to exist" (p. 361). Some researchers developed this prominence to evaluation, but laid stress on the social conformity. Dowling and Pfeffer (1975) defined legitimacy as the "congruence between the social values associated with or implied by [organizational] activities and the norms of acceptable behavior in the larger social system of which they are a part" (p. 122). Suchman (1995) argued that these scholars pay particular attention to the cognitive more than the evaluative dimension. Thus, he provided a comprehensive, wide-ranging legitimacy definition that bridges the gap between the evaluative and the cognitive sides and that clearly endorses the "role of the social audience in legitimation dynamics" (p. 573). In this inclusive definition, 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, values, beliefs, and definitions" (Suchman, 1995).

Zimmerman and Zeitz (2002) embraced the noteworthiness of the organizational legitimacy's social aspect, stating that "legitimacy, a social judgment of acceptance,

appropriateness, and desirability, enables organizations to access other resources needed to survive and grow" (p. 414). This definition emphasizes the role of legitimacy in enriching organizations growth and survival by facilitating resource acquisition (Aldrich and Auster, 1986), enticing consumers (Wiewel and Hunter, 1985), overcoming the liability of newness (Stinchcombe, 1965), dealing with competency challenges (Baum and Oliver, 1991), and reaching desired trustworthiness (Hannan and Freeman, 1984, Shane and Foo, 1999).

2.3 *Legitimacy Types*

The theoretical aspects of legitimacy are studied extensively in a well-developed body of knowledge that dates back to 1990's (Deephouse and Suchman, 2008). Stryker (1994) differentiated between attitudinal rule approbation, behavioral rule compliance, and cognitive rule orientation; Aldrich and Fiol (1994) pointed out a difference between 'sociopolitical' legitimacy and 'cognitive' legitimacy. They stated that cognitive legitimation "refers to the spread of knowledge about a new venture," while sociopolitical legitimation "refers to the process by which key stakeholders, the general public, key opinion leaders, or government officials accept a venture as appropriate and right, given existing norms and laws" (Aldrich and Fiol, 1994). Scott (1995b) segregated the sociopolitical dimensions into regulatory, cognitive, and normative legitimacy and outlined a new framework based on his three pillars of external elements. Later, a broadly similar framework was suggested by Suchman (1995), introducing pragmatic, moral, and cognitive legitimacy labels. Zimmerman and Zeitz (2002) adopted Suchman's framework

and developed it by adding a new legitimacy type that "derive[s] from the industry in which a new venture operates" (p. 418).

In this study, we followed Zimmerman and Zeitz (2002) theoretical framework by using the following four types of legitimacy:

2.3.1 Sociopolitical Regulatory Legitimacy

Regulative legitimacy (Scott, 1995b), also known as sociopolitical regulatory legitimacy (Hunt and Aldrich, 1996), is a form of legitimacy that is "derived from regulations, rules, standards, and expectations created by governments, credentialing associations, professional bodies, and even powerful organizations" (Zimmerman and Zeitz, 2002).

Sociopolitical regulatory legitimacy indicates the compliance of organization actions with standards, regulations, or laws (Deephouse and Carter, 2005, Baum and Oliver, 1991, Deephouse, 1996, Singh et al., 1986). Regulatory legitimacy implies that the organization is "acceptable to the various regulatory agencies, even when little is known about how effective the rules, regulations, standards, and expectations are in meeting the desired ends" (Zimmerman and Zeitz, 2002). For instance, obtaining a particular certification from powerful institutional actors could be considered as a visible conformity to those regulations, standards, and expectation, resulting in regulatory legitimacy enhancement (Shane and Foo, 1999, Zimmerman and Zeitz, 2002). It decreases ambiguity, the cost of consumer search, and the struggle of gauging competency (Powell, 1995).

Examples in the context of agribusiness and agricultural markets are the ways that entities could signal to the marketplace that their production practices follow the rules and regulations. The Occupational Safety and Health Administration (OSHA) requirements, the Third Party Food Safety Audit certifications for products that comply with specific standards for safety, quality or performance, and the locally grown certifications such as "State Department of Agriculture" and "State Producers or Growers Association" could be used as different regulatory conformance signals to buyers and investors.

2.3.2 Sociopolitical Normative Legitimacy

Normative legitimacy (Scott, 1995b), also known as sociopolitical normative legitimacy (Hunt and Aldrich, 1996), is a form of legitimacy that is "derived from the norms and values of society or from a level of the societal environment relevant to the new venture" (Zimmerman and Zeitz, 2002). Some scholars label this type of legitimacy, which expresses a positive normative judgment of the firm and its activities, as moral legitimacy (Aldrich and Fiol, 1994, Díez-Martín et al., 2013, Parsons, 1962). Normative (or moral) legitimacy not only indicates the conformity of organizational action with norms and values of society (Parsons, 1962, Suchman, 1995, Deephouse and Carter, 2005) but evaluates whether it is what should be done (Díez-Martín et al., 2013).

Zimmerman and Zeitz (2002) addressed different sources of normative legitimacy, as well as implementing pervasive values and norms held by those who are controlling the resources, endorsements by the press and other organizations

(Abrahamson and Fombrun, 1992, Deeds et al., 1997, Elsbach, 1994, Baum and Oliver, 1991), and networks (Deeds et al., 1997, Zimmerman and Deeds, 1997). For instance, using environmentally friendly practices valued by social actors or treating employees in the expected fashion are some of the important mechanisms of gaining normative legitimacy (Díez-Martín et al., 2013, Shane and Foo, 1999). Furthermore, several media studies show the close relationship between the content of the mass media and public opinion (Ader, 1995, Gamson et al., 1992, McCombs and Shaw, 1972). One example for endorsements is positive media coverage which implies that "the press believes in the new venture, and the legitimacy of the press spills over into it" (Zimmerman and Zeitz, 2002). Another means of gaining normative legitimacy is through networks among the organization personnel and decision makers, other firms, and social actors which mitigate the liability of newness that some organizations encounter (Stinchcombe, 1965).

In the context of agriculture and food markets, environmentally friendly produced products such as certified organic products, Humane Farm Animal Care (HFAC) certified products, Hazard analysis and critical control points (HACCP) certified products, fair trade certified products, and the Turtle Excluder Device (TED) program could be signals to the consumers that the producers are complying with the norms and values. Another example of normative legitimacy is the cage-free or free-range egg production. Animal welfare groups have been campaigning for a long time against the battery-cage egg production. In recent years, many egg producers are switching to cage-free eggs even though no law has required them to change their production practices.

2.3.3 Cognitive Legitimacy

Cognitive legitimacy is the degree to which an organization internalizes a system that addresses "widely held beliefs and taken-for-granted assumptions that provide a framework for everyday routines, as well as the more specialized, explicit and codified knowledge and belief systems promulgated by various professional and scientific bodies" (Scott and Meyer, 1994). This type of legitimacy is related to activities that make decision-making simpler or help to understand it. As a result, it aids to resolve problems (Díez-Martín et al., 2013). Stinchcombe (1965) stated that those who are involved in the organizations' daily routines or more specialized activities gradually learn how to interact in more reliable and taken for granted ways.

Cognitive legitimacy, which stresses fundamental meanings and definitions, is based on cognitions rather than evaluations and can be assessed by "measuring the level of public knowledge about a new activity." The highest form of cognitive legitimation is achieved when a new product, process, or service is taken for granted" (Aldrich and Fiol, 1994). From perspectives of consumers, this indicates that these consumers are perceptive users of the service or product. In the local food market, the consumer's expectation is a very close relationship between the producer and the buyer. Therefore, buying from a retailer in a lightly mediated supply chain could be the next best option to buying the product directly from the farmers. An example of a standard operating procedure that could fill the gap between consumers and producers is the Amazon Marketplace e-commerce platform. The e-commerce, shopping products online, is a standardized business practice that is recognized by most of the consumers now.

2.3.4 Industry Legitimacy

Although previous researchers argued that some industries have more legitimacy than others (Scott, 1995a, Aldrich and Fiol, 1994, Suchman, 1995, Zucker, 1988), industry legitimacy was first presented by Zimmerman and Zeitz (2002). Organizations could gain varying degrees of legitimacy depending on the use of the industry's practices, norms, standards, and technology, the past actions of industry members, and so forth. For instance, the oil and chemical industries have been condemned by environmental groups which may have reduced their legitimacy (Zimmerman and Zeitz, 2002). Any industry that has little history, no recognized values, socially conflicting norms, and unestablished practices may deliver insufficient legitimacy to its component organizations (Aldrich and Fiol, 1994). Zimmerman and Zeitz (2002) argued that the industry legitimacy might have an S-curve. An industry has fairly low legitimacy during development; as the industry becomes older and more established, its legitimacy increases quickly, and then declines over time.

An example for the industry legitimacy in the context of agriculture and food markets is the GMO (genetically modified organism) technology introduced into the food market in the mid-1990s. When GMO was first introduced as an unproven technology, there was a lot of skepticism and reluctance to adopt it, particularly outside the United States. Some of the first adopters (e.g. Monsanto) were able to convince many farmers in the U.S. that GMO is a safe and effective technology that would enhance the production and reduces the herbicide use. Ultimately, as the adoption became wider, the technology of genetical engineering started to become more accepted. However, there is still a lot of

push back, skepticism, and question about the legitimacy of this technology (Hakim, 2016).

2.4 *Legitimation Strategies*

Although some researchers suggested that conforming to norms, standards, and regulations would result in enhanced legitimacy (Dimaggio and Powell, 1983, Meyer and Rowan, 1977, Scott, 1995a), legitimacy was considered as something working intuitively, that organizations would not be thoughtfully aware of it to use certain strategies and manipulate it (Mezias, 1995, Suchman, 1995). A recent approach to legitimacy proposes that organizations can apply strategic decisions to adjust the form and amount of legitimacy they retain (Deeds et al., 1997, Scott, 1995b, Zimmerman and Zeitz, 2002).

Four specific strategy types have emerged from the literature that includes conformance, selection, manipulation, and creation. Zimmerman and Zeitz (2002) argued that an organization can take two practical steps to obtain legitimacy. By attempting "to change itself, such as by creating a new structure, managerial team, and/or business model." Also attempting "to change its environment and other organizations operating within its environment, such as the strategic use of issue advertising and lobbying for change in regulations" (p. 421). Therefore, they added the fourth strategy, creation, to the three strategies proposed by Suchman (1995).

2.4.1 Conformance Strategies

Conformance refers to obtaining legitimacy by reaching conformity with the expectations and requirements of the current social structure in which the firm is presently positioned (Dimaggio and Powell, 1983, Meyer and Rowan, 1977, Suchman, 1995). An organization that has little power and few resources to challenge the established social structure, "does not question, change, or violate the social structure. It acquires legitimacy by following the rules" (Zimmerman and Zeitz, 2002).

For example, an organization might attempt to obtain regulatory legitimacy by following government rules and regulations which are generally required for such organizations to operate legally. Therefore, "conformance is the least strategic of the four strategies and is often used by new ventures" (Zimmerman and Zeitz, 2002). An organization may seek normative legitimacy by operating profitably as conformance to societal norms; treating employees fairly as adherence to values; and following professional norms, such as those relating to the personal behavior of the affiliates. An example of conformance strategies for seeking cognitive legitimacy is hiring top managers with adequate experience and education credentials as adherence to correct practices.

2.4.2 Selection Strategies

Although selection requires some level of conformity to the environment, it favors the organization to select the environment in which "the scripts, rules, norms, values, and models of the relevant environment are known and the new venture has the opportunity

and the resources to select those most consistent with and advantageous to it"

(Zimmerman and Zeitz, 2002). Also, selecting a suitable geographic location where there

are businesses that follow similar norms, rules, values, and practices may provide a new

venture with legitimacy. For instance, an organization may seek regulatory legitimacy by

selecting a geographic location based on favorable regulations, or seek normative

legitimacy by selecting a sphere of activity in which the organization's products, services,

or vision are more in line with the norms and values.

2.4.3 Manipulation Strategies

This legitimation strategy involves making differences in the environment to

reach conformity between the organization and its environment. Even though a particular

new organization usually is deficient in power or money to considerably manipulate its

environment (Brint and Karabel, 1991, Dimaggio and Powell, 1983, Meyer and Rowan,

1977), it can manipulate its environment by collaborating with well-established,

prosperous organizations (Zimmerman and Zeitz, 2002). An organization may work with

well-known organizations to lobby for governmental change in rules and regulations to

obtain regulatory legitimacy. Another way to impact the existing environment is to

associate with other organizations and unify into an industry association. Manipulation

involves less change to the environment than creation and more change than do selection

and conformance (Zimmerman and Zeitz, 2002).

2.4.4 Creation Strategies

New organizations, mainly those in new industries, frequently find new spheres of operations that are deficient in known values, proper norms, and original practices (Aldrich and Fiol, 1994). Creative new ventures can create these known values, proper norms, and original practices and "act as a pioneer and establish the basis of legitimacy for those that come after it" (Zimmerman and Zeitz, 2002). Furthermore, they can even create government rules or regulations that benefit them, alter existing norms, rules, values, models, and practices to obtain regulatory, normative, or cognitive legitimacy. As a matter of fact, a new venture often gain legitimacy by bringing a new product, measure, or concept into use or operation for the first time "that shocks, violates, offends, and/or contradicts the existing social structure" (Zimmerman and Zeitz, 2002). For instance, the Whole Foods creation of humane treatment scales or the sustainability of supply chain is challenging other food retailers to set standards for legitimacy measures. Of the four legitimation strategies, this strategy requires the most creativity and involves the most change by the new venture (Zimmerman and Zeitz, 2002).

Agricultural economists also looked at the applications of legitimacy to agribusiness and food processing firms. For instance, Ross et al. (2013) have examined the strategic courses that wineries exercise to acquire legitimacy and how these strategies could impact the performance of the wineries. Also, Johnson et al. (2007) attempted to develop a scale for different legitimacy types and strategies proposed by Zimmerman and Zeitz (2002).

2.5 *Legitimacy as a resource*

The institutional theory asserts that firm survival and growth rely on the acquisition of legitimacy (Meyer and Rowan, 1977). Organizations obtain legitimacy in order to gain public favor and attract resources (Ashforth and Gibbs, 1990), attract customers (Wiewel and Hunter, 1985), address competency challenges, cope with threats (Baum and Oliver, 1991), and reach reliability (Hannan and Freeman, 1984). Zimmerman and Zeitz (2002) claimed that legitimacy is a crucial resource for acquiring other resources and argued that, "resource acquisition by the new venture is positively related to its level of legitimacy, and the growth of the new venture is positively related to the amount of resources it attains" (p. 418). Figure 2.1 depicts the legitimacy process suggested by Zimmerman and Zeitz (2002).

Figure 2.1: Legitimacy Process Model (Zimmerman and Zeitz, 2002)
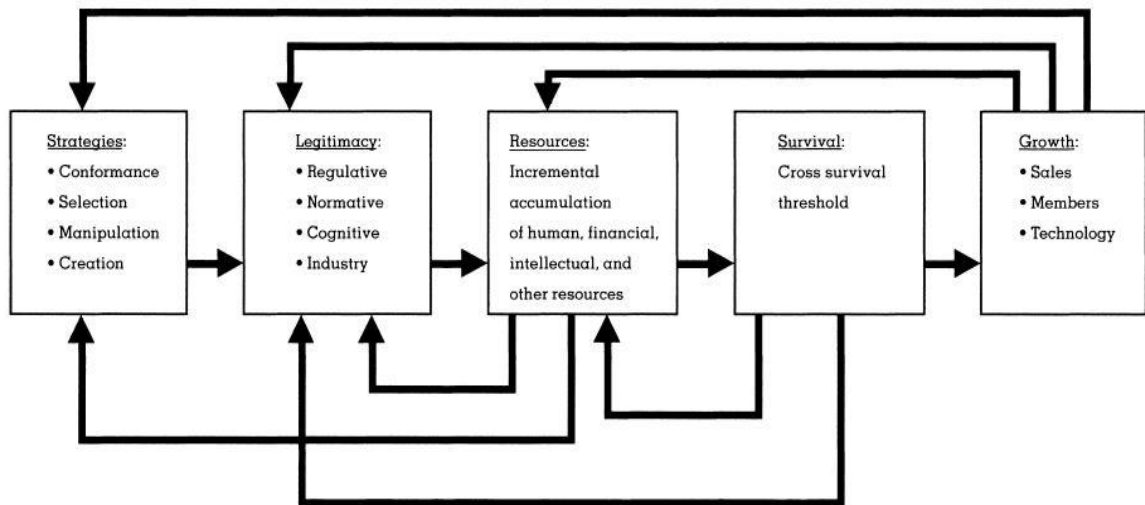
When a new venture involves in a new activity for the first time, it "lacks the support of traditions and norms" (Ashforth and Gibbs, 1990), and is obliged to "establish internal and external norms, new roles for organization members, standard operating

procedures, and new patterns for interacting" (Shane and Foo, 1999). Since these

activities are not yet taken for granted, the new venture suffers the "liability of newness"

that causes the high percentage of new venture failure (Stinchcombe, 1965). Clarifying

and extending knowledge regarding how a new venture can obtain, create, and practice

legitimacy "may enable it not only to overcome the liability of newness but also to grow

and become an established venture" (Zimmerman and Zeitz, 2002). Furthermore,

ventures by virtue of their reputation in the community, reputation of their brands, or the

quality of commitment that they have in the community are valued more than the market

equivalent of their physical assets. In the financial world, there is an intangible asset

termed "goodwill" that goes to the firms' balance sheet. Therefore, by considering

legitimacy as a resource, there could be a parallel to the goodwill concept that relates to

the company's reputation and connection with the customers as an asset.

2.6 *Local Food*

Local food production has been around for a while, but with the increase in local

food production and marketing, and a resurgence of consumer enthusiasm towards local

foods, this revitalization has brought local foods to the marketplace and the consumer's

dinner table. Whether this trend is a food fad for a special type of consumer, one thing is

for sure, local foods have been at the front of people's minds more often than before.

Local food is not a new concept for consumers. In the 1930's, local food was promoted

through a "state grown" program (Patterson, 2006). Fast forward to the 21st century and

these "state grown" programs have become more popular amongst the masses as the

consumption of local food has increased (Hu et al., 2010). In most states, there is a "buy local" campaign. At the national level, the federal government has introduced the "know your farmer, know your food" initiative (Low and Vogel, 2011).

The increased demand for local food is shown through the growth of the local food systems parallel to the mainstream food system (Martinez, 2010). The popularity of local food amongst consumers is reflected in national surveys. These surveys show that half of the respondents buy their local food straight from the farmers. This is done by attending farmer's markets, buying straight from a farm, or joining a CSA (Zepeda and Li, 2006). The marketing of local foods at food retailers has grown exponentially as these retailers push the local food label (NGA, 2015). For example, Whole Foods promotes social, environmental and quality perks. Also, forty-four state departments of agriculture have state-sponsored promotion and labeling activities with the intention of exciting consumers for foods produced and processed specifically within boundaries of the states. Restaurants are also touting "locally grown produce" on their menu's (Batte et al., 2010, NRA, 2013). Heightened campaigning by non-profit, media stories, and sources on the internet have raised consumer awareness on local food buying options and the positive benefits of buying local among public and government policy makers (Ostrom, 2006).

Several movements have grown as a result of the increased interest in U.S. local foods. One of the movements, the environmental movement, inspires individuals to consider location in their food purchasing decisions. By opting for local food, consumers decrease their contribution to greenhouse gas emissions, which is caused by long-distance food transport. Furthermore, the community food-security movement goal is to improve

the accessibility to healthy, safe, and culturally appropriate food (Guptill and Wilkins, 2002). Along with the environmental and community food security movements, large corporations have also put forth efforts to broaden local food awareness. All of these movements are reflected in the increased interest by consumers in their desire to support their local farmer, and to know the origin of their food (Ilbery and Maye, 2005).

Over the years, there has been a rise of farmers' market locations, which has allowed consumers had better access, more food options, and a variety of days and hours of operation allowing flexibility for the consumer to attend a farmers' market (USDA, 2016). This, in turn, has led to an increase in support for the local farmer (Low, 2015). Martinez (2010) stated that "today, there are four farmers markets for every one that existed in the 1970's." Based on the USDA report, even though the number of farmer market location increased from 2000 to 2010, the estimated average annual growth in sales of locally produced food was around 2.5% at that time. This shows on average a decrease of sales per farmers' market. Many studies have found that inconvenience and non-accessibility are the main factors that discourage consumers from shopping at a farmers' market (Bukenya and Wright, 2007, Wolf et al., 2005). To continue spending money and time to purchase locally produced food, the consumer needs to see something of value in the product or at the market itself. However, with the increase in farmers' market locations to combat the accessibility problem, the convenience problem remains.

In the past few decades, there has been increased effort to understand consumer attitudes and their purchasing behavior (Moser et al., 2011). With increased interest in local foods, there is imperfect information on the market to explain the precise magnitude and catalyst for consumer preferences toward local food (Carpio and Isengildina-Massa,

2009). According to Carpio and Isengildina-Massa (2009), only several studies have looked at the demand for locally produced food. It has been reported that the consumer motivations to buy locally is driven by environmental aspects, other production and quality concerns such as supporting family or small farms, the ethical treatment of animals, and human and animal nutrition (Thilmany et al., 2008).

The body of literature shows that "private factors," such as quality, health benefits, freshness and food safety, are the main factors that drive consumers purchasing behavior of locally grown food (Thilmany et al., 2008, Onozaka et al., 2010, Ostrom, 2006). Secondary factors, the "public factors," such as supporting community, supporting small farmers, boosting the local economy, and making sure farmers receive fair returns, is of secondary importance to consumers who value private factors more, but are very important to a small group of consumers that value public factors over private factors (Ostrom, 2006, Onozaka et al., 2010, Thilmany et al., 2008, Schneider and Francis, 2005). For instance, Webber and Dollahite (2008) found that low-income shoppers mostly care about the health of their families when buying food or contemplating whether to buy local options, but these shoppers show concern for the welfare of the community in which they live in. In addition, evidence in literature shows environmental factors playing a smaller role in influencing consumer's decisions to buy local food than societal factors. Nevertheless, often consumers associate local labeling with being natural (Ostrom, 2006).

Taking into consideration the increasing idea of local food in the food system and the change in the agricultural markets for local food, it is important to analyze a consumer's perception of "local" and the motivations behind their purchasing behavior

(Cranfield et al., 2012). The main objective of this study was to extend knowledge of legitimacy in the concept of local food by comparing consumers' perspective of local food, and the drivers influencing their purchasing decisions across different groups, considering their level of engagement to local food. In this study, we classified consumers into three groups based on the importance of local food to their consumer choices. The "periphery group" has a low preference to buy local food, the "mid-level group" is moderate, and the "core group" has a strong preference towards local food. This consumer segmentation was first suggested by the Hartman Group 2008 and later was used by Woods et al. (2013) more specifically on the strategic reach of the community supported agriculture (CSA), multiple farms, and local food hubs.

Chapter III: Empirical Model

3.1 *Ordinal Logistic Regression*

This study examines consumer measures of legitimacy by employing the Liker scale and a standardized ordinal measurement that is applied to certain questions . These questions represent different types of legitimacy. Therefore, understanding how to interpret ordinal responses and model the appropriate regression is an important part of this analysis.

Ordinal-level measures have a natural order, and for various response variables in the social science and educational fields, these variables offer a straightforward and appropriate way to differentiate between possible outcomes that can best be considered as rank-ordered (O'Connell, 2006, Fullerton, 2009). The main attribute of ordinal data is that the numbers allocated to consecutive categories of the variable being measured present differences in magnitude, or a ''greater than'' or ''less than'' quality. Ordinal outcome variables with three or more categories are common in research situations where the assignment of numbers representing sequential categories of an attribute, construct, or behavior corresponds to meaningful directional differences. Even though ordinal outcomes can be effortless and expressive, their ideal statistical usage is challenging to many applied researchers (O'Connell, 2006, Cliff, 1996, Clogg and Shihadeh, 1994).

Researchers have developed several different methods for the analysis of ordered responses. Some scholars assume that the robustness of parametric models for ordinal outcomes prevails over any potential interpretation problems, so by applying linear

regressions, the outcome is treated as an interval-level variable. On the other hand, some researchers apply log-linear or nonparametric approaches by treating the ordinal variable as strictly categorical. When the emphasis of analysis is on the difference between the ordinal scores, both methods could provide useful information regarding the research question; nevertheless, neither of these methods is most favorable for developing explanatory models of ordinal outcomes (Agresti, 1989, Cliff, 1996, Clogg and Shihadeh, 1994, O'Connell, 2000).

The application of the traditional ordinary least squares (OLS) regression model for ordinal dependent variables is not appropriate for the analysis of ordinal response variables that are close to the actual level of measure of the outcome (Winship and Mare, 1984, McCullagh, 1980, Scott Long, 1997, Fullerton, 2009). An ordinal outcome variable with three or more categories can be modeled using ordinal logistic regression, if certain assumptions are met. Ordinal logistic regression, unlike multinomial regression, takes into account any natural ordering of the levels in the outcome variable, thus making fuller use of the ordinal information (Kleinbaum and Klein, 2010).

As extensions of logistic regression for dichotomous outcomes, ordinal logit models strictly follow the methods and model building strategies of both logistic and ordinary least squares regression analysis. Since ordinal regression models are closely related to logistic models for dichotomous outcomes, the terminology and estimation strategies for fitting ordinal regression models are relatively simple extensions of those used for logistic regression (O'Connell, 2006). These models are collectively defined as a class of generalized linear models, consisting of three components:

• A random component, where the outcome variable Y follows one of the distributions from the exponential family such as the normal, binomial, or inverse Gaussian

• A linear component, which describes how a function, Y′, of the dependent variable Y depends on a collection of predictors

• A link function, which describes the transformation of the dependent variable Y to Y′ (Fox, 1997)

3.2 *Proportional Odds Model*

The primary tool and the most frequently used ordinal regression model that many researchers develop to examine the determinants of ordinal outcomes is the "proportional odds" (or cumulative) model (Halaby, 1986, Wright et al., 1995, Fullerton, 2009, Scott Long, 1997). McCullagh (1980), proposed this approach as a means of analyzing ordinal dependent variables within a logistic regression framework. To avoid assigning arbitrary scores for the categories, the proportional odds model assumes that the cut points between categories are unknown.

In the proportional odds method, the outcome variable with M categories is divided into M − 1 logit equations. For instance, an outcome variable with five categories will have four binary logit equations that are four possible ways to split these five categories into two collapsed groups preserving the natural order: 1 vs. 2-5, 1-2 vs. 3-5, 1-3 vs. 4-5, and 1-4 vs. 5. However, one could not combine categories 1 and 5 for

comparison with categories 2, 3, and 4, since that would disrupt the natural ordering from 1 through 5. In each binary equation, the first group of categories is coded as a 1 and the second group is coded as 0 (e.g., 1 = 1 and 2-5 = 0). Therefore, the probability of interest is the cumulative probability (i.e., the probability of being less than or equal to a given category)(Fullerton, 2009).

If an individual model could be used to estimate the odds of being at or below a particular category across all cumulative splits, that model would be a better choice over the fitting of M − 1 different logistic regression models corresponding to the sequential partitioning of the data, as described above. The goal of the cumulative odds model is to simultaneously consider the effects of a set of independent variables across these possible consecutive cumulative splits to the data (O'Connell, 2006). The equation for the proportional odds model (Scott Long, 1997, McCullagh, 1980) is:

$$\text{Log}\left(\frac{\Pr(y \leq m|x)}{\Pr(y > m|x)}\right) = \gamma_m - x\beta \quad (1 \leq m < M) \tag{1}$$

where m is a category, x is a vector of independent variables, γ is a cut point, and β is a vector of logit coefficients. The negative sign on the vector of logit coefficients facilitates an OLS regression-type interpretation of the coefficients. A positive coefficient indicates that a unit increase in x leads to a higher level of y.

In a model without any independent variables (i.e., the null model), γ_m represents the log odds of being in category m or lower versus a higher category. The ordering of cut points is restricted so that $\gamma_1 < \gamma_2 \ldots < \gamma_{M-1}$. The probability for any given outcome category (m) in the proportional odds model is,

$$\text{Pr}(y = m \mid x) = \begin{cases} F(\gamma_1 - x\beta) & m = 1 \\ F(\gamma_m - x\beta) - F(\gamma_{m-1} - x\beta) & 1 < m < M - 1 \\ 1 - F(\gamma_{M-1} - x\beta) & m = M \end{cases} \qquad (2)$$

where F is the logistic cumulative density function (cdf), γ is a cut point, x is a vector of

independent variables, β is a vector of logit coefficients that do not vary across equations,

and m is the category and its corresponding logit equation (Scott Long, 1997). As in the

case of binary logit, the proportional odds model is nonlinear in the probability but linear

in the log of odds (or logit). For an outcome with five categories, the proportional odds

model estimates four binary logit models simultaneously (Fullerton, 2009).

One of the assumptions in the proportional odds model is the assumption of equal

βs across logit equations for the different cut points, which is known as the proportional

odds or parallel odds assumption (O'Connell, 2006, Kleinbaum and Klein, 2010,

Fullerton, 2009). The β in equation (2) does not have a subscript corresponding to a

particular cut point, which implies that the explanatory variables have the same effect on

the odds, regardless of the different consecutive splits to the data (e.g., 1/2-5 or 1-2/3-5 or

1-4/5). The intercept (or cut point) is the only coefficient that changes across logit

equations, which allows the researcher to present a single set of coefficients for each

variable just as one would in OLS or binary logit. This assumption allows for a more

straightforward model and presentation of output and assures the ordinality of the

outcome variable (Fullerton, 2009).

Brant (1990) presented a Wald test for the proportional odds assumption, which

tests for the equality of βs overall (the omnibus test) and separately for each independent

variable. However, this omnibus test for proportionality is not a powerful test and is

anticonservative (Peterson and Harrell Jr, 1990). This assumption is repeatedly violated in practice; the test almost always results in small p values, mainly when the number of independent variables is large (Brant, 1990), the sample size is large (Allison, 1999, Clogg and Shihadeh, 1994), or model has continuous explanatory variables (Allison, 1999). As a result, decisions on rejecting the null hypothesis of proportionality of the odds based merely on the score test should be made cautiously (O'Connell, 2006). Rejection of the assumption of parallelism (proportional odds) for the specific ordinal model being explored indicates that at least one of the independent variables may be having a different effect on the outcome levels, to be exact, that there is an interaction between one or more of the explanatory variables and the derived splits to the data (Peterson and Harrell Jr, 1990, Armstrong and Sloan, 1989).

The proportional odds method was initially designed based on the idea of a continuous latent variable. In this study, a five-category Likert-type scale question, ranging from "strongly disagree" to "strongly agree" on legitimacy of local food represents an underlying willingness to support the legitimate of local food products in the U.S. food market. We utilized separate equation for each question relating to a particular legitimacy type. These twelve equations are representatives of legitimacy models to explore how respondents view legitimacy as it relates to local food.

Chapter IV: Survey Design and Data

This study relied on the feedback from local food consumers in the form of a survey containing five-point Likert-type questions asking about consumer perspectives of local food, along with different shopping behavior questions. The first section contains a question asking consumers whether if they are the primary shopper or not. The survey proceeds with legitimacy related questions which were designed to address the consumer's perspective on each specific legitimacy type. Also, a specific question regarding consumers' attitude towards local food, as well as purchase frequency questions, were asked to categorize consumers into three groups (periphery, mid-level, and core). Questions regarding demographic information, including gender, age, education, place of residence, the length of residency, the population of the market, and annual household income level before tax conclude the questionnaire.

4.1 *Shopping Status*

Primary shoppers may have different values than those who are not primary shoppers. Because of this, the first question in the survey was designed to identify these primary shoppers, and in turn, identify the secondary but frequent shoppers for further analysis.

4.2 *Legitimacy Representative Questions*

Based on the legitimacy framework introduced by Zimmerman and Zeitz (2002),

twelve questions were designed examining four types of legitimacy in the context of local

foods markets.

The sociopolitical regulatory legitimacy has two related questions to explore how

consumers view regulations as they relate to local food. Having a "local food"

certification by an independent organization such as "USDA", "State Department of

Agriculture", or "State Producers or Growers Association" as well as having a standard

definition in terms of geographic distance was posed to explore the extent to which

conformity to regulations, standards, and expectation plays a critical role to local food

consumers. Figure 4.1 shows the sociopolitical regulatory legitimacy questions[1].

Figure 4.1: Sociopolitical Regulatory Legitimacy Questions

3. To sell as a local food, the item must have a "local food" certification by an independent organization
(e.g. "USDA", "State Department of Agriculture", "State Producers or Growers Association").

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

4. The definition of local food should be standard in terms of geographic distance.

◯ Strongly disagree ◯ Disagree ◯ Neutral ◯ Agree ◯ Strongly agree

On the subject of sociopolitical normative legitimacy, questions were asked to

explore whether the conformity of the local food producer/vendor actions with norms

and values of society has an impact on consumer perspectives. Questions regarding the

normative legitimacy, shown in Figure 4.2, include the importance of treating employees

fairly and responsibly, using environmentally friendly practices, supporting small farmers

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[1] Questions as they were presented in the survey were randomized.

and making sure that farmers receive fair returns, and the impact of the positive press coverage.

Figure 4.2: Sociopolitical Normative Legitimacy Questions

5. When buying local foods, it is important for me that the producer of the item treats employees fairly and responsibly.

○ Strongly disagree   ○ Disagree   ○ Neutral   ○ Agree   ○ Strongly agree

7. When buying local foods, it is important for me that the producer of the item uses environmentally friendly practices.

○ Strongly disagree   ○ Disagree   ○ Neutral   ○ Agree   ○ Strongly agree

8. Buying local foods will support small farmers and make sure that farmers receive fair returns.

○ Strongly disagree   ○ Disagree   ○ Neutral   ○ Agree   ○ Strongly agree

11. Products advertised as local receiving positive press coverage are more likely to be legitimately locally grown.

○ Strongly disagree   ○ Disagree   ○ Neutral   ○ Agree   ○ Strongly agree

The next set of questions were designed to address the fundamental meanings and definitions that are taken for granted and are based on cognitions rather than evaluations. Respondents were asked whether they believe local foods are fresher, healthier, and have higher quality than non-local foods. Also, they were asked to show their level of trust in local foods without certifications or safety requirements, in the case of buying them directly from the producer of the food items. Figure 4.3 presents the cognitive legitimacy related questions.

Figure 4.3: Cognitive Legitimacy Questions

9. Local foods are fresher and have higher quality than non-local foods (e.g. taste, appearance).

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

12. When buying directly from the producer of the food item (i.e. direct markets), I know the item is local and no certification label is needed.

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

13. Local foods are usually healthier than non-local foods.

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

14. Local foods (even without certification) usually meet food safety requirements.

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

The last set of legitimacy questions were aimed to capture the importance of industry legitimacy from the consumer perspective. Buying local foods directly from the producer of the item (i.e. farmers/vendors), or the convenience and affordability of buying from big-box stores, were questioned to explore the influence of the legitimacy of each industry on local foods. Questions regarding this type of legitimacy are shown in Figure 4.4.

Figure 4.4: Industry Legitimacy Questions

6. It is important for me to buy local foods directly from the producer of the item (i.e. farmers/vendors).

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

10. It is more convenient and cheaper for me to buy local foods from big-box stores.

○ Strongly disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly agree

4.3 Consumer Type

A key objective of this study was to classify local food consumers into different groups based on their level of engagement to local food. A particular question regarding

the importance of local food to consumer choices was considered for this consumer segmentation, question 20 (see Figure 4.5).

Figure 4.5: Importance of Local Food Question

20. How important is local food to your consumer choices?
- ◯ Not at all important
- ◯ Slightly important
- ◯ Neutral
- ◯ Moderately important
- ◯ Very important

Based on this question we classified respondents into three groups: periphery, mid-level, and core. The "periphery group" has a low preference to buy local food, the "mid-level group" has a moderate preference, and the "core group" has a strong preference to buy local food. Another way of dividing up the consumers is to use a combination of purchase frequency measures to come up with a mechanism to classify respondents in a different way. These purchase frequency questions (see Figure 4.6) capture the same idea as the "level of importance" question. However, it validated for us these designations that we had in three groups. Table 4.1 shows these three groups are different in their local food purchase activities and the core group reveals a much higher purchase frequency compared to the mid-level and periphery groups.

Figure 4.6: Purchase Frequency Questions

21. How many times did you purchase a local product at a **farmers market** within the last 12 months?

○ None

○ 1-5

○ 6-10

○ 11 or more

22. How many times did you purchase a local product at a **grocery store** within the last 12 months?

○ None

○ 1-5

○ 6-10

○ 11 or more

23. How many times did you purchase a local product at a **restaurant** within the last 12 months?

○ None

○ 1-5

○ 6-10

○ 11 times or more

Table 4.1: Purchase Frequency Means

Consumer Type	Periphery	Mid-level	Core
Farmers' market purchase	3.76	5.76	9.23
Grocery purchase	5.65	9.14	9.99
Restaurant purchase	2.49	4.09	4.55
N	278	234	100

4.4 *Demographics*

This section of the survey requested respondents' individual demographic information including gender, age, education, place of residence, the length of residency, the population of the market, and annual household income level before tax. Besides the basic sociodemographics, the information on the place of residence and the length of residency was important for this study to collect. This information aided us to analyze the effect of the relationships, history, and experience with the vendors on the level of consumer trust in local food labels.

4.5 *Data Collection*

The focus of this study was on examining the relationship between types of legitimacy and importance of local food to the consumers. A sample of the U.S. food consumer population was obtained utilizing the *SurveyMonkey* platform. The online survey design and implementation were administered through the *SurveyMonkey* requiring that each respondent be at least 18 years old and a resident of the United States. The survey was fielded in nine regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific. These regions were subsequently categorized into four areas, North, East, West, and South for the ease of use in the model. Overall, out of 1,079 survey recipients, 682 responded back with completed or valid questionnaires[2]. This corresponds to a 63.2% response rate, which is in line with reasonable response rates for

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[2] A bot question was used to detect careless responses.

online surveys. However, after removing respondents who preferred not to answer their income and education level, 612 surveys were available for analysis (56.7% response rate).

4.6 *Validity and Reliability*

Before being administered online, preliminary surveys were designed and tested for practicality and validity. In order to determine whether the research correctly measures that which it was intended to measure, or how accurate the research results are, the preliminary surveys were tested, and feedback was provided by the faculties of the University of Kentucky, Agricultural Economics Department, as well as food industry experts. Furthermore, for identifying careless responses we designed a special item (instructed response item) to detect inattentive responses. We also used response time to eliminate those respondents with low compilation time to increase the response validity. The reliability as internal consistency was determined by using the Split-half method and the Cronbach's alpha. The coefficient alpha and the Spearman-Brown score are 0.74 and 0.77, respectively, suggesting that the items have relatively high internal consistency.

Chapter V: Descriptive Statistics and Hypotheses

This chapter presents descriptive statistics for the sample utilized in this study and the hypotheses related to legitimacy measures. Data was collected from a total of 612 respondents. As mentioned, we used criteria of consumer stated degree of local food importance to classify respondents into three groups. In this sample, 278 respondents (46%) fitted in the periphery group, 234 respondents (38%) in the mid-level, and 100 respondents (16%) in the core group. Table 5.1 provides the overall distribution of the sample.

Table 5.1: Sample Descriptive Statistics

Variable	Description	Freq / Mean
SECSHOP	=1 if a respondent is not the primary shopper, and 0 otherwise	32%
MIDLEVEL	=1 if a respondent belongs to the mid-level group, and 0 otherwise	38%
CORE	=1 if a respondent belongs to the core group, and 0 otherwise	16%
PERI	Reference consumer segment	46%
MALE	=1 if a respondent is male, and 0 otherwise	48%
AGE	A continuous variable representing respondent's age	47 YRS
EDU	A continuous variable representing respondent's years of education	15 YRS
INCOME	A continuous variable representing respondent's annual income	$74.000
URBAN	=1 if a respondent is living in an urban area, and 0 otherwise	32%
SUBURB	=1 if a respondent is living in a suburban area, and 0 otherwise	43%
RURAL	Reference market	25%
YRSRES	A continuous variable representing respondent's length of residency	10 YRS
NORTH	=1 if a respondent is living in the northern regions of the U.S.	24%
SOUTH	=1 if a respondent is living in the southern regions of the U.S.	32%
WEST	=1 if a respondent is living in the western regions of the U.S.	27%
EAST	Reference region	17%
		N= 612

5.1 *Gender*

Out of 612 respondents, 317 (52%) were female, and 295 (48%) were male. Considering the female role in shopping behavior, a balanced sample helped to compare the effect of gender more accurately. Regarding the consumer type, 114 (41%) of the periphery group were female, 164 (59%) were male. In the mid-level group136 (58%) were female, and 98 (42%) were male. Finally, 67 (67%) in the core group were women, and 33 (33%) were men. Figure 5.1 shows how females are more engaged in local food compared to male consumers.

Figure 5.1: Gender with Respect to Consumer Type

N= 612
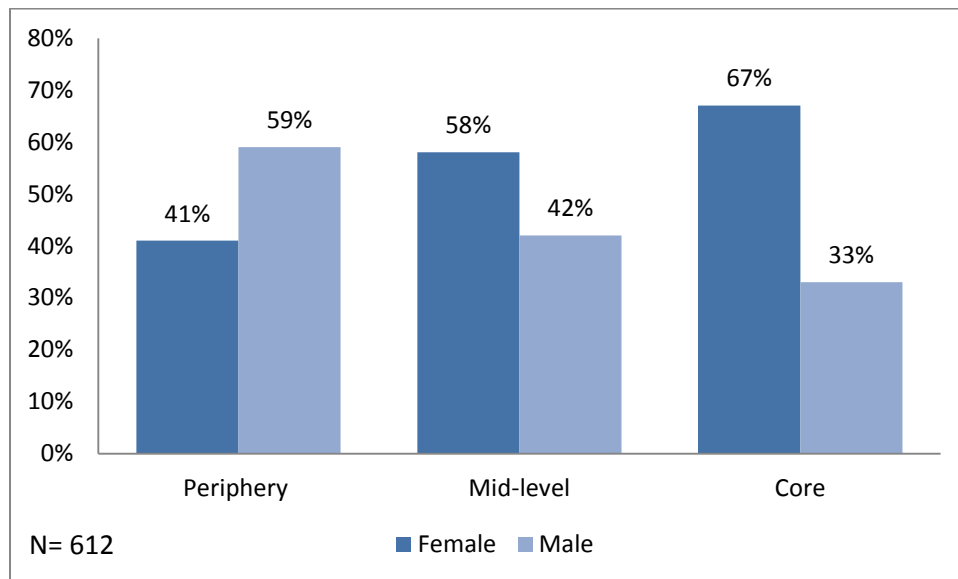
5.2 *Age*

Out of 612 respondents in the survey, 61 (10%) of them were between the ages of 18-24, 120 (20%) from 25-34, 90 (15%) from 35-44, 101 (16%) from 45-54, 125 (20%)

from 55-64, 99 (16%) from 65-74, and 16 (3%) 75 and older. The average age for the

periphery, mid-level, and core groups were 46.3, 47.9, and 49.1 years, respectively.

5.3 *Education*

In this survey, 39% of respondents had a college degree, while 176 (29%) had

some college education or trade/technical certification, and 131 (21%) had a postgraduate

degree. 63 (10%) respondents finished high school, while 7 (1%) had some high school

education. The average years of schooling for the periphery, mid-level, and core are

15.34, 15.53, and 15.06, respectively, which are close to the average sample years of

education with 15.37 equivalent to some college education. Table 5.2 shows the

education level of individuals in relation to the consumer type. As the table shows,

individuals with more engagement to local food, in general, are college graduates or have

some college education.

Table 5.2: Education – Consumer Type Relationship

| Education | Consumer Type | | | |
	Periphery	**Mid-level**	**Core**	**Total**
Some high school	4 (2%)	3 (1%)	0 (0%)	7 (1%)
High school graduate	32 (12%)	18 (8%)	13 (13%)	63 (10%)
Some college technical/trade certificate	74 (27%)	69 (29%)	33 (33%)	176 (29%)
College graduate	109 (38%)	84 (36%)	42 (42%)	235 (39%)
Postgraduate degree	59 (21%)	60 (26%)	12 (12%)	131 (21%)
N	**278**	**234**	**100**	**612 (100%)**

5.4 Income

563 (92%) respondents out of 612 reported their annual household income before tax. Of those, 134 (22%) respondents made less than $25,000 a year, while 141 (23%) respondents made $25,000-50,000, 108 (18%) made $50,001-75,000, 70 (11%) made $75,001-100,000, 64 (10%) made $100,001-125,000, 34 (6%) made $125,001-150,000, 18 (3%) made $150,001-175,000, 18 (3%) made $175,001-200,000 and 25 (4%) made over $200,000. The average income of the sample was $73,900. Between different consumer types, the periphery group has the highest average income with $75,100, and the core group has the lowest average income with $68,400. Table 5.3 depicts the income level of respondents in relation to the consumer type.

Table 5.3: Income – Consumer Type Relationship

	Consumer Type			
Income	**Periphery**	**Mid-level**	**Core**	**Total**
Less than $25,000	58 (20%)	47 (20%)	29 (29%)	134 (22%)
$25,000 to $50,000	63 (23%)	47 (20%)	31 (31%)	141 (23%)
$50,001 to $75,000	52 (19%)	46 (20%)	10 (10%)	108 (18%)
$75,001 to $100,000	32 (12%)	32 (14%)	6 (6%)	70 (11%)
$100,001 to $125,000	26 (9%)	28 (12%)	10 (10%)	64 (10%)
$125,001 to $150,000	17 (6%)	15 (6%)	2 (2%)	34 (6%)
$150,001 to $175,000	10 (4%)	5 (2%)	3 (3%)	18 (3%)
$175,001 to $200,000	9 (3%)	6 (3%)	3 (3%)	18 (3%)
Over $200,000	11 (4%)	8 (3%)	6 (6%)	25 (4%)
N	**278**	**234**	**100**	**612 (100%)**

5.5 *Place of Residence and Market population*

193 of respondents (31%) were located in the South of the U.S., while 164 (27%) in the Western areas, 108 (18%) in the Eastern states, and 147 (24%) in the Northern states. The respondents in the periphery group were mostly located in the South 99 (36%), while the majority of the mid-level group were in the West 74 (32%). For the core group, the West and the South have the same share of the respondent counts 29 (29%). Regarding the market population, 196 (32%) were in the urban areas, 262 (43%) in the suburban, and 154 (25%) in the rural areas.

Table 5.4: Market Population – Consumer Type Relationship

Market Population	Consumer Type			Total
	Periphery	**Mid-level**	**Core**	**Total**
Urban (Over 250,000)	87 (31%)	75 (32%)	34 (34%)	196 (32%)
Suburban (50,000– 250,000)	118 (43%)	106 (45%)	38 (38%)	262 (43%)
Rural (Under 50,000)	73 (26%)	53 (23%)	28 (28%)	154 (25%)
N	**278**	**234**	**100**	**612 (100%)**

5.6 Hypotheses

Following are descriptions of legitimacy measures and hypotheses developed for each independent variable relating to each legitimacy measure.

Table 5.5: Cumulative Logit Model Variable Descriptions

Variable	Description	(%) SD	D	N	A	SA
Regulatory Legitimacy						
CERT	Certification	8	13	29	33	17
STDDEF	Standard definition	5	4	16	48	27
Normative Legitimacy						
EMTRMT	Employees fair treatment	4	2	10	43	41
ENVIRON	Environmentally friendly practices	4	3	15	46	32
FARSUP	Supporting small farmers	3	2	13	48	34
ADVT	Advertisement and promotion	3	15	41	34	7
Cognitive Legitimacy						
QUAL	Higher quality and freshness	2	6	21	42	29
TRUPROD	Trust the producer	4	25	29	33	9
HEALTH	Health aspects	5	20	35	31	9
SAFREQ	Food safety requirements	3	14	47	33	3
Industry Legitimacy						
DIRPUR	Direct purchase from the producer	4	15	39	30	12
CONVPUR	Purchase from the big-box store	6	19	32	32	11

SD= Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree

Table 5.6: Regulatory Legitimacy Hypotheses

	Hypotheses	
Variable	**CERT**	**STDDEF**
SECSHOP	+	+
MIDLEVEL	+	+
CORE	+	+
MALE	-	-
AGE	+	+
EDU	+	+
INCOME	+	+
URBAN	+	-
SUBURB	+	-
YRSRES	-	+
NORTH	+	+
SOUTH	-	-
WEST	+	+

Table 5.7: Normative Legitimacy Hypotheses

	Hypotheses			
Variable	**EMTRMT**	**ENVIRON**	**FARSUP**	**ADVT**
SECSHOP	+	+	+	+
MIDLEVEL	+	+	+	+
CORE	+	+	+	+
MALE	+	-	+	-
AGE	+	-	+	-
EDU	+	+	+	-
INCOME	+	+	+	-
URBAN	+	+	+	+
SUBURB	+	+	+	+
YRSRES	+	+	+	+
NORTH	+	+	+	+
SOUTH	+	+	+	+
WEST	+	+	+	+

Table 5.8: Cognitive Legitimacy Hypotheses

	Hypotheses			
Variable	**QUAL**	**TRUPROD**	**HEALTH**	**SAFREQ**
SECSHOP	+	+	+	+
MIDLEVEL	+	+	+	+
CORE	+	+	+	+
MALE	+	+	+	+
AGE	+	-	+	+
EDU	+	+	+	+
INCOME	+	+	+	+
URBAN	+	-	+	+
SUBURB	+	-	+	+
YRSRES	+	+	+	+
NORTH	+	+	+	+
SOUTH	+	+	+	+
WEST	+	+	+	+

Table 5.9: Industry Legitimacy Hypotheses

	Hypotheses	
Variable	**DIRPUR**	**CONVPUR**
SECSHOP	+	-
MIDLEVEL	+	-
CORE	+	-
MALE	-	+
AGE	+	-
EDU	+	-
INCOME	+	-
URBAN	-	+
SUBURB	-	+
YRSRES	+	-
NORTH	-	+
SOUTH	+	-
WEST	-	+

Chapter VI: Results

As mentioned, we introduced a cumulative logit (proportional odds) model to apply consistently across twelve questions that relate to different legitimacy types. These are representative of regulatory, normative, cognitive, and industry legitimacy models, which explore how consumers view legitimacy as it relates to local food[3]. When we added the descending option to the model statement, SAS treated the levels of response variable in a descending order (high to low), such that when the cumulative logit regression coefficients are estimated, a positive coefficient corresponds to a positive relationship for response variable status, and a negative coefficient has a negative relationship with response status. For each model, we assumed that each intercept is equidistant from each other with a relatively subjective left-hand side variable.

Table 6.1 is a preamble to the more detailed regressions that evaluate each legitimacy measure and a powerful summary of any differences that we observed between the three consumer types. To test for significant differences in the mean value response among different consumer types, we run the Kruskal-Wallis test. This test can be considered as a backup method for the ANOVA where the dependent variable is not normally distributed. Although this test is good for a big picture conclusion testing the overall difference between groups, it falls short on identifying how specific local food preference consumer groups may differ in their unique assigned to each measure. Since there were not equal numbers of cases of each group, we run the *post hoc* Bonferroni

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[3] SAS 9.3 was used to estimate the models.

(Dunn) test. In the case of means, we assumed that there is a consistent measure of agreement between each of the five choice options. Although, there could be a bigger difference between "strongly agree" and "agree" regarding how consumers view that as opposed to "neutral" and "disagree," we made a simplification of the measurement to establish some basis for comparison.

Table 6.1: Mean Value Response for Different Consumer Types

Variable	Mean	Legitimacy Type	Periphery Mean	Mid-level Mean	Core Mean	K-W Test Pr>Chi-Square
CERT	3.37	Regulatory	3.21 a	3.50 b	3.51 ab	0.0153
STDDEF	3.89	Regulatory	3.70 a	4.06 b	3.98 ab	<.0001
EMTRMT	4.16	Normative	3.96 a	4.30 b	4.38 b	<.0001
ENVIRON	3.98	Normative	3.72 a	4.16 b	4.30 b	<.0001
FARSUP	4.09	Normative	3.87 a	4.20 b	4.42 b	<.0001
ADVT	3.28	Normative	3.16 a	3.41 b	3.34 ab	0.0263
QUAL	3.90	Cognitive	3.61 a	4.01 b	4.45 c	<.0001
TRUPROD	3.17	Cognitive	3.11 a	3.26 a	3.16 a	0.3576
HEALTH	3.18	Cognitive	2.87 a	3.31 b	3.77 c	<.0001
SAFREQ	3.19	Cognitive	3.10 a	3.27 a	3.24 a	0.0618
DIRPUR	3.30	Industry	2.96 a	3.42 b	3.94 c	<.0001
CONVPUR	3.23	Industry	3.24 a	3.29 a	3.07 a	0.4890

In this case, assigned Strongly Agree= 5, Agree= 4, Neutral= 3, Disagree= 2, Strongly Disagree= 1

Means with the same letters are not significantly different at the 0.05 level, based on the Bonferroni (Dunn) test.

The results of the Bonferroni (Dunn) test show that there are differences across the periphery, mid-level, and core groups. These differences in legitimacy measures based on preference for local foods imply that this preference is important and needs more investigations. Therefore, we perceived them into more rigorous logit analysis to

consider other potential variables that could also explain differences and the importance of the legitimacy measures.

6.1 *Regulatory Legitimacy Results*

Regulatory legitimacy was examined along with the themes and issues of rules and regulations such as certifications and standard definitions in terms of geographic distance. Table 6.2 presents the results of cumulative logit estimates of the regulatory legitimacy models.

In the first model, the significant positive sign of MIDLEVEL and CORE implies that the mid-level and core groups place a higher value on the certification of local food than the periphery group. Comparing to the periphery group, the odds of higher agreement for the mid-level and core groups are respectively 1.7 and 1.9 times greater than for the combined effect of other levels of agreement, given all of the other variables in the model are held constant (see Table 6.3). The *INCOME* variable was negative and significant, implying higher income consumers are less sensitive to local food certification. For higher income consumers, the odds of higher agreement versus the combined effect of other levels of agreement are 0.003 times lower, given all the other variables are held constant. Although it is minuscule, this indicates that the demand for this legitimacy is not as important for higher income consumers. As a result, higher income consumers may have other mechanisms besides a certification on the label that will help them secure the legitimacy of the local item that they are purchasing. The lower income consumers might shop more from grocery stores or the low-income shopping environment, but higher income consumers buy directly from the farmers' market or

specialty food stores. In addition, the estimated coefficients for *MALE* and *URBAN* are significantly positive, indicating that males and consumers in the urban areas are more likely to place a higher value on the certification of local food compared to females and consumers in the rural areas.

The significant positive sign of the MIDLEVEL and CORE for the second regulatory legitimacy model (STDDEF) implies that the mid-level and core groups also place a higher value on a standard definition of local food in terms of geographic distance compared to the periphery group. The odds of higher agreement to a standard definition for local food products are 1.9 and 2.4 times greater, holding everything else constant.

Table 6.2: Cumulative Logit Results of the Regulatory Legitimacy Models

Variable	CERT n=612	STDDEF n=612
Intercept 5	-1.832	-2.078
Intercept 4	-0.221	0.117
Intercept 3	1.113	1.343
Intercept 2	2.205	2.036
SECSHOP	0.002 (0.165)	0.099 (0.172)
MIDLEVEL	**0.516*** (0.165)**	**0.641*** (0.173)**
CORE	**0.641*** (0.217)**	**0.862*** (0.228)**
MALE	**0.371** (0.160)**	-0.097 (0.166)
AGE	0.001 (0.004)	0.0001 (0.005)
EDU	-0.015 (0.041)	0.047 (0.043)
INCOME	**-0.002* (0.001)**	-0.0007 (0.001)
URBAN	**0.403** (0.197)**	**-0.416** (0.206)**
SUBURB	0.119 (0.184)	-0.046 (0.192)
YRSRES	0.0006 (0.014)	0.002 (0.015)
NORTH	-0.331 (0.230)	0.178 (0.240)
SOUTH	0.014 (0.217)	0.122 (0.225)
WEST	-0.091 (0.226)	0.171 (0.235)
Wald Pr>ChiSq	**0.015**	**0.004**
POM Pr>ChiSq	**0.114**	**0.0002**

*** 1% significance level, **5% significance level and *10% significance level

Note: The proportional odds assumption holds if the Chi-Square of the Score Test is not significant.

Standard Error reported in parentheses.

Table 6.3: Odds Ratio Estimates of the Regulatory Legitimacy Models

	Odds Ratio Estimates	
Variable	**Point Estimate CERT**	**Point Estimate STDDEF**
SECSHOP	1.003	1.105
MIDLEVEL	1.676	1.898
CORE	1.900	2.368
MALE	1.450	0.907
AGE	1.002	1.000
EDU	0.985	1.049
INCOME	0.997	0.999
URBAN	1.497	0.660
SUBURB	1.127	0.955
YRSRES	1.001	1.003
NORTH	0.718	1.196
SOUTH	1.015	1.131
WEST	0.912	1.187

6.2 *Normative Legitimacy Results*

Normative legitimacy was examined along with the themes and issues of norms and values such as environmentally friendly practices, fair treatment of employees, promotions, and fair returns to small farmers. Table 6.4 presents the results of the normative legitimacy models. In the first model (EMTRMT), *MIDLEVEL* and *CORE* are positive and highly significant, indicating that consumers in these two groups are more likely to place a value on fair treatment of employees by a local food producer.

The odds ratios for the mid-level and core groups are 2.1 and 3.2 times greater than the periphery group, respectively (see Table 6.5). The significantly negative sign of SUBURB can be interpreted that the suburban group is less likely than the rural group to place a value on how the employees are treated. Comparing to the rural group, the odds of higher agreement for the suburban group is 0.33 times lower than for the combined

effect of other levels of agreement, given all of the other variables in the model are held

constant.

Table 6.4: Cumulative Logit Results of the Normative Legitimacy Models

Variable	EMTRMT n=612	ENVIRON n=612	FARSUP n=612	ADVT n=612
Intercept 5	0.031	-0.669	-1.191	-3.383
Intercept 4	2.230	1.548	1.196	-1.136
Intercept 3	3.467	2.958	2.643	0.837
Intercept 2	3.894	3.673	3.338	2.969
SECSHOP	0.040 (0.176)	-0.041 (0.173)	**0.314*** **(0.177)**	0.058 (0.170)
MIDLEVEL	**0.754***** **(0.176)**	**0.894***** **(0.176)**	**0.864***** **(0.178)**	**0.544***** **(0.170)**
CORE	**1.167***** **(0.239)**	**1.483***** **(0.237)**	**1.595***** **(0.242)**	**0.451**** **(0.222)**
MALE	-0.263 (0.170)	-0.127 (0.167)	-0.190 (0.170)	0.247 (0.164)
AGE	-0.005 (0.005)	**-0.009*** **(0.005)**	-0.005 (0.005)	0.005 (0.004)
EDU	-0.021 (0.044)	-0.003 (0.043)	0.044 (0.044)	0.024 (0.042)
INCOME	-0.001 (0.001)	-0.002 (0.001)	**-0.003**** **(0.001)**	**-0.004***** **(0.001)**
URBAN	0.085 (0.212)	0.259 (0.207)	-0.000 (0.210)	-0.144 (0.203)
SUBURB	**-0.390**** **(0.197)**	0.112 (0.193)	-0.026 (0.196)	-0.167 (0.190)
YRSRES	-0.000 (0.016)	-0.012 (0.015)	-0.012 (0.016)	0.021 (0.015)
NORTH	0.062 (0.245)	0.015 (0.242)	-0.325 (0.246)	-0.219 (0.237)
SOUTH	0.187 (0.229)	-0.313 (0.227)	-0.065 (0.232)	-0.084 (0.223)
WEST	0.377 (0.242)	0.154 0.238	-0.109 (0.241)	0.144 (0.232)
Wald Pr>ChiSq	**<.0001**	**<.0001**	**<.0001**	**0.015**
POM Pr>ChiSq	**<.0001**	**<.0001**	**<.0001**	**0.0003**

*** 1% significance level, **5% significance level and *10% significance level

Note: The proportional odds assumption holds if the Chi-Square of the Score
Test is not significant.

Standard Error reported in parentheses.

In the second normative legitimacy model (ENVIRON), *MIDLEVEL* and *CORE* are positive and highly significant, indicating that the mid-level and core consumer motivations to buy locally are more driven by environmental aspects than the periphery group. The odds of higher agreement to environmentally friendly practices are 4.4 and 2.4 times greater, holding everything else constant. In this model *AGE* was negative and significant, implying younger consumers find this normative legitimacy measure, more important than the older consumers. For a one year increase in age, the odds of higher agreement are 0.009 lower than for the combined effect of other levels of agreement, *ceteris paribus*.

Table 6.5: Odds Ratio Estimates of the Normative Legitimacy Models

	Odds Ratio Estimates			
Variable	**Point Estimate EMTRMT**	**Point Estimate ENVIRON**	**Point Estimate FARSUP**	**Point Estimate ADVT**
SECSHOP	1.042	0.959	1.369	1.060
MIDLEVEL	2.127	2.446	2.374	1.724
CORE	3.214	4.408	4.930	1.571
MALE	0.768	0.881	0.826	1.280
AGE	0.994	0.991	0.994	1.005
EDU	0.978	0.997	1.046	1.025
INCOME	0.999	0.998	0.996	0.999
URBAN	1.089	1.296	0.999	0.866
SUBURB	0.676	1.119	0.974	0.846
YRSRES	1.000	0.988	0.988	1.022
NORTH	1.064	1.016	0.722	0.803
SOUTH	0.829	0.731	0.937	0.919
WEST	1.459	1.167	0.896	1.156

The significant variables in the third normative legitimacy model (FARSUP) were *SECSHOP*, *MIDLEVEL*, *CORE*, and *INCOME*. The significantly positive sign of *SECSHOP* implies that the non-primary shoppers are more likely than the primary

shoppers to place a value on small farmers and their fair returns. The person that is the primary shopper has slightly different values and is more price conscious than the one who is not the primary shopper. For non-primary shoppers, the odds of higher agreement versus the combined effect of other levels of agreement are 1.4 times greater, given all the other variables are held constant. Moreover, the mid-level and core groups are placing a higher value on the farmers' fair returns, comparing to the periphery group. The core group is approximately five times more likely than the periphery group to place a value on this normative legitimacy measure. The *INCOME* variable was significant and negative with a minuscule odds ratio of 0.004 indicating higher income consumers are less likely to place a value on the farmers' fair returns.

The *MIDLEVEL*, *CORE*, and *INCOME* were the significant variables in the fourth normative legitimacy model (ADVT). Although the media and promotion of local food are positive factors for the mid-level and core groups, they are not the main driving factors. The *MIDLEVEL* and *CORE* are statistically significant, but the odds ratios of 1.7 and 1.6 indicate that the media and promotion are not necessarily a highly important signal of normative legitimacy. Furthermore, consumers may not trust media and promotion comparing to other measures of normative legitimacy, signaled by other factors. Again, the significantly negative *INCOME* variable with a minuscule odds ratio of 0.001 indicates that this normative legitimacy measure is not the main driving factor for higher income consumers.

6.3 *Cognitive Legitimacy Results*

Cognitive legitimacy was examined along with the themes and issues of quality, health, safety requirements, and trust in producers. Table 6.6 presents the results of the cognitive legitimacy models. In the first model (QUAL), *MIDLEVEL* and *CORE* are positive and highly significant, indicating that consumers in the mid-level and core groups are driven by the quality and freshness of local foods. The odds ratio estimates indicate that comparing to the periphery group, the core group is approximately ten times more likely to believe that local foods are fresher and have a higher quality than non-local foods. Likewise, the results show that lower income consumers place a higher value on the quality and freshness of local food than higher income consumers.

The *MIDLEVEL*, *YRSRES*, *URBAN*, and *SOUTH* were the significant variables in the second cognitive legitimacy model (TRUPROD). The results show that the mid-level group consumers trust the vendor of the local food item more than the periphery group. Nevertheless, the low significance of this variable with the odds ratio of only 1.3, and the *CORE* variable not significant in this model, indicate that this cognitive legitimacy measure does not primarily drive different consumer types (see Table 6.7). The significantly negative sign of *YRSRES* indicates that the relationships, history, and experience with the vendors are perhaps important, and that the consumers who have not lived in their current neighborhoods for a long time may not trust the other labels as much as they trust being able to go directly to a local food vendor for shopping.

Table 6.6: Cumulative Logit Results of the Cognitive Legitimacy Models

Variable	QUAL n=612	TRUPROD n=612	HEALTH n=612	SAFREQ n=612
Intercept 5	-1.198	-2.037	-3.329	-3.936
Intercept 4	0.853	-0.037	-1.208	-1.054
Intercept 3	2.455	1.218	0.437	1.160
Intercept 2	3.889	3.531	2.361	3.089
SECSHOP	0.220 (0.173)	-0.128 (0.167)	0.182 (0.168)	-0.242 (0.173)
MIDLEVEL	**0.787*** (0.172)**	**0.287* (0.165)**	**0.780*** (0.169)**	**0.377** (0.172)**
CORE	**2.225*** (0.250)**	0.151 (0.217)	**1.864*** (0.233)**	0.256 (0.225)
MALE	-0.230 (0.167)	-0.013 (0.160)	-0.094 (0.162)	-0.112 (0.166)
AGE	0.003 (0.005)	-0.003 (0.004)	0.001 (0.004)	**0.014*** (0.005)**
EDU	-0.016 (0.043)	0.056 (0.041)	0.037 (0.042)	0.012 (0.043)
INCOME	**-0.002* (0.001)**	-0.0003 (0.001)	**-0.003** (0.001)**	-0.0003 (0.001)
URBAN	0.009 (0.207)	**-0.651*** (0.200)**	**-0.352* (0.201)**	**-0.497** (0.207)**
SUBURB	-0.113 (0.193)	0.542 (0.187)	-0.241 (0.188)	-0.277 (0.193)
YRSRES	-0.013 (0.015)	**-0.027* (0.015)**	0.002 (0.015)	-0.017 (0.015)
NORTH	-0.070 (0.240)	-0.315 (0.232)	-0.055 (0.234)	0.082 (0.241)
SOUTH	0.129 (0.226)	**-0.602*** (0.220)**	-0.045 (0.220)	-0.023 (0.226)
WEST	0.148 (0.236)	-0.336 (0.228)	0.080 (0.229)	0.051 (0.236)
Wald Pr>ChiSq	**<.0001**	**0.005**	**<.0001**	**0.022**
POM Pr>ChiSq	**0.0007**	**0.0002**	**<.0001**	**0.0501**

*** 1% significance level, **5% significance level and *10% significance level

Note: The proportional odds assumption holds if the Chi-Square of the Score Test is not significant.

Standard Error reported in parentheses.

Comparing to the consumers living in the eastern regions of the U.S. and the rural areas, the odds of higher agreement for the southern regions and the urban areas are 0.5 times lower than for the combined effect of other levels of agreement, given all of the other variables in the model are held constant. Therefore, these consumers are less likely to place a value on buying directly from the local food producers.

Table 6.7: Odds Ratio Estimates of the Cognitive Legitimacy Models

	Odds Ratio Estimates			
Variable	Point Estimate QUAL	Point Estimate TRUPROD	Point Estimate HEALTH	Point Estimate SAFREQ
SECSHOP	1.247	0.880	1.200	0.785
MIDLEVEL	2.198	1.333	2.183	1.458
CORE	9.258	1.163	6.453	1.293
MALE	0.794	0.987	0.910	0.894
AGE	1.003	0.996	1.001	1.014
EDU	0.984	1.059	1.038	1.013
INCOME	0.997	1.000	0.996	1.000
URBAN	1.010	0.521	0.703	0.608
SUBURB	0.893	0.582	0.786	0.758
YRSRES	0.987	0.973	1.003	0.983
NORTH	0.932	0.730	0.946	1.086
SOUTH	1.138	0.548	0.956	0.977
WEST	1.160	0.714	1.084	1.053

In the third cognitive model (HEALTH), *MIDLEVEL*, *CORE*, *INCOME*, and *URBAN* were significant. Similar to the first cognitive legitimacy model regarding the quality and freshness of the local food, in this model consumers in the mid-level and core groups place a higher value on the health aspects of local food. The odds ratios for the mid-level and core groups are respectively 2.2 and 6.5 times greater than the periphery group. In this model, the *INCOME* variable was significant and negative, implying lower income consumers are placing a higher value on the benefits of local food for their health.

This is consistent with the results of Webber and Dollahite (2008) study, which found that low-income shoppers mostly care about the health of their families when buying food or considering whether to buy local options.

The results of the last cognitive legitimacy model (SAFREQ) show that *MIDLEVEL*, *AGE*, and *URBAN* were statistically significant. The odds ratio estimates imply that, comparing to the periphery group, the mid-level group is more likely to have a higher agreement on the safety of local food products. The *AGE* variable was positive and significant, implying older consumers are more trusting of local foods and view local foods as safer even without certification. Contrariwise, consumers in the urban areas are less trusting comparing to the consumers in the rural areas. Comparing to the rural group, the odds of higher agreement for the urban group are 0.4 times lower than for the combined effect of other levels of agreement, given all of the other variables in the model are held constant. Since the rural consumers are closer to the food production and agriculture, they may place a higher value on this cognitive legitimacy measure.

6.4 *Industry Legitimacy Results*

Industry legitimacy was examined along with the themes and issues of the importance of direct purchase from the local producers and the convenience of purchase from big-box stores. Table 6.8 presents the results of the industry legitimacy models. In the first model (DIRPUR), *MIDLEVEL* and *CORE* were the only significant variables. The results show that the mid-level and core groups are more likely to place a higher value on the direct purchase from the producer of the local food item. The odds ratios for

the mid-level and core groups are 2.4 and 7.6 times greater than the periphery group,

respectively (see Table 6.9).

Table 6.8: Cumulative Logit Results of the Industry Legitimacy Models

Variable	DIRPUR n=612	CONVPUR n=612
Intercept 5	-3.312	-2.949
Intercept 4	-1.451	-1.086
Intercept 3	0.477	0.368
Intercept 2	2.213	2.116
SECSHOP	0.048 (0.169)	0.021 (0.166)
MIDLEVEL	**0.875***** **(0.171)**	0.097 (0.165)
CORE	**2.032***** **(0.234)**	-0.231 (0.216)
MALE	-0.058 (0.163)	0.219 (0.160)
AGE	0.005 (0.004)	-0.007 (0.004)
EDU	0.035 (0.042)	**0.072*** **(0.041)**
INCOME	-0.002 (0.001)	**-0.004***** **(0.001)**
URBAN	-0.179 (0.201)	**0.552***** **(0.199)**
SUBURB	-0.217 (0.189)	0.230 (0.185)
YRSRES	-0.005 (0.015)	-0.012 (0.015)
NORTH	0.002 (0.235)	0.068 (0.231)
SOUTH	0.056 (0.222)	0.095 (0.218)
WEST	-0.105 (0.230)	0.039 (0.227)
Wald Pr>ChiSq	**<.0001**	**0.0088**
POM Pr>ChiSq	**0.0161**	**0.0027**

*** 1% significance level, **5% significance level and *10% significance level

Note: The proportional odds assumption holds if the Chi-Square of the Score Test is not significant.

Standard Error reported in parentheses.

In the second industry model (CONVPUR), *EDU*, *INCOME*, and *URBAN* were significant. For consumers with higher education and those who in the urban areas, the odds of higher agreement versus the combined effect of other levels of agreement are 1.1 and 1.7 times greater, given all the other variables are held constant, implying these consumers place a higher value on the big-box stores' convenience and lower prices for local foods. The *INCOME* variable was negative and significant, implying higher income consumers are less likely to buy from big-box stores. For higher income consumers, the odds of higher agreement versus the combined effect of other levels of agreement are 0.004 times lower, given all the other variables in the model are held constant. Unlike the other models, the *MIDLEVEL* and *CORE* variables are not significant in this model. It can be inferred that shopping from the big-box stores is not the main driver for the mid-level and core consumers that place a high value on local foods. They are recognized by the wider grocery community and they consider other values that are more important to them.

Table 6.9: Odds Ratio Estimates of the Industry Legitimacy Models

Odds Ratio Estimates		
Variable	Point Estimate DIRPUR	Point Estimate CONVPUR
SECSHOP	1.049	1.022
MIDLEVEL	2.399	1.103
CORE	7.630	0.793
MALE	0.943	1.245
AGE	1.006	0.993
EDU	1.037	1.076
INCOME	0.998	0.996
URBAN	0.835	1.737
SUBURB	0.805	1.259
YRSRES	0.995	0.987
NORTH	1.003	1.071
SOUTH	1.058	1.100
WEST	0.900	1.040

Chapter VII: Conclusions and Implications

This study provided one of the first and only empirical examinations of legitimacy, particularly with an application to local foods. We attempted to provide empirical measures of importance across different legitimacy types to help grocers and retailers that are trying to build stronger legitimacy as an asset or resource enhance their market share or their overcoming the liability of newness.

The legitimacy framework proposed by Suchman (1995) and later developed by Zimmerman and Zeitz (2002) was employed to create different legitimacy measures in the context of local food by considering four legitimacy types, regulatory, normative, cognitive, and industry. The cumulative logit model was used to analyze the data collected from the survey containing five-point Likert-type questions asking about consumer perspectives of local food, along with different shopping behavior questions. Measures created were certification, standard definition, employees fair treatment, environmentally friendly practices, supporting small farmers, advertisement and promotion, higher quality and freshness, trust the producer, health aspects, food safety requirements, direct purchase from the producer, and purchase from the big-box store.

It was revealed that the core group was more likely to place a high value on the most of the legitimacy measures. Comparing to the periphery group, consumers in the core group were approximately ten times more likely to believe that local foods are fresher, healthier, and have a higher quality than non-local foods. They also place a high value on certification and standard definitions of local food. In addition, the core and

mid-level groups are highly driven by the environmental aspects and are in support of small farmers and fair treatment of employees. The core group and to some extent the mid-level group are more likely to purchase directly from the producer of the local food item.

The lower income consumers are more concerned about certifications and are more driven by advertisements and promotions. Although quality and health aspects of local foods are important to the lower income consumers, they are more inclined to purchase local items from the big-box stores that are more convenient and provide items with lower prices. Although consumers in the urban areas place a high value on certifications, the standard definition of local food in terms of geographic distance is not an important factor to these consumers. Furthermore, the urban consumers are less likely to trust the producers. Therefore, direct purchase from the local food producer is not important in an urban setting and consumers in these areas prefer to purchase from the big-box stores.

At this point and the way that we collected the data and developed the model to be able to test our hypotheses, we do not have any evidence that would suggest, in most of the cases, the influence of other variables is significantly different from zero. Although we included the education and income variables and the core group that place a high level of importance on local food tends to be higher income and higher educated, there is no high correlation between these variables (see the appendix). One of the problems that always appear in regression analysis is multicollinearity. One way to avoid this problem is having a large sample size. In defense of this potential problem, we provided a decent sample size. Another way to handle the multicollinearity problem is to drop a correlated

variable. We ran the model with and without the education variable to be concerned about any education income effects.

The value or importance that the core and to some extent the mid-level consumers place on different legitimacy measures have important implications for the marketing, merchandising, and product positioning by marketers, grocers, and retailers that are selling products with local characteristics. Local food vendors and retailers could utilize four strategic courses, conformance, selection, manipulation, and creation to improve their sales and market share. For instance, regulatory measures are important for the core consumers and the grocery stores that are developing a branding or merchandising program and trying to communicate with the consumers that place a high value on certifications should convey to these consumers that the marketing of their products is legitimate. Therefore, a national or state branding program is an important key success factor for gaining legitimacy whether it is a recognized state proud or a regional branding program that provides third-party verification of the product being local.

In addition, certification is specifically important when the retailer is in an urban setting. These retailers depend completely on the direct to producer relationship, whether it is a state branding program or a licensing to use a farm state branded product. The geographic distance from the market that could be measured in food miles or state boundaries is also important to the core consumers. Nevertheless, consumers have a particular notion of how far a product is traveling to be a legitimate product. In this case, state brands might be more important than regional brands. Providing sufficient certifications and assuring consumers that products and production practices are

complying with the rules and regulations are examples of conformance strategies in order to achieve legitimacy.

Normative measures such as support of small farmers could be conveyed to the consumers by promotions, which communicate to the consumers, that the grocer or vendor is providing education for the small suppliers and is helping them toward a better lifestyle and higher income. This is different from the merchandising messaging that takes place inside the store. This is a message that consumers are looking for to show that the normative legitimacy measures are in place. Also, other normative measures are highly valued by the core consumers that place a high value on local products. Therefore, if retailers want to make an emotional value base connection with these consumers, they have to find a way to do that in their packaging, in-store presentations, and in any activities that they might have in the store. Promoting sustainability index, humanely treated certifications, and environmentally friendly production practices could help to attract these core consumers.

The cognitive measure that is related to the relationship with the producer is not important to the core group and the consumers in the urban areas. The reasoning behind it might be that in the urban markets, producers bring their products from somewhere else and the consumers are not sure if the products are truly local or aggregated with non-local products. On the other hand, the industry measure, direct purchase from the producer, is one of the most important effects for the consumers that value local food relative to the periphery group. The core consumers place a high value on being able to buy products directly from the producer, independent of trusting the producer and if the producer has required having a certification. It is more important to these consumers to have a

connection with the producer. Therefore, buying from the big-box store is not a major factor for the core consumers. They would rather buy directly from the producer than to have the convenience of big-box stores. Moreover, the culture of these big-box stores is different from the culture of shopping at the farmers' market, CSA or farm retail market. The urban markets place a high premium on convenience and access to the products. Since the convenience grocery store setting is important in urban areas, stores like Walmart, Kroger, and so forth could take advantage of it and reach the local food enthusiast. Contrariwise, in a rural community consumers are not valuing the convenience and lower prices. An example of a creation strategy to achieve legitimacy might be the Amazon Marketplace, which provides convenience and lower prices to this segment of the market by exercising new distribution practices.

This study is not without limitations. The first limitation of this study is that there are different legitimacy frameworks, many possible measures of legitimacy to utilize, and different ways to ask the questions relating to these measures. This is not an exhaustive list of legitimacy measures, we only picked a few of these measures, and future research may include other measures of legitimacy in different ways. In addition, there are different strategies that could be used for future research or apply it to different industries with different empirical tools.

The second limitation is that every state has its own branding program. The certifications, labels, and third-party measures of legitimacy could be powerful in one state like Kentucky with a strong Kentucky Proud brand. In other states that have a branding program for a few years, the value in state grown brands is near zero. However,

the opportunity is very rich to replicate this study in different states and evaluate specifically for consumer trust with a very specific brand.

The third limitation is the length of the survey and budget. Although a long survey could increase the response acquiescence, it helps to use more questions and expands the measures. Also due to a low budget for this study, we were not able to filter our respondents and focus on specific aspects of the measures.

Appendix: Pearson Correlation Coefficients

	X1n	X3m	X3c	X7m	X8	X9	X10	X11u	X11s	X12a	Z2n	Z2s	Z2w
Pearson Correlation Coefficients, N = 612													
Prob > |r| under H0: Rho=0													
X1n	1.00000	0.01318	-0.13961	0.29859	-0.04601	-0.04815	0.03919	-0.02356	0.00673	0.04406	0.00330	0.01376	-0.00783
		0.7449	0.0005	<.0001	0.2558	0.2343	0.3331	0.5607	0.8681	0.2765	0.9350	0.7341	0.8468
X3m	0.01318	1.00000	-0.34772	-0.09955	0.02383	0.06813	0.01295	0.00042	0.03957	0.00184	0.08496	-0.06364	0.08574
	0.7449		<.0001	0.0137	0.5562	0.0922	0.7492	0.9916	0.3284	0.9637	0.0356	0.1158	0.0339
X3c	-0.13961	-0.34772	1.00000	-0.13446	0.04627	-0.07209	-0.04300	0.01870	-0.04297	0.04406	-0.01055	-0.02412	0.02198
	0.0005	<.0001		0.0009	0.2531	0.0748	0.2882	0.6444	0.2886	0.2765	0.7945	0.5515	0.5874
X7m	0.29859	-0.09955	-0.13446	1.00000	0.03686	0.05648	0.21417	-0.05240	0.00469	-0.02362	0.00874	-0.05652	0.02915
	<.0001	0.0137	0.0009		0.3627	0.1628	<.0001	0.1954	0.9079	0.5597	0.8291	0.1626	0.4717
X8	-0.04601	0.02383	0.04627	0.03686	1.00000	0.15151	0.21406	-0.05513	0.03310	0.36213	-0.02198	0.02822	0.04088
	0.2558	0.5562	0.2531	0.3627		0.0002	<.0001	0.1732	0.4137	<.0001	0.5873	0.4859	0.3126
X9	-0.04815	0.06813	-0.07209	0.05648	0.15151	1.00000	0.37020	0.07124	0.02136	0.09251	-0.01949	0.00569	0.04794
	0.2343	0.0922	0.0748	0.1628	0.0002		<.0001	0.0782	0.5980	0.0221	0.6303	0.8884	0.2363
X10	0.03919	0.01295	-0.04300	0.21417	0.21406	0.37020	1.00000	-0.04842	0.10123	0.10478	-0.03849	-0.00065	0.03819
	0.3331	0.7492	0.2882	<.0001	<.0001	<.0001		0.2316	0.0122	0.0095	0.3418	0.9872	0.3456
X11u	-0.02356	0.00042	0.01870	-0.05240	-0.05513	0.07124	-0.04842	1.00000	-0.59388	-0.00975	-0.09902	0.04665	0.06703
	0.5607	0.9916	0.6444	0.1954	0.1732	0.0782	0.2316		<.0001	0.8098	0.0143	0.2492	0.0976
X11s	0.00673	0.03957	-0.04297	0.00469	0.03310	0.02136	0.10123	-0.59388	1.00000	0.03560	-0.00720	0.01688	-0.03138
	0.8681	0.3284	0.2886	0.9079	0.4137	0.5980	0.0122	<.0001		0.3793	0.8589	0.6768	0.4383
X12a	0.04406	0.00184	0.04406	-0.02362	0.36213	0.09251	0.10478	-0.00975	0.03560	1.00000	-0.01135	0.00884	-0.00863
	0.2765	0.9637	0.2765	0.5597	<.0001	0.0221	0.0095	0.8098	0.3793		0.7793	0.8273	0.8313
Z2n	0.00330	0.08496	-0.01055	0.00874	-0.02198	-0.01949	-0.03849	-0.09902	-0.00720	-0.01135	1.00000	-0.38160	-0.34018
	0.9350	0.0356	0.7945	0.8291	0.5873	0.6303	0.3418	0.0143	0.8589	0.7793		<.0001	<.0001
Z2s	0.01376	-0.06364	-0.02412	-0.05652	0.02822	0.00569	-0.00065	0.04665	0.01688	0.00884	-0.38160	1.00000	-0.41063
	0.7341	0.1158	0.5515	0.1626	0.4859	0.8884	0.9872	0.2492	0.6768	0.8273	<.0001		<.0001
Z2w	-0.00783	0.08574	0.02198	0.02915	0.04088	0.04794	0.03819	0.06703	-0.03138	-0.00863	-0.34018	-0.41063	1.00000
	0.8468	0.0339	0.5874	0.4717	0.3126	0.2363	0.3456	0.0976	0.4383	0.8313	<.0001	<.0001	

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