

**Meating their needs: A needs assessment of meat  
processing businesses in Minnesota**

by

Courtney VanderMey

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Dustin L. Pendell

## ABSTRACT

Livestock slaughter and meat processing operations play a key role in communities and are essential to small to medium-scale livestock producers. While agriculture and livestock processing are economically important to Minnesota, generating \$112 billion every year in total economic impact, there are not enough local processors to meet the growing demand for local product. Previous studies about the status of the meat processing industry found that meat processing business owners were planning to transition out of the industry, but many had not finalized a plan to make the transition. This is a concern to the industry as these businesses' services are relied upon by livestock producers and there are limited alternatives if a processing operation closes.

The overall goal of this thesis is to enhance stakeholder knowledge of resource awareness and usage of technical assistance opportunities among meat processing businesses and further work on the lack of transition planning. The specific objective of this thesis is to help identify the resource and technical assistance needs of small slaughter and processing businesses in Minnesota as they plan for the future of their operation. Transition planning is addressed through understanding meat processing business owners' status in terms of planning for the future transition of their business and to distinguish where processors turn to when seeking guidance through their businesses transition.

This thesis coincides with the "Solving the Meat Processing Bottleneck" (2022) study. The data were obtained through the Solving the Meat Processing Bottleneck Team's interview process. The resource needs of the current owners varied for each operation.

Some processors felt strongly that they would benefit from each of the categories studied while others did not feel they would benefit from additional assistance. Financial resources such as capital and grants were deemed to have the greatest need for more information. Alternatively, when asked which of the resources a newcomer to the meat processing industry would benefit from, they believed there was value in offering all types of assistance. This alludes to the notion that meat processing business ownership is a difficult industry to enter as a new business owner. Interview data about transition planning show that many processors have not planned for the transition of their business. Many noted that they hoped a family member would be willing to take over their business, but they were many years away from retirement.

The bottleneck in the meat processing industry has many facets, and by working to bolster the industry, processors can grow, and new processors can successfully enter the industry. In return, local communities' benefit and can continue to thrive through additional economic development. This information will direct future resource development in communities and through state and federal policy. By understanding the degree of program utilization and future need there can be purposeful development of programs that fund and deliver opportunities for meat processors.

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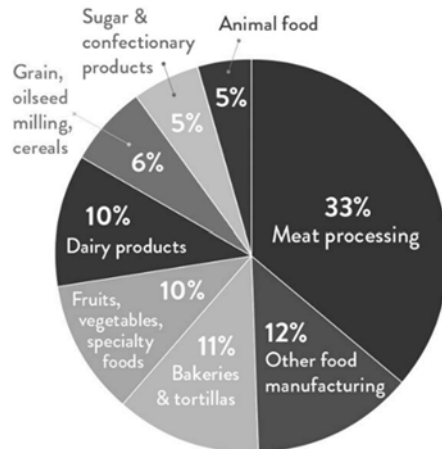
I would like to express gratitude to my supervisor, leadership at the Minnesota Department of Agriculture, and the “Solving the Meat Processing Bottleneck” team. Lastly, I would like to thank my major professor Dr. Dustin Pendell and thesis committee, Dr. Joleen Hadrich and Dr. Nathan Hendricks, for direction and expertise that helped me fulfill my MAB Thesis.



## CHAPTER I: INTRODUCTION

Agriculture and processing are a major part of Minnesota's economy, generating \$112 billion every year in total economic impact and employing nearly 431,000 individuals (Minnesota Department of Agriculture n.d.). In terms of livestock produced, Minnesota is in the top 10 for multiple species. This includes ranking 1<sup>st</sup> in turkeys produced, 2<sup>nd</sup> in hogs, 6<sup>th</sup> in red meat production, and 8<sup>th</sup> in cattle and calves (Minnesota Department of Employment and Economic Development n.d.). Livestock and livestock processing industries are important sectors to local and regional economies. As shown in Figure 1.1, meat processing attributes to 33% of agricultural products produced in Minnesota (Minnesota Department of Employment and Economic Development n.d.).

**Figure 1.1: Minnesota Department of Employment and Economic Development Food and Agriculture Report: Key Agricultural Product Produced in Minnesota**



Source: Minnesota Department of Employment and Economic Development

Livestock processing operations are an important part of local communities. Both livestock producers and consumers need them to remain viable, increase resiliency, and continue to grow. The COVID-19 pandemic magnified problems associated with livestock slaughter and meat processing. This industry includes processors of various sizes but is

dominated by several large companies. For instance, the four large meat processing companies have hold of 80% of the beef market (USDA 2021). Small plants typically are personally owned and operated and employ fewer than 10 individuals while medium-sized plants characteristically employ less the 500 individuals (Agricultural Utilization Research Institute 2014). It is critical that small-medium processing facilities be developed and continue to operate in all regions, both urban and rural, with an emphasis on expanded capacity near livestock producers to facilitate their success.

Consumer preference for local food continues to grow, and in response, livestock producers have expressed their desire to expand their operations to meet this demand (Minnesota Institute for Sustainable Agriculture 2020). Assistance through business development organizations, grants, and other resources are available, but they often are not directly targeted to meat processors and are seemingly under-utilized by much of the industry. The overall goal of this thesis is to better understand stakeholder knowledge of resource awareness and usage among meat processing businesses and further work addressing the lack of transition planning. The specific objective of this thesis is to identify the resource and technical assistance needs of Minnesota livestock processors, particularly as they consider business transitions.

Meat processing operations are often categorized by their inspection level which includes custom exempt, equal-to, and USDA inspected. Definitions for the inspection types are included in Appendix A. According to the Minnesota Department of Agriculture (2022), there are approximately 241 custom exempt plants, 53 equal-to plants, and 156 USDA operations in Minnesota. The USDA operation total is larger than anticipated as the total

includes retail exempt operations, such as grocery stores and markets, that further process meat that was processed at an equal to or USDA plant (Carr, Eubanks and Dijkhuis 2017).

Managing a successful meat processing business takes a significant amount of expertise beyond cutting meat. Business owners and management need expertise in regulations, financing, marketing, and more. The traditional route of moving up, from employee to business owner in a meat processing business can be difficult, as trainings for employees are often not targeted for developing a broad set of skills in business management. Through increasing stakeholder understanding of the current level of program awareness and need, there can be meaningful creation of programing to assist meat processors. These programs will fund and deliver opportunities for skill-development and provide access to technical assistance. Through these efforts, meat processors can overcome barriers to further business growth and market expansion.

Aspects of technical assistance that are important to consider include government regulations, employee health and safety regulations, financial resources, business plan development and maintenance, management of employees and business, product and business promotion, equipment maintenance, business strategy succession planning, and customer relations. Resources are available through a variety of sources. It is essential for owners of meat processing businesses to be able to access and understand the resources available to them. There are small business development centers across the state, but owners may forego assistance if they do not have the specific contacts or if utilizing the center is not simple.

The current labor market can influence a business' operational longevity and growth. Employee management and training resources, especially for slaughter and meat processing,

are limited for these high skill careers. Reliable and properly trained employees are needed but have been increasingly difficult to find and retain. In Minnesota, community colleges are developing six-month and two-year training programs for students interested in meat processing to respond to the labor shortage in the meat processing industry. It will be advantageous for educational institutions and stakeholders in the meat processing industry to develop resources that align and are accessible to the business owners needing labor and other forms of technical assistance.

Simply investing in production capacity in meat processing plants has not proven to be enough. Public investments in marketing plans and market development activities could be impactful for business growth in local and regional communities. With this notion, it is critical to direct efforts in a meaningful way. Development of local and regional markets for processors are necessary components of their long-term viability. Without this step, they simply will not be able to compete with the large meat processors that already control most of the market. This is crucial as the Minnesota Department of Agriculture seeks to enhance alternative markets including halal and kosher. There is increased demand for meat processed in accordance with halal and kosher methods. This provides an opportunity for farmers to enter a consumer-focused expanding market if there are processors available to meet their needs (Kagen , Olive and Draeger 2020).

The bottleneck in the meat processing industry is challenging, but by taking strides to strengthen the industry, businesses are given opportunities to succeed and grow. When these businesses succeed, local communities are positively impacted, and more money is circulated throughout local economies. Again, the aim of this thesis is to develop an understanding of the resource needs of livestock slaughter and processing facilities in

Minnesota as they plan for the future of their operation. Additional connections are made between their business's succession planning status and their level of interest in specific technical assistance resources targeted for meat processors. This will be accomplished through analysis of data from the "Solving the Meat Processing Bottleneck" project. This project was accomplished through a partnership of Minnesota Farmers Union, University of Minnesota Regional Sustainable Development Partnerships (RSDP, a part of University of Minnesota Extension), Minnesota Institute for Sustainable Agriculture (MISA), Minnesota Department of Agriculture, and other collaborators.

This thesis, through a review of the literature, background information, and data, frame a direction for further research and policy development for the meat processing industry. In Chapter II, a literature review highlights the status of the meat processing industry, existing work regarding resources and technical assistance, the status of transition planning, background information relating to need's assessments, and the contributions of this work. Next, Chapter III discusses the theory for this thesis and the conceptual model of a needs assessment. Chapter IV delineates the interview process background and further describes characteristics of the data set. Chapter V provides the results from the interview data and concludes with a discussion of the findings. Lastly, Chapter VI provides the conclusion and summarizes future recommendations for research and policy.

## **CHAPTER II: LITERATURE**

The meat processing bottleneck in the United States is a priority issue for the United States Department of Agriculture (USDA), the Minnesota Department of Agriculture (MDA), and other industry stakeholders. First, this chapter presents an industry synopsis of the status of the meat processing industry in Minnesota and the demand for local product. Next, a summary of work previously conducted regarding resources targeted to address growth and resiliency barriers to meat processing businesses is exhibited. Research regarding the lack of succession planning in the small meat processing sector is then highlighted. Trainings are noted showing the previous work performed on addressing technical assistance resource needs. This chapter includes a review of the utilization of needs assessments for analyzing resource needs. Lastly, connections are made between the findings in this study as they relate to previous work.

### **2.1 Meat Processing Status in Minnesota**

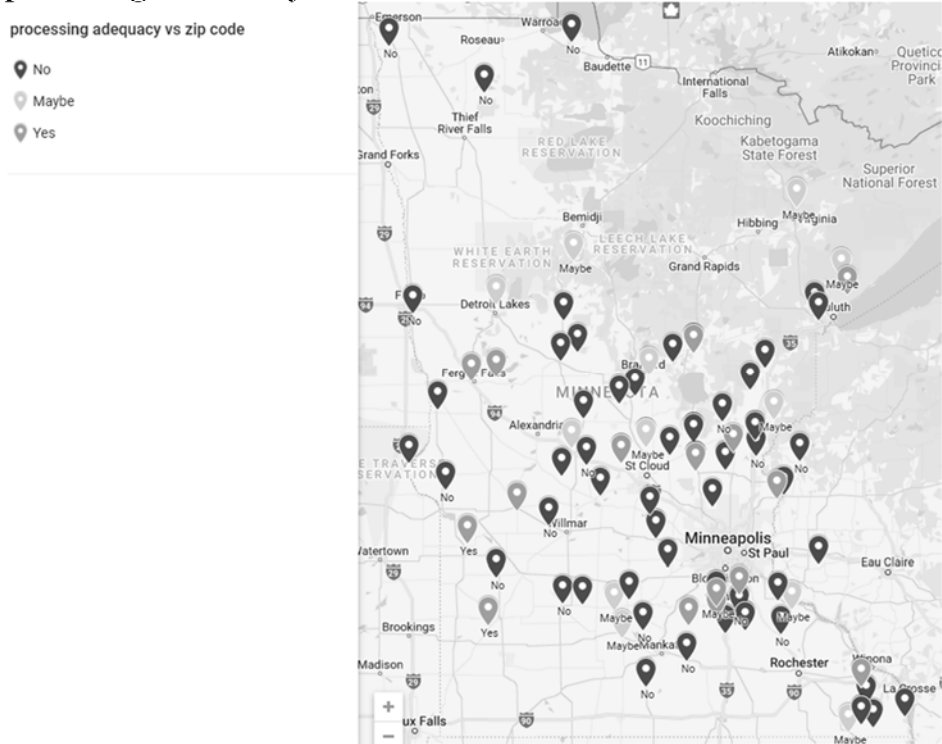
Limitations in small, local livestock slaughter and meat processing have been a concern across the United States for several years. In spring 2020, with the surge of the COVID-19 pandemic, livestock producers saw increased demand for local meat products. Livestock producers sought solutions to capitalize on the boost in demand for specialized products and increased number of consumers seeking local foods with known origin (Bir et al. 2021). This became difficult with the limited availability at equal-to and USDA inspected livestock slaughter facilities. The closure of many large meat processing plants in this timeframe, due to COVID-19, elevated the constraints.

In the study, “COVID-19 and Local Meat Processing in the Midwest: Challenges and Emerging Business Practices”, eight operators of meat processing businesses in the

Midwest were interviewed (Draeger et al., 2021). These businesses varied in type of processing but were considered small or medium sized, which was defined as having 500 or less employees. An association was made between the limitations to increasing demand for local meat products and the level of output by small and medium size meat processing operations. Through the interview process central themes were determined, in terms of business needs for the owners' interview. These include, "specialization and market segmentation, improved marketing and brand storytelling, and expansion into a new facility." These perspectives, while insightful, are limited by the lack of broad participation in the interviews from the industry. Therefore, it provides a generalization based on eight unique operations in the Midwest (Draeger, et al. 2021).

Early in the COVID-19 pandemic, the MISA's Local Food Resiliency Initiative surveyed livestock producers to understand their status as it relates to finding livestock processors. The study found that 64.5% of respondents believe that there was not enough processing availability in Minnesota prior to 2020. The geographical distribution of producers who believed that the level of processors in the state was inadequate was dispersed and no true geographic patterns emerged, as shown in Figure 2.1. This result was based on each respondent's perception of adequacy (Minnesota Institute for Sustainable Agriculture 2020).

**Figure 2.1: Local Food Resiliency Initiative survey results showing adequacy in processing availability**



Source: MISA

In 2013, the Minnesota Department of Agriculture sought updated information about the meat processing industry in Minnesota and information about the needs where funding could be advantageous. The Agricultural Utilization Research Institute (AURI) conducted the study which consisted of a survey and interview process. The focus was on very small and small processing operations, defined as less than 10 employees and less 500 employees, respectively. Categories were also established around the type of inspection and annual sales volume. The survey collected information from 67 small-scale meat and poultry processors and 37 of those processors were later interviewed (Agricultural Utilization Research Institute 2014).



## 2.2 Resources and Training

It is known that resources are needed to help the meat processing industry stay viable and have meaningful growth. Opportunities for assistance can come from numerous sources, such as universities, government, or trade organizations, but there is potential beyond those key groups. “Nonmarket actors” have the capability to develop technical support to enhance this industry. Nonmarket actors, defined in the article “Beyond the farmer and the butcher: Institutional entrepreneurship and local meat”, are individuals and organizations often from universities, public agencies, and nongovernmental organizations. According to Gwin and Thiboumery (2014), “Nonmarket actors foster innovation by facilitating connections and peer-to-peer learning not only between livestock producers and processors but all along local meat supply chains” (p. 82).

The need for continuing education in the meat processing industry has been identified as another area for additional stakeholder engagement. The AURI (2014) study stated, “Ongoing training is essential to ensure safety, legal compliance, and applying new processing techniques” (p. 26). Resources that would be of value include assessments and growth in supply and demand, assisting the implementation of training programs, technical assistance towards succession programs, and addressing other limitations (Agricultural Utilization Research Institute 2014). A variety of topics were outlined but pointed to the need to understand topics of importance and urgency. Gwin and Thilboumery (2014) reported similar findings; “Targeted technical assistance training on a range of topics, from food-safety regulatory compliance to order and inventory management, can help build capacity” (p. 92).

### **2.3 Business Transition Status**

In a survey conducted by AURI, they found that the lack of succession planning by an aging industry ownership group is a major concern for the future of this industry. The study found that 65% of respondents were 51 years of age or older, 68% did not have a formal successions plan in place, and 70% of succession plans would need to be undertaken within 10 years. If meat processing businesses do not address succession, this can negatively affect local economies (Agricultural Utilization Research Institute 2014).

The future of the industry depends greatly on a new generation of owners. Succession plans outline the process in which a business will transition to the next owner. This includes legal and financial means, in addition to skills and other intangible aspects. Smith (2010) noted that more small businesses would still be in operation if a succession plan was implemented. Smith highlighted that the implications of not creating a succession plan are: “a loss of expertise and business knowledge, shifts in economies of scale, loss of jobs in communities, loss of business continuity, damaged client relationships, time and effort to recruit and train replacement employees” (p. 46). These businesses are essential to rural economies; therefore, their future longevity is imperative (Smith 2010).

### **2.4 Needs Assessment**

A common theme that emerged is the involvement of processors is finding industry solutions. It is important to not assume the needs of business owners in the meat processing industry. USDA’s Agricultural Market Service (AMS) published a report assessing the public investment in local meat and poultry processing. The report focuses on the results of a variety of AMS’s grant offerings and provides seven key lessons. The second lesson in the report highlights that all related partners including existing processors should be

“consulted and engaged” in the project’s development. This sentiment is also outlined effectively by Gwin and Thilboumery (2014), “While the underlying motivation is to increase opportunities for producers and consumers related to local meat and poultry, the collaborators have realized the importance of working directly with processors to solve processors’ problems” (p. 84). This sets the groundwork to the advantages of a needs assessment.

Needs assessments are valuable in determining industry needs in the food processing industry as noted by Barron (2009). Needs assessments serve as a guide to create strategies to provide effective technical assistance. As further stated in the case study, the use of “direct industry information”, regardless of the sample size in their case, was still relevant in the creation of a plan for technical assistance programing. Through their work, Barron (2009) was able to pinpoint barriers in the food industry including product development, lack of capital for growth, employee training, limitations for co-packing, etc. They were also able to gauge meat processors’ interest level in offered trainings (Barron 2009). Direct feedback will make strides towards addressing shortfalls, as well as reduce time in unnecessary program development.

Needs assessments data, collected systematically through ratings, rankings, and general dialogue increases the valuation of the of the model. For example, Syrko and Kaylegian (2015) developed a needs assessment for the dairy foods industry in Pennsylvania. The assessment was utilized to “determine gaps” and offer direction for future training needs. They utilized various question layout methods including single-choice, multiple choice, Likert scaled-response (e.g., 1 = not very interested to 5 = very interested), and open-ended questions. When developing questions for a needs assessment,

delivery strategies should be considered. Having a statement assessed against itself in terms of importance as well as reviewed against the collective group give a well-rounded perspective.

## **2.5 Future Contribution**

The United States has had a bottleneck in the meat processing industry for several years. However, each geographical location is unique and thus it is beneficial to obtain insights from specific states and regions. This work serves as a resource to understanding the needs of current meat processors in Minnesota to identify what current operators think is needed for others entering the industry. This further serves as a continuation to the reports regarding succession, providing a status update, and contributing insight to potential future work to address a transitioning industry. The conclusions obtained in this analysis lay the groundwork for a broader needs assessment. Additional considerations can be made between owners regionally and by business type. For example, an equal-to operation and a custom plant may both need equipment for expansion, but their needs in terms of business strategy would potentially be different as they are catering to different markets.

## **CHAPTER III: THEORY AND CONCEPTUAL MODEL**

This chapter is organized into two main sections. First, this chapter outlines the theory regarding the use of resources and technical assistance in the meat processing industry. Next, a detailed outline of the conceptual framework of a needs assessment including the definition, three phases, and limitations. This chapter then addresses the goals of this thesis and how this thesis will impact gaps in the meat processing industry.

### **3.1 Theory**

The theory for this thesis centers around confirming that the “if we build it, they will come” hypothesis is not applicable to the meat processing industry. The intention of this work is to affirm that just because the information or assistance is available does not mean it will be utilized (Markus and Keil 1994). The lack of success in projects based on “if we build it, they will come” for new businesses, is referenced by Gwin and Thistlethwaite (2019) in lesson four of their summary. Resource development and implementation can be costly; therefore, it is important to have background knowledge when developing technical assistance programming and other resources. Once the needs of the livestock slaughter and meat processing industry are known, resources can be intentionally developed or further marketed. Additionally, if livestock slaughterers and processors are unaware of current programs, program developers and policy makers need to reassess their delivery and marketing methods.

### **3.2 Conceptual Model**

The conceptual framework of a needs assessment can be outlined by three phases: preassessment, assessment, and post-assessment. These phases happen in stages, purposely sequenced, and are meant to create a framework for change. While the developer of a needs

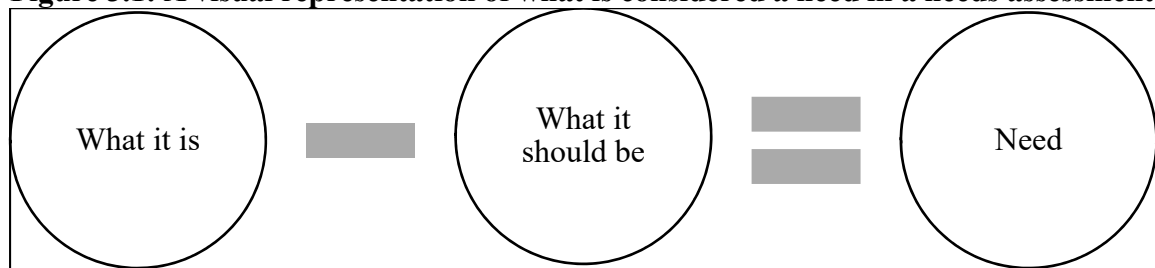
assessment may move on to a subsequent phase, they can revisit as new priorities are understood (Altschuld and Kumar 2009). This thesis utilizes data from the assessment phase to make recommendations in the post-assessment phase. Future research could return to the preassessment phase and replicate the process.

The beginnings of the needs assessment model were developed by Witkin (1984) but was advanced into a systematic model by Witkin and Altschuld in the early 1990s. Since that initial publication, progress has continued to elaborate on the three phases, adding resources, and modernizing the original framework (Altschuld and Watkins 2014).

### 3.3 Defining Need

A need is considered a gap connecting current conditions to desired outcomes. Another manner to convey the definition would be to compare the status of what you are assessing, to what it should be (Office of Migrant Education 2001) (Figure 3.1). In the case of the meat processing industry, gaps would be considered the various bottlenecks in the industry. This includes the lack of diversification, limited capital, shortage of a consistent workforce, the variability of livestock production levels, and unknown market potential (Draeger, et al. 2021). It is important to remember that the need is not the current conditions or the future goals, but the essential missing puzzle piece to get the ideal status.

**Figure 3.1: A visual representation of what is considered a need in a needs assessment**



### 3.4 Defining Needs Assessment

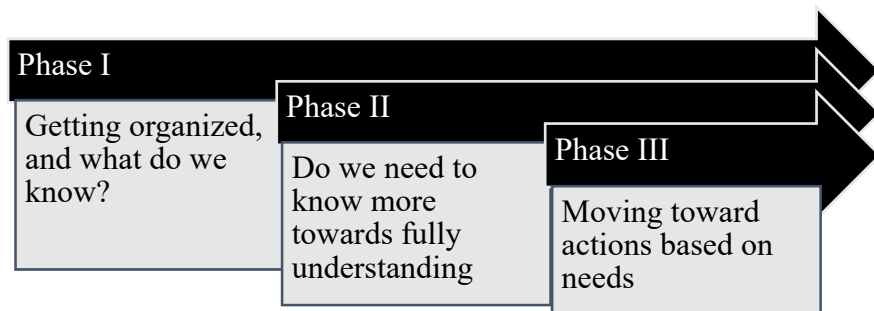
A needs assessment is a tool to create an actionable plan for change (Figure 3.2). In Altschuld and Kumar's *Needs Assessment: An Overview*, they define a needs assessment as, "the process of identifying needs, prioritizing them, making needs-based decisions, allocating resources, and implementing actions in organizations to resolve problems underlying important needs" (Altschuld and Kumar, 2009). Needs assessments are commonly undertaken by organizations, such as community or government agencies and businesses, but can be done by small groups or individuals.

**Figure 3.2: Summary of a needs assessment**



A summarization of each phase in the three-phase model is described below as detailed in *Needs Assessment: An Overview* (Altschuld and Kumar, 2009). Figure 3.3 presents a visual representation of these phases.

**Figure 3.3: The three phases of a needs assessment as outlined in *Needs Assessment: An Overview***



(Altschuld and Kumar 2009)

### Phase I: Preassessment

The preassessment phase of the needs assessment focuses on organizing known information and determine the scope of the assessment. In this phase, members assisting with resources and knowledge are determined. Additionally, main concerns will be established in terms of why the needs assessment is taking place. Key pieces that are established at the end of Phase I are a literature or knowledge review, an understanding of potential gaps and limitations, and a structured tool to collect results gathered in Phase II.

### Phase II: Assessment

The assessment phase takes the work from Phase I and proceeds to implementation of the assessment tool. The assessment tool, usually a survey method, is utilized to collect information. Examples include interview(s), focus groups and/or surveys. Data points are collected at this phase. Phase III can begin once enough information has been collected and some reasoning for the needs is known. This information will assist in guiding solutions to act on in Phase III.

### Phase III: Post assessment

Phase III, a post assessment, takes the information from Phase I and II and develops a plan to resolve the large need. In this phase, results are summarized, and solutions are identified to target areas of need. An evaluation of the process should be conducted to ensure the assessment methods are documented and repeatable for future assessments.

## **3.3 Limitations**

There are various limitations to needs assessments. A common constraint is that a needs assessment is a time-consuming process. The full scope of an issue may be narrowed to adequately address a portion in a set timeframe. A lack of capital and personnel devoted



to the needs assessment can be limiting for achieving the intended analysis. The three-phase model and process are adaptable to the user's situation therefore, guidelines for needs assessments can be adjusted based on available resources.

### **3.4 Needs Assessment Addressing Gaps in Meat Processing Industry**

The aim of this thesis is to develop an understanding the resource needs of livestock slaughter and processing facilities in Minnesota as they plan for the future of their operation. Industry gaps are considered in the preassessment phase through the development of the interview questions and processes. The gaps analyzed in the "Solving the Meat Processing Bottleneck" project were labor recruitment and retention, business growth, and business transition. The responses from the individuals interviewed are consistent with the assessment phase and relates back to the goals of this thesis. The objectives are achieved by analyzing the interview data for trends and consistencies based on the ratings and ranking of resources. This information will be utilized in the post-assessment phase to make recommendations and create programs to further solve the bottlenecks in the meat processing industry.

## CHAPTER IV: INTERVIEW BACKGROUND & DATA

In this chapter, background information is provided on the development of the interview, the interview process, and the demographics of the processors interviewed and their operation. The data utilized for analysis are obtained from an interview process organized by the *Solving the Meat Processing Bottleneck* team which partnered with Minnesota Farmers Union, RSDP, MISA, Minnesota Department of Agriculture, and various other supporting organizations and individuals. The project titled, “Solving the Local Meat Processing Workforce Bottleneck”, is ongoing as they assess the labor issues associated with the bottleneck in the meat processing industry specifically in Minnesota. This phase of the group’s work focuses primarily on processors that conduct slaughter, with a few exceptions. The entirety of the interview focused on the issues related to the lack of labor, inadequacy of available slaughter appointments, limited continuing education, and minimal business development opportunities. These are considered gaps to the meat processing industry. This study focused on the portion regarding business development resources.

### 4.1 Pre-Interview Background

The *Solving the Meat Processing Bottleneck* project team developed the interview questions through discussion with industry leaders and meat processing workforce reports. Questions reflected both meat processing and entrepreneurial knowledge and skills. Key information from the entrepreneurial list of knowledge, skills, and resources for operating a meat processing business are available through Minnesota Small Business Development Centers and Summary Reports from O\*NET Online.

The interviewee selection process began with a list compiled of livestock processing businesses in Minnesota. This list was generated from website listings of processors provided to the public by the Minnesota Department of Agriculture and the USDA. Next, business owners are randomly selected within their region. Regions are based on regional bounds designated by the RSDP as shown in Figure 4.1 with the addition of a metro region (University of Minnesota Extension n.d.). The *Solving the Meat Processing Bottleneck* project team set parameters to the minimum number of interviews in each region. This was developed to ensure a balanced representation of Minnesota meat processors regionally based on the total number of licensed processors in each region.

**Figure 4.1: The five Regional Sustainable Development Partnerships regions in greater Minnesota**



Source: RSDP

Selected processors were mailed a project summary letter informing them of the project and that they would be contacted to schedule an interview.

## 4.2 Interview

The interview project was led by the *Solving the Meat Processing Bottleneck* group. The full interview consisted of 24 questions. The questions were an assortment of rating, ranking, multiple choice, and open-ended questions. This thesis focuses on questions 17 through 24, which are included in Appendix B. The interviews were conducted between November 1, 2021, and April 17, 2022, by the *Solving the Meat Processing Bottleneck* project team members. Overall, each interview averaged one hour in length. Interviews were conducted by phone, Zoom video call, or in-person at the processor’s facility or a community meeting place.

Responses, collected from the interview data, include the succession planning status and level of interest in specific types of business or technical assistance resources targeted for meat processors. The succession planning status is the stage the business or business owner is in regarding planning their retirement, transitioning to the next generation of ownership, or next phase of their business. The level of interest in specific resources was determined by a Likert rating scale. Each type of technical assistance was rated on a scale of one through five where one was interpreted as “a great need for more information and programing” and five was considered to mean “no need for further information” (Figure 4.2). The full list of resources is included in Appendix B questions 21 and 23.

**Figure 4.2: Rating scale for the level of interest in each business assistance program type**

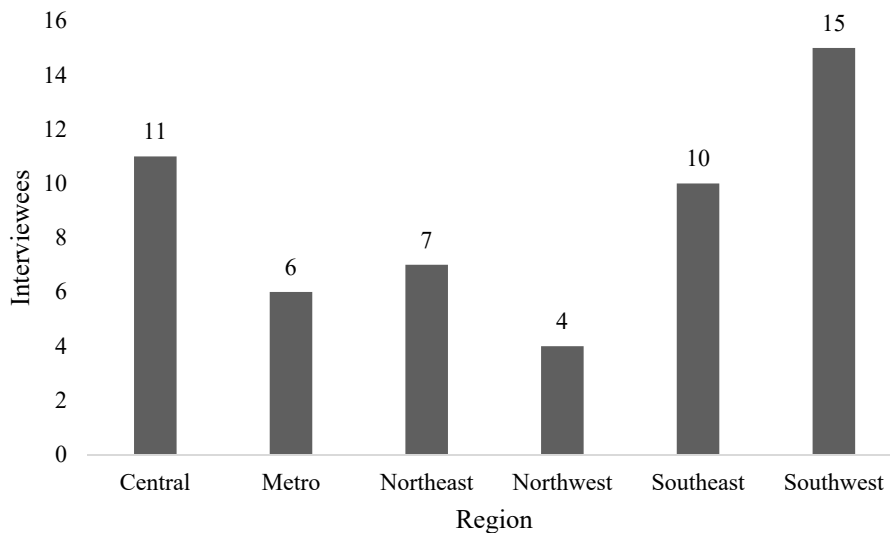
1	Great need for information
2	
3	Somewhat need for information
4	
5	No need for information

### 4.3 Interviewee Demographics

The interview process had 57 participants, of which 53 of the interviews are included in this analysis. Four participants choose not to answer any questions relating to this thesis (questions 17-24); therefore, they were not included in the total. There are varying response totals to each question as some individuals chose not to answer one to three questions in this study.

Overall, there are fewer processors in the metro region and the northern half of Minnesota. This is reflected by a larger proportion of operations interviewed being in the southeast or southwest region. Figure 4.2 displays the number of interviews per region that were included in the analysis.

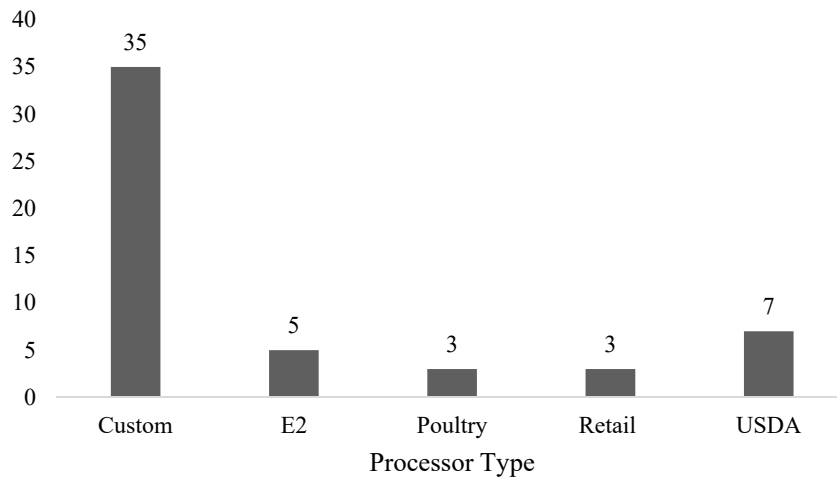
**Figure 4.3: The number of interviews conducted per region by the *Solving the Meat Processing Bottleneck* project team**



Meat processing businesses are classified under five categories, based on their level of inspection, for the purpose of this analysis: custom exempt (custom), equal-to (E2), USDA, poultry, and retail exempt (retail). Definitions for the inspection types are included

in Appendix A. The categoric information was obtained from the Minnesota Department of Agriculture and the USDA's websites. In this interview process, there were the following totals per business category: 35 custom, five E2, three poultry, seven USDA, and three retail as exhibited in Figure 4.4.

**Figure 4.4: Number of interviews based on processor type**



#### **4.4 Limitations**

This sample reflects roughly 15% of the population of meat processor in Minnesota and represents a greater percentage of processors that conduct livestock slaughter. One limitation to the interview process was when an interviewee did not have internet access or strong computer proficiency. A computer and internet access were not required to participate. Communication with the processor during the initial scheduling tended to be more successful if they had internet access. This limitation was addressed by offering pre-interview documentation via mail.

## **CHAPTER V: RESULTS**

The results reflect both quantitative and qualitative information concluded from the interviews. This chapter begins with the results from the rating of potential resources for meat processing business owners and their thoughts on the needs of a new individual entering the industry. The rating results are presented for resources receiving the greatest percent of individual interviewees ratings as a one or five for the resource. One was interpreted as “a great need for more information and programing” and five was considered to represent “no need for further information.” This is done for the current operator needs results and new owner needs results. Next, the means of each resource are compared to the other resources in each ownership level category: current owner needs versus needs for a new owner. Then the means are compared across ownership level, reflecting how the results for the current owner compare to their opinion on new owner resource needs. An interpretation of these results along with discussion regarding responses to where processors receive business planning and funding assistance is provided. Business transition status results are then presented. The themes are further discussed regarding the operator’s timeline to transition their business and what resources they are aware of for a business transition. Lastly, recommendations based on the business transition results are outlined.

### **5.1 Resource Needs**

A major segment of the interview process focused on resource or technical assistance needs. This included the level of interest in specific types of technical assistance resources targeted for meat processors. The level of interest was rated on a Likert scale between “1 - great need for information” to “5 - no need for more information” which is considered the level of need. Each item was rated independently. Owners were asked to rate each resource

set based on if they would benefit, as well as, if a newcomer to the industry or if someone taking over their operation would benefit from additional resources.

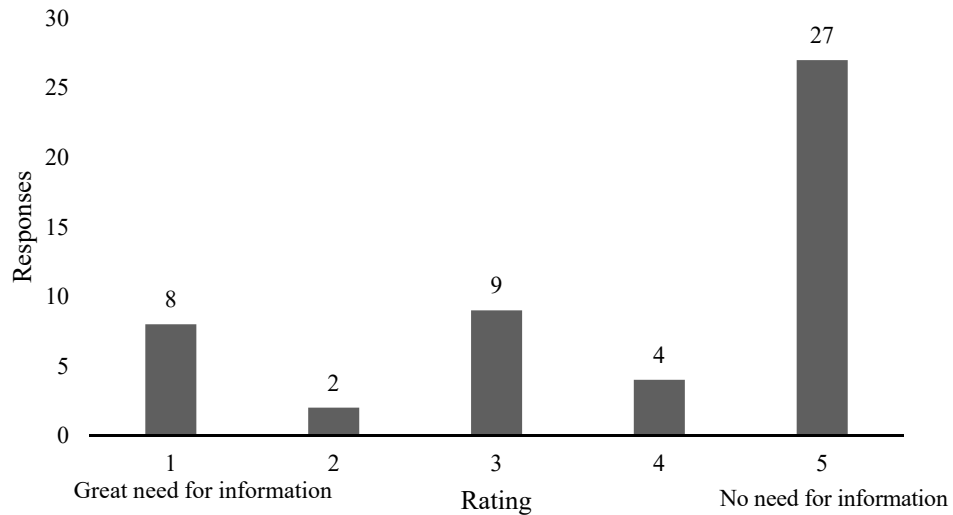
#### 5.1.1 Current Operator Needs

For the resource types, listed in Appendix B, the interviewees were asked their opinion on their level of benefit. The results exhibited no overwhelmingly strong consensus. Two categories, financial resources such as grants and capital and management of employees and business, received a larger need response. This greater need determination is in comparison to the other resource categories rated in the interview process and was determined by the proportion of interviewees designating a rating of “1- great need for more information”. Thirty eight percent (20) of interviewees rated financial resources: grants and capital as “1 - great need for information” and 28% (15) rated management of employees as “1 - great need for information”. The standard deviations for these resources were relatively high at 1.45 and 1.54, respectively. This supports that there is substantial variation in the responses around the means for these resources. Alternatively, two resources stood out with the most ratings of a “5 - no need for information”. Customer relations received 54% (27) and equipment maintenance 42% (22) responses of “5 - no need for more information”. Again, the standard deviations vary from 1.31 (equipment maintenance) to 1.53 (customer relations). Figure 5.1 demonstrates the response for the need for customer relations resources.



While the majority rated customer relations as a “5 – no need for additional information”, there is a fair number of responses for the other rating categories.

**Figure 5.1: The number of responses for each rating for customer relations resources for current owners**

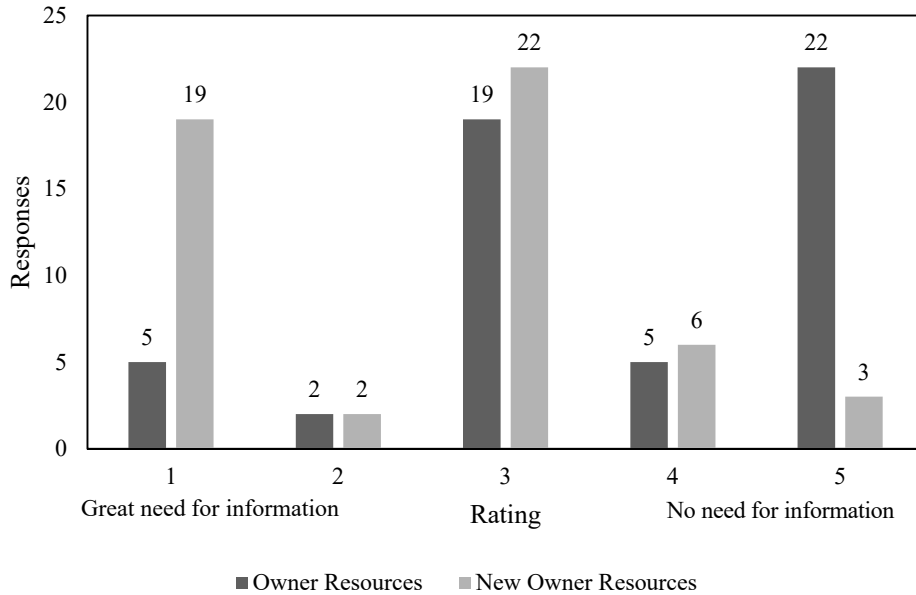


### 5.1.2 New Operator Needs

Current operators were asked their point of view on resources a new operator would need. This was conducted through the same Likert rating system as their own resource needs. The resources that the interviewees believed a new processor would benefit the most, determined by the number of interviewee’s rating the resource a “1 - Great need for more information” includes government regulations, regulatory considerations, inspection, HACCP at 70% (37), business strategy planning, business growth, and succession at 70% (37), and customer relations at 66% (35). Financial reports, business strategy planning, business growth and succession and business plan, development, and maintenance had the greatest consensus among the participants with low standard deviations of 0.78, 0.82 and 0.86, respectively. This indicates that these categories have the least amount of variation

around their means of 1.56, 1.51 and 1.69, respectively. Equipment maintenance was deemed the least beneficial on average (mean of 2.46) as shown in Figure 5.2.

**Figure 5.2: The number of responses for each rating for equipment maintenance resources**



### 5.1.3 Current versus New Owner Comparison

The means of each resource type for the owner and their perception of the needs of a new owner are shown in Table 5.1. The table is sorted by the mean difference column. The mean difference is the owner result minus the new owner result for each resource. The owner results in every case are the higher number; therefore, the difference reflects how much more they feel a new operator would benefit compared to themselves based on the average response for each resource type. For example, the mean difference for customer relations is 2.16, which reflects that the owner does not need resources on the topic, but they strongly believe a new entrant to the industry would benefit.

**Table 5.1: Means and standard deviations for business resource categories ratings in the *Solving the Meat Processing Bottleneck* project**

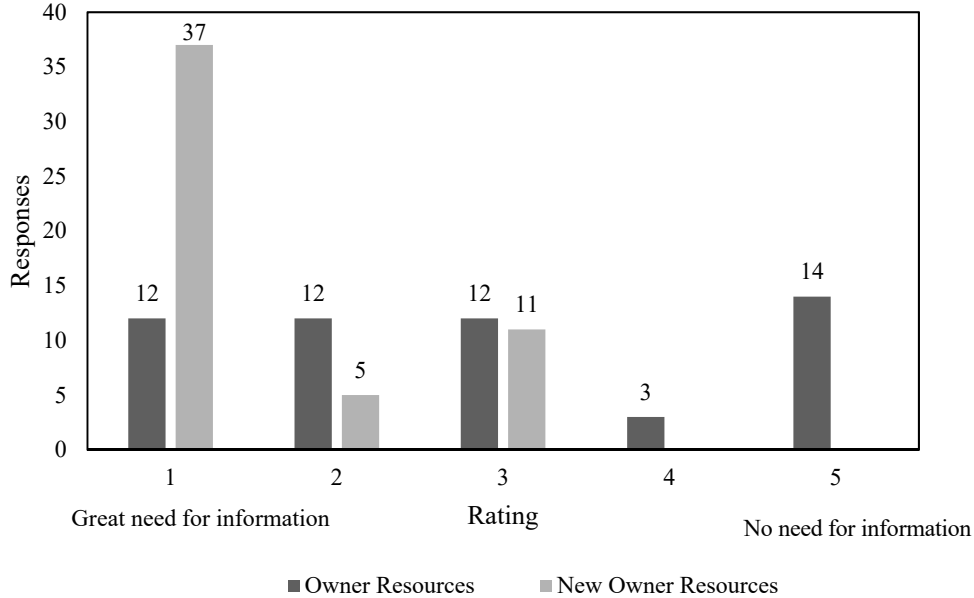
<b>Type</b>	<b>Owner Mean</b>	<b>Owner StDev</b>	<b>New Owner Mean</b>	<b>New Owner StDev</b>	<b>Mean Difference</b>
<b>Customer Relations</b>	3.8	1.53	1.64	1.04	<b>2.16</b>
<b>Business Plan, Development, and Maintenance</b>	3.3	1.45	1.69	0.86	<b>1.61</b>
<b>Financial Reports</b>	3.17	1.54	1.56	0.78	<b>1.61</b>
<b>Government Regulations, Regulatory Considerations, Inspection, HACCP</b>	3.08	1.41	1.58	1.03	<b>1.5</b>
<b>Employee Health and Safety Regulations</b>	3.34	1.52	1.92	1.12	<b>1.42</b>
<b>Business Strategy Planning, Business Growth and Succession</b>	2.91	1.51	1.51	0.82	<b>1.4</b>
<b>Equipment Maintenance</b>	3.7	1.31	2.46	1.26	<b>1.24</b>
<b>Management of Employees and Business</b>	2.91	1.54	1.68	1.01	<b>1.23</b>
<b>Legal - Business Organization, Intellectual Property</b>	3.23	1.28	2.3	1.03	<b>0.93</b>
<b>Financial Resources (Capital, Grants)</b>	2.55	1.45	1.7	1.01	<b>0.85</b>
<b>Product and Business Promotion (Marketing)</b>	3.09	1.47	2.3	1.14	<b>0.79</b>
<b>AVERAGE</b>	<b>3.19</b>	<b>1.45</b>	<b>1.85</b>	<b>1.01</b>	

The level of benefit means from the owner’s perspective for the resource types ranged from 2.55 (Financial Resources) to 3.80 (Customer Relations). The average for the owner resource results is 3.10, which aligns with “3 - somewhat need for more information” on the Likert scale. The means for their perception on what a new individual in the industry would need ranged from 1.51 (Business Strategy Planning, Business Growth and Succession) to 2.46 (Equipment Maintenance) with an average of 1.85. On average most resource for a new owner were perceived to be between “1 - great need for more information” and “3 -

somewhat need for more information”. When looking to the standard deviations there is greater variation in the owner’s needs results compared to the results around the perception of resources a new owner would need. The average standard deviation for the owners’ needs is 1.45 while their perception of the new owner resource needs average standard deviation is 1.01.

The results specifically around business strategy planning, business growth, and succession are a clear example of the spread among owner resources and the consistency in new owner resources. Figure 5.3 shows the responses to the business strategy planning, business growth, and succession resource need ratings for both the results regarding the owner resources and new owner resources.

**Figure 5.3: Count of ratings for business strategy planning, business growth, and succession resources for the current owners and their opinion of new owner needs**



While 23% (12) interviewees said they would benefit from resources regarding business strategy planning, business growth, and succession, 23% (12) said they would somewhat benefit, and 26% (14) stated they would not benefit. Alternatively, 70% (37) of

interviewees responded that a new owner would benefit from resources pertaining to business strategy planning, business growth, and succession and none of the interviewees rated this resource need a four or five for a new operator.

The claim regarding consistency in the distribution of responses can be made among all the resources. This determination was made by administering a two sample means t-test for the resource type with the least variation between the current and new owner ratings. The resource “Product and Business Promotion (Marketing)” is the most similar when comparing the rating means. The difference between the current and new owner rating is 0.79. A null hypothesis is that there is no significant difference between the ratings of the current owners needs and what they determined as the needs of a new owner. Therefore, the alternative hypothesis is that there is a significant difference between the ratings of the current owner in comparison to their perspective on new owner resource needs. A t-test was performed for two sample means resulting in a p-value of 0.00022 as shown in Figure 5.4.

**Table 5.2: t-Test Results Product and Business Promotion Sample Means**

	<i>Owner Results</i>	<i>New Owner Results</i>
Mean	3.0943	2.3019
Observations	53	53
t Stat	3.7554	
P(T<=t) one-tail	0.0002	
t Critical one-tail	1.6747	

The p-value is less than 0.05 and is statistically significant. The interpretation of this result is that we reject the null hypothesis and accept the alternative hypothesis that there is a

significant difference between the ratings of the current owners and the rating, or the resource needs of a new owner as perceived by the current operators in the industry.

## **5.2 Resource Needs Discussion**

The rating results, for the interviewees, show that additional resource needs are dependent on varying business and individual circumstance. The theory “if we build it, they will come” hypothesis is not supported. The even distribution highlights that some processors may benefit, while others would not utilize and would not seek out information around a program regarding the specific topics. Additionally, some processors may be reluctant to utilize any assistance. Of the resource needs studied, grants and capital are of interest to the highest proportion of operators.

There is a strong consensus that a new business owner would benefit from most of the resources. This exemplifies the notion that this is a difficult industry to enter. HACCP plans were a key theme and were noted as a “difficult” process when starting out. This process was eased in some cases by the interviewee’s relationship with their inspector.

Resource awareness and sources of resource opportunities were a point of interest. Resource awareness questions were open-ended allowing for interviewees to provide multiple conversational responses. When asked “where do you get business planning assistance?”, common responses included their banker at 26% (14), accountant at 25% (13), attorney at 11% (6) and economic development centers at 11% (6). Nearly 30% (16) specifically mentioned that they rely on a family member for business planning or personally handle business planning. Three individuals mentioned they had an industry mentor. Next, they were asked “Where do you find funding opportunities?” Not surprisingly, their banker was the top response with 53% (28) of interviewees mentioning they would reach out to their

bank. Economic development centers were mentioned by 15% (8) as another key resource for funding. Additionally, 32% (17) of interviewee's had either received a grant from the Minnesota Department of Agriculture or were aware that the Department had grants available to them.

### **5.3 Resource Needs Recommendations**

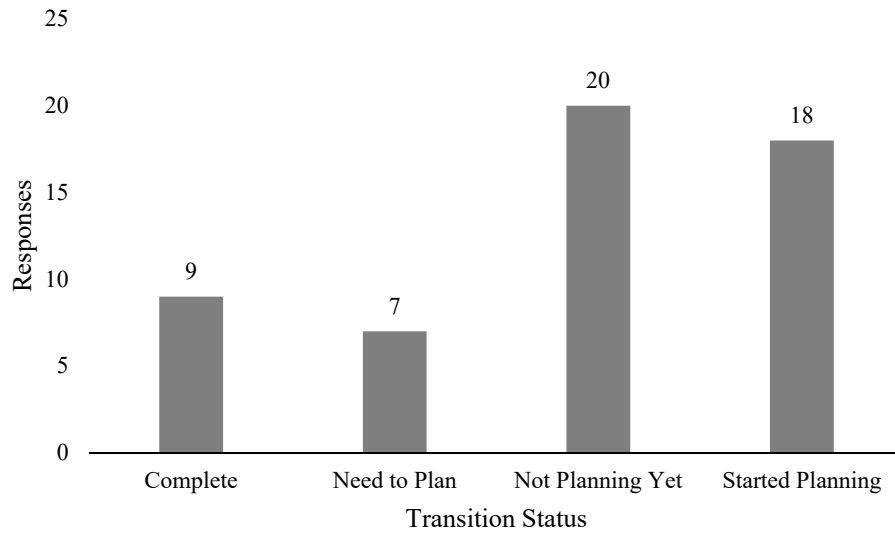
The results obtained in this needs assessment lay the groundwork for a broader needs assessment. One example would be an assessment focusing on understanding why numerous custom exempt plants do not consider moving into equal-to or USDA inspection. This in turn is limiting the number of sales of local meat through retail counters and processors that are available to local livestock producers who have the desire for direct market sales of the meat products.

### **5.4 Business Transition**

Business transitions often require planning and resources. Communities have individuals or organizations to assist in a business's transition. This portion of the needs assessment was developed to provide insight into the status of the industry regarding business transitions. It is also to inform stakeholders to what resources are known, used, and to what extent by business owners in the meat processing industry.

The business owners were asked to identify their current business transition status. The results are shown in Figure 5.4.

**Figure 5.4: Responses to “What stage of planning are you in for transitioning your business to a future owner?”**



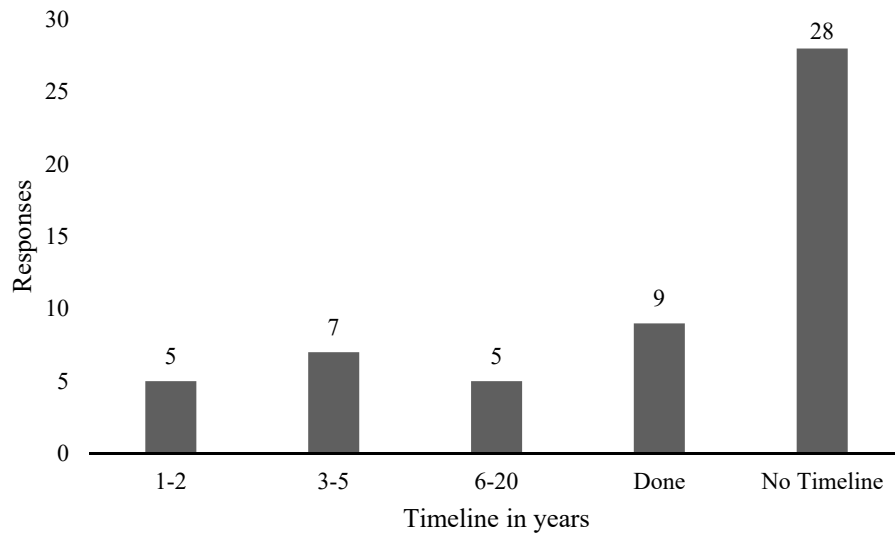
Of the responses, 17% (9) of the business owners had completed their transition plan. The transition was considered complete if they had a formal plan in place. In some cases, the business had already transitioned, and the new owner was actively involved in the business. Of those who had completed their transition plan, six were transitioning their business to a family member. Of those interviewed who had not completed their transition plan, 13 expressed interest in transitioning their operation to a family member. Family and working together during a transition became apparent as key themes. A few of the interviewees had both parties, new and previous owner, participating in the interviews. Of all the interviewees 11% (6) expressed interest in assisting the new owner through the transition of their business.

Next, the interviewees were asked “How many years do you need to implement your plan, what is your timeline to complete your transition plan, and do you know what resources are available to you to help you plan for the future transition of your business?” This question was considered an open-ended question. Results were organized in accordance with the



earliest they would plan to transition their business if a timeframe range was declared rather than a single number. The data was represented as “No Timeline” if they did not indicate a timeframe or “Done” if their transition was complete. The results for the timeline of their business transition are displayed in Figure 5.5.

**Figure 5.5: Responses to “How many years do you need to implement your transition plan or what is your timeline?”**



Of the respondents, 53% (28) had no timeline and 23% (12) plan to transition or exit the industry in the next 1-5 years. This resembles the 2014 AURI study which found that 65% of owners were over age 51 and 68% had no succession plan in place (Agricultural Utilization Research Institute 2014). Of those that mention transitioning in the next five years, eight have started a transition plan, but three needed to plan or were not planning yet. Of the respondents that had no timeline, 10 stated either their age, which was under 50, or that they were “young and had several years remaining in their working career.” Multiple in this group also noted that they had young children that may someday like to take over their operation.

The next question asked, “If you were to transition your business to a new owner, what resources do you need to achieve that process?” Resources that came to the forefront include their lawyer, accountant, and banker. This sentiment aligns well with traditional business offerings. Only 6% (3) of interviewees mention their economic development center as a resource for transitioning their business and 11% (6) admitted they did not know what resources they would need. A person willing to take over the business was a common response, and there was strong feedback that the new individual would need additional resources.

### **5.5 Business Transition Recommendations**

A key takeaway from the business transition portion of this study is that there is continued industry work that needs to take place to address this transitioning industry. One recommendation is to advocate for all businesses to solidify a transition plan regardless of the timeframe to transition or the intent to transition to a family member. Many operations voiced their desire to transfer their operation to a family member and many successful transitions were conducted between family. This type of transition can still be complicated; therefore, it is beneficial to have a documented plan and timeline. There is value in a formal transition plan. A formal transition plan can be complex, and interviewees often did not know of the resources that are currently available to them. Also, timing of the business transition and an individual interested in the business may not always align, but if a transition plan is well organized it could be more enticing to a family member taking over the business or a young entrepreneur looking for a startup. The development of a case study highlighting

successful business transition would be valuable to the industry. This future research would further provide insight to strategies for implementation of a successful transition plan.

As policy makers look for programing and funding development it is advantageous to continue grants and loans that support new equipment. This statement is supported through the resource needs results but is essential as stakeholders look to support new entrants into the industry, additional growth of current operations, and business resiliency. Creating funding for apprentice programs and continuing education would also be of benefit to those looking to take over or start a meat processing business. The apprentice program would allow for an impactful transfer of knowledge. Working together in the operation allows the new person to gradually take on responsibilities and learn from the previous owners' experiences. Current business operators have strong relationships with their customers and working together through the transition allows those relationships to sustain.

This study found there is a need for resource development and promotion as they relate to business ownership transition. It would be valuable to partner with traditional organizations, such as banks and accounting firms that are utilized by processors, to inform processor of opportunities available to them. Organizations that offer this type of assistance would want to make efforts to further market their services. An uncomplicated resource database to assist in these efforts would be beneficial to business owners in the meat processing industry. It is essential that any tool or database is simple to understand. The processor's time availability and technology proficiency should not be a barrier for database or resource usage. One example includes creating a database or software application that allows for those interested in buying or selling a meat processing business to create a specific

posting. The development of a site specifically targeted to meat processors would easily allow those looking to enter the industry a resource that is simple to navigate.

## CHAPTER VI: CONCLUSION

Managing a successful meat processing business takes a significant amount of knowledge and skills in addition to day-to-day processing of meat. Business owners and management need to be proficient in many varied skillsets such as regulatory, financial, and marketing. The objective of this thesis is to help identify the resource and technical assistance needs of very small to medium livestock slaughter and processing business owners and operators in Minnesota as they plan for the future of their operation. Additionally, this furthers stakeholder knowledge of resource awareness and usage among meat processing businesses and continues efforts toward addressing the lack of transition planning.

The rating results from the resource needs portion of the study demonstrated that the theory “if we build it, they will come” is not valid for every resource available to current processors and may be specific to the individual processors current needs and the future direction for their business. Furthermore, current owners believe that there is value in creating resources for new entrants to the meat processing industry. Organizations that already provide technical assistance and community colleges should consider initial or continuing education for the business aspects of owning a meat processing business.

Most meat processors in Minnesota have not planned for the transition of their business. The results portrayed that several meat processors interviewed are young and hope to transition their business to a family member. It is important to emphasize there is value to having a plan in place. Processors primarily utilize traditional resources for their business planning and transitions needs. Organizations that offer assistance services, such as business development centers, need to further market their expertise. Successful business transitions

should be studied to develop a model for other meat processing businesses to utilize. Additionally, relationships can be established and supported between business owners and meat processing apprentices. This would allow someone with interest in the industry to gain direct business experience with the current owner and in the operation.

This information will be valuable in future policy and program development. By creating programs that fund and streamline opportunities for skill-development and give meat processors access to additional technical assistance, meat processors can more easily overcome gaps in the industry such as the labor shortage and build lasting resiliency.

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## APPENDIX A

### **Definitions: Levels of Inspection**

Custom-Exempt: the plant only processes meat for the owner of the animal. It does not require continuous inspection because the meat is not being sold, and is for consumption only by “the owner, the owner’s immediate family, and non-paying guests”. Inspections still occur, but they are less frequent than the other inspection levels.

Equal-To (E2): This level is considered “at least equal to” the federal meat and poultry inspection program (USDA), which requires continuous inspection (daily inspection of business processes). Processors that want to sell their products to other retail outlets must be continuously inspected. With E2, facilities can slaughter and process meat products to sell to any entity within the state of Minnesota. This inspection program allows smaller slaughter and processing plants to expand their reach, “work with smaller businesses within their community, and provide a service to the farmers in their area.” MDA notes that E2 helps in “strengthening and diversifying local food systems, local economic development, and helping consumers learn to know their local farmers”.

USDA: The requirements of this inspection level are like the E2 but are intended for plants that produce and sell in states other than Minnesota or internationally. Inspections must be conducted by the United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS). USDA-inspected processors “may slaughter their own animals or purchase their products from other FSIS/USDA inspected sources and further process these products under continuous inspection.” (Minnesota Department of Agriculture n.d.)

## APPENDIX B

Interview questions used in this thesis research.

### Future of Business

17. What stage of planning are you in for transitioning your business to a future owner? This relates to succession planning or generational transition.

- Complete
  - (In how many years do you plan to implement your plan?"  
Examples: retire, sell the business, etc.)
- Started planning (If started or need to plan follow up with "What is your timeline to complete a transition plan?")
- Need to plan
  - (Do you know what resources are available to you to help you plan the future transition of your business?"
- Not planning yet

18. If you were to transition your business to a new owner, what resources do you need to achieve that process?

19. Where do you get business planning assistance?

20. Where do you find funding opportunities?

21. On a scale of 1-5, Rate each of the following on if YOU (the owner) would benefit from having additional resources pertaining to the topic and to what extent is there a need for continuing education?

22.

1	Great need for information
2	
3	Somewhat need for information
4	
5	No need for information

	Rate
Business Strategy Planning, Business Growth and Succession	
Business Plan, development, and maintenance	
Customer Relations	
Employee Health and Safety Regulations	
Equipment Maintenance	
Financial Reports, such as profit loss statement, accounting, bookkeeping, revenues, and expenditures	
Financial Resources (Capital, Grants)	
Government Regulations, Regulatory Considerations, Inspection, HACCP	
Legal - Business organization, intellectual property	
Management of employees and business	
Product and Business Promotion (Marketing)	

23. Of the above list what is your top 3 in terms of importance?

Example:

1	Most Important
2	Second in importance

3	Third in importance
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24. **Rate** each of the following on a scale of 1-5. If **someone were to take over your operation or start a new business like yours**, what resources would they benefit from?

1	Great need for information
3	Somewhat need for information
5	No need for information

	Rate
Business Strategy Planning, Business Growth and Succession	
Business Plan, development, and maintenance	
Customer Relations	
Employee Health and Safety Regulations	
Equipment Maintenance	
Financial Reports, such as profit loss statement, accounting, bookkeeping, revenues, and expenditures	
Financial Resources (Capital, Grants)	
Government Regulations, Regulatory Considerations, Inspection, HACCP	
Legal - Business organization, intellectual property	
Management of employees and business	
Product and Business Promotion (Marketing)	

25. For a new business owner what is your top 3 in terms of importance from the above list?