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A Comprehensive Analysis of the Pennsylvania Wine Industry with Actionable Recommendations for Industry Improvement and Growth

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A Comprehensive Analysis of the Pennsylvania Wine Industry with Actionable Recommendations for Industry Improvement and Growth

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Dedication

In dedication to my loving wife and daughter. Your support, love, and labor have made this possible. I love you both endlessly.

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Abstract

Local wine industries are vital engines of agricultural economic growth, rural development, and sustainable long-term tax base creation. While the Pennsylvania wine industry has made admirable progress, the industry still has a poor collective reputation, high variance in product quality differential, and a perceived regulatory environment that creates negative externalities for local wine, agricultural production, and auxiliary enterprises. This comprehensive analysis attempts to diagnose and remedy all primary public policy, regulatory, state, non-profit, and non-state private actions that have impeded the Pennsylvania wine industry. A methodology of grounded theory qualitative processes, furthered by texting mining and document analysis techniques, were used to approach these issues. This included extensive data collection through relevant public and private actor interviews, internally shared data, analysis of thousands of Pennsylvania relevant industry documents, and a comprehensive collection of any relevant industry best-practices, industry economic reports, grey literature, peer-reviewed literature, and policy and procedures from relevant industry regional peers or aspirational regions. Multiple critical public and private findings were uncovered, including key regulatory issues within the Pennsylvania Liquor Code and Limited Winery License that create negative externalities impacting local agricultural production and the Pennsylvania wine industry. Moreover, private action findings indicate the need for improved collective reputation through quality insurance mechanisms. Informed by these primary findings, empirical literature, and validated industry-best practices, this study provides 50+ public and private policy recommendations designed to remedy and support the continual growth of the Pennsylvania wine industry.

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Introduction and Contextual Overview

Introduction

The Pennsylvania wine industry as a commercial and agricultural enterprise has grown and evolved asymmetrically. It bears the perception of unfulfilled potential, unmet by regulatory frameworks within the state; the relevant stakeholders and policy actors; private actors, including the individual wineries as a collective; and the auxiliary industries. In spite of these factors, the industry has somehow continued to incrementally grow (Dunham, 2017; Dunham, 2018; Wallace, 2021). There has been continual industry growth, comparable to peer regions and states, in overall grape and wine production and wineries established. However, a clear perception exists, informed by the previous literature and industry economic impact analysis, that a multitude of limiting factors within the state have led to negative externalities on the overall agricultural and economic outcomes. These include collective reputation issues within the industry, environmental realities, lack of local Vitis Vinifera (European grape varietals) production, and regulatory framework deficiencies (MFK, 2007; Dombrosky, 2011; Rimerman, 2011; Cattell & McKee, 2012; Dombrosky & Gajanan, 2013; Dunham, 2017; Dunham, 2018; Smith, 2018; International Wine Review, 2019; NC State Extension, 2021).

Many of these factors, though indicated from prior industry research, are relatively understudied and unknown. Minimal industry data and literature exists, and further analysis is needed to determine the primary factors that have created this perception and the economic and agricultural reality of the Pennsylvania wine industry. Further analysis is also necessary to provide actionable recommendations that can mitigate any current or future external costs on the industry.

In detail, informed by the previous literature and economic impact studies of the Pennsylvania wine industry, there is a perception of a negative collective reputation, quality differential, and an overall industry environment that has limited the macro-economic impact of the Pennsylvania industry in comparison with relevant peer industries such as New York State (Dombrosky, 2011; Gardner, 2016; International Wine Review, 2019; Wallace, 2021).

In response, the research question that this comprehensive industry analysis attempts to diagnosis and remedy is: Within the Pennsylvania wine industry, what are the primary regulatory, state, federal, non-profit, non-state factors, environmental concerns, and policies that have impeded the comparable growth of the Pennsylvania wine industry with regard to collective reputation, quality differential, and local agricultural economic development within the state? Additionally, the analysis looks to determine based upon the findings, policy diffusion, literature, and industry best-practices: What are the most effective strategies to improve the regulatory, private industry, and policy environment to enhance the Pennsylvania wine industry as a whole? More concisely, why is there is still so much ‘meat on the bone’ in the Pennsylvania wine industry, and how can this be improved?

With that said, the industry has undeniable potential to grow into a high-quality wine region through improved collective reputation, quality differential, and regulatory frameworks. With proper public and private policy and action the industry can positively influence agricultural, economic, and rural development within the state of Pennsylvania. The industry at large has made substantial progress in the last fifty years. But without further action, much of this progress and unrealized potential is at risk. Specifically, a multitude of economic sectors in the state of Pennsylvania stand to gain substantially with integrated downstream effects. These include preservation of agricultural land, long-term sustainable local job creation, overall rural economic development, tourism, sustainable tax base, and improvement in overall quality of life (Hall et al., 2000; MFK, 2007; Rimerman, 2011; Dunham, 2017; Dunham, 2018). This comprehensive analysis will illustrate these issues and more in detail.

Blueprint

Chapter One. Chapter One is an introduction to the Pennsylvania wine industry. The extensive industry overview includes a brief history of the Pennsylvania wine industry and reviews the economics and overall environment, including the current industry perception. A review of the most important stakeholders will be followed by an in-depth analysis of the industry's regulatory framework, including the Pennsylvania Liquor Control Board (PLCB) and its perceived advantages and disadvantages especially pertaining to the wine industry.

Chapter Two. Chapter Two is a comprehensive analysis of the relevant literature to the Pennsylvania wine industry with an emphasis on applicable dissemination for improvement. As this is a comprehensive and diffuse analysis this section will include multiple areas of literature that are related to the wine industry with an emphasis on their application to Pennsylvania. The first two sections will examine geographic indicators (GIs) and collective reputation and their impact on price and overall regional growth and economic impact—including the importance of regionality in agricultural production and the wine industry. Consumer behavior and perception within the wine industry will also be detailed at length. The ensuing sections will review literature on overall wine economics, wine tourism, and agricultural policy with an emphasis on rural development. The importance of product differentiation through marketing and branding will be diffused throughout the chapter. Each of these components is central to the Pennsylvania wine industry.

Chapter Three. Chapter Three is the data and methods section. This will describe the unique research methodology: an expansive, quasi-comparative case study analysis using grounded theory qualitative processes, furthered by text mining and document analysis techniques to minimize any inherent methodological weaknesses within grounded theory. This chapter describes the overall research design, which includes the theoretical foundations, research protocols and processes followed, and qualitative methods and processes used for data collection and analysis.

Chapter Four. Chapter Four is the results and discussion section. This is an extensive and comprehensive section informed by the empirical constant comparative analysis of data, text mining, and document analysis and triangulation. Eight primary emergent themes emerged that represent critical categorical findings regarding the Pennsylvania wine industry. The eight fundamental emergent themes and findings that will be discussed throughout this chapter include: 1.) The Limited Winery License Loopholes 2.) The Collective Action Issue 3.) The Collective Reputation Problem 4.) The Quality Assurance Requirement 5.) The Marketing and Tourism Deficiency 6.) Agricultural Needs: Policy, Rural Development, and Viticulture 7.) Stakeholder Discussions: PLCB, PWA, PWMRB, Penn State Extension, and State/Local governance 8.) The Growth and Emergence of the Industry and Secondary Emergent Themes for Consideration and Future Research. Each will be discussed and analyzed at length.

Chapter Five. Chapter Five is the policy recommendations and conclusion section**.** This describes the actionable set of policy recommendations informed by the comprehensive analysis of Pennsylvania wine industry, including the industry overview in Chapter One; the literature and industry best-practices in Chapter Two; and, most importantly, the emergent themes and primary and secondary findings that emerged from the research analysis in Chapter Three, which were discussed and analyzed in detail in Chapter Four. This section is divided into public policy recommendations and private action recommendations and resulted in 50+ unique industry recommendations. Chapter Five then concludes with an overview on the industry issues analyzed, emergent themes, and primary and secondary findings. The value of this study and the industry at large will also be summarized.

Upon covering a brief introduction to the research question, summarizing the goal of this comprehensive analysis, and outlining the blueprint for this dissertation, an introduction to the case understudy is warranted.

Pennsylvania Wine Industry Overview

Contextual Industry Overview

To have a full understanding of the current Pennsylvania wine industry there is a need for a thorough contextual overview and analysis. This chapter is an executive summary of the Pennsylvania wine industry, which includes: 1.) a brief history of the Pennsylvania wine industry 2.) the economics of the Pennsylvania wine industry 3.) the overall environment of the Pennsylvania wine industry, including the most important stakeholders. This will be followed by an in-depth analysis of the regulatory framework in which this industry operates with a detailed holistic overview of the Pennsylvania Liquor Control Board (PLCB) and perceived advantages and disadvantages of this regulatory framework with an emphasis on the wine industry.

The Pennsylvania wine industry's beginnings are as historically significant as much of the rest of Pennsylvania's origins. It begins in 1683 with William Penn planting Vitis Vinifera in an area known as Penn's Wood (Cattell & McKee, 2012; International Wine Review, 2019; NC State Extension, 2021). This failed, like many of the original attempts to plant European grape varietals in the new world, but it did create a hybrid of American native varietals and European grape varietals, and was soon followed up on by Pierre Legau, a French immigrant who established the first successful commercial winery in the Pennsylvania in 1743 (Pinney, 2005;

Cattell & McKee, 2012; Stevenson, 2020).

The early Pennsylvania wine industry was the third largest producer of wine in the U.S. by the 19th century, producing mostly native varietals. This industry continued to grow and thrive mostly in the eastern part of the state in the greater Philadelphia area, but soon emerged in the northwest part of the state in the greater Lake Erie area, which provided an ideal microclimate for grape and wine production (Cattell & McKee, 2012; International Wine Review, 2019; Stevenson, 2020).

The industry continued to grow, and by 1900 the state was producing over 82,000 cases of wine annually (Cattell & McKee, 2012). However, Pennsylvania soon pivoted away from the wine industry with the discovery of the more profitable concord grape, which is primarily used for table grapes and juice and jam products. This change to the more common and profitable concord grape was the first step in killing off the Pennsylvania wine industry (Pinney, 2005; Cattell & McKee, 2012). The final step was the onset of Prohibition.

On January 20th, 1920, the eighteenth amendment to the U.S. Constitution went into effect after ratification in 1919. This amendment prohibited the consumption, production, and sale of alcohol in the U.S. Prohibition was primarily driven by moral interest groups such as protestant religious groups and the temperance movement, which was concerned with rampant alcohol abuse (Cattell & McKee, 2012). The passage and implementation of the eighteenth amendment ended the emerging Pennsylvania wine industry, and while it was repealed in December 1933 with the ratification of the twenty-first amendment, the impact from this abrupt termination of the Pennsylvania wine industry is still felt today (Pinney, 2005; Cattell & McKee, 2012).

Following the repeal of prohibition with the passage of the twenty-first amendment, the state of Pennsylvania under the leadership of the pro-dry Governor Gifford Pinchot created the government-controlled Pennsylvania Liquor Control Board (PLCB), which established a government monopoly on the production and sale of all liquor within the state, including wine (Munshi, 1997; Pinney, 2005; Cattell & McKee, 2012). The PLCB was responsible for regulating the production, distribution, and wine industry within the state. As the primary regulatory actor within the state of Pennsylvania, the PLCB will be investigated at length subsequently.

Because of these limitations on the wine industry under the regulatory framework of the PLCB, there was only incremental growth in the Pennsylvania wine industry for decades until the passage of the landmark legislation, the Limited Winery License, which allowed wineries to make and sell up to 50,000 gallons of wine from Pennsylvania-grown grapes directly to customers (Pinney, 2005; Cattell & McKee, 2012; International Wine Review, 2019). Following the passage of the Limited Winery License in 1968, the Pennsylvania wine industry finally began to grow (Campbell, 2014).

In many ways, the passage of the Limited Winery License in 1968 represents the founding of the Pennsylvania wine industry (Pinney, 2005). Following the passage of this act, the number of wineries within the state went from a handful to over 50 within 20 years (Cattell & McKee, 2012). The founding of the Pennsylvania State University field research laboratories, which sought to develop wine varietals suitable to the local climate, represents another contributing factor in the industry’s development. The laboratories were first founded in the northeast in 1967, followed by the southeast in 1971 (Cattell & McKee, 2012).

In addition to these legislative and oenological developments, another major development took place around this time when the Pennsylvania Wine Association (PWA) was founded in

1977 as a lobbying instrument to push for deregulation within the industry. Moreover, in 1977 Mazza Vineyards was able to capture the local public imagination and prove that local Pennsylvania wine can be great when a Riesling was celebrated at a renowned Chicago tasting (Cattell & McKee, 2012; International Wine Review, 2019). While this was a small victory, the industry continued to gradually grow as the state regulatory framework incrementally deregulated, including in 1987 when wineries were permitted to ship very small amounts of wines directly to customers. This continued with the passage of Act 39, a Pennsylvania liquor law in 2016, which updated the Pennsylvania Liquor Code (Act 39, 2016; 47 P.S. §5-505, 2019). This burgeoning industry grew from only 11 bonded wineries in 1976 to over 300 today—despite the highly regulated environment, to be discussed in detail in the stakeholder section. Clearly, the wine industry has made substantial progress, but there is still potential for further growth.

Economics of the Industry

As described previously, the Pennsylvania wine industry is a promising economic value-add for the state of Pennsylvania. Despite the collective reputation and current restrictive regulatory and legislative factors, the wine market is making an impressive economic impact on multiple stakeholders and sectors of the state's economy. This value-add is difficult to measure because of the multitude of economic sectors involved and integrated downstream affects, such as preservation of agricultural land, long-term sustainable local job creation, overall rural economic development, tourism, and improvement in overall quality of life. Additionally, the creation of a more sustainable tax base for the state and local governments should not be overlooked (Hall et al., 2000; MFK, 2007; Rimerman, 2011; Dunham, 2017; Dunham, 2018).

In 2018 the total economic impact of the Pennsylvania wine industry was over $1.8 billion, which includes manufacturing, vineyard production, sales, education, and tourism

(Dunham, 2018). In detail, the wine industry directly employs 5,740 people within the state, generates over 6,000 additional jobs through auxiliary industries directly supporting the wine industry, and indirectly supports 9,677 more (Dunham, 2017; Dunham, 2018). This is a clear indicator of the value-add to the overall state's economic development. However, the numbers do not illustrate how this sustainable industry offers jobs that are largely unthreatened by automation or geographic industry mobilization (MFK, 2007). Moreover, these jobs are developed and sustainable across the workforce skill-set and educational attainment, which assists in healthy economic development (Cvijanovic et al., 2017). For example, the wage development within and around the wine industry creates a multitude of well-paying local jobs, averaging $38,100 in wages and benefits (Cvijanovic et al., 2017). Wages generated by the Pennsylvania wine industry total $391.6 million annually—a substantial value-add to the economic development of the state (Dunham, 2017; Dunham, 2018).

In addition to the wine industry's impact on job creation and support, wine tourism meaningfully contributes to the state's economic development. Throughout the state's multiple wine regions, there were over two million tourist visits in 2018, creating $476.5 million in economic impact through direct tourist expenditures (Dunham. 2018). This benefits local communities and the resulting tax base.

The full picture of the economic activity generated by the Pennsylvania wine industry creates a substantial tax base for federal, state, and local governments. Categorically, in 2018 the wine industry directly paid $81,792,598 in local and state taxes, with an additional $88,008,764 in federal taxes. Furthermore, it generates $860,364 in federal consumption taxes, and more importantly, $13,172,298 in state consumption taxes (Dunham, 2017; Dunham, 2018). In total this generates over $169,802,362 in state and local tax revenue—a substantial and sustainable tax base for local and state government (Hall et al., 2000; MFK, 2007; Rimerman, 2011; Dunham, 2017; Dunham, 2018).

And while this economic impact report measures the overall economic impact with quantifiable measures, much of the wine industry's impact can be seen in the compounding effects it creates for auxiliary industries such as agricultural production, farming, the overall supply chain, marketing, printing, barrel making, and indirect tourism within the wine region (MFK, 2007, Cvijanovic et al., 2017; Sharp, 2018). Moreover, the Pennsylvania wine industry has continued to grow since 2017 and 2018, as shown in the most recent empirical and comprehensive economic impact reports, demonstrating that it is certainly making a far greater economic impact in the state presently (PWA, 2021).

While the overall economic impact of the wine industry is impressive, the industry output ranks in the top ten nationally and the grape production alone ranks fifth nationally—although the concord grape accounts for the majority of this production, the amount of wine produced is top ten nationally, the amount of wineries within the state ranks seventh nationally, and there are over 14,000 acres of vineyards producing more than 2 million gallons of wine annually (Harper & Kime, 2013; Wine America, 2020; PWA, 2021). There are still opportunities for major growth. While this brief snapshot illustrates the economic impact on the state, a further holistic industry analysis is needed to recognize the industry's potential.

Industry Environment

The composition of the wine industry within the state of Pennsylvania is multifaceted. The following section will describe the overall environment of agricultural production, opportunities and challenges within the industry, and the key stakeholders involved including a detailed regulatory analysis of the PLCB, which is the primary regulator actor within Pennsylvania wine industry.

As an agricultural product, wine as an industry is reliant on the environment it is created in, and the environment for grape cultivation within the state of Pennsylvania, while challenging, still has many advantages. The soil of Pennsylvania is fertile and is comparable to primary wine growing areas in Europe. There is also diversity of soil type throughout the state with a mix of silt, loam, clay, and generally positive drainage—although Pennsylvania soils tend to have higher acidity, which presents challenges (Ciolkosz & Cunningham, 1987; Wikler & Moloney, 2009; PWA, 2017). A few examples of this fertile growing soil is the prominence of degraded friable schist, sandy loam within valleys, and even a long band of limestone that runs through the Brandywine Valley, and in the Lancaster Valley, where the deep limestone derived soils have effective drainage and are highly productive— all vital ingredients for the creation of a first-rate viticulture (Ciolkosz & Cunningham, 1987; Centinari & Chen, 2005; Penn State Extension, 2020; 2021; Stevenson, Wallace, 2021; USDA, 2021).

In addition, the diversity of climates within the state creates the opportunity for varied successful varietal growing conditions. The state also has good airflow and rolling hills which assists in air drainage that reduces frost damage and humidity induced rot, an effective example of this is the Cumberland Valley AVA (Centinari & Chen, 2005; Stevenson, 2020). Pennsylvania also has similar weather patterns to the Koppen climate classification of the Piedmonte in Italy, which is one of the premier wine regions in the world (Centinari & Chen, 2005; Wikler & Moloney, 2009; Penn State Extension, 2021; PWA, 2021; Wallace, 2021). Smith (2018) details this further, "Pennsylvania has a large variation in regional topography, which ranges from flat coastal regions to high hills of the Appalachian Plateau, resulting in different site-specific mesoclimatic conditions" (Smith, 2018, p.1).

While there are many advantages regarding the overall environment, there are also disadvantages and challenges for local wine production within the state. The winters can be quite cold with severe weather that can damage the grapevines, and the spring and fall can have unexpected challenges such as untimely storms and substantial rain, including hurricanes, the polar vortex, and early or late frost (Penn State Extension, 2021). Smith (2018) describes this environment in detail:

> Pennsylvania grape growing regions are classified as cool or cold climate, which are distinguished by growing season length and winter minimum temperature (Gladstone 1992, Polsky et al. 2000). While cool climates are defined by a limited growing season length, cold climates are characterized by damaging low temperatures during the winter (Gladstone, 1992). The 30-year average of minimum winter temperatures for Pennsylvania range from – 12.2 °C to – 15 °C in southern regions (USDA plant hardiness zone 7b) to – 23.3 °C to – 26.1 °C (USDA plant hardiness zone 5b; https://planthardiness.ars.usda.gov) in northern and high elevation regions. Pennsylvania and, more generally, the Mid-Atlantic continental climate are further characterized by warm and humid summers and the occurrence of rapid daily fluctuations in temperature (Wolf & Boyer, 2003; Smith 2018, p.1).

In further detail, this incremental weather, including cold stress, can create post-budburst in the spring frost events, and the dormant winter temperatures can freeze grapevines vegetive and reproductive tissues which can result in crop loss (Smith, 2018). Furthermore, the hot and humid summers create an environment where disease on the grapevines can be common (Centinari & Chen, 2005; Wikler & Moloney, 2009; Smith, 2018). This is pronounced in Vitis Vinifera as they are highly susceptible to disease and damage, which is why regionality, varietal selection, and site selection around meso and micro-climates are so valuable in the Pennsylvania wine industry (Centinari & Chen, 2005; Smith, 2018; Mckee, 2019).

The Pennsylvania wine industry has varied and diverse grape varietal selection dependent on geographic meso and micro-climate and regionality. The heavy rainfall, consistent humidity within the growing season, and other challenges previously discussed illustrate the need for grape varietals that have thick skins and loose clusters to maximize disease resistance and cold hardiness, as well as varietals aligned with site selection (Harper & Kime, 2013; Thompson, 2017; Smith, 2018; International Wine Review, 2019).

The current selection of varietals includes Vitis Vinifera, French-Hybrid and Native American Varietals. Native American varietals such as Concord, Niagara, and Catawba are primarily used to make grape juice and jelly but can be used for wine, although they often are a lower quality and have strong grapey tase and aroma (Harper & Kime, 2013; International Wine Review, 2019). The continued development of French-hybrids, which are a cross breeding of Vitis Vinifera and American varietals, such as Chambourcin, Chancellor, and Chardonel, are a hardy varietal and resistant to fungal disease without the poor quality and taste of native American varietals. These show real promise on the east coast and in Pennsylvania (Gardner, 2018; International Wine Review, 2019). Vitis Vinifera within the state, while challenging, is producing high-quality wine and showing real promise through varietals like Grüner Veltliner, Riesling, Gewurztraminer, Chardonnay, Albariño, Viognier, Petit Manseng, Vermentino, and Sauvignon Blanc among the whites. With Carmine, Cabernet Franc, Merlot, Petit Verdot, Saperavi, Blaufränkish, Dornfelder, and Italian varietals such as Barbera and Nebbiolo among the reds (Thompson, 2017; Gardner, 2018, International Wine Review, 2019).

In addition to the overall weather and varietal challenges, another challenge is the growing threat of climate change within the industry. The average temperature in Pennsylvania has already increased dramatically over the last few decades. The in-depth analysis of the wine industry by The International Wine Review in (2019) illustrates this challenge in detail:

> Climate changes affect which grape varieties can be grown where. Temperatures in Pennsylvania have already increased, especially in the eastern part of the state. Between 1988 and 2017, Lehigh County had the largest increase (2.1°F), while Erie County had one of the lowest increases (1.5°F). Both summer high temperatures and winter low temperatures are projected to increase further by 2050. Average summer highs in 2050 compared to the year 2000 are projected to be 5°F higher in most of the state. Temperatures in northern Pennsylvania will become similar to that of northern Virginia today. Precipitation is also likely to increase, especially along the Atlantic seaboard, and extreme weather events like 2018 will become more common. While most the attention in 2018 was on extreme rainfall in the southeast portion of the state, the Lake Erie region in the northwest experienced abnormally high heat, almost 3000 Growing Degree Days (GDD), 800 GDD higher than the abnormally cool 2003 growing season. 2011's high rain was due to a hurricane and tropical storm. Climate change may result in more extreme weather events like 2018. The implications of climate change for growing grapes is difficult to predict. In general, warmer temperatures will work to the advantage of some grape varieties that hitherto have been challenging to grow in Pennsylvania and work to the disadvantage of cool climate varieties. Increased humidity and rainfall will increase disease pressure and put a premium on growing sites with excellent drainage. Growers will need to select sites with good air flow and adopt practices that reduce humidity in the vineyard, promote good air circulation through the canopy, speed drying, and improve the effectiveness of fungicides. They will need to plant grape varieties and

> clones that have looser bunches and greater disease resistance. Hybrid varieties may gain in popularity, especially as researchers continue to develop new and better hybrids. The Lake Erie area, especially, may benefit from a longer growing season and warmer temperatures, especially at harvest time. Increased disease pressure in the future is likely to make it even more difficult to use organic viticultural practices (p.14).

And while this clearly illustrates there will be challenges for the industry, there might also be opportunity for certain varietals and regions. Another environmental challenge is the emergence of the Spotted Lantern Fly (SLF) in 2014, which is an invasive planthopper native to Asia (Harper et al., 2019). Overall, the SLF is a highly invasive species that lays one generation of eggs per year in the fall, hatching in the spring. These eggs are generally laid on smooth surfaces, like trees or outdoor equipment, and have a protective covering that is similar to mud. The SLF is highly dangerous to the wine industry as grapevines are one of their favorite targets and a swarm can destroy an entire vineyard within a year (International Wine Review, 2019; Penn State Extension, 2021). This is a serious threat to the industry as they feed on the sap of the vines, trunks, and branches, and it is projected that their damage could cost the state over $324 million annually and a loss of 2,810 jobs. In the worst-case scenario, losses are projected to be over $500 million annually, with a loss of 4,987 jobs (Harper et al., 2019; PWA Wines, 2020). The state is currently attempting to manage this through quarantine, a marketing campaign to kill the bugs on site, as well as a hotline to report an outbreak (PWA Wines, 2020). Another challenge indicated in the literature of the Pennsylvania wine industry is a general labor shortage in the industry and shortage of highly-trained human resources (Wolf, 2008; Smith, 2018).

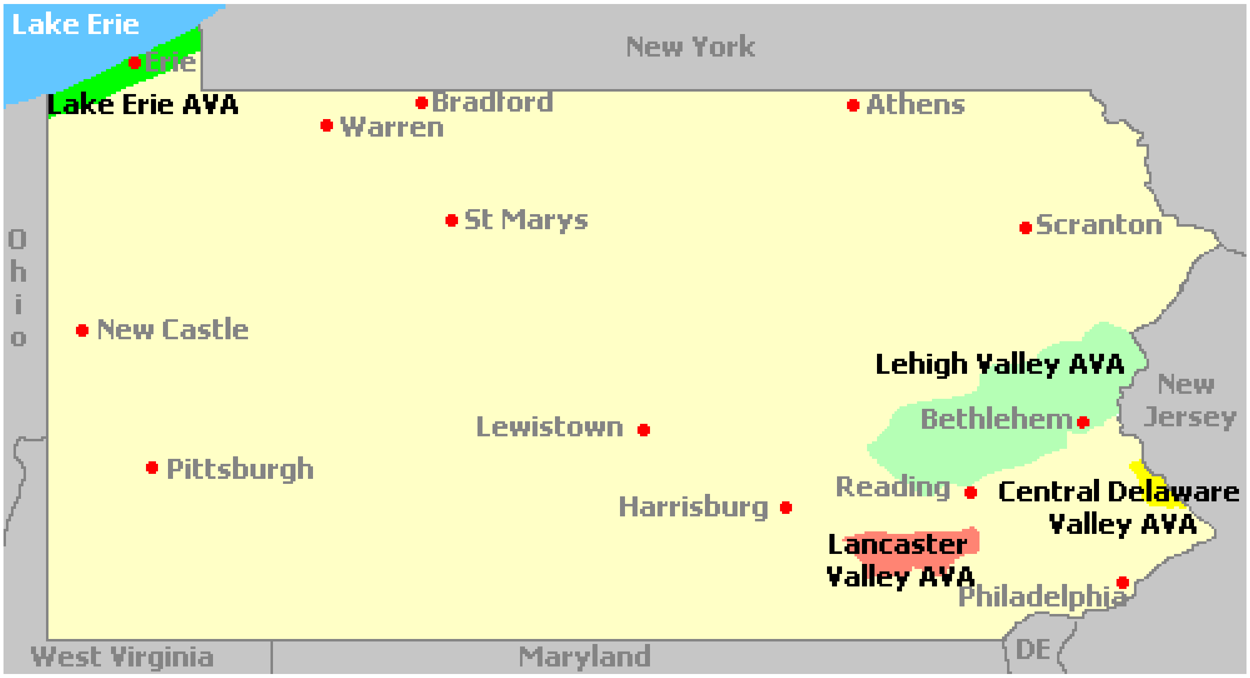
Despite these challenges, there are many advantages to the environment for the Pennsylvania wine industry, and it provides a promising location for wine production on the east coast, principally in the northwest region and southeast regions of the state. The northwest region of the state, with the moderating effects of Lake Erie, has a geographic and climate environment that is very similar to the world-renowned Finger Lakes wine region in New York State. The southeast region of the state has warmer summers, milder winters, and similar regionality and climate traits to Delaware, Maryland, and Virginia (Wikler & Moloney, 2009; Dunham, 2017; Mckee, 2019; Wallace, 2021).

Another important category of the wine industry within Pennsylvania are the main growing regions, or American Viticultural Areas (AVAs). An American Viticultural Area or AVA "is a specific type of appellation of origin used on wine labels. An AVA is a delimited grape-growing region with specific geographic or climatic features that distinguish it from the surrounding regions and affect how grapes are grown. Using an AVA designation on a wine label allows vintners to describe more accurately the origin of their wines to consumers and helps consumers identify wines they may purchase" (The Alcohol and Tobacco Tax and Trade Bureau, 2021, p.1). Further detail, as well as the importance of an AVA, will be discussed in Chapter Two.

In Pennsylvania there are five AVAs, but most of these AVAs are large and loosely structured, covering multiple states within the northeast and mid-Atlantic area (International Wine Review, 2019; PWA, 2021). With this unstructured AVA process within the state, most wineries use a Pennsylvania state or local county on their label as a geographic indicator. These five AVAs are Central Delaware Valley AVA, which is shared with New Jersey; Cumberland Valley AVA, which is shared with Maryland; Lake Erie AVA, which is shared with New York and Ohio; Lancaster Valley AVA; and Lehigh Valley AVA (Patel-Campillo & DeLessio-Parson, 2016; PWA, 2021). Please see Figure 1 for graphical representation of Pennsylvania's AVA's:

Figure 1

Pennsylvania AVA's



Note. Pennsylvania AVA Map from International Wine Review, 2019.

Furthermore, the Pennsylvania Wine Association organizes the state's principle growing areas into six large geographic areas (PWA, 2021). This further classification is divided into the Northwest, Northcentral, Northeast, Southwest, Southcentral, and Southeast (PWA, 2021). The most important areas for the wine industry are the Southeast, Southcentral, and the Northwest centered around Lake Erie (International Wine Review, 2019). Please see Figure 2 for graphical representation of Pennsylvania's principle growing areas:

Figure 2

Pennsylvania's Principle Growing Areas

Note. Wine Region Section from the Pennsylvania Winery Association, 2021.

This brief executive summary of the Pennsylvania AVA and geographic classification system is inadequate to communicate the vital role geographic indicators and region of origin play in agricultural production, collective reputation, and the wine industry. Therefore, this will be discussed at length in Chapter Two. One of the greatest challenges for the Pennsylvania wine industry is the perception of poor reputation regarding wine quality. Dombrosky (2011) provides a comprehensive overview on this perception as well as the rationale for it:

> A common perception is that Pennsylvania is best known for "sweet" wines. One operator said, "Twenty years ago in Pennsylvania almost every wine was a sweet wine." Another operator referred to it as a "sweet-wine stigma." Carroll (2006) wrote that the reason Pennsylvania became known for sweet wines was a combination of phylloxera and Prohibition. Phylloxera is a grape blight that affected vinifera, the grape species from

> which most dry wines are made, and to which Native American grapes were immune. During Prohibition, there was no need to invest in defeating phylloxera because it only affected grapes that were used for wine. Pennsylvania grape growers instead concentrated on growing Native American varieties which could be used in juice and other non-wine grape products. Prohibition was repealed in 1933, but not until Pennsylvania passed the Limited Winery License in 1968, which allowed Pennsylvania grape growers to make and sell wine, did the Pennsylvania wine industry begin. When wine was made, the grape varieties that had been grown for non-wine purposes, such as Concord and Niagara, were used with a resultant product of sweet wine for which Pennsylvania is known (p.46).

And while this is a common perception regarding reputation of the Pennsylvania wine industry, it is far from the whole truth. Pennsylvania is now producing world-class wine, but the reputation has not progressed as quickly as the wine production and skill behind it. One issue within this collective reputation theme is that the quality differential among wines is too great for consumers who base their entire perception of a region over one or two wines; and currently the variance in the Pennsylvania wine industry makes it difficult to build a positive collective reputation (Gardner, 2016). Moreover, Childs (2009) found that overall consumers had positive attitudes to the quality, taste, and value of Pennsylvania wines, but low perception of its reputation and marketing. This problem is compounded with the lack of product representation in local restaurants, which are a great avenue to shift perception around quality as 50% of consumers who try and enjoy a wine brand in a restaurant or bar are likely to purchase this brand in the future (Dombrosky, 2011; Kelley, 2015; Bonn et al., 2020).

A few examples of this dichotomy between reality and perception are Va La Vineyards in Chester County, which has been named as a top 100 winery nationally in multiple publications, Galen Glen Winery in Lehigh Valley, and Vox Vineti in Lancaster County, both of which have had wines listed as some of the best in the world by major publications (Daily Meal, 2017; Thompson, 2017; Beavan, 2019; Coral, 2019; Delany, 2019; Wallace, 2021; Vinepair, 2021). And these are just a few cases of the high-quality production that is possible within Pennsylvania; however, the quality differential is an issue that is limiting the collective reputation, and therefore the Pennsylvania wine industry (Dombrosky, 2011). Although the industry has many challenges and opportunities, much of overall environment is driven by policy stakeholders in the industry.

Principle Stakeholders in the Pennsylvania Wine Industry

The leading stakeholders in the Pennsylvania wine industry are the Pennsylvania Wine Marketing Research Program (PWMRP), the Pennsylvania Winery Association (PWA), Pennsylvania Department of Agriculture and PA Preferred, Penn State Extension, Wine America, individual wineries, and, finally, the Pennsylvania Liquor Control Board (PLCB)—which will be detailed at length as it is the primary regulatory stakeholder in the Pennsylvania wine industry (Dombrosky & Gajanan, 2013; PWA, 2021). Each principal stakeholder and their role are detailed below.

Pennsylvania Wine Marketing Research Program (PWMRP). The PWMRB is the official Pennsylvania Agricultural Commodity Marketing Board whose stated goal is to make the Pennsylvania wine industry known as the premium East Coast wine appellation and to be recognized as a collective producer of high-quality wine. They fulfill this mission through the promotion of quality, profitability, and consumer awareness of the Pennsylvania wine industry (PWA, 2021; Pennsylvania Department of Agriculture, 2021). PWMRP was founded as part of the Pennsylvania Department of Agriculture’s Agricultural Commodities Marketing Act with a purpose of funding viticulture and enology research, enology extension, viticulturist, and marketing, and is administered by a board. They fulfill this mission through partnerships with the state government and other organizations within the industry (Dombrosky & Gajanan, 2013). They directly fund research, education, supply chains, and critical positions, such as the Pennsylvania Extension Enologists and Research Viticulturist; support marketing and branding activities, such as the Annual Farm Show and Wine Competition; and fund and support the PWA, which is the central actor of marketing and branding within the state's wine industry (PWA, 2021; Department of Agriculture, 2021). The emphasis of the PWMRP is best illustrated by their vision statement, "our priorities=collective gain", which illustrates the importance of collective reputation within the Pennsylvania market.

Pennsylvania Winery Association (PWA). The PWA is a non-profit trade association organized to advocate for the state's wine industry. It provides marketing assistance to Pennsylvania wineries, hosts an information exchange to develop and support members, sponsors and supports legislation and regulation that will benefit the state's wine industry, and opposes regulation that will be damaging for the industry (Dombrosk & Gajanan, 2013; PWA, 2021). They are the central stakeholder for wine marketing, branding, and collective industry organization. The PWA is administered by a board of directors.

Pennsylvania Department of Agriculture and PA Preferred. The Pennsylvania Department of Agriculture primarily supports the wine industry through encouragement and support of related farming industries and communities. The principal support mechanism is through the PWMRB. In addition to the funding for the PWMRP, it supports the PA Preferred Program, which is a public-private program to support and promote Pennsylvania products. They do this through a PA Preferred logo on applicable products (PWA, 2021).

Penn State Extension. The Penn State Extension is an educational resource that supports the agricultural industry of Pennsylvania, which includes expertise in enology and viticulture. Penn State Extension provides education, outreach, training, and support for commercial wineries, and the overall wine industry within the state (Penn State Extension, 2021; PWA, 2021). The Penn State Extension is a valuable resource for the Pennsylvania wine industry through the diffusion of world-class viticulture and enology practice into the commercial wine industry (Penn State Extension, 2021).

Wine America. Wine America is a national wine industry association which encourages the growth of the wine industry through public policy. They are the only national wine industry association in the United States and work to improve legislation, regulations, sales, and distribution at federal level (Wine America, 2021).

Individual Wineries. As previously described in detail, Pennsylvania has a long history of wine making. Pennsylvania now has more than 300 individual wineries, covering all six regions within the state, with an industry making over a billion dollars a year in economic impact. There is real potential for continued growth and rural economic development stimulated by the wine industry (De Janvry et al., 2002; PWA, 2021). While there has undoubtedly been emerging market growth through the support of these stakeholders, compared to markets like New York State and Virginia the industry is underdeveloped (Dunham, 2017). The growth and potential of this vital economic development tool has been potentially restricted by a multitude of factors, one of which is the regulatory framework of alcohol regulation in the commonwealth of Pennsylvania dominated by the Pennsylvanian liquors Control Board (PLCB).

Pennsylvania Liquor Control Board (PLCB). To truly understand the state of the market and policy arena of the wine industry in the Commonwealth of Pennsylvania, there needs to be a thorough understanding of the genesis and evolution of the Pennsylvania Liquor Control Board (PLCB) and the overall liquor market, which the wine industry is segment of. This section will be a contextual overview on the history of the PLCB, the major policy reforms, key stakeholders, the mission and operating procedures of the agency, advantages and disadvantages of the PLCB, and the lasting impact on the Pennsylvania wine industry.

History. In the late 1920's and early 1930's, the dry movement, which advocated for the prohibition of alcohol sales and consumption, was slowly losing public support and sentiment in the fight against the legalization of alcohol at the state and federal level. One of the leading dry advocates in the nation was the Governor of Pennsylvania Gifford Pinchot (Munshi, 1997; Schell, 2006). Pinchot built his political career on the platform of a dry politician and believed deeply in the movement from a personal and political perspective. As Governor, Pinchot actively enforced prohibition, unlike many political leaders throughout the state, and demanded regular reports on the enforcement of the wet laws to ensure the compliance of law enforcement—though these laws were regularly ignored (Schell, 2006). This active involvement illustrates his personal dedication.

The dry movement rapidly lost public sentiment, and the repeal of the eighteenth amendment and the passage of the twenty-first amendment to reverse the federal prohibition of alcohol was on the horizon. Proponents of the dry movement in Pennsylvania, led by Gifford Pinchot, began to plan how to continue to control the liquor market in this new policy environment (Schell, 2006). Pinchot clearly knew that public opinion had turned, but he had deep personal and policy views to safeguard public health by regulating and controlling the sale of alcohol while creating a consistent revenue stream for the state. His views had not evolved with public opinion, and much of this was greatly influenced by his memory of the problematic saloon culture that existed before prohibition (Schell, 2006). He feared that the repeal of prohibition would portend the return of public drunkenness, prostitution, gambling, and even political corruption, as political bosses had previously operated out of saloons. His resolve remained, regardless of the economic impact these restrictions would foretell (Snyder, 2014). Two days after the federal repeal of prohibition, Pinchot called a special legislative session to deal with this policy issue (Schell, 2006).

Pinchot and the State of Pennsylvania wasted no time. On November 29th, 1933, the Liquor Control Act was voted into law to establish the Pennsylvania Liquor Control Board which created the state-run monopoly and regulatory framework that is more-or-less still intact nearly one hundred years later (Snyder, 2014). In addition to Governor Pinchot's dry political perspective, the Great Depression's economic ramifications on the state budget influenced this decision as the PLCB promised to be an economic source of income, although this was shortsighted as it restricted the wine industry (Cattell & McKee, 2012; Snyder, 2014).

Although certain stakeholders opposed state intervention into the private market, and, specifically, the liquor market, the establishment of the PLCB was widely lauded by dry and wet supporters and has become entrenched in the politics and economics of the state (Schell, 2006). This state-led regulatory monopoly has evolved incrementally over the last 90 years, but the core infrastructure of the PLCB is still intact. There have been multiple attempts to privatize with most resulting in outright failure, although there have been incremental changes in the operating structure of the PLCB (Cattell & McKee, 2012; Snyder, 2014). The initial regulatory framework of the PLCB was a tightly coupled approach that originated out of the dry policy environment and Pinchot's personal views on alcohol control. In detail, implementing this philosophical personal view meant that the regulatory framework of alcohol sales in Pennsylvania were designed to limit consumption. Schell (2006) details this initial goal:

> The regulatory setting of prices with a liquor monopoly took completely different considerations into account. Lower prices were to be avoided not because of any fear of predatory competition but rather because low prices would lead to more sales of liquor, considered a bad thing in and of itself. Regulators had little fear that predatory pricing would drive distillers out of business, and even if they had, those on the dry side would have considered this a benefit (p.294).

With this philosophy as an initial framework, it is not surprising how restrictive this was to the liquor market and growth of the wine industry (Cattell & McKee, 2012; Snyder, 2014. For example, the PLCB strictly controlled hours and days sales were permitted, limiting holiday and Sunday sales. They also regulated type of sales, location of stores, and even behavior of staff within state-run stores, all while restricting winery growth. This is not to mention the strict enforcement of licensing to saloons, as one of the main goals of Pinchot and the PLCB was to restrict the former saloon culture. For instance, saloons were initially only allowed in hotels, and alcohol could only be served at a table and with a meal in an attempt to reduce the perceived drunkenness caused by bars and saloons (Schell, 2006). In addition to the consumer impacts of the implementation of the PLCB, there were tight regulatory frameworks for distilleries, breweries, and wineries (Dombrosky & Gajanan, 2013).

The regulatory framework of the PLCB has evolved with incremental policy adjustments. For the wine industry specifically, as previously discussed, the Limited Winery License passed in 1968 allowed wineries to make and sell 50,000 gallons of wine from Pennsylvania-grown grapes directly to consumers. This commenced the true beginning of the Pennsylvania wine industry through incremental deregulation (Pinney, 2005; Cattell & McKee, 2012; International Wine Review, 2019). While the wine industry was still strictly regulated, this small step greatly improved the regulatory environment. The PLCB further incrementally improved through piecemeal consumer experience changes regarding the hours and days of sales. In 1959, alcohol sales were allowed in Pittsburgh and Philadelphia on Sundays, mainly because of the lobbying of hotel unions (Sechrist, 2012). This was eventually applied statewide in 1971. The majority of the modern developments have come from conservatives in the state government continually pushing for privatization. Munshi (1997) illustrates this in detail:

> While there have been a number of attempts to return to a private license system, the efforts of Pennsylvania Governor Richard Thornburgh are the most noteworthy. Beginning with his arrival in office in 1978, Governor Thornburgh advocated the abolition of the state's liquor monopoly. Labeling it "corrupt, mismanaged and archaic," the Governor argued that the Commonwealth had finally reached a stage where the state-run retail system was unacceptable. The Governor re-doubled his reform efforts after a fortuitous event in the African Congo. While touring that Marxist-Leninist country on a goodwill mission in 1986, the Governor did something he [could not do in Pennsylvania]: he bought a bottle of wine at a privately owned store. "That was the last nail in the coffin, the straw that broke the camel's back," the Governor said. "That Marxist-Leninist state has privatized liquor sales. But Pennsylvania, this great bastion of free enterprise, has a state-run, socialist monopoly (p.102).

While this is continually debated in Pennsylvania, little has changed except for incremental improvements to access for consumers and small changes for wineries, which illustrates the tightly controlled regulatory environment. This regulatory system shaped the wine industry through strict regulatory action and had downstream effects such as consumer choice, behavior, and consumption throughout the state (Pinney, 2005; Cattell & McKee, 2012). For example, the initial state stores operated as a dispensary where customers ordered from a counter after referencing a catalog. This continued until 1980 when the PLCB state stores transitioned to a more traditional retail model where consumers were able to browse and select product off the shelf (Sechrist, 2012; Campbell, 2014). This was the biggest regulatory change until 2016.

The most prominent reform was the passage of HB1690, a Pennsylvania liquor law, in 2016. It was signed into law as Act 39 (House Bill 1690; Act 39, 2016; 47 P.S. §5-505, 2019). The passage of Act 39 was the first major reform of the PLCB's regulatory framework since its inception following prohibition. This bill expanded the hours at PLCB stores, improved prices and sales, and made annual additions to the pool of available liquor licenses for purchase. Moreover, it expanded liquor license access for grocery stores and bars that were already selling beer, permitting them to sell wine through wine expanded permits. Pennsylvania wineries were also now able to sell directly at six locations, including grocery stores—although purchases are limited to four bottles a customer (Vigna, 2017). Even with these limitations, the bill greatly expanded the potential market access points for Pennsylvania wines.

Furthermore, Act 39 allowed for the creation of private wine bottle shops—albeit with serious restrictions, regulations, and taxes that make it difficult to enter the market and compete with the state monopoly. It also expanded wine permits to allow restaurants and hotels licensees to sell bottles of wine to patrons for off-premises consumption. Additional changes include allowing direct shipping to consumers from wineries, up to thirty-six cases, nine liters per case per calendar year; minimizing regulations on breweries and distilleries; lessening the regulatory framework around cideries; and installing huge fines for any violation of the state monopoly

(House Bill 1690; Act 39; Wallace, 2016; Zellar, 2016). These all greatly eased the regulatory burden on the Pennsylvania wine industry—although it is still one of the most restrictive in the United States.

While the passage of Act 39 made incremental progress in the modernization of the regulatory framework of the PLCB and the resulting market, the state of Pennsylvania is still a public monopoly that controls and tightly regulates the sale and consumption of alcohol while profiting greatly from the liquor control. This is precisely what it was designed for, as Governor Pinchot stated directly, "under the Pennsylvania Plan a new source of revenue for social needs will be provided. Millions of dollars will be made available from taxes and from liquor store profits to help meet the cost of unemployment relief; to make old age assistance payments; and to relieve school districts in which the schools are in danger of being closed…Thus millions of dollars which otherwise would go into the pockets of whisky dealers —and possibly into the pockets of politicians — will be diverted to the needs of society" (Madaio, 2021). Although this mission has clearly evolved since prohibition, many of the initial design and implementation mechanisms are still affecting the market and policy arena presently.

PLCB Mission/Operations. As clearly detailed previously, the PLCB and the regulatory framework of the liquor market in the State of Pennsylvania evolved out of the dry movement to limit consumption and access to liquor following the repeal of prohibition and the passage of the twenty-first amendment (Schell, 2006). This history still affects the mission and design of the current liquor code. It is even reflected in the mission statement of the PLCB, "the mission of the Pennsylvania Liquor Control Board is to responsibly sell wine and spirits as a retailer and wholesaler, regulate Pennsylvania's alcohol industry, promote alcohol education and social responsibility and maximize financial returns for the benefit of all Pennsylvanians" (PLCB, 2019, p.2). Although this is not as restrictive as the initial design of the PLCB following prohibition, it is clear the state still sees limiting alcohol consumption as a vital aspect of this regulatory mission, regardless of the negative externalities in the wine industry.

As it is currently constructed, the PLCB is an independently governed government agency that administers the alcohol industry in Pennsylvania. At its core "it is responsible for licensing the possession, sale, storage, transportation, importation, and manufacture of wine, spirits, and malt or brewed beverages in the Commonwealth, as well as operating a system of liquor distribution (retailing) and providing education about the harmful effects of alcohol consumption" (Wallace, 2020; PLCB, 2020). A three-member board appointed by the governor and confirmed by two thirds of the Pennsylvania State senate governs this expansive responsibility (PLCB, 2020). The board, through the PLCB, has the exclusive responsibility to purchase alcohol from manufactures, set prices, restrict the creation of entire industries, and control all licensing and consumer access to alcohol (Snyder, 2014). A large formal hierarchal bureaucracy manages the retail, supply chain, wholesale, finance, regulatory affairs, and marketing and merchandising of alcohol consumption in the state (PLCB, 2019). This is explained in detail by the PLCB:

> The PLCB regulates the manufacture, importation, sale, distribution and disposition of liquor, alcohol, and malt or brewed beverages in the commonwealth. The agency issues licenses to private individuals or entities that wish to engage in wholesale operations of beer, either as an importing distributor or as a distributor. The agency is also responsible for wholesale distribution of wine and spirits, which licensees may pick up from state-operated Fine Wine & Good Spirits stores or licensee service centers or have delivered from PLCB distribution centers (PLCB, 2020).

In addition, the PLCB operates an expansive wholesale and supply chain operation that includes close to one million square feet of warehouse space that is contracted out to three privately held distribution center companies (PLCB, 2020). The majority of alcohol that is sold and consumed in the state is transferred through these distribution centers. In detail, the PLCB oversees all the distribution and sale of alcohol in state, including wine. Every distributer or manufacturer must apply and be approved by the PLCB, and all vendors must register with the federal government and the state. This includes direct sales through the PLCB, restaurants, grocery stores, wine bottle shops, and direct shipment to consumers (PLCB, 2021).

From these distribution centers, the product is transferred to more than 600 Fine Wine & Good Spirit Stores and 13 licensee service centers. The product is either sold at these centers directly from the state or transferred to private bottle shops or restaurants, who incur substantial fees as all state license holders are required to purchase all their alcohol from the PLCB (Pavlecic, 2017). The only exception is direct sales from wineries, breweries, and out-of-state retailers; although that is an area of contention within the PLCB (Wallace, 2016; PLCB, 2020).

The PLCB also regulates the sale of liquor licenses in the state, which are apportioned through a quota system that is restricted by local population and the current active liquor licenses. This is a highly restrictive and expensive process. The PLCB also regulates and oversees the local option referenda in areas that wish to prohibit or allow the sale of alcohol (47 P.S. §5-505, 2019). This, of course, restricts the overall access points to Pennsylvania wines. Though short-lived and controversial, at one point the PLCB even began producing, marketing, and selling their own wine brand named *Tableleaf*, which was often prominently displayed in their stores, thereby competing against private industry and local Pennsylvania wine—while using taxpayer money to do so (Sue, 2019).

In addition to regulating and administering the state wine industry's supply chain, it also oversees the wine industry through the Limited Winery License. The PLCB details the Limited Winery License in detail:

> Limited winery license can be held by any qualifying in-state or out-of-state winery that produces less than 200,000 gallons per year of alcoholic ciders, wines, meads, wine coolers and fermented fruit beverages. Each limited winery may have up to five board-approved locations and up to two storage locations. Limited wineries may sell their products – in any quantity and for both on and off-premises consumption – to individuals, the PLCB and licensees such as breweries, hotels, restaurants, clubs and public service liquor licensees. They are permitted to sell Pennsylvania-manufactured wine, spirits and malt or brewed beverages for on-premises consumption, not to exceed 50% of on-premises sales of the limited winery's own wine. Limited wineries may provide visitors on the licensed premises with tastings of wine at no charge, or they may opt to charge for tastings. Limited wineries are also permitted to sell food for consumption on or off the licensed premises and at board-approved additional locations. A limited winery licensee may also sell Pennsylvania-grown fruits and juices, juice concentrates, jellies, jams and preserves from those fruits; Pennsylvania-grown mushrooms; home winemaking equipment and supplies; cork removers; wine glasses, decanters, wine racks, serving baskets and buckets; bottle stoppers; publications dealing with wine and wine making; cheese, crackers, breads, nuts and preserved meats; gift packages with any of the items previously mentioned; and promotional items. A limited winery may acquire a direct wine shipper license, which allows a winery to accept orders by mail, telephone and the internet and ship their products to individual consumers. Direct wine shippers may

> deliver their products directly to non-licensee customers and may hire licensed transporters-for-hire to deliver their products to customers (PLCB, 2021).

Another example of the PLCB’s regulatory influence through Limited Winery licensing is the requirement that to be valid under the law, producers must use only agricultural commodities grown in Pennsylvania (LCB-458, p. 8). However, there are exceptions as detailed by the PLCB:

> Secure a permit from the board to allow the holder of a limited winery license to use up to twenty-five per centum permitted fruit, not wine, in the current year’s production. Each permit is valid only for the calendar year in which it is issued. (ii) The fee for a permit to import and use permitted fruit shall be in an amount to be determined by the board. (iii) The purpose of this section is to increase the productivity of limited wineries while at the same time protecting the integrity and unique characteristics of wine produced from fruit primarily grown in this Commonwealth. Prevailing climatic conditions have a significant impact on the character of the fruit. Accordingly, “permitted fruit” shall mean fruit grown or juice derived from fruit grown within three hundred fifty (350) miles of the winery. (iv) The department is authorized to promulgate regulations requiring the filing of periodic reports by limited wineries to ensure compliance with the provisions of this section (LCB-458, p. 12).

Clearly, the PLCB controls the regulatory framework of the wine industry, including the agricultural regulations defined in the Limited Winery licensing to assist in productive tourism, agricultural productivity, and terroir within the wine industry in the state of Pennsylvania. The PA Preferred Wine Program further illustrates this regulatory oversight. The PA Preferred Wine Program features more than 100 different Pennsylvania wines at the state’s Fine Wine & Good Spirits stores (PLCB, 2021). To participate in the PA Preferred Wine Program a winery must:

- Be designated as a PA Preferred winery through the Department of Agriculture.
- Be up-to-date and current on all Limited Winery assessment fees.
- Only offer its most current vintage for sale in stores.
- Meet federal labelling standards for Pennsylvania wine, which require that at least 75% of the grapes used to make the wine were grown in Pennsylvania.
- In-state wineries may select up to 10 products to place in up to 10 Fine Wine & Good Spirits stores of their choosing. Each winery must sell at least one case of wine per store, per month to continue participating in the program (PLCB, 2021).

In addition to its core administration and regulatory mission, the PLCB provides programming for alcohol education awareness that emphasizes prevention of underage and dangerous drinking. These programs include grants, partnerships with Pennsylvania schools, media campaigns, training programs for colleges, and training for licensees to minimize alcohol abuses (PLCB, 2020).

The initial design of the regulatory framework was to limit public consumption for public health; however, the economic impact on the state budget and entrenchment of political stakeholders has made the privatization of this public monopoly politically challenging to repeal, regardless of the potential effects on local industry. This will be clarified further with an overview on the key policy stakeholders involved.

Stakeholders. The regulatory framework of the PLCB has created entrenched stakeholders that make it difficult to enact meaningful reform and market alterations regarding alcohol sales, wine industry development, and consumption within the state of Pennsylvania. It is a diverse group of policy actors pushing for and against reform, primarily consisting of a coalition of actors in support of privatization of the state-run monopoly and entrenched stakeholders that are against privatization. This coalition of entrenched stakeholders, according to the former Governor of Pennsylvania Dick Thornburgh, are "the principal roadblock to reform and has traditionally been an odd coalition of state store employee unions, fundamentalist anti-alcohol groups and organizations such as Mothers Against Drunk Driving, all of which perceive that they have legitimate interests which are not susceptible to statewide budgetary considerations. It would take some courageous leadership to stare down this combination, something I do not see in the commonwealth today" (Luciew, 2009, p.1). While this sentiment is clearly coming from a pro-privatization perspective, it does effectively communicate many of the major stakeholders and issues involved. The following section will describe and analyze the major stakeholder categories: privatization coalition, state actors concerned with budget ramification, public unions, and moral interest groups.

Privatization Coalition. The first major stakeholder is a diverse coalition of policy actors spanning the public and private sector who are consistently pushing for privatization in the regulatory framework of the Pennsylvania liquor market. This stakeholder group includes Republican elected officials; conservative think tanks, such as the Commonwealth Foundation; private businesses, such as bottle shops, grocery stores, restaurants, import expert firms, breweries, distilleries, and wineries; logistics and supply chain companies that do not have PLCB contracts; and other market stakeholders that are harmed by the public monopoly. This coalition also includes consumer choice advocates that support more public choice, ease of access, and lower prices (Luciew, 2009; Sechrist, 2012; Seim & Waldfoge, 2013; Snyder, 2014; Wallace, 2016).

This diffuse coalition of privatization stakeholders emphasize the need for lower taxes and fees, more consumer access to product at a lower price, more convenient access, less regulation in general, and a more business-friendly environment to incentivize local entrepreneurs such as wineries and breweries (Snyder, 2014, Community Guide, 2011).

Many of the actors are philosophically against any market being controlled by the state, while others claim the high barrier to entry, high taxes and fees, and tight regulation negatively affects the state's overall economy and disincentivizes local business innovation and creation (Campbell, 2014; Malamud, 2016). The goals of the stakeholders that make up this coalition span a spectrum from complete privatization to semi-privatization measures in specific market segments. One example of such targeted reform occurred in 2016 when the PLCB was supposed to eliminate a handling fee of $1.75 for every 750-milliter bottle of wine, which makes wine and the industry prohibitively expensive; however, they continued charging it (Malamud, 2016; Brubaker, 2020). Regardless of the specific policy target, this coalition is pushing to reform the state-led monopoly.

State Actors Concerned with Budget Ramification. The PLCB is a "cash cow" for the state of Pennsylvania. The state has integrated the profits from the public monopoly on alcohol into the state's general fund. The combination of state and local taxes, emergency taxes, handling fees, and supply chain and logistics fees has made the state's budget dependent on the revenue from the PLCB (Sechrist, 2012). In the fiscal year of 2020-2021, more than $813.4 million was returned to the General Fund, state and local government, and other stakeholders (Doughty, 2020; PLCB, 2021). While this is an interesting snapshot of the current fiscal impact on the state's budget, a more detailed account is needed. The PLCB (2021) explains this in detail:

> Fine Wine & Good Spirits stores generated more than $2.91 billion in sales and taxes in fiscal year 2020-2021. Together, more than $764.8 million was returned to the General Fund:

- $415.8 million in liquor tax
- $163.9 million in state sales tax
- $185.1 million transferred to the General Fund

The Pennsylvania State Police received $29.2 million for the enforcement of liquor laws. The Department of Drug and Alcohol Programs received $5.3 million to educate and prevent problem alcohol use. Philadelphia and Allegheny counties received $9.6 million in local sales taxes. Local communities received $1.8 million in returned license fees. In addition, they authorized $2 million in grants in support of Pennsylvania's wine and beer industries.

In the last five years, the PLCB has provided:

- More than $3.6 billion to the Pennsylvania General Fund
- $149.9 million to the Pennsylvania State Police
- $18.3 million to the Department of Drug and Alcohol Programs
- $19.5 million to local municipalities in returned license fees (PLCB, 2021)

As clearly illustrated by the accounting numbers, the state of Pennsylvania is dependent on the revenue generated from the PLCB because of the complete integration throughout the government. This, of course, makes any privatization reform difficult to implement as the relevant state actors have a vested interest in maintaining the public monopoly.

Public Unions. Public unions are among the most ardent supporters of the PLCB and anti-privatization efforts in the state. As discussed previously, the PLCB employees have been state employees since the inception of the PLCB close to 100 years ago (Schell, 2006; Campbell, 2014). The state employees are represented by the UFCW Local 1776, which represents the nearly 6,000 state employees that work for the PLCB. These employees make a livable wage and have great benefits such as healthcare and retirement, while legacy employees have pensions (UFCW 1776, 2020; PLCB, 2020). The pay, benefits, and job security of these retail positions are unlike any others in the area. The UFCW Local 1776 and pro-labor policy actors argue that privatization would negatively affect the 6,000 state employees and be a boon for a small number of large companies while hurting the greater macro economy of the state and, most importantly, working folks. They mobilize voters, support research, and back other groups to oppose privatization (UFCW 1776, 2020). This is an entrenched and powerful stakeholder group with support from the public and the Democratic state party, which makes privatization attempts difficult to implement.

Moral Interest Groups. Much like labor unions, moral interest groups are entrenched stakeholders in the PLCB. As previously discussed in detail, the PLCB was designed and implemented following the repeal of Prohibition as an attempt to regulate the liquor market, control access, and limit consumption by dry advocates led by Gifford Pinchot (Schell, 2006). The origin of the PLCB by advocates of the dry movement is still affecting the environment. There are multiple interest groups who focus on the morality of liquor consumption and support the tight regulation of liquor by the PLCB. The following are the most prominent policy actors in support of the PLCB and against privatization:

- Mothers Against Drunk Driving (MADD)
- Pennsylvania State Lodge Fraternal Order of Police (PA FOP)
- International Association of Fire Fighters
- The PA DUI Association
- Students Against Destructive Decisions (SADD)
- Pennsylvanians Concerned About Alcohol Problems
- United Methodist Advocacy of Pennsylvania
- Black Clergy of Philadelphia and Vicinity
- Baptist Pastors and Ministers Conference of Philadelphia and Vicinity
- Pennsylvania Woman's Christian Temperance Union
- Pennsylvania NAACP
- Pennsylvania Association of Staff Nurses and Allied Professionals

- Pittsburgh Interfaith Impact Network
- The Private Clubs and Fraternal Organizations
- Malt Beverage Distributors Association
- PA Beer Alliance
- United Food Commercial Workers Union
- Independent State Store Union
- Coalition of Labor Engaged for Accountable Revenue (CLEAR)
- The Better Choices Coalition
- PA AFL-CIO
- American Federation of State, County and Municipal Employees (AFSCME District Council 47)
- American Federation of State, County and Municipal Employees (AFSCME Council 13)
- P Pennsylvania State Education Association (SEA)
- PA Professional Firefighters
- Service Employees International Union (SEIU)
- The Association of Pennsylvania State College and University Faculty (APSCUF)
- Communications Workers of America (CWA)
- Coalition of Black Trade Unionists
- AFT Pennsylvania
- PA Police Chiefs Association
- The Brewers of Pennsylvania
- Mercer County Commissioners
- Philadelphia City Council
- Erie City Council
- Pittsburgh Interfaith Impact Network
- A Association of Retired Americans
- The US Centers for Disease Control Community Preventive Services Task (UFCW, 2020).

This is a substantial list of interest groups that advocate for the PLCB. In addition to these organized interest groups, the moral aspect of the origins of the PLCB is still felt statewide at the local level. Municipalities have the option to choose their stance on alcohol, which includes about 680 somewhat-dry municipalities; however, this is still controlled by the PLCB (Hadley, 2018). These dry municipalities further limit the potential growth of the wine industry, as they restrict the sale of liquor licenses to restaurants and bottle shops. Moreover, the PLCB spends substantial amounts of money to support alcohol awareness and education, in addition to grants that back these causes (PLCB, 2020).

This combination of mobilized interest groups, local control over liquor laws, and the state support in messaging, marketing, and financial rewards, leads to a diffuse but aligned group of policy actors that support the PLCB. This support stems from the tightly regulated market that they claim supports their efforts against underage drinking, hard alcohol, and drunk driving. While this is a diffuse group, it is entrenched in the history of the state and the liquor code, and it possesses serious mobilization and political power.

Further Evaluation. The following section will be a further evaluation of the PLCB, covering the perceived advantages and disadvantages of the alcohol market's current regulatory framework in the State of Pennsylvania. This will include multiple conflicting perspectives and analysis in each section, as an advantage for one stakeholder group may be a disadvantage for another, i.e., the state government versus the consumer access and choice of the citizens of the state. While each section is divided into overall advantages of the PLCB and disadvantages of the PLCB, there will be diffusion between the two where the distinction is not as binary.

Perceived Advantages. The first perceived advantage is revenue for the state of Pennsylvania. As described in detail previously, the PLCB is a massive source of income for the state of Pennsylvania. For further context, in the fiscal year of 2019-20 the total sales, including all liquor and sales tax, totaled $2.56 billion. While this was down from the previous year, the net income was a record for the PLCB at $208.7 million, which was almost 10% higher than the previous year (Batz, 2020; PLCB, 2020; PLCB, 2021). As described previously, the PLCB contributed $813.4 million to local and state government operating budgets and programming in 2020-2021 (Batz, 2020; PLCB, 2021). This money is diffused throughout the state-operating budget and state agencies; many programs are dependent on the continuation of this annual revenue source (Sechrist, 2012). Although critics argue that privatization would bring in more tax revenue for the state, an interesting experiment in Washington State contests this assumption. Washington State transitioned from a state-run regulatory framework to a more private enterprise, and initial findings from this case illustrate that:

> Washington state, which recently privatized its liquor system, provides a good example. In the first full year of privatization, Washington state collected $521 million which was an increase of $73 million from when the system was state controlled. However, that figure includes a onetime windfall of $105 million paid by distributors to enter into the private market.15 Therefore, the state of Washington collected less money from alcohol sales once the stores became privatized. Furthermore, the state was not the only one whose wallet took a hit. In an attempt to ensure that the post-privatization situation would yield the same amount of revenue as the previous system, Washington legislators increased taxes on alcohol. So, despite an increase in competition among alcohol distributors, the average price of alcohol in Washington actually went up after privatization from an average price of $22.48 per liter to $24.20.17 This price increase was larger than any year-to-year price change for the past 5 years (Pavlecic, 2017, p.16).

Although this is not generalizable as it is one case, it is the only recent modern natural experiment. Moreover, a recent macro-economic analysis shows, “on average, states with monopoly systems generate significantly greater alcohol-related revenues than states with license systems” (Snyder, 2014, p. 287). However, this can also be slightly misleading because this research does not account for the operating expenses of the state-run monopolies and the fact they generate more revenue for higher prices on merchandise, which negatively affects the consumer (Snyder, 2014).

The second perceived advantage is labor surplus and higher worker wages. As detailed previously, the PLCB employees are all state employees represented by the public union UFCW Local 1776 and have been unionized state employees since the inception of the liquor code close to 100 years ago (Schell, 2006; UFCW 1776, 2020; PLCB, 2020). Because of the status of the labor pool being state employees, these employees make a livable wage and have benefits such as healthcare, retirement, and, prior to being phased out, pensions. The pay, benefits, job security, and even the number of employees currently employed in retail (6,000 people), are much higher than any other liquor markets in the area (Schell, 2006; Seim & Waldfoge 2013; UFCW 1776, 2020).

Moreover, the seminal economic analysis by Seim and Waldfoge (2013), found that, “the PLCB delivers a substantial labor surplus that would not exist with a private system. Aggregate welfare is lower by about 5% of expenditure under the PLCB to its value under the two forms of free entry considered” (p. 851). The PLCB is clearly an advantage for the labor surplus and the public sector employees that work within the retail sector in comparison to a private market.

The third perceived advantage is reduced public consumption as a public safety measure, advocated by entrenched policy actors such as the coalition of interest groups described previously. The research on protecting public safety is conflicting (Zullo et al., 2013; Snyder, 2014). There is clear evidence that state-run monopolies—and specifically, the PLCB—reduce overall consumption of alcohol. Snyder (2014) found that states who transition from a state monopoly to a license system see an increase in alcohol consumption. Locally, it is projected that the state of Pennsylvania would have substantially more liquor stores and bottle shops—

almost triple—if the PLCB transitioned to a private market. This would undoubtedly have a beneficial impact on the local wine industry thanks to friendly consumer access and fewer regulatory restrictions on product representation (Snyder, 2014).

Moreover, it is projected transitioning to a private market would lead to a 15% increase in consumption of alcohol (Seim & Waldfoge, 2013). While this is the seminal work in the field, it was published in 2013 before the passage of Act 39 which incrementally liberalized access to alcohol, so potentially the findings would not show such a dramatic increase presently. That said, the natural experiment of deregulation in Washington State illustrated that wider assortment and easier access provided by the private market increased consumer surplus and alcohol consumption (Illanes & Moshary, 2020).

The PLCB explicitly states that it was founded on the principles of reducing public consumption in an effort to protect public safety, and part of its mission is to responsibly sell wine and spirits. In addition to the emphasis from the state, there are many entrenched policy actors, detailed above, who lobby and advocate for reduced public consumption of alcohol. From their perspective they have been successful, and this is an advantage for the current regulatory framework, although from the perspective of private market stakeholders and consumers it is not (Luciew, 2009; Sechrist, 2012; Snyder, 2014; Wallace, 2016).

Perceived Disadvantages. Though the regulations of the PLCB offer advantages to certain stakeholders, nearly all stakeholders are negatively impacted by the PLCB's state monopoly system. Consumers and private industry stakeholders, including the wine industry, are impacted.

In other states with similar systems, such as Utah, to be considered a monopoly enterprise the state must take ownership and control of the product through the supply chain at the wholesale level, retail level, or both. In private markets, the government controls a license system where private industry buys and sells the product and the state levies taxes and controls licenses (Gwartney et al., 2017). In Pennsylvania, the PLCB controls wholesale and retail while levying taxes at multiple points of entry (Snyder, 2014; PLCB, 2020).

To understand the disadvantage for the stakeholders within the state of Pennsylvania, a review of monopolies and their effect on the economic market is warranted. Generally, monopolistic markets are non-competitive markets which lead to a lack of consumer choice, limited access, higher prices, and a barrier to entry and exit for private industry in which entrepreneurs are free to profit or loss by their decisions and prices reflect general supply and demand (Munshi, 1997; Gwartney et al., 2017). Because of this competition, the private market will minimize cost, maximize scale of production, and operate as efficiently as possible, or else be forced out of the market (Gwartney et al., 2017). This will also result in profit maximizing for the private retailer and an improved consumer environment as the private retailers that do not adapt to the market pressures from the consumer will be forced out (Munshi, 1997; Gwartney et al., 2017).

Markets controlled by monopolies do not allow for perfect competition, resulting in multiple weaknesses for the general market. For example, the monopoly is able to set the prices, their prices cannot be undercut, and the consumers do not have other choices. Because of this, the monopoly is not forced to adapt to consumer preferences in choice, access to the market, distribution, and the retail experience (Tullock, 1967; Munshi, 1997; Gwartney et al., 2017). Simply put, monopolies are not designed as efficient operational organizations as they are not under the same competitive forces as a private market, and therefore often have higher prices, less consumer choice and access, distribution issues for stakeholders, and a poor retail experience. They also create a barrier for entry for other market players such as wineries and entrepreneurs (Munshi, 1997; Gwartney et al., 2017). This is even more pronounced when it is a government monopoly because of the inherent power of the state.

Government monopolies are not influenced by the private market, stockholders, or a corporate board. Although citizens of the state are generally considered the stockholders, they do not have the same competitive incentive to influence profit-maximizing operations within the monopoly (Tullock, 1967; Munshi, 1997). The citizens of the state absorb the cost of operations for the state-run stores, which include the inefficient operations and higher cost of human resources than in a private market, plus the negative externalities of a chilling effect on local relevant industries, such as wineries (Snyder, 2014). There are also special interest groups that can co-opt and influence the government monopoly. Moreover, a government led monopoly has the power of the state to influence and implement its operations, which includes legal ramifications (Tullock, 1967; Munshi, 1997; Gwartney et al., 2017). Perhaps most importantly, government control over a market is generally assumed to only be effective when there is a market failure such as agriculture subsidies, but production is vital. Clearly, the liquor market does not qualify as it is not a market failure (Weimer & Vining, 2017).

This general economic theory applies to the PLCB and their monopolistic control of the state liquor market. The seminal economic analysis of the PLCB by Seim and Waldfoge (2013) found that “(i) the PLCB faces high store operation costs, and (ii) the PLCB operates far fewer stores per capita than would likely prevail in a private in a private market” (p.849). They also restrict the overall market of alcohol production within the state (Seim & Waldfoge, 2013). This illustrates the effect on consumer choice, access, and inefficient operations compared to the private market. Moreover, because of the state price control, the liquor tax is 2.3 times higher than other states, which illustrates a higher price point for consumers (Seim & Waldfoge, 2013). This is common in states with a public monopoly and consistently leads to higher prices for the consumers and less access to product (Snyder, 2014; Illanes & Moshary, 2020). All of this creates a barrier for private industry because private competitors will have to compete with the monopoly without the benefit of a private market's agility and supply (Seim & Waldfoge, 2013; Gwartney et al., 2017). This creates a disincentive for local wineries and an incentive for consumers to shop elsewhere.

Furthermore, tightly controlled access to the market results in "border bleed." Border bleed is consumers leaving their home state to purchase alcohol from a neighboring state to have better access, choice, price, and experience. This is a pronounced issue in the state of Pennsylvania as the geographic population distribution is primarily on the eastern part of the state with easy access to other less regulated markets (Seim & Waldfoge, 2013). This is a problem for the wine industry as bordering states are less likely to stock and sell Pennsylvania products, such as wine (Seim & Waldfoge, 2013).

While the passage of Act 39 attempts to address some of these issues with the state-run monopoly by expanding liquor licenses to private bottle shops and permitting longer hours, the state still controls the price point, logistics of wholesale and retail, and entry to market for all actors. One clear example that negatively effects the wine industry is the difficulty of restaurants to obtain liquor licenses. Restaurants serve as one of the most vital supply lines for local wineries to improve sales and overall regional reputation, yet this option is severely limited in the state of Pennsylvania (Dombrosky, 2011; Kelley, 2015).

As clearly illustrated above, the PLCB as a state-run monopoly negatively affects the overall economics of the liquor market and liquor production in the state of Pennsylvania. This monopoly creates a huge disadvantage for the overall market, consumer choice, access, price, and private industry competitors, which includes the wine industry as their entire regulatory framework is controlled and influenced by the PLCB (Cattell & McKee, 2012; Dombrosky, 2011; Seim & Waldfoge, 2013; Gwartney et al., 2017).

This is not even addressing the implicit tax on citizens of the state that supports inefficient government operations while inadvertently disincentivizing local liquor production (Seim & Waldfoge, 2013; Snyder, 2014). Despite this regulatory environment, the Pennsylvania Wine industry has been steadily developing. While the PLCB may be a major factor within the Pennsylvania Wine Industry, it is far from the only one.

Chapter Two

Literature Review

The following chapter will cover the relevant literature pertaining to the Pennsylvania Wine industry with an emphasis on applicable dissemination for improvement. The first two sections will examine geographic indicators (GIs), collective reputation, consumer behavior, and the importance of regionality in agricultural production and the wine industry. The subsequent sections will review literature on overall wine economics, wine tourism, and agricultural policy with an emphasis on rural development. The importance of product differentiation through marketing and branding will be diffused throughout the chapter.

Contextual Overview

In agriculture production, geographic origin plays a crucial role in the market. Nowhere is this more vital than in the global wine market. The geographic indicator (GI) is a basic and simple structure that is familiar to any consumer that has chosen Champagne over sparkling wine or Colombian Coffee over Folgers (WIPO, 2017). At its simplest, GI is an indicator on a product that specifies a specific geographic origin. To qualify for a geographic indication a product must have a specific “origin and possess qualities or a reputation that are due to that origin” (WIPO, 2017, p.8). These signs, or quality signals of origin, are a type of intellectual property (IP) that has been recognized by international law and treaties since 1883 when ratified at the Paris Convention, whereby GIs are referred to as indication of source and even appellations of origin. The latter is intimately related to the international wine market (WIPO, 2017). Simply put, the product must possess qualities that are unique and singular because it was produced in that specific GI.

While GIs have had over 150 years of international legal protection and tradition, GIs are not simply intellectual property alone. They are also used as quality assurance, marketing tools for collective reputation, and a differentiator for consumers to use when browsing competing goods in crowded markets with little brand recognition (Patel-Campillo & DeLessio-Parson, 2016; WIPO, 2017). Geographical indications attempt to quantify the unique experience of place of origin in agriculture production through the experience of a singular product. GIs are collectively owned, managed, and governed with regard to regulations, production methods, quality standards and control, and distribution in attempt to channel that GI into the experience of the product and generate a collective reputation (WIPO, 2017).

Geographic indications represent an opportunity to market the distinct character of a place and collectively manage the reputation while differentiating a product in the global market. WIPO illustrates this well:

> In essence, whether a sign functions as a GI is a matter of national law and consumer perception. Moreover, to work as a GI, a sign must identify a product as originating in a given place, and the qualities or reputation of the product should be essentially due to the place of origin. Since the qualities depend on the geographical place of production, there is a link between the product and its original place of production" (WIPO, 2017, p.9).

This is also a valuable opportunity for marketing and brand differentiation (Laffont & Martimort, 2002; McCutcheaon & Bruwer, 2009).

In the global wine market, this sense of place is one of the most crucial indicators of perceived quality signals to consumers—the French have termed this Terroir, or a sense of place. Terroir is difficult to quantify, but it is often thought of as tasting the place of origin in the glass, such as soil composition, latitude, elevation, diurnal temperature variation, overall climate, water retention, and sun exposure. All of which compound into quality and taste and are assumed to be incorporated in GIs—although at even more micro locality (Wilson, 1998; Joy, 2007; Steinman, 2014). At a more macro locality, somewhat related to terroir, is regionality, or the reputation a region has for producing wines with a specific style—this is the organizing principle of the international wine market through the application of appellations of origins and wine certification (Wilson, 1998; Joy, 2007; Easingwood et al., 2011).

Appellation of origin is an auxiliary to GIs, acting as a more specific link to the place of origin. Simply put, appellation of origin is a sub-GI with a stronger sense of place in the product (WIPO, 2017). In the global wine market, wineries are generally organized by appellation, which is a network of wine producers that operate within a specific GI (Delmastro, 2005; Lee & Sumner, 2013). This coalition of producers define a regulatory framework that governs aspects such as grape varietal, production quantity, minimum alcohol, growing and aging practices, and other quality assurance mechanisms (Delmastro, 2005; WIPO, 2017). These appellations of origin originated in the French wine market and are often used as a general heuristic regarding wine production, quality assurance, and market differentiation, but the designations vary by country (Lee & Sumner, 2013).

As detailed above, the governance structure of GIs is an intricate signal to the market that the product is endued with certain characteristics from a certain geographic region. In the U.S., these sub-GIs or appellations are known as American Viticultural Areas or AVAs. An AVA, much like its predecessor in the old world, is a federally designated wine growing area that provides an official GI for the agricultural product in an attempt to illustrate the unique characteristics of the place of origin. This is also a vital tool in brand differentiation as AVAs can assist in product recognition and consumer purchasing behavior (Keating, 2020; The Alcohol and Tobacco Tax and Trade Bureau, 2021). AVAs are tightly regulated federal networks.

According to the Alcohol and Tobacco Tax and Trade Bureau (TTB), an appellation of origin, or AVA for U.S. Wine, must adhere to the following processes:

1. Not less than 75% of the volume of the wine is derived from grapes (or other agricultural commodity) grown in the labeled appellation of origin
2. The wine is fully finished (except for cellar treatment and/or blending which does not alter the class and type of the wine) in the labeled appellation of origin EXCEPT THAT in the case of a state appellation of origin, the wine is fully finished (except for cellar treatment and/or blending which does not alter the class and type of the wine) in the labeled state or an adjacent state
3. The wine conforms to the laws and regulations of the labeled appellation of origin governing the composition, method of production and designation of wine produced in the labeled appellation area
4. When an appellation of origin is required, it must appear on the same label and in the same view as the product designation (The Alcohol and Tobacco Tax and Trade Bureau, 2021, p.1)

In addition, for an AVA or sub-AVA to be formed there is a lengthy application process through The Alcohol and Tobacco Tax and Trade Bureau. This must include evidence that the area is nationally or locally known; an explanation for the boundaries of the AVA; a narrative description of the features of the AVA that will influence the viticulture and reflect the original idea of terroir; relevant geographic information; a narrative account of what makes it distinct; and, if it is a sub-AVA, why it merits further geographic indication (The Alcohol and Tobacco Tax and Trade Bureau, 2021). Once accepted by the TTB, there will be further analysis and potentially public input before the decision is approved by the TTB (The Alcohol and Tobacco

Tax and Trade Bureau, 2021).

This is clearly an extensive and tightly regulated process with an emphasis on quality assurance and improvement in regional collective reputation (Lim, 2021). And while this may seem excessive for a label on a bottle, geographic indication—or any indication of origin of production—is a vital tool in brand differentiation in a crowded wine market and serves as a signal of quality insurance mechanisms and collective reputation (Chaney, 2000; Cross et al., 2017; Keating, 2020; Lim, 2021). `

In addition to the region of origin designated by the geographic indicator, wine certification is another quality assurance mechanism that is often closely related to appellation of origin. This is a further mechanism for brand differentiation and quality assurance through collective reputation (Ugochukwu, 2015; Cross et al., 2017). While wine certification is a more holistic process, much like a geographic indicator, it is generally regulated through the relevant appellation of note or other regulatory bodies with strict minimum quality standards and protocols to ensure compliance and quality standards. Wine certification can be a vital differentiator from a consumer choice perspective; it serves as another level of a collective reputation branding opportunity within the market and has been illustrated to improve price and overall market position, particularly in emerging wine regions such as Pennsylvania (Delmastro, 2005; Ugochukwu, 2015; Ugochukwu et al., 2017).

One seminal example of this is the VQA in Ontario, which is managed by the Ontario Wine Appellation Authority who assures quality of production in this region by evaluating each individual wine, rather than an entire region. Through the Liquor Control Board, each wine undergoes a sensory evaluation to confirm that it meets the required basic quality benchmarks. If it passes this quality assurance process it is certified VQA approved (VQA, 2021). This process has assisted the emergent wine region of Ontario to obtain positive collective reputational gains and price increases on the certified wine. Previous research has illustrated there is a significant premium on obtaining VQA certification (Rabkin & Beatty, 2007; Ugochukwu, 2015; Ugochukwu et al., 2017). Another seminal example of this type of wine certification is the Black Rooster brand, which signifies Chianti Classico in Italy and has become world-famous, demonstrating clear positive impacts on collective reputation and price (Paolo & Davide, 2016). These examples are further indication of the value of collective reputation in a crowded market.

Furthermore, the literature indicates in markets where there is information asymmetry between the consumer and the perception of product quality prior to purchase, consumers search for indicators to assist in their purchasing decisions; collective reputation becomes a vital aspect of the decision-making process (Chaney, 2000; Laffont & Martimort, 2002; McCutcheaon & Bruwer, 2009; Keating, 2020). In the agricultural industry, reputation plays a crucial role because product quality is unknown until after consumption of the product (Rogerson 1983; Rindova et al., 2005; Ugochukwu et al., 2017). In any market where the quality is unknown or difficult to assess prior to purchase, it is considered an "experience good." Experience goods are defined by Laffont and Martimort as (2002):

> Goods with experience characteristics feature high pre-buying costs of quality detection. Hence, the buyer learns the product's attributes after buying and consuming. The post-buying costs of quality detection are low for such goods. This information can be used for further consumption of the product. Examples for such goods are jobs, hotels, newspapers, music records and movies, wine, restaurants, and food (p.3).

Because of this information asymmetry between the consumer and the quality of the product, reputation plays a crucial role in the decision-making process prior to purchase

(Rogerson, 1983; Caracciolo et al., 2015; Keating, 2020). Experience goods in agricultural markets have been widely studied, and the effect of reputation, whether that is individual or collective, has been shown to be a valuable indicator in consumers' purchasing decisions (Nelson, 1970; Rogerson, 1983; Bertozzi, 1995). Neeman et al., (2019) explains this effect in detail:

> The critical distinction between an individual and a collective brand lies in consumers' observation of past quality realizations. Consumers observe a firm-specific record under an individual brand and a group-specific record under a collective brand. This has two implications. First, each signal produced by a collective brand is noisier because, unlike in the case of an individual brand, consumers facing a collective brand cannot trace the signal back to the firm that produced it. Second, a collective brand generates more signals than an individual brand because each one of its members can produce a signal (p.790).

Moreover, in agricultural production the overall market as an experience good is rarely differentiated at the individual firm level. Much of the experience good market has low firm traceability and brand recognition, and the market is generally competitive with externally similar products; as a result, collective reputation is a crucial aspect of market differentiation in experience goods as it positively influences reputation which compounds into price (Winfree & McCluskey, 2005; Lee & Sumner, 2013; Lim, 2021). Research further indicates the need for strong regional branding, including GI or certification, which has been shown to be a foundation of brand awareness and salience in the market (Perrouty et al., 2006; Remaud & Lockshin, 2009; Ugochukwu et al., 2017).

The wine market is a clear example of an experience good, as its quality is unknown until after consumption, and this is compounded by the high cost of the product itself. Furthermore, wine is a complicated product that can be difficult for a consumer to choose because of low firm traceability, a high barrier to entry regarding consumer knowledge, overwhelming selection, label design, language barriers, and other market complexities (Louriero, 2003; Lim, 2021). Moreover, in a market with a large number of similar firms, the choice architecture is often complex, and it is difficult for a consumer to acquire the needed information to make a rational choice and differentiate between multiple seemingly similar products. Because of this, collective reputation as a proxy for brand recognition is valuable to minimize the information asymmetry, and maximize regional brand salience (Landon & Smith, 1998; Perrouty et al., 2006; Remaud & Lockshin, 2009; Lee & Sumner, 2013).

Individual firms operating within the experience good market—and specifically wine as a product—can and do differentiate themselves through marketing, quality, branding, and individual reputation. Take for example *Domaine de La Romanée-Conti* in Burgundy or *Château d'Yquem* in Bordeaux, both of which can sell for tens of thousands of dollars a bottle (Heun, 2019). These are overwhelming outliers in the industry, and the literature indicates reputation and price within the wine market are largely driven by collective reputation based upon a geographic indicator or wine certification that serves as a differentiation tactic within a crowded market (Landon & Smith, 1998; Perrouty et al., 2006; Remaud & Lockshin, 2009; McCutcheaon & Bruwer, 2009; Keating, 2020).

Collective reputation is a crucial aspect of wine marketing and branding. As an experience product, wine is difficult to differentiate at the individual firm level, so assumptions based upon collective reputation at the point of purchase are vital within the market (Tirole, 1996; Caracciolo et al., 2015). As reputation is a collective resource, current purchasing decisions are based upon past quality assurances and overall collective reputation. For example, a consumer may choose a bottle of wine based solely upon the collective reputation represented by its geographic indicator, AVA, or certification; the consumer may assume the quality is high because it is from a well-known geographic indicator like Napa Valley or Rioja or it has been certified through further quality assurance processes (Castriota & Delmastro, 2015; Ugochukwu, 2015; Lim, 2021). The importance of collective reputation as an experience good is even more pronounced in the wine market than most agricultural production because of the price per unit of wine as a consumer product (Landon & Smith, 1998; McCutcheaon & Bruwer, 2009).

Although the consumer may not know the quality, the collective reputation is an indicator of perceived quality that assists in the decision-making process. Furthermore, Neeman et al., (2019), explains this effect in detail:

> Firms make substantial investments to build strong brands. The American Marketing Association defines a brand as “a name […] that identifies one seller's good […] as distinct from those of other sellers.” Sometimes, firms sell their products under a shared name or a collective brand that carries a collective reputation that is shaped by the firms who bear the name. For example, a bottle of wine carries an appellation, such as Bordeaux or Champagne, which applies to many producers in the same region. Many lay consumers cannot distinguish among the names of individual producers and rely on appellations to make their purchase decision (p.793).

These appellations clearly influence consumer decision-making and the perception of quality, but much like a common resource, collective reputation needs to be governed and managed to minimize the free-rider problem to maintain this reputation (Winfree & McCluskey, 2005).

As a common resource where collective reputation in the wine market is represented by GI, there is an incentive to have lower quality to free-ride on the collective reputation (Ostrom, 1990). To minimize this, it is important that there are minimum quality standards governing the collective reputation. This is accomplished through appellations/AVA or regulatory certifications in the wine market, which makes appellations/AVA or quality assurance certifications such a valuable indicator (Delmastro, 2005; Delmas; 2005; Ritchie, 2007; Benfratello et al., 2009; Delmas, 2014; Castriota & Delmastro, 2015; Ugochukwu, 2015). One clear success discussed previously is the VQA in Ontario, which enforces a sensory evaluation of each wine submitted for certification in place of only a geographic indicator, therefore maintaining quality assurance (Ugochukwu, 2015).

The perception of quality, indicated by collective reputation represented by geographic indicator, certification, or an AVA, is recognized in the wine industry as a major factor in consumer behavior and price formation (Costanigro et al., 2010; Caracciolo et al., 2015). This can be quite dramatic as it has been found that the effect of region alone can be as high as +31% impact on the price per bottle (Oczkowski, 1994; Wade, 1999). As discussed in Chapter One, this is a complication for the Pennsylvania wine industry as wine as a consumer product is prohibitively expensive to purchase without quality assurance and a positive collective reputation—yet the Pennsylvania wine industry has little quality assurance, high variability in quality in the market, and little regional brand salience (Childs, 2009; Easingwood et al., 2011; Gardner, 2016; Patel-Campillo & DeLessio-Parson, 2016). Each of these factors complicates the industry.

As illustrated, geographic branding is clearly an important part of collective reputation and therefore consumer choice and the downstream effects on price and overall market success; however, there are other major influences, of course, such as the aging process, alcohol content, color, type of bottle, varietal, individual reputation, branding, awards and, notably, other quality assurance mechanisms such as certification (Angulo et al., 2000; Barber et al., 2007;

McCutcheaon & Bruwer, 2009; Roma et al., 2013; Olsen et al., 2015; Di Vita et al., 2015; Caracciolo et al., 2015; Ugochukwu, 2015; Carsana & Jolibert, 2017; Dal Bianco et al., 2018).

Furthermore, while quality assurances through the tightly regulated appellation or AVA are clearly valuable, there is a small field of research indicating that any geographic branding that represents the region of origin of agricultural production—even outside of the appellation or AVA—adds value to the product and positively influences consumer purchasing decisions, whether that is in the wine market or other agricultural products. However, this subfield of research is limited in emerging and frontier wine regions such as Pennsylvania (Loureiro, 2003; Johnson & Bruwer, 2007; McCutcheaon & Bruwer, 2009; Chamorro et al., 2015; Cacchiarelli et al., 2014; Cacchiarelli et al., 2014). Although most of the literature does indicate that a tightly regulated appellation, AVA, or wine certification adds more value than a generic region of origin classification (Lim, 2021).

And while both quality assurance through geographic indication and quality assurance mechanisms such as wine certification have been empirically validated to be a valuable economic indicator, they have been shown to be even more valuable in emerging wine markets. This is highly relevant to the Pennsylvania wine industry through the formation of a positive collective reputation which compounds into consumer choice, positive price differential, and overall industry progression (Famularo et al., 2010; Ugochukwu, 2015; Patel-Campillo & DeLessio-Parson, 2016; Ugochukwu et al., 2017).

Wine Industry Impact

The grape and wine industry is a valuable economic driver of agricultural production in the U.S. To illustrate the value of grape and wine production in the U.S., in 2017, Wine America commissioned a leading economic analysis firm, John Dunham & Associates of New York, to complete a comprehensive economic impact study that demonstrated a total economic impact over $219.9 billion nationally (Dunham, 2017). The study reported over 43 million winery visits, 13,058,788 individual tourists, over 100,000 jobs, and billions in sustainable taxes (Dunham, 2017). To highlight one relevant case, a neighboring state to Pennsylvania, New York State, had a total economic impact of $13.8 billion, over 62,000 dependent jobs, 4.5 billion visits, and over 1.3 million tourists, with billions in taxes (Dunham, 2017). While the economic impact in Pennsylvania, detailed in Chapter One, is substantial, the overall economic impact in a similar state illustrates the growth potential of the Pennsylvania wine industry.

In addition to the overall economic impact of the industry, the agricultural crop itself is highly profitable. In the U.S., grapes are the highest value fruit crop—and the sixth highest value of all U.S. crops—which highlights the potential for greater profit and tax revenue than comparable agricultural products currently planted (MFK, 2007; Rimerman, 2011; Dunham, 2017). The economic impact of the wine industry in agricultural production is evident, which demonstrates the potential for rural development through the growth of the Pennsylvania Wine industry as an area of vital economic advancement.

To understand the wine industry's potential impact on rural development, there is a need for a brief contextual overview on rural development. Rural development is developmental policy emphasizing the improvement of economic well-being and quality of life for individuals and communities in rural areas through sustained improvement in the standard of living (De Janvry et al., 2002; Moseley, 2003; Swinnen, 2007; Sharp, 2018). Traditionally natural resource development and agriculture have been emphasized. However, with the globalization of the world economy a pattern of industry consolidation and outsourcing of previously stable industries has emerged. This has minimized the overall standard of living in most rural communities so dramatically that some scholars have remarked that globalization created a new rural peasanty in the modern economy (De Janvry et al., 2002; Van Der Ploeg, 2018).

Along with this global economic evolution, there has been an increase in tourism and recreation as dominant economic drivers of rural communities (Moseley, 2003; Anriquez & Stamoulis, 2007; Van Der Ploeg, 2018). With the majority of the world's poor located in rural areas, sustained rural development is important for the individual communities as well as the overall health of the state. And wine as an agricultural product is naturally aligned with robust and sustainable rural development through both the traditional economic indicators as well as the emergent themes (De Janvry et al., 2002; OECD, 2016; Cvijanovic et al., 2017; Sharp, 2018; Van Der Ploeg, 2018).

As an agricultural product, the wine industry is a positive force in rural development thanks to the multiple compounding areas that support agriculture, tourism, and the overall sustainable growth of the local community (MFK, 2007; Hall et al., 2009; Cvijanovic et al., 2017). This creates a robust economy through employment opportunities across the entire spectrum of the workforce, including seasonal work, tourism, service industry, farming, hi-tech manufacturing, knowledge-intensive trades, and downstream impacts on related industries (OECD, 2016; Cvijanovic et al., 2017).

Moreover, wine as an industry is inherently a long-term commitment to any area of rural development as it is intrinsically tied to a particular place through agricultural production and the significant investment required to create a base of production, including purchasing of land, planting vineyards, and building adjacent equipment and facilities (MFK, 2007; Hall et al., 2009; Cvijanovic et al., 2017; Sharp, 2018). Unlike much of the modern economy, once planted the industry cannot move toward offshore production in search for cheaper labor, economics of scale, a more beneficial business environment, or tax structures (MFK, 2007; Quadri- Felitti, 2015; Sharp, 2018). This point, and the relevancy to Pennsylvania rural development, is illustrated by Rimerman (2011):

> Growing grapes and making wine is a long-term commitment to a community, both financially and physically. New vineyard plantings require three to five years before yielding a full crop, with another one to three years of aging for wine to be ready for sale. Unlike many industries, once vineyards and wineries are established they are effectively rooted and tied in place – a Pennsylvania vineyard cannot simply be relocated to another region or outsourced to another country. Wine and grapes are inextricably tied to the soil from which they are grown. Moreover, wine and their products and allied industries diversify local economies and create employment and new market opportunities (p.6).

This makes it attractive for long-term public investment as it is a consistent and sustainable tax infrastructure. The wine industry also has the added benefit of promoting environmental and landscape sustainability while supporting preservation by maintaining agricultural land and limiting development. That is not to mention intangibles outside of financial metrics in rural development that are more difficult to measure, such as overall quality of life and wellbeing (Quadri- Felitti, 2015; Cvijanovic et al., 2017; Sharp, 2018; Cei & Delfrancesco, 2018). While the wine industry is clearly an economic tool for rural development, one segment of this industry is the main driver for rural economic development and is of special interest to Pennsylvania; that tool is tourism (Willits, 1993).

Wine tourism is defined as a tributary of food tourism with the stated purpose of exploration and tourism of regions that produce wine (Carlson, 2007). This is an active process that often includes visiting vineyards, tasting the wines, and exploring the overall region (Hall et al., 2000; Carlson, 2007). It is often discussed in the literature as a productive form of rural tourism in which tourists are able to authentically explore a region's rural and regional culture through the local industry and food and wine experience (Hall et al., 2000; Carlson, 2007). The literature indicates that wine tourism, as a part of food tourism, acts as a positive influence on local economies and rural development through tourism and the related industries (Hall et al., 2000; Carlson, 2007; Cvijanovic et al., 2017; Sharp, 2018; Cei & Delfrancesco, 2018). In many regions of the country, wine tourism is the driving factor in the continued growth of the wine industry. It provides substantial economic support to rural communities while continuing to support local cultural traditions and improve the overall quality of life in the region (Hall et al., 2000; Carlson, 2007; MFK, 2007).

The seminal wine industry report from Wine America estimates there were over 43 million visits to wineries with over 13 million distinct tourists in 2017 (Dunham, 2017). This report and the previous literature clearly illustrate the promise of rural development through wine tourism and the overall wine industry. With this in mind, it is vital to understand the key drivers of wine tourism.

Santos et al., (2021) investigated the main drivers of wine tourism through an empirical systematic review of the current literature. These findings illustrated that the main drivers of successful wine tourism were:

> (1) support features (governance, public policies and economic investment; supply development; physical and capacity conditions; requirements of health safety; opinion makers and leaders: managers/ stakeholders/players/marketers and benchmarking and value chain); (2) innovation ecosystem (profile of the new generations of wine tourists; virtual and augmented reality: digital and hybrid wine events; smart wine tourism

> companies; digital channels and platforms: blogs, websites, applications; wine tourism creative activities for all [from kids to seniors] and sustainable and ecologic wine tourism practices); (3) wine tourism experience dimensions (storytelling; involvement; winescape; attachment; emotions and sensory) and (4)behavioral intentions (satisfaction; loyalty; and WoM) (p.1).

Interestingly, this research indicates the need for a holistic wine tourism support system that includes public governance, marketing, and individual accountability (Santos et. al., 2021). In further detail, wine historically has been considered of its place. As a result, its agricultural production often reflects this philosophy through sustainable farming practices, landscape preservation, and the curation of a rural aesthetic—which in turn improves rural development through tourism and long-term investment (Quadri-Felitti, 2015; Santos et al., 2021). This approach is considered wine-scape, which is the unique rural appeal of the destination, and is a driver of a substantial amount of wine tourism. Much of the literature indicates that continued environmental sustainability is critical to the growth of wine tourism and rural development. That said, the literature indicates that this is rarely achieved organically, and that government policies and support are essential to this effort (Colman, 2008; Miller et al., 2010; Quadri-Felitti, 2015; Santos et al., 2021).

Another policy arena the literature indicates is needed to develop robust wine tourism is positive regionality and collective reputation of the region. Much of the economic activity of wine tourism and rural development is dependent on a positive collective reputation around geographic indication (Hall et al., 2000; Carlson, 2007; Cei & Delfrancesco, 2018; Winfree et al., 2018). Naturally, this creates the need for further government and stakeholder support toward wine tourism development to improve the reputation—and therefore economic impact (Koch et al., 2013; Cei & Delfrancesco, 2018; Winfree et al., 2018; Santos et al., 2021).

Much of the literature suggests that individual wineries can improve their reputation, and consequently their economic positioning and distribution channels, through positive experiences at the cellar door, which could include emphasizing a brands' story, curated wine clubs, tasting events, and elevated customer service (Dodd, 1995; Hall et al., 2000; O'Neill & Charters, 2000; Carlson, 2007; Held, 2012; Woldarsky & Geny-Denis, 2019).

In addition, Wargenau and Che (2006) show that wine tourism—which includes visits, wine festivals, competitions, and other wine related recreation—are a valuable distribution channel for local wineries. This impact is amplified with wineries using locally grown grapes, which have the potential to add close to eight to ten times the value to the crop compared to importing grapes from elsewhere. And this does not factor in the auxiliary benefits of locally grown fruit, such as local rural development and the collective reputation growth through terroir. However, as it is a collective business, there is only so much individual wineries can do to improve the overall reputation, and therefore successful wine tourism and rural development. In addition, there is a critical need for stakeholder support to create a beneficial ecosystem for growth through good governance (Hall et al., 2000; Carlson, 2007; Woldarsky & Geny-Denis, 2019; AgMRC, 2021). The literature also indicates there is a further need for the relevant stakeholders to create brand awareness of the region at a national and international level (Koch et al., 2013; Santos et. al., 2021).

The literature overwhelmingly indicates a networked approach to wine tourism development is needed to successfully develop regionality and collective reputation, begetting positive economic rural development in the wine industry. In summary, Getz et al., (2000) illustrates that wine tourism is not just dependent on high-quality wine, but a collection of supporting industries and stakeholders that create a holistic industry. These include dining, lodging, wine-scape, and other rural aesthetic experiences, which collaboratively create a network of regionality to curate a positive wine tourism experience—and consequently positive reputation and economic impact and development (Hall et al., 2000; Carlson, 2007; Woldarsky & Geny-Denis, 2019; Santos et al., 2021).

The literature additionally demonstrates that government and non-profit entities have been one of the most vital stakeholders and partners in the wine tourism industry through supporting events, marketing, festivals, staffing and investment in local infrastructure and resources (Hall & Mitchell, 2001; Wargenau & Che, 2006; Conto et al., 2015; Santos et al., 2021). Fundamentally, the literature illustrates the need to create a wine and food network that works collaboratively with relevant stakeholders, including primary stakeholders such as wineries and restaurants, and other relevant stakeholders such as government entities and non-profits; the result benefits rural development and agricultural economics (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021).

Chapter Three

Data and Methods

The purpose of this research is to analyze the current environment of the Pennsylvania wine industry and provide actionable policy recommendations for industry improvement based upon empirical analysis. To effectively and empirically make actionable policy recommendations, the research was approached through a careful and expansive quasi-comparative case study analysis using grounded theory qualitative processes. Text mining and document analysis techniques were used to minimize any inherent methodological weaknesses within grounded theory. This chapter will describe the overall research design, which includes the theoretical foundations, research protocols and processes followed, and qualitative methods and processes used for data collection and analysis.

Theoretical Foundations: Grounded Theory, Text Mining, and Document Analysis

Glaser and Strauss (1967) introduced grounded theory as an inductive and data-driven qualitative research analysis process, which is founded on constant comparative analysis of the data to drive theory and findings resulting from the data collected. This process challenged the previous modes of analysis that argued quantitative analysis was the only research design to build empirical models and truths. In doing so, they attempted to reframe qualitative research design as an empirical and scientific driven process where theories and truths are derived from the data collected—not previous theory or preconceived beliefs from the instrument of data collection, the researcher (Chun et al., 2019).

In detail, similar to other qualitative research designs, the instrument of data collection and analysis is the researcher (Strauss & Corbin, 1990; Yin, 2010; Merriam & Tisdell, 2016, p. 31). While there are many similarities to other qualitative research designs, unlike many qualitative designs and methodical approaches, grounded theory approaches data analysis through an emergent process where the key themes, findings, and potential theories emerge from the raw data instead of the theory driving the emergent themes and possible solutions to the research questions (Merriam & Tisdell, 2016; Porter, 2019). The data grounds the theory building and is not driven by the researcher (Merriam & Tisdell, 2016, p.32).

Grounded theory methodology can be applied to many different qualitative research design approaches, including observations, interviews, ethnographies, document analysis, and textual mining and analysis (Merriam & Tisdell, 2016). In this theory, the data is under constant analysis and triangulation with previous data and known literature and fact. Through this constant and systematic comparative analysis, triangulation, and empirical evidence driven process, emergent themes and findings are developed (Merriam & Tisdell, 2016). The process is driven by organization of related data grouped together as themes emerge. As these themes emerge and develop through the constant analysis and comparison, as well as the conformation of factual accuracy through triangulation of relevant evidence, the emergent themes are organized into overall relevant categories that begin to reflect the findings of the data (Merriam & Tisdell, 2016; Porter, 2019). This process is continued and relationships between all categories and data are continually analyzed and triangulated to ensure factual accuracy and progress until the most prominent theories and findings are revealed (Strauss & Corbin, 1990; Yin, 2010; Merriam & Tisdell, 2016, p.32)

While grounded theory is an applicable and widely used research method, it often fails to recognize the potential bias of the researcher as the primary instrument of data collection and analysis, and in doing so, masks the agency, opinion, and interpretation of the researcher (Olesen et al, 2010). Because of this, to minimize this methodological weakness and further the empiricism of this design, text mining was deployed.

Text Mining

Text mining is the automated process of obtaining themes, patterns, frequencies, or interesting information from text-based data sets. Text mining, or text data mining, is a complicated machine learning approach to the analysis of text-based data. This complexity is compounded when the textual data sets lack structure or organization (Tan, 1999; Cook et al., 2019). Text mining protocols follow two steps. The first, organization and refinement of the original textual data sets to an organized framework. The second, mining the textual data set through machine learning techniques to find emergent themes, patterns, and relationships across all textual data sets (Tan, 1999; Delgado et al., 2002; Cook et al. 2019). While text mining is a powerful tool as an addition to grounded theory, an additional step of document analysis was needed to triangulate all findings and emergent data.

Document Analysis

Document analysis is a systematic qualitative research process used primarily for triangulation of previous combinations of methodologies in the same study (Denzin, 1970, p. 291; Corbin & Strauss, 2008). In doing so, the qualitative researcher uses multiple sources of data, in this case relevant documentation and literature, to triangulate and collaborate previous emergent themes and theories evolving out of the primary data source and methodology. By using data collected from different sources and methods, the researcher is able to certify any claim and confirm findings from previous data sets and methods. This triangulation of previous findings assists the researcher in making the methodology more empirical, reduces the implicit bias of data originating from a single source, and attempts to provide further credibility through the confluence of additional evidence (Patton, 1990; Eisner, 1991, p.110).

Grounded theory combined with text mining and document analysis is an applicable structured approach to this research project, as it is an ordered positivist qualitative methodology that is appropriate when there is little data on the research questions under study. Furthermore, the additional methodologies and data sources applied minimize the inherent weaknesses with grounded theory. This policy analysis approached a relatively unstudied phenomenon within the state of Pennsylvania with minimal current data to guide policy decisions. As grounded theory aims to construct explanatory theory or to assist in creation of understanding process, combined with text mining and document analysis, it is a valuable and appropriate research approach for a positivist policy-driven research analysis (Chun et al., 2019).

Research Design

This research design was approved by the Institutional Review Board at West Chester University prior to data collection; please see Appendix B for approval. As discussed previously, the theoretical foundations of this study are approached through grounded theory and furthered by text mining and document analysis techniques to minimize any potential methodological weaknesses within grounded theory.

In addition to the theoretical underpinnings of grounded theory, text mining, and document analysis, this study uses a quasi-comparative case study with the Pennsylvania wine industry as the case under analysis. Relevant quasi-comparative cases with similar policy environments are used to diffuse and triangulate claims and themes throughout. Creswell (2013) described this research approach as “case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audio-visual material, and documents and reports), and reports a case description and case-based themes" (2013, p.97). The Pennsylvania wine industry is primarily a bounded system and case with multiple subunits or subcases under study, such as multiple relevant stakeholders within the larger case of Pennsylvania. Concurrently, cases of note that are not bounded, but are relevant to the Pennsylvania wine industry also exist. With this combination of factors, a constructive design is warranted (Merriam & Tisdell, 2016).

With this in mind, an inventive quasi-comparative case study design was deployed which included data from multiple differing wine regions and regulatory environments used for policy diffusion, data collection, text analysis, triangulation, and comparative analysis. This is differentiated from full comparative case study analysis as the primary data source. Interview data was only collected from the bounded system of the Pennsylvania wine industry, and a full policy analysis was only completed for the Pennsylvania wine industry (Merriam & Tisdell, 2016).

This approach to analysis was chosen under the context of the Pennsylvania wine industry as a case of analysis that contains multiple relevant stakeholders and where minimal previous research and data sets exist, yet comparable wine regions and policy environments offer insights that can be diffused and applied. Moreover, this research design, as discussed in detail subsequently, approached data collection through a detailed and in-depth data collection process involving multiple sources of relevant information, which is aligned with the foundational concepts of case study analysis (Creswell, 2013).

Data & Analysis

The primary data source of the research analysis was 25 unique, in-depth participant interviews with relevant industry stakeholders who had direct experience and extensive knowledge of the Pennsylvania wine industry. In-depth interviewing was chosen by the researcher as an attempt to diagnose relevant emergent patterns from the detailed applicable experiential description and thoughts recounted by the participants. This method was taken as comprehensive qualitative interviews are designed to identify deep knowledge and information (Hesse-Biber, 2017).

The data collection from relevant participants was approached through a purposeful sampling technique. The purposeful sampling technique is a widely used and respected data collection process in qualitative research that is applicable for the diagnosis and selection of relevant sources of rich and applicable information (Creswell, 2013). In detail, purposeful sampling is used to identity and select individuals that hold deep expertise and knowledge on the topic of interest (Palinkas et al., 2016). Approaching the data collection process through purposeful sampling ensured the most accurate and relevant data.

The definition of a relevant industry expert eligible for participation was divided into two groupings. The first, a public actor within the industry, and the second, a private actor within the industry. A public actor was defined as an individual with extensive experience and expertise in the Pennsylvania wine industry. They were considered experts eligible for participation based upon their role in the industry. For public actors to be eligible for inclusion they must be directly involved in the industry through their professional practice, including current or former relevant state stakeholders such as Pennsylvania Legislators, administrators in the Department of Agriculture, Department of Tourism, Pennsylvania Liquor Control Board, or Penn State

Extension. This definition of public actors also included relevant industry actors from non-profits such as Pennsylvania Winery Association, Pennsylvania Wine Marketing Research Program (PWMRP), and Wine America.

A private actor was defined as an individual with extensive experience and expertise in the Pennsylvania wine industry. They were considered experts eligible for participation based upon their role in the industry. For a private actor to be eligible for inclusion they must be directly involved in the industry through their professional practice, including current or former sommeliers, beverage directors, wine educators, wine scholars, wine journalists and critics, private bottle shop owners, wine consultants, winery operators and owners, and wine distributors.

To obtain participation from eligible public and private actors, the researcher approached each relevant participant through public contact information, requesting an interview and sharing a letter of invitation to participate in the research project, as well as informed consent documentation. Each participant was ensured their complete confidentiality, and thus are referred to as a public actor or private actor participant to ensure there will be no compromise of an individual’s identity, or even their role or organization. In addition, any potentially identifying information revealed within data collection was removed by the researcher prior to being shared within the findings. Prior to each interview, the informed consent process was reviewed, signed, confirmed, and returned to the researcher. Each participant signed the informed consent documentation; see Appendix C.

The data collection process was approached through a semi-structured, in-depth interview process. The semi-structured interview questionnaire was used as a guide to direct the conversation and ensure all relevant data was collected with potential probes under questions to be used as follow up questions. The interview questions were a broad instrument of data collection to ensure the most pertinent issues, guided by previous literature and industry issues, were addressed; see Appendix A for interview guide. While the interview guide was used as a list to remain on-task, much of the conversation was driven by the relative interest and expertise of the participants. This included multiple unscripted follow-up questions, general dialogue from participants related to the Pennsylvania wine industry, and open-ended discussion led by participants.

The interviews were roughly 60 minutes but ranged from 22 minutes to nearly two hours. The variation of the interview length was dependent on the participant's role within the industry, related industry knowledge, and interest in discussing the Pennsylvania wine industry.

In addition to the 25 unique participants, multiple participants were interviewed twice. This second data collection opportunity was driven by participant interest and involvement, as they contacted the researcher with an interest in discussing the topic further. These follow up interviews ranged from 20 minutes to 45 minutes in time. In addition to the interviews, multiple participants shared related documentation and data. This included public documentation and policy related to relevant stakeholders, private documentation, legal analysis, and internal operations data and policies related to their operations. The interview data collection process continued until the researcher diagnosed data saturation. A rich, expansive data collection process and data saturation was achieved as the interview process compounded with pertinent external and internal documentations.

The data collection process regarding interviews were completed over Zoom or the phone. Only three interviews were completed over the phone with the rest being over Zoom. All interviews were recorded through Zoom and transcribed through Otter.ai with accurate transcription confirmed by the researcher.

Following the transcription, the analysis of the interviews followed an in-depth inductive thematic coding process that used grounded theory protocols to determine emerging themes from the primary data. First, the researcher listened to and watched the Zoom recording of every interview to obtain a general understanding of potential themes. This step also included a non-critical reading of each interview transcription while taking notes to have a holistic understanding of the data. Second, using Nvivo as a coding and analysis tool for digital qualitative analysis, the researcher went through the interviews in an in-depth thematic analysis of the data. This step included open coding any section of data that could potentially be relevant to the Pennsylvania wine industry. Following the initial coding and continuous data analysis, the researcher used the constant comparative analysis technique to create classes of data that represent potential themes running throughout the data (Merriam & Tisdell, 2016; Porter, 2019). As the continuous comparative analysis evolved, multiple categories and subcategories emerged from the data.

In addition, as an attempt to minimize any potential bias, as the researcher was the primary instrument of data collection and analysis, the researcher used text mining techniques through Nvivo to further triangulate and determine any emergent themes (Cook et al., 2019). The organization of the textual data was uncomplicated as the textual data sets were structured through the semi-structured approach to data collection and were organized by participant and role within the digital software. The two main text analysis methods used were auto-coding the data and machine learning through topic modeling. The first, auto-coding, is an automated analysis of the textual data which discovers patterns, trends, and frequencies in the body of text.

The second, topic modeling, is an extension of auto-coding and a more in-depth machine learning technique which identifies patterns and themes in a large body of text (Merriam & Tisdell, 2016; Cook et al, 2019; NVivo, 2021). While these are straightforward text mining techniques, they greatly helped reduce any potential researcher bias and assisted the researcher in diagnosing potential emergent themes and patterns in the data that may have gone unnoticed without this additional research protocol.

Incrementally, through the constant comparative analyses and text mining, these categories and subcategories emerged into foundational themes that represent the main emergent themes in the Pennsylvania wine industry. While the grounded theory thematic analysis of the primary data, combined with the additional research step of text mining, formed the foundation of the quasi-comparative case study, this alone was not sufficient. Triangulation of all findings, themes, and claims through document analysis was needed to validate emergent themes and eventually create actionable policy recommendations based on the data.

To continue to validate any potential findings and extend the empiricism of potential emergent themes that developed through the previous methodology, extensive relevant document collection and analysis was undertaken. The data collected for this secondary data source were all relevant industry documentation. This was a substantial data collection process which consisted of thousands of relevant industry documents.

The first primary data source included all publicly available documentation from the PLCB, including all annual reports, sales statistics, financial reports, press releases, board meeting minutes, a limited winery booklet, and any winery permit documentation. The second primary data source included all public documentation from the PWA, which consisted of economic impact reports, a Pennsylvania winery guide, wine fact sheets, Act 39 fact sheets, membership documentation, tax documentation, regulator documentation and fact sheets, press releases, marketing materials, and general website content. The third primary data source was the PWMRB, and this documentation included all board meeting minutes, founding program order amendment, grant process documentation, and a wine impact report. The fourth primary data source was Wine America, and this consisted of any documentation with general wine policy, economic impact reports, and documentation referencing the Pennsylvania wine industry. The fifth primary data source was Penn State Extension, which included all research reports, press releases, and documentation referencing the Pennsylvania wine industry. The sixth primary data source was policy and procedure from other relevant stakeholders within the state, including Department of Agriculture and Department of Tourism.

The final primary data source was a comprehensive collection of any relevant industry best-practices, industry economic reports, grey literature, peer-reviewed literature, and policy and procedures from relevant industry regional peers or aspirational regions, with a special focus on New York State, Virginia, New Jersey, Maryland, Oregon, New Zealand, Austria, France, and Ontario, Canada. This included a detailed annotated bibliography created by the researcher consisting of thousands of relevant industry data points and literature reviewed by the researcher throughout this research project. This was used as a policy diffusion tool to triangulate any findings and support any potential policy recommendations based upon the emergent themes discovered in the primary data (Berry & Berry, 2018).

The analysis of the documentation was used to triangulate all relevant emergent themes that were discovered in the grounded theory interview process and the text mining protocols. In detail, all findings and claims that emerged during the interviews and the text mining process were triangulated and cross-referenced with relevant documentation to ensure accuracy and factual representation. This was completed through careful organization and analysis with Nvivo, which made the analysis of the extensive data set possible (Porter, 2019). Furthermore, any finding and emergent theme that was not confirmed by the documentation, unless clearly opinion, was left out of analysis and findings. In summary, the triangulation of all findings from the primary data source with the document data set extends the empiricism of this process and continues to reduce any potential bias of the researcher.

Chapter Four

Findings and Discussion

Following the extensive research, continual comparative analysis of data, text mining, and document analysis and triangulation, clear patterns developed around emergent themes representing critical categorical findings regarding the Pennsylvania wine industry. The eight fundamental emergent themes and findings that will be discussed throughout this chapter include: 1.) The Limited Winery License Loopholes 2.) The Collective Action Issue 3.) The Collective Reputation Problem 4.) The Quality Assurance Requirement 5.) The Marketing and Tourism Deficiency 6.) Agricultural Needs: Policy, Rural Development, and Viticulture 7.) Stakeholder Discussions: PLCB, PWA, PWMRB, Penn State Extension, and State/Local governance 8.) The Growth and Emergence of the Industry and Secondary Emergent Themes for Consideration and Future Research.

Much like the industry itself, these eight emergent themes and their associated subthemes and critical findings are interconnected and diffused throughout the discussion and cannot be completely categorized individually. Each category and emergent theme have connections to the preceding and following emergent themes through the inherent nature of the industry and agricultural and policy environment. Nevertheless, even with the inherent interconnection and interdependencies of the findings, for the sake of clarity each emergent theme and key finding will be discussed in-depth individually, with reference to other related subthemes, findings, and relevant stakeholders diffused throughout the discovery and discussion of each categorical finding.

The Limited Winery License Loopholes

The first emergent theme was the impression that the Limited Winery License—and by extension the Pennsylvania liquor code—had multiple problematic loopholes. This was a primary finding reflected throughout the data by every private actor interviewed and most public actors; it was also confirmed in the text mining and document analysis. The data referenced the lack of enforcement regarding local fruit production, related subthemes of the out-of-state winery problem/tasting room issue, and a negative impact on agricultural economics and the Pennsylvania wine industry. Put simply, there is a perception within the industry that the Limited Winery License has multiple problematic loopholes with a general lack of regulatory compliance regarding the act, which creates perverse incentives that negatively affects the Pennsylvania wine industry (47 P.S. §5-505, 2019). One private actor participant discussed the problematic nature of this issue:

> This is a really critical problem to our industry – or at least a vast majority of members, is the concept of eliminating the PLCB issuing PA Limited Winery Licenses to out-of-state wineries. This is the culmination of a long history and stems from not having a shipping permit in the early days of some legal challenges. The crux is that by issuing these licenses to OOS wineries, they garner the same privileges as those of us that have bricks and mortar in the state, employee PA residents, pay state and local taxes, and have roots in the soil.

This private actor introduced concerns regarding the overall policy environment and illustrated some of the potential issues with the Limited Winery Problem, such as out-of-state wineries having the same privileges as Pennsylvania businesses, and concerns regarding the overall policy environment. However, this does not illustrate the perception and confusion around the lack of regulatory compliance with the Limited Winery License, the Pennsylvania state grape issue, and other industry contingencies.

In detail, as discussed in Chapter One, the Limited Winery License requires for any in-state or out-of-state qualifying winery to be considered valid under the law, these producers must use only agricultural commodities grown in Pennsylvania, with one exception. The exception allows the holder of a limited winery license to apply for a permit to use up to twenty-five per centum permitted fruit from 350 miles from the winery in a current year's production (LCB-458, p.8). This statute's stated purpose is to, "increase the productivity of limited wineries while at the same time protecting the integrity and unique characteristics of wine produced from fruit primarily grown in this Commonwealth. Prevailing climatic conditions have a significant impact on the character of the fruit" (LCB-458, p.12). Moreover, it is clearly stated within the Limited Winery License that this provision is enforceable through regulations and compliance by the PLCB and the state of Pennsylvania.

While the Limited Winery License clearly defines the requirement for Pennsylvania grown fruit, as well as the reasoning for the requirement, the emergent theme within the data illustrated the lack of enforcement and compliance regarding this section of the Limited Winery License as one of the biggest problems within the Pennsylvania wine industry. This sentiment was reflected throughout the data and clearly described by one private actor participant:

> So now, I think to start with the biggest problem, in my opinion, is what's happened with the limited winery license. And in particular, if you take a look at the document I sent you, it's very clear about what a limited winery can and can't do, especially with respect to the provenance of the fruit that they're supposed to work with, or the or bulk wine that they're supposed to purchase. It is supposed to be made from 100% PA-grown products. PA, I really don't think you can interpret what's in that document any other way. Yeah,

> it's pretty straight forward with the possible exemption in a given year of up to 25% of the fruit, I believe it is. There are extenuating circumstances, but even then, that fruit is supposed to come from within, I don't know, 300 or 350 miles of your winery, under a licensed wine. This isn't enforced and its huge issue that is confusing to the entire industry.

This private actor is describing the overall emergent theme regarding enforcement of the Limited Winery License and details the lack of compliance regarding in-state fruit production. As described here and previously, the Limited Winery License clearly states the regulatory framework for the wine industry in the state of Pennsylvania (LCB-458; 47 P.S. § 5-505). While the Limited Winery License clearly defines the law, the data revealed that the perception around the Limited Winery License and the wine industry in state of Pennsylvania and its application is not as simple as the act's definition and further context is needed. This problematic aspect of the Limited Winery License evolved from the legal interpretation by the state of Pennsylvania and the PLCB, which is informed by the United States Supreme Court ruling *Granholm V. Heald* and locally *Cutner V. Newman.* This issue is described in detail by a relevant public actor participant:

> The starting point is *Granholm v. Heald,* 544 U.S. 460 (2005544 U.S. 460 (2005), in which the United States Supreme Court, on a 5 to 4 vote, held that the dormant commerce clause of the United States Constitution prohibited states from treating out-of-state wineries and in-state wineries differently. The plaintiffs' attorneys then sued the individual states because most states were under the impression that the 21st Amendment did allow such disparate treatment. This case was captioned *Cutner v. Newman*, and in it the Board was enjoined from enforcing any provisions of the Liquor Code that treated in-state and out-of-state wineries differently. With guidance from the Office of Attorney

> General, it was determined that the best way to get into compliance was to offer limited winery licenses to out-of-state wineries that met all the non-Pennsylvania specific requirements. That meant, for example, that limited wineries couldn't produce more than 200,000 gallons a year because that is a requirement that anyone can meet. It also meant that the requirement that the winery use only or principally Pa. products would no longer be enforced because a California winery wouldn't be reasonably able to meet that requirement, whereas a Pennsylvania limited winery could.

This data shared by a relevant public actor describes the legal rationale, specifically using the Limited Winery License as a compliance mechanism for *Cutner V. Newman.* This also describes the change to compliance enforcement regarding in-state fruit production and is further illustrated by the following LCB Advisory Opinion, which states:

> ISSUE: This is in response to your correspondence e-mailed to this office on February 12, 2008 on behalf of [redacted] You are applying for an "Out of State Direct Shipper's License" with the New York State Division of Alcoholic Beverage Control State Liquor Authority. You must enclose with your application "a ruling from the Applicant wine manufacturer's State that - following amendment of the New York State Alcoholic Beverage Control Law to authorize the issuance of Out of State Direct Shipper's Licenses – a New York State wine manufacturer may directly sell and ship (or may apply for a license to directly sell and ship) wine produced by such New York State wine manufacturer to a resident customer of the Applicant's State for personal use and not for resale." You request that you be provided with confirmation of such a ruling. OPINION: A limited winery license from the Commonwealth of Pennsylvania entitles the holder to sell and ship wine it

produces directly to Pennsylvania residents. [47 P.S. Section 5-505.2, 40 Pa. Code Section 11.111]. Following the decisions in *Granholm v. Heald*, 125 S. Ct. 1885 (2005) and *Cutner v. Newman*, 398 F. Supp.2d 389 (E.D.Pa. 2005), limited winery licenses are now available to eligible applicants without regard to whether they are located in Pennsylvania or in another state (LCB Advisory Opinion No. 08-065).

The state of Pennsylvania allowed out-of-state wineries to obtain Pennsylvania Limited Winery Licenses in an attempt to comply with the *Granholm V. Heald* ruling, specifically the allowance for shipping out-of-state wine directly to consumers. This is described in detail by the previous public actor participant and the LCB legal advisory opinion while being reflected throughout the data as a key emerging theme. Implementing this policy through the Limited Winery License to ensure compliance with the Supreme Court ruling led to multiple negative externalities for the Pennsylvania wine industry. One of which is the enforcement of the local grape production statute, which was discussed previously, but is furthered by the following LCB Advisory Opinions, which states:

ISSUE: This office is in receipt of your e-mails dated April 21 and April 22, 2011, wherein you ask if a Pennsylvania limited winery may purchase fruit from out-of state for the purpose of producing wine. Specifically, you ask if the restrictions regarding the purchase of fruit are currently enforceable. Records maintained by the Pennsylvania Liquor Control Board ("Board") indicate that [redacted] OPINION: As you are aware, section 505.2 of the Liquor Code provides as follows: § 5-505.2. Limited wineries (a) In the interest of promoting tourism and recreational development in Pennsylvania,

> holders of a limited winery license may: (1) Produce alcoholic ciders, wines and wine coolers, subject to the exceptions provided under this section, only from an agricultural commodity grown in Pennsylvania. [47 P.S. § 5-505.2(a)(1)]. However, the Pennsylvania agricultural commodity limitation has been deemed unenforceable as a result of the U.S. Supreme Court decision in the case of *Granholm v. Heald*, 544 U.S. 460 (2005), and the Pennsylvania federal court decision *in Cutner v. Newman*, 398 F. Supp.2d 389 (E.D. Pa. 2005), both involving legislative distinctions between in-state and out-of-state wineries. Accordingly, a limited winery licensee is not required to produce its wine using fruit from sources in Pennsylvania; rather, it may utilize fruit from other sources, whether from Pennsylvania or outside of Pennsylvania, although actual wine purchases from other limited wineries for subsequent resale are limited to no more than fifty percent (50%) of the purchasing winery's previous year's production. Therefore, as the law presently stands, a licensed limited winery may produce wine from agricultural commodities without regard to the source of such commodities. Thus, you would be permitted to import and use fruits from out-of-state (LCB Advisory Opinion No. 11-191)

While this advisory opinion clearly illustrates the PLCB's interpretation of the Limited Winery License and the change regarding local fruit production, with the stated claim that, "wineries may produce wine from agricultural commodities without regard to the source of such commodities," this issue warrants further analysis:

> ISSUE: This is in response to your e-mail of November 12, 2014 wherein you seek approved sources of wine juice or wine grapes. Specifically, you ask if you are permitted to purchase wine juice or wine grapes from New York, California, Chile, Italy, Washington State, Maryland or other location for production at your limited winery.

> Pennsylvania Liquor Control Board ("Board") records indicate that [redacted] OPINION: While the Liquor Code states that limited wineries may only produce wine made from Pennsylvania grown agricultural commodities, this limitation has been deemed unenforceable as a result of the U.S. Supreme Court decision in the case of *Granholm v. Heald*, 544 U.S. 460 (2005), and the Pennsylvania federal court decision in *Cutner v. Newman*, 398 F. Supp.2d 389 (E.D. Pa. 2005), both involving legislative distinctions between in-state and out-of-state wineries. Accordingly, a limited winery licensee is not required to produce its wine using fruit from sources in Pennsylvania; rather, it may utilize fruit from other sources, whether from Pennsylvania or outside of Pennsylvania, although actual wine purchases from other limited wineries for subsequent resale are limited to no more than fifty percent (50%) of the purchasing winery's previous year's production. Therefore, as the law presently stands, a licensed limited winery may produce wine from agricultural commodities without regard to the source of such commodities. Thus, you would be permitted to import and use fruits and/or juice from out-of-state (LCB Advisory Opinion No. 14-636).

These advisory opinions reflect in detail the emergent theme around the perception, confusion, enforcement, and usage of the Limited Winery License as the vehicle to follow the United States Supreme Court ruling *Granholm V. Heald* and locally *Cutner V. Newman* to ensure direct consumer wine shipment. They additionally illustrate the external costs on the local industry with regard to local fruit production (MFK, 2007; Christ & Burritt, 2013).

This issue is clearly problematic from a legal and industry perspective, and is concisely illustrated by another public actor participant, "so for example, the liquor code requires an in-state winery to use a majority of Pennsylvania fruits or Pennsylvania products to make its wine and that is no longer enforced by anybody.” This quote communicates the impact of this compliance vehicle, as well as the confusion around the current liquor code. However, even with the advisory opinions, it does not communicate the impact on the overall wine industry; specifically, how the statute for local grape production negatively impacts agricultural productivity and Pennsylvania wine (MFK, 2007; Christ & Burritt, 2013). One private actor participant illustrates this regulatory and policy issue and how it is harming the Pennsylvania wine industry and the agricultural community:

> This shipping in fruit from out of state is in violation of the law, and it also takes out the economic impact of the farming community. Winegrowing is a great long-term sustainable alternative to a lot of crops grown in certain parts of the state now. And it requires minimal, very, very minimal nutritional inputs, basically, none. Yeah, you don't have to fertilize for decades. And it allows you to take advantage of soils and sites that maybe aren't great for other crops, because they're well drained, or they're too rocky, their soils have not enough organic matter, but is perfect for high quality vinifera, so it creates this real opportunity to improve agriculture in the state that otherwise wouldn’t be available. So that's, you know, there's really a farming aspect there to some options that farmers don't necessarily have now, they could have if there were more demand for locally grown fruit, but it's got to be quality fruit. Wineries need this quality. But there's a symbiotic relationship between farmers, winemakers, and the rest of the agricultural supply change that happens when the wineries have good fruit. Most winemakers are willing to pay extra for better fruits, because it makes better wine. That, is not happening at this at this stage, but again, it comes down to enforcement of the current regulations, as

> wineries can ship in out of state grapes which are cheaper, generally worse, often smoke tainted, and pass this off as PA wine, so why would they farm if there is a cheaper way to do it? That is, that's the biggest problem in our industry. It makes it difficult to compete as a farmer even though that is what helps the states and makes better wine and a better wine region.

This private actor participant is describing a sentiment that was shared by almost every private actor interviewed. The PLCB's non-enforcement of the in-state production of fruit in the Limited Winery License creates a disincentive for local agricultural production and floods the market with cheaper and lower quality fruit which adds nothing to the state's agricultural economy and long-term sustainable rural development (Hall et al., 2000; MFK, 2007; Rimerman, 2011; Christ & Burritt, 2013). Another private actor articulated this issue succinctly, "this is hurting the reputation of the wine and the economics of agricultural development in the state." A clear example of the disincentive and the impact on the industry through pricing comes from a private actor participant who described the issue in detail:

> We have to sell the wine more expensive, because we make so little of it, and it's so much more expensive to actually produce it in Pennsylvania. Now, if you're buying your grapes from California, from out of state where it's very cheap to produce the grapes, yes. You know, yeah, you can sell a bottle of wine for $8 that consumers think is Pennsylvania, but, you know, we have, I mean, we have probably over 100 acres, and that leads to more work that we have to do, just to continue to plant grapes on that land. And it just makes the price go up because the costs go up. But it also makes it Pennsylvania wine, so we do it.

This sentiment around the industry competition and economic reality is reflected throughout the data with another private participant claiming that, “the people who are bringing in stuff from everywhere else are in violation of the law. They're the ones who are succeeding because they have the lowest cost structure.” Another powerful reaction from a private actor participant further demonstrated this problem:

> So the biggest liability you can have if you're in this business is as a vineyard, because of the cost associated with farming and agricultural production. So now wineries, or what I call them, wineries in name only, can ship in grapes and grape juice from all over the world, and so all of a sudden nobody, nobody needs a vineyard. Nobody wants to own a vineyard, so we just don't have Pennsylvania grapes or Pennsylvania wine.

This quote, in combination with previous testimonials and dozens of other data points, reflects how the out-of-state grape issue and the negative externalities regarding the cost structure, rural development, and agricultural production, in turn discourages the benefits of local production, regionality of grapes grown, or as previously discussed, the terroir (Hall et al., 2000; MFK, 2007; Rimerman, 2011; Joy, 2007; Easingwood et al., 2011; Christ & Burritt, 2013). Notably, this problematic aspect is one of the Limited Winery License’s primary purposes, as described in the act itself (LCB-458). This lack of local grape production was even noted as a potential threat to the industry in a seminal work on the Pennsylvania wine industry prior to the current policy environment (Dombrosky & Gajanan, 2013).

And while the out-of-state grape issue is a clear emergent theme within the data regarding the Limited Winery License, there are also other problematic external costs, such as out-of-state wineries obtaining Limited Winery Licenses, which gives them the opportunity to have five board-approved locations in the state in addition to the licensed premise (LCB-458, p.9).

Tasting Room Issue

This tasting room issue was reflected throughout the data as a major problem with the Limited Winery License as it allowed out-of-state wineries to directly compete with in-state wineries. It offers out-of-state wineries direct access to consumers while bypassing the PLCB, eliminating meaningful contributions to the agricultural economy or Pennsylvania wine industry (MFK, 2007; Rimerman, 2011; Cvijanovic et al., 2017). In doing so, out-of-state wineries are able to obtain all of the benefits of an in-state winery with few of the costs. One private actor participant describes this issue in greater detail:

> Another serious loophole in the limited winery is out-of-state wineries and tasting rooms. Now they can get a license from say a California winery, or you know, a winery in Italy, like they, if they open a tasting room here, they can sell their wine to, you know, Joe Schmoe directly and, they don't have to go through the LCB, which the limited winery license was supposed to help the local wineries through direct consumer access and not feel so bombarded with policy and having to go through the LCB because they're lost in the LCB. Um, because there are so many brands and types of wines coming in through the Pennsylvania Liquor Control Board, that they don't give an F about local to be honest. Um, and not only that, they're not making much money off of them, because we have to sell the wine more expensive, because we make so little of it, and it's so much more expensive to actually produce it in Pennsylvania, but it makes it Pennsylvania wine.

The tasting room issue is reflected throughout the data, and as the previous actor communicates, this perceived loophole in the Limited Winery License creates disincentives for local agricultural production. This holds potential for the Pennsylvania wine industry to resemble an out-of-state wine industry—with a Pennsylvania paint job. This sentiment is colorfully described by one frustrated private actor participant:

> I've got an acquaintance who is a winemaker in California, but he's trying to open a tasting room in Pennsylvania with a limited winery license selling his own wines, which are made entirely in California. Right. And so yeah, if you're limited licensee, not only can you ship directly to consumers in the state, which I have no problem with outside wineries being able to do that, but then you can also open six tasting rooms within the state selling California wine, which helps the farmers and wine industry of California not Pennsylvania. And directly competes against our winemakers and farmers, which is just insane.

The tasting room issue is a clear emergent theme that reflects another negative externality within the Limited Winery License and the Pennsylvania wine industry. But the overall sentiment that is evident from this private actor participant, and every previous private actor participant, is that it is just one concern from an overarching set of issues. The regulatory confusion, lack the enforcement of the Limited Winery License, and the out-of-state winery issue all bear external costs on agricultural production, agricultural economics, rural development, and the Pennsylvania wine industry as whole (Hall et al., 2000; MFK, 2007; Dunham, 2017; Dunham, 2018).

Impact on Agricultural Economics

The Limited Winery License loopholes negatively impact local agricultural production and economics by disincentivizing local sustainable production. The negative impact this problem creates in the overall economics of the industry and the state of Pennsylvania is described by one private actor participant:

I mean, from my perspective but you know, a lot of a lot of the industry members, there's a number that were, you know, this has been going on for a long time. It's been going on more or less for almost an entire time in terms of, you know, going back to the *Granholm V. Heald* decisions and all that stuff. I'm sure you found it, you know, the legal at PLCB basically, they took, I guess, in you know, what I would say some perspectives on kind of a lazy and safe position. Yeah, it was very, very safe, but not very, you know, not very interested in the benefit of the Commonwealth. And they, you know, they're trying to get a lazy way at that point of, well, we don't have a shipping license. So rather than put a shipping license into place to solve the issue, interstate commerce shipping issue, they said, well, we'll just do the whole thing. Well, now when they pass the shipping license option number of years ago, it didn't bother to go to clean up at the same time and say, hey, we have this now. Why do we have people that have no bricks and mortar no investment in the Commonwealth? No benefit to Pennsylvania agriculture, no benefit to agritourism, no benefit, tax payments, right, all these things implement all these things? Some out of state and other international and wineries are using it for just shipping purposes. There's a lot of surrounding states like Ohio, New York, Maryland, Virginia that are using it for purposes to access festivals or to build a bricks and mortar tasting rooms, additional board approved extension location wine shops, all to get around the PLCB. You could from a very common sense now you can get into the you know, the kind of the legal and, you know, legislative side of it, but just common sense. It makes no sense. Why can that person go to the festivals do all the same things I can do and I'm actually putting money into the economy and growing the agricultural industry in the state of Pennsylvania, but they have the exact same benefits as I do.

The previous participant, in great detail, describes a main emergent theme that is reflected throughout the data. The loopholes —whether they are legal statutes that have informal opinions, confusion about the policies on the books, or thoughtless policy designed to comply with federal rulings—have unanticipated developments that negatively affect the Pennsylvania wine industry, agricultural production, and economics of the state (MFK, 2007). Moreover, the findings reflect how simple it is to enact policies that would minimize these external costs to be in compliance with federal statutes, incentivizing local agricultural production and the wine industry. This frustration is echoed throughout the data and well-expressed by one private actor participant, “I don't understand which brainiacs in Harrisburg came up with this. But you know, it is simple fix by cleaning up the direct shipping license and have wineries from elsewhere only use that instead of bastardizing our local wine so wineries could ship directly.”

Many participants felt that there are easy common-sense solutions to these issues as they have been solved in neighboring states. To cite a few examples within the industry, New York State has a Farm Winery License that allows different policy mechanisms for consumer access while supporting local agriculture; Maryland has regulatory compliance to enforce an emphasis on local production within the industry while still being in compliance with the United States Supreme Court ruling *Granholm V. Heald* (Clougherty, 2021; nycbusines.gov, 2022). One private actor participant articulated this frustration, as well as possible solutions, effectively and in great detail:

> Yeah, I think is just is, you know, a little bit of clear separation, you want to ship into Pennsylvania, great. You get this permit out of state, whatever. This is what you have to do make it simple, make it easy to comply with both in and out of state if you need the shipping permit, because there's a lot of onerous shipping and there's this patchwork of

them across all the states. They are all reading a grey area. Why, we have so many carryover prohibition laws that prevent us from having a standardized approach to being able to ship alcohol between all the states.

But what you could do is not make it honest. Yeah, so there you solve the shipping thing for everybody out of state with cleaning up the shipping license. In state you need to have, you can have a couple of different minor licenses, you have a commercial license and farm winery license like in New York. A farm winery, you can enforce the utilization of a certain percentage of Pennsylvania fruit. And that that and that gives you some additional privileges, you know, direct sales to grocery, you know, direct sale to PLCB without going through an additional distributor, brick and mortar tasting rooms, things like that the ability to market and go to festivals, those kinds of things, great. If you're not producing and investing in Commonwealth then you don't have those privileges. You can go through a third party distributed access to PLCB, or to your grocery, but you don't have the direct access, and that's done in other states. And, you know, I keep hearing, you know, that's, you know, you know, this, you know, that, these decisions prevent that, type of thing and I disagree because other states have not been shut down and have had that in place for years.

And, it's the unspoken thing that we all know is true, it is easy way out, and they didn't actually fix the issue, but they're like, Well, we did it, and then they can just they continue, as you found they continue to fall back on well, that's the decision. That is bullshit you don't, you know, there's, there's, you know, these things, you know, there's no definitive, perfectly right or wrong, there's, there's a slate of things that are acceptable and not acceptable. There is a gray area between compliance and noncompliance, there's

> other states that have tested it, so you have a model out there for it. It's not as though this is the first time that trying to figure it out, there will be plenty of those federal statutes or federal cases. I guess those are the two key things is, you know, keep the shipping permit in place, you know, might need a few tweaks to make it, you know, more effective. And create the correct tiers of, you know, licensing within the state that allow for privileges when you're using utilizing, you know, a certain percentage minimum of majority, you know, some states have a higher percentage, New York has 100% permit exemptions only in certain years declared by marketed ag saying, you know, oh, there's a bad crop, ever they get an exemption? Fine. So be it. I know, a lot of wineries in New York, have both licenses. So they can produce wines under both licenses. A horizon for coming into compliance, you have a five year window, that you can come into compliance with the PA limited winery license, you know, with the Pennsylvania fruit requirement, or not.
>
> Yeah, but you don't have to do it, you know, but there are consequences if you don’t.

This descriptive quote clearly illustrates the issues within this emergent theme, reflects the overall findings within the data, and succinctly proposes simple solutions to this problem that have been validated elsewhere (Clougherty, 2021; nycbusines.gov, 2022). Adding to this, many participants expressed they found it challenging to understand because the PLCB already has a Direct Shipping License (DWS), which was enacted following Act 39 in 2016 and seems to make the co-opting of the Limited Winery License for compliance issues irrelevant and counterproductive.

The PLCB DWS FAQs describes many of its benefits including that Limited Wineries are eligible for the DWS and there can be direct access to consumers without having a Limited Winery License. In addition, holders of a DWS by Act 39, “limits who may obtain a DWS license to any person/entity licensed by the PLCB, another state, or another country as a wine producer. Limited wineries licensed by the PLCB are eligible to apply for a DWS license" (47 P.S. § 5-505; PLCB 2016, p.3). With a DWS now in place, which allows out-of-state wineries and wine producers to directly access the consumer market and be seemingly in compliance with *Cutner V. Newman,* the previous negative externalities described previously seem even more egregious and wasteful.

In conclusion, the emergent theme around the perceived loopholes in the Limited Winery License and the Pennsylvania liquor code is a vital finding with regard to the Pennsylvania wine industry and the agricultural health of the state. It is obvious that the current structure of the Pennsylvania Limited Winery License—as well as the Direct Winery Shipping license which seemingly negates the PLCB's stated rationale for non-enforcement and allowing out-of-state wineries in-state benefits—has clear negative effects on the industry and, categorically, estate vineyards that produce their own fruit, which make a positive and sustainable agricultural impact on production, rural development, and terroir (Hall et al., 2000; Joy, 2007; MFK, 2007; ; Rimerman, 2011; Easingwood et al., 2011; Christ & Burritt, 2013; Dunham, 2017; Dunham, 2018).

The Collective Action Issue

The Collective Action Issue is the second emergent theme and primary finding reflected throughout the data by the majority of private and public actor participants and confirmed in the text mining and document analysis. The Collective Action Issue, which was commented upon in almost every interview with every type of industry stakeholder, describes the negativity, infighting, and need for cooperation within the Pennsylvania Wine industry—each of which will be analyzed at length. The Collective Action Issue is a vital finding as this lack of collaboration is detrimental to a networked business model, which is required in a successful wine region and industry (Cassi et al., 2012; Dressler & Paunovic, 2020). This sentiment was articulated clearly by one private actor participant:

> I think what is the real uphill battle, not even so much the climate or the viticulture, honestly, that's not it's the getting people to come together and work for the region as a whole and not just your own interest. So we have to work together. It's the thing I first said it's really not fighting just for yourself but fighting for the region as a whole. And if a new winery opens up five miles from you, embrace them it you know, share resources, says share tips. Just see yourself, you know, as partners in this and not really competitors, but partners. I think that is the one thing that would really just make everything feel better for everyone. Because like I said, I hate when I hear somebody at a winery talking badly about another winery. And it happens. It happens all the time. But it's not, it doesn't leave me with a good impression of the place to feel that infighting if I'm just visiting you for a couple hours. And that's what you want to talk to me about? At the end of the day, it's wine like we want it, why do you drink wine, you want to meet people, you want to share a meal, you want to bond like that's, that's what this is all facilitating. And in this industry, it has to be a community because one winery can’t do it on their own.

The previous participant is describing a lack of cooperation and infighting within the Pennsylvania wine industry. This sentiment and the need for collective action in a networked business model is articulated simply, but effectively, by a public actor participant, “there's no such thing as competition. That takes a very sophisticated, you know, mile up view to understand that, in this business.” While this public actor participant is describing the need for collective action within the industry, one private actor participant articulates how the lack of community and relationships can create a somewhat toxic environment:

> It was also a very odd situation where Pennsylvania wineries the few that were here, when we started, we found, I found an incredible amount of like, jealousy and fear of each other, which is a different vibe than what we ended up trying to create, which was working together. But this was like long-term feuds, and just everyone very weird about stuff. And so they had a great fear of the fine wine folks because they thought, well, vinifera is a threat to us. So then we started to see sabotaging going on when we tried to start.

As malicious as this claim seems to be, this type of sentiment was reflected throughout the data. On multiple occasions, a participant would be discussing the lack of cooperation and overall infighting within the industry as a major issue that needs to be overcome for the Pennsylvania wine industry to truly succeed, and in the next breath criticize another winery or wine maker by name, further illustrating the depth of this issue. This is demonstrated best by one private actor participant discussing a well-known winery in the state that is renowned for its quality fine wines:

> So I'm just gonna speak or say he does not pay attention to his wines. And he gets a lot of variation in them. But he is a terrific writer. And he markets his winery and himself just magnificently. And that's how he gets rather high prices for his wines. It's not because they're really well made.

While this seems somewhat petty and innocuous, this type of sentiment can be incredibly harmful in a networked business model or in a collective clustered business model, such as wine and other experience goods, where the overall regional reputation is of real value (Costanigro et al., 2010; Cassi et al., 2012; Caracciolo et al., 2015; Dressler & Paunovic, 2020). Collective action is even more important in emerging wine regions, which was discussed succinctly by another public actor participant:

> They are always sniping about their competitors. And it's like, coh, I don't want to hear that, that actually, like, you're too small to be taking shots at your neighbors like, we're here. We want to learn about the region. And I feel like Pennsylvania at this level at this stage, Pennsylvania is still in the thick of that.

This importance is furthered within the literature on emerging wine regions (Charters & Michaux, 2014).

This emergent theme was further reflected by another private actor participant, “in a great wine region you can tell that everybody talks to each other, like, from the very moment you walk into any winery and start talking to an owner or a winemaker, they're talking about their neighbors more than talking about themselves. I have never heard a Pennsylvania winemaker ever talk about their neighbor in anything but like a pejorative way.” And while that is simply another example of the negativity and infighting in the region, another private actor participant succinctly illustrates why this is such an issue for the entire industry, “but overall, everybody just shits on each other which damages the entire reputation. If you shit on your neighbor with similar growing conditions, you are shitting on yourself to the market, because your product can’t be that much different.”

Need for Cooperation

And while this negativity and infighting was a clear emergent theme, the data also showed a more positive undercurrent of advocating for more cooperation and community. One private actor participant lobbied for what they would like to see, “we need a real sense of community. Family, friends, it takes a village to grow such a wonderful industry, and there is some of that here, we just need more." Another private actor diagnosed this need further while offering ideas on how to fix the issue:

> Like if we had a co-op of all the growers and winemakers and stuff. And like we could be communicating about how I did it this year, or how we did our wines like this, or how we went about transitioning to doing a few native ferments or even like, why are reds we only do a certain amount of filter and just like we could be bouncing so many things off of each other. And yeah, I mean, there's just like not a good group like that. And it's hard to get people, especially all those farmers together once a month or something like that to be, I know, people have tried to do it in Pennsylvania just has yet to work. So there needs to be roundtable discussion, I would say get people together, get these wineries together. I think it's just if we want something that happened, then we just got to start our own. Yeah, start contacting wineries and stuff and the PWA is always gonna be there, they're gonna get the funding and everything but if the growers and the people doing the right stuff get together then that's who's gonna make a difference. That's, that's what's happening in New Jersey. New Jersey is going to be on the map, and we aren't so we need that same collective/co-op.

The previous participant is voicing a need that is emergent throughout the data for private collective action through policy diffusion from New Jersey (The Winemakers CO-OP, 2022). This need is further illustrated as an industry best-practice elsewhere and was voiced by another private actor participant, "you see this in Washington, Oregon, and Virginia. So, there's also kind of like somewhere in the middle ground of whether it's facilitated in terms of winemaker roundtables. You had a bunch of wine makers in the Finger Lakes, groups get together, and taste each other's wine.” In further detail, the Finger Lakes group mentioned by this private actor participant is the Finger Lakes Wine Alliance, which is a private collaborative group of wineries in the Finger Lakes wine region that has been successful in improving collective action and quality throughout the region (Finger Lakes Wine Alliance, 2022). This type of private collaboration is also reflected in the literature and documentation as a vital action in wine regions and in any experience good (Telfer, 2001; Megyesi & Mike, 2016; Sigala, 2019). While these private actor participants are emphasizing the need for wineries and private actors to collaborate through a potential co-op, or even something less formal, to improve the industry through private collective action, the data also cited the need for collective action through cooperation to improve lobbying and public support for the industry. The emergent sub-theme of lobbying through collective action and cooperation was echoed by both private and public participants. One private actor participant explained this from their perspective:

> There’s a whole set of laws that need to be changed. But that can't happen. Until there's a lot enough lobbying power from wine growers, to convince people in Harrisburg to change the rules. It's lobbying power, it's also tax base. It's tax revenue. Right? Yes. So, why growers? vineyard owners are generating a lot of tax dollars for the state, then they start to get more influence in Harrisburg, and they need to speak with one voice.

This private actor participant is expressing a common theme throughout the data, which is the need for lobbying power to make substantial changes within Pennsylvania’s public policy to improve the wine industry (Conto et al., 2015; Santos et al., 2021). To do so, this private actor participant believes there is a need for more community and cooperation within the farming industry. This attitude is bolstered by a public actor participant:

> I think they need to develop a workable, a workable relationship built on trust, right. And, and while they may have, respectively, different missions, they do have space where they overlap. And I think they need to come back together at some point. Because those funds, there's going to dollar, so when you commingle the funds, they can get greater impact, yes. And they can get greater push from a lobbying perspective, advocacy perspective. I think that it's going to be difficult in a state like Pennsylvania, to really get the needed momentum, both in the legislative side as well as in the grant funding side, because they're not going to be speaking the same language, right. They're not going to trust one another. And that won't work well, for an industry that's growing. But in order to get to the next level, they won't have the strength to do it.

While the previous participants had been discussing this issue at a more holistic level, this public actor participant clearly details the need for improved collective action through trust, advocacy, and lobbying to improve the non-profit, legislative, and public policy interaction with the industry (Cassi et al., 2012). This collective policy perspective is also overwhelmingly reflected in the literature (Ostrom, 1990; Hall & Mitchell, 2001; Wargenau & Che, 2006; Conto et al., 2015; Santos et al., 2021).

In conclusion, the Collective Action Issue and the consistent negativity, infighting, and lack of cooperation within the Pennsylvania wine industry is cited throughout the data as a problem that impacts the quality of the wine, the collective nature of the industry and reputation, tax base development, and potential for positive public policy support. This emergent theme is also furthered by the best practices within the literature (Ostrom, 1990; Hall & Mitchell, 2001; Telfer, 2001; Wargenau & Che, 2006; Cassi et al., 2012; Conto et al., 2015; Sigala, 2019; Santos et al., 2021). The importance of this finding is bluntly summarized by one participant's colorful quote:

> It started, all starts with talking. These people have to fucking talk to each other. They have to talk to each other they have to talk to their international counterparts they have to talk to sommeliers, they have to talk to distributors, they have to talk to legislators, that like, you can't live within your own four walls. It's absolutely impossible. They need to fucking talk.

The Collective Reputation Problem

The Collective Reputation Problem is the third emergent theme and primary finding cited throughout the data by the majority of private and public actor participants, confirmed in the text mining and document analysis, and reflected in the previous literature. The Collective Reputation Problem describes the negative collective reputation of the Pennsylvania wine industry and how this is detrimental to both the individual wineries and overall economic growth of the state's wine industry (Tirole, 1996; Dombrosky, 2011; Caracciolo et al., 2015; Gardner, 2016). The data specified multiple factors that influence collective reputation within Pennsylvania, including the chateau cashflow dilemma, one bad apple problem/critical mass issue, rising tide theory, and the boutique winery problem—all of which are detailed at length.

This Collective Reputation Problem was articulated simply by one private actor participant, "so I think that there is still a perception that we're overcoming that you can't make good wines here, and they don't recognize Pennsylvania as a great producing state." Another private actor participant puts this a bit more bluntly, "it's not an established region, it has a long reputation, a bad reputation." These simple quotes reflect the sentiment that was emergent throughout the data: regardless of the quality of many producers, there is a perception of poor-quality wine within the state (Dombrosky, 2011). This perception was furthered by one public actor participant that discussed in detail consumer preference and the overall impression of the Pennsylvania wine industry:

> I think that you know, Pennsylvania has a good reputation for local and local agriculture. But that doesn't necessarily extend into the wine. There have been focus group sessions, where consumers were asked because we're trying to get at that sustainable local connection and sustainable, of course, but, you know, like we've had discussions with consumers who are very active with sustainable like on the scale, they scored very high. And we asked them about their sourcing of, of edible products and included beverages. And we had people who, who everything is as local as you can get it, as you know, right from the farmers as fresh as you can get it except for wine, something just didn't translate for PA wine. So they would they, and I think part of it was just not thinking about it. Yeah, part of it was the reputation, you know, like their experience with Pennsylvanian wine. And that's just, you know, it's unclear to people. And so yeah, they would buy California wine, but everything they would get locally, even though we're far removed from the Atlantic Ocean, they would go to this one specific fish monger, or I guess is what is a local fishmonger, like specifically for their seafood. But they wouldn't, they wouldn't think about, you know, the wine that that they would drink with it and didn't think about the PA wine, and they wouldn’t drink Pennsylvanian Wine because of the reputation.
>
> But we've done certain things as far as maybe not so well, but maybe like, these are the reasons why Pennsylvania wine doesn't seem to be there. Well, first of all, there's a group of consumers who would think that you can't grow grapes in the state. So, there's

> a lot of misconceptions, a lot of lack of information about the PA wine industry. But then there's people who just like they have no they, they would not have any qualms about buying a Pennsylvania beer. But if it comes to Pennsylvania wine, there's something there that's just so different from beer. And I don't know if it's, you know, that you know, we kind of think of craft beer we think of this person, you one specific person brewing it, but a winery we think of the land there's just, you know, and they don't think its any good.

The previous public actor participant is describing their understanding of Pennsylvania's Collective Reputation Issue through an informed scientific approach. This participant suggests that consumers either do not think about drinking Pennsylvania wine, or if they do think about it, have negative reactions toward it because of their overall impression of the wine itself or the wine region (Childs, 2009; Neeman et al., 2019). Another relevant public actor communicates this issue simply, "we just don't have the best reputation in general. There's certainly like, Pennsylvania widely collected information about that. But there's, there's a misconception that Pennsylvania is just not good." This is reflected throughout the data with multiple factors influencing this perception as well as the importance of collective reputation within the wine industry (Landon & Smith, 1998; Schamel, 2000; McCutcheaon & Bruwer, 2009; Megyesi & Mike, 2016).

One of the fundamental driving factors affecting collective reputation was found to be a perception that all Pennsylvanian wine is sweet and fruit wine, not high-quality Vitis Vinifera produced fine dry wine. This perception emerged throughout the data and is furthered by previous research within the Pennsylvania wine industry. As described by one private actor participant, "one of our weaknesses is the just the perception that everything is sweet and not quality, which isn't true but brings down the entire idea of PA and east coast wines." Another public actor participant summarized the issue noting:

> And that's the, that's the problem now is that as soon as somebody who's maybe really serious about wine, if you recommend a winery to them that does a fair amount of sweet wine. They're going to feel like, Oh, this isn't what I wanted, you know, you don't understand I'm really serious about wine. And it's not that, it's just that in this area, most people do have to do something sweet, and generally this type of person drives the reputation of a region.

This perception is reflected throughout the data and previous literature (Dombrosky, 2011; Gardner, 2016). While a negative perception is problematic, the issue is made more complex because sweet wine is a viable business. One private actor phrased this as the "chateau cashflow" problem (Dombrosky, 2011; Neeman et al., 2019).

The Chateau Cashflow Dilemma

The chateau cashflow dilemma is an emergent theme discussing the successful business model around sweet wines which can be used to subsidize the production of more capital-intensive fine wines (Spawton, 1991). This sentiment was articulated well by another public actor participant, "it's so hard because on the one hand, oh, there's this adage that is an old one in the wine industry, which is that everybody talks dry and drinks sweet." This problem is clarified further by another public actor participant:

> And well, it just, that's the heart of the issue for New Jersey, Pennsylvania, where wineries can make the most money is with sweet wines. But as soon as you start talking about your sweet wines, or even if certain consumers see that you sell sweet wines, they

> immediately think that you're no longer a serious winemaker. And that's not true. That's just a way to, you know, make to actually, you know, make money.

This chateau cashflow dilemma is problematic for the industry as it is clear from the data that sweet wines have historically been emphasized, and while this meets many consumers' preferences and assists in financial solvency, it does little to further the overall region (Spawton, 1991; Dodd et al., 2010). This is detailed by one private actor participant, "and obviously, sweet wine is still a viable business around here as well. And there's nothing wrong with that. But if you're looking for something else, I think there's still a perception that that's all you can get, and that hurts the market." What is more, much of the data reflected that the quality of sweet wines within the state is low, which drives chateau cashflow within the state, but is problematic for long-term growth (Dombrosky, 2011). One private actor participant describes this in detail:

> So and the people who go around those areas wine tasting tend to be looking for sweet fruit wines, you know, they tend to be much more open to stuff that is, you know, wine flavored syrup, in my opinion. Is that stuff that wouldn't stand a chance in a fine dining or even a casual dining situation. The kinds of wines that I've tasted broadly from Pennsylvania I don't think enter the conversation when we when we talk about fine wine or world class wine. There are obviously some standouts, I don't want to sound like I'm dogging on sugar either. Because like sweet wines are some of the best wines in the world, and you can make great sweet wines, but the sweet wines being produced in the state are not that.

As clearly illustrated, there is a perception of sweet wines being dominant within the state, and the problematic aspect is the quality of the sweet wines being produced. However, sweet wine and fine dry wines are not mutually exclusive within a region. This is shown throughout the data and by examining other wine regions. One public actor participant discusses this idea by comparing the current Pennsylvania wine industry to the Finger Lakes in New York State:

> Because one of the issues with a PA wine market as a collective reputation is poor, but there is high quality. And what can be a little problematic with that is folks don't want to pivot away from sweet wines to the high-quality dry wines. You probably need to improve the reputation which eventually improves the entire wine region, but it doesn’t have to be just dry wine. Look at Ice wine. You go to you go to New York State and you go to the Finger Lakes, and you're at Dr. Constantine Frank, or one of the other hot really, really high-end wineries and you know, and they all have ice wine. And it's not like it impacts the reputation of putting out high quality bone, dry Riesling, it's all of this plus ice wine.
>
> Every winery is gonna have a great dry wine. But if you have the iced wine to bring in the people who are just like, I just want to drink candy, please, I'd like those who will go and then their wine snob friends will say like, Oh, I've heard of they have a good Riesling too they'll be dragged along. I mean, I think you have both as long as they are quality.

The example used by the previous participant is quite relevant as the Finger Lakes is a neighboring world-class wine region producing both sweet and dry fine wines without overall damage to the market or reputation (Stephens, 2022). Sweet and dry wines can co-exist while improving the overall collective reputation, which is a driver of emerging wine regions, but the quality has to be assured (Castriota & Delmastro, 2015; Ugochukwu, 2015; Lim, 2021). This emergent theme is summarized concisely by another private actor participant, “so I just think in general, anything that can be done to kind of change the, well, maybe enlighten people that it's not just about the historical sweet wines, and fruit wines and things like that, that it's, uh, you know, we're doing a lot of premium wines here to dry, dry premium wines, that are great, but that reputation of the others sort of brings us down." While the sweet wine issue is a major factor driving a negative perception of the Pennsylvania wine industry's collective reputation, it was far from the only one that emerged from the data.

One Bad Apple Problem/Critical Mass Issue

Another major finding that emerged from the data and was reflected in the previous literature was the quality differential problem—or as multiple participants described it 'the one bad apple problem,' or 'the critical mass issue.' The emergent data reflected the previous literature in that to improve a collective reputation of a wine region there needs to be minimal quality variance between wines as consumers base their perception of an entire wine region on a few wines (Schamel, 2000; Gardner, 2016). In Pennsylvania, it was clear the variance in quality differential was a major driver of the perceived negative collective reputation (Dombrosky, 2011; Gardner, 2016). Gardner (2016) discusses this issue:

> The Quality Differential Among Wines Produced in Pennsylvania is too Great. Emerging regions suffer most from quality differentiation amongst wine processing facilities and inconsistent wine quality each vintage year. However, this is a challenge affiliated with every wine region in the world. Pennsylvania will have vintage-to-vintage variation given the annual climate and variation in annual weather. Some years may produce better wines than other years. However, to Joe's point, the mass American market is familiar with consistency. Consumers also tend to base their perception of the entire industry on the few (or one) tasting room they visited. This can be a dangerous practice when the overall

> reputation of the region is unknown. Joe recommended that for wineries that want to build their own individual reputation, as well as the state's reputation, the focus of the industry must continue to be based on improving quality (Gardner, 2016).

This quality differential, or ‘one bad apple problem’ in Pennsylvania, as discussed in detail in the previous literature, is problematic for this emerging wine region, and the effects on the industry were described further by one private participant in detail:

> Well, in the best in the world, the best thing that could happen to us is quality products, because what we need to have so the, the economics of any wine region requires that if you just pick up a bottle of wine from that region, it's going to be good. That's what has to happen. Now, if you don't, then if even one out of 10 bottles, is crap, that is going to dilute the reputation and like nobody, nobody in the right mind will keep going back to a well that disappoints them. Yes, if you and this is the problem, like it's right. Why is McDonald's thriving, something that millions of people will tend to most people do every day? Well, because consistently, if you go through that, you're going to get a double your double cheeseburger, it is going to be consistent. It may be okay, maybe great, it's going to be within this boundary lines, you know, it's never gonna be worse than this, it's never going to be better than this, you know, so you know what you're getting, and that you need that. You need that brand consistency, to actually gain market share. And right now, the problem with Pennsylvania is that, you know, one out of three bottles is going to suck. I mean, it's just gonna be like cranberry wine, or it's just so poorly made and is going to be sickly sweet, or just shitty dry wine.

This ‘one bad apple problem’ is reflected throughout the data as a major factor within the Pennsylvania wine industry. Another private actor participant echoes the previous colorful quote:

> If you taste one bad PA wines, the consumer thinks all PA wines are bad. And it was one of the reasons that I poured wine out it used to drive my wife crazy. That I would throw wine away. And I said, if this goes in the bottle, I don't care what price you sell it for. It's got our label on it, and I don't need to ever taste it again if it’s bad. Yeah, the consumer association of good and bad, but mostly bad is real simple. If they tasted bad pa wine, they're all bad, and this impacts us all.

Another private actor participant further illustrates the issue while discussing how it impacts the perception of the quality individual wineries:

> And so, you have you got, you know, you got the Penn Woods, you have the Va La, you have Vox Vineti you know, and it's like you try these blind tastes, and it's, it's high-quality wine. Totally, it's wonderful. And then next door, there's a sweet wine that is not even a good sweet wine, Yeah, so it's like, I think consumers often try one. And then they assume, alright, I tried this gross wine that’s mass produced. And so they think that is what Vox Vineti is, which it isn't, it’s incredible wine, so that one bad wine hurts the rest.

This individual’s claim is supported throughout literature on collective reputation within the Pennsylvania wine industry—and within the industry as a whole (Tirole, 1996; Caracciolo et al., 2015; Castriota & Delmastro, 2015; Ugochukwu, 2015; Gardner, 2016; Lim, 2021). The quality differential issue, informed by the data as well as the literature, is highly problematic for the industry (Schamel, 2000). Another private actor participant discusses this and the need for a growth in the critical mass of quality:

> There so many things out there that have been discussed, and some of them been worked on with more or less degrees of efficacy. So you know, kind of starting on one end of the spectrum, so I come from a scientific winemaking background. There is that part of me

> that spent a lot of time and still collaborates with Penn State and I'm a big believer in just you know, fundamental education, training, quality, sensory training all those things to help kind of fundamentally improve the quality of the wine because a region doesn't get recognized if there's 100 wineries and one makes really good wine. So what you got to have 95, making really good wine, to gain notoriety, look at, you know, whether it's Napa, Sonoma, Bordeaux, whatever it is, right? It's known by that kind of critical mass.

While this is one private actor participant describing this need in detail, twelve different participants cited the term ‘critical mass of quality in production.’ To further support this point that emerged within the data, another private actor participant discussed this need:

> You need to add a critical mass, right? So how many is that? Is it three? Is it five? Is it twenty five, whatever. And so if you lead by example, there's a follow up to success because in this industry, if something's successful, it's either days or weeks or months before it's copied by your nearest neighbor, but you need the critical mass of quality to push the entire industry forward.

Whether it is described by the previous literature as quality differential, the ‘one bad apple problem’, or a ‘critical mass problem’, it is clear that this is a major factor affecting the collective reputation of the Pennsylvania wine industry (Nelson, 1970; Rogerson, 1983; Bertozzi, 1995; Neeman et al., 2019). This factor, in combination with the sweet wine issue or ‘chateau cashflow’, represent two main factors driving the negative perception of the Pennsylvania wine industry that emerged from the data, but there were multiple other related contributing factors.

Rising Tide Theory

The rising tide theory is the first of these affiliated contribution factors representing a data point which was cited throughout the data, as well as in the documentation and literature. It argued that successful wineries producing quality products need to be celebrated throughout the industry in order to improve the collective reputation of the Pennsylvania wine industry—and in doing so, the industry overall (Dressler & Paunovic, 2020). One private actor describes this theory and the business model behind it, “it's like a network effect industry. And so if a couple wineries are doing well, I mean, that grows the region and it grows the overall market.” This theory was further argued for by another private actor participant, “if one succeeds, we all succeed. And there's that alert that enables each type of producer I think, to focus on quality and being better and building a reputation for that type of product within the state, and that helps us all.”

The previous participant is articulating the need to celebrate the fine wine grown within Pennsylvania as a representation of the state’s wine industry as a whole in order to improve the collective reputation and market (Benfratello et al., 2009; Neeman et al., 2019; Dressler & Paunovic, 2020). Another private actor participant describes the need to elevate the fine wines within the market using previous emerging wine regions as a policy diffusion tool, “but if you're trying to make a fine wine and stand and build you know, basically do what New York did, and what California did back in the day, with the when you know, they were doing the judgment of Paris, like to really build a wine industry, you need that fine wine sector and the fine wine sector should be front and center.”

This is an interesting quote as it uses the *Judgement of Paris* as a case comparison, which was a blind tasting of French and California wines in 1976 that revolutionized the wine world. In detail, until the *Judgement of Paris*, California wine was considered inferior and had a poor collective reputation. In the *Judgement of Paris*, a number Napa Valley wineries went head-to-head with renowned producers from France in a blind tasting, which resulted in Napa Valley vineyards walking away with the top prize (Prisco, 2021). This radically changed the reputation and economic impact of Napa Valley and California wine, and the previous participant is illustrating the need for Pennsylvania to adopt this model (Prisco, 2021).

Boutique Winery Problem

Another contributing factor to the poor collective reputation of the Pennsylvania wine industry that emerged from the data was boutique winery problem. The boutique winery problem describes the limitations of quantity production output regarding the quality wine producers within the state of Pennsylvania (Rimerman, 2011). In detail, the majority of the state's best wine producers are boutique wineries that produce a limited amount of product annually. This creates an issue of scale and reach, and thus most consumers never try the best wines within the state.

The boutique winery problem was detailed throughout the data, and one private actor participant describes this saying, "you also need to have, you know, you know, you need to have some really good quality wines, but also a little bit more volume in reach." This quote was practically repeated by another private actor participant to illustrate this issue, "and that's a problem. Right? Like to improve it. Folks have to taste the good wine. Right, and lots of folks have only tasted the bad stuff? Many of the great producers sell out at the cellar door." There are, however, practical logistical issues when wineries have attempted to remedy this issue; for example, one private actor participant explains:

> It's hard when the region is seen as one way. And you're in that region, but you're completely different. Yes, to get that, like, initial respect in, but also not to be able to just sample, sample, sample, sample because at the same time, is it worth to send all these samples out, because then you're running out of inventory, because you are a boutique,

> because you can't get to the point where you've got that demand, because you will just run out of inventory.

The previous participants are describing the need for a higher volume of reach and scale in distribution, which was reflected in the data through the need to get Pennsylvanian wine in more restaurants and bottle shops as a mechanism for collective reputation growth given the industry's current limitations (Kelley, 2015; Bonn et al., 2020). This process was described succinctly by a private actor participant, "when you can get on a restaurant list like a Steven Starr restaurant, that is a stamp of quality, and really gets people talking about the wine and Pennsylvania wine." This avenue for potential distribution and collective reputation improvement was also discussed at length by a public actor participant that had previously been a private actor within the industry:

> So you'd sell them on a bottle of Pennsylvania wine that you were really passionate about that kind of fit their kind of flavor profile. I did a lot of Vox Vineti sales there. And people were like, this is great, I love this, I'm definitely gonna keep it and then they would go to the winery and buy cases of wine. And a lot of situations where I introduce people to Pennsylvania wines, and then they would go to the winery and buy the wines. So I think that that's a testament to kind of restaurants being important to drive sales at the winery and the overall market.

The previous idea that emerged from the data regarding distribution through restaurants as a mechanism to remedy the boutique winery problem and improve industry growth and collective reputation is also furthered by the literature (Dombrosky, 2011; Kelley, 2015; Gardner, 2015; Bonn et al., 2020). This mechanism was endorsed in detail with a comparative case study by another private actor participant:

> Like if you look at Bordeaux, and even in the U.S. Willamette Valley, right, and it's like, then those prices all creep up incrementally. Well, Willamette is probably the best, most recent example. But you know, Willamette in the 90s, I mean, it was it was Portland, the Portland restaurant and scene getting behind the Pinot's that were coming out of Willamette that really got that brand going that way. That was Portland that drove that market. And yeah, because they had already driven the craft beer scene. In the 80s, out there, and Portland restaurants, got behind craft beer and supported local. And when the wine started coming out of Willamette Valley in the early 90s, and late 80s, they did the same thing. And it worked. And that that was really what drove that. And the same thing kind of happened in Napa in the 70s. But Portland is a good, you know, Portland was one city and city that happened, Philly is doing already. The problem is, is we don't have the critical mass yet of wine growers that are really focused on growing the best grapes that we can.

This idea of collective reputation improvement through a restaurant's stamp of approval has been validated by previous emergent wine regions and the literature. Most notably, as discussed previously, this is seen in the role the Portland dining scene played to grow the Oregon, and specifically Willamette Valley, wine economics and reputation (Asimov, 2007; Bonn et al., 2020).

In conclusion, as clearly detailed previously through the emergent data, previous literature regarding the Pennsylvanian wine industry, and the empirical and popular literature within the wine industry, collective reputation is a clear driver of successful wine region economics and growth, and Pennsylvania has a negative collective reputation (Tirole, 1996; Landon & Smith, 1998; Benfratello et al., 2009; McCutcheaon & Bruwer, 2009; Dombrosky, 2011; Caracciolo et al., 2015; Castriota & Delmastro 2015; Ugochukwu, 2015; Gardner, 2016; Dressler & Paunovic, 2020; Neeman et al., 2019; Lim, 2021). This sentiment regarding the Pennsylvania wine industry was even reflected in *Wine Enthusiast* by a local wine producer, “to be established as a significant wine growing region, we need to be prominent in our own state and have wineries with renown in the global wine arena, says Sarah Troxell, winemaker at Galen Glen Winery in Andreas” (Thompson, 2017). That said, one private actor participant summarized this problem well, “in the wine industry the ratio is ah, simple for regional success, a certain number of quality wineries, you know, quality assurance to improve the rest to hit a certain line, and ah, branding and state support to celebrate the quality, and then be patient as an industry, and we aren’t doing any of that shit.”

The Quality Assurance Requirement

The Quality Assurance Requirement is the fourth emergent theme and primary finding voiced throughout the data by many private and public actor participants, confirmed in the text mining and document analysis, and supported by the literature. The Quality Assurance Requirement, which is closely related to the previous two emergent themes, describes the need for quality assurance mechanisms within the Pennsylvania wine industry to ensure a certain threshold of product quality and continue to establish positive economic and reputational growth (Rabkin & Beatty, 2007; Ugochukwu, 2015; Ugochukwu et al., 2017). The data specified multiple factors relevant to the Quality Assurance Requirement, including: The Accidental Winemakers & Quality Threshold Needs and Quality Assurance Compliance Mechanisms—each of which will be explored in detail.

The Accidental Winemakers & Quality Threshold Needs

One of the main factors that emerged throughout the data was the need for quality assurance mechanisms within the industry due to workforce development deficiencies and a proliferation of accidental and part-time winemakers who lack the technical expertise to create high-quality wine. Therefore, the data suggested there is a need to meet a certain quality threshold within the state. This problem was illustrated by one private actor:

> I think part of the issue in Pennsylvania is a lot of our winemakers and winery owners are hobbyists, they're not professional winemakers. They're not doing this as their career. Um, but I mean, that's, that's really bad. But there's a lot of people who are like, I mean, all over all over the country. That's a lot of our wineries start. But we've got a lot of people who are like this was, you know, I have another job. And this is the thing that I do on the weekends or in season or what have you. And it's not really my career. It's not really the thing that pays my bills. And I don't, I care enough about it, but I don't care that much about it. Okay, and it's not my like full-time livelihood. It's, I'm not a second-generation wine maker, like there's very few people who are in a second-generation kind of role in Pennsylvania. We're just getting there for a lot of wineries. And some, some of them I guess, they're getting to the third generation, but it's very small amount. And people aren't kind of passing things down because a lot of people are you know, there's a lot of people who are still hobbyists, and your hobbyist wine makers aren't contributing in a marketing and a quality kind of perspective.

This private actor participant is describing one of the issues that supports the emergent theme around the quality assurance mechanism needs in production, which was also further reflected throughout the data. Another private actor participant articulated the issue further, “yeah, I mean, educate some of these wineries, but most of them are like mom-and-pop wineries." While mom-and-pop wineries can undoubtedly produce high quality wine, the data illustrated that this factor within workforce development was problematic in multiple ways for the Pennsylvania wine industry. One public actor participant demonstrated this in detail:

> You would like kind of call it accidental winemaking. People who, just in talking to growers into winemakers who say, If I knew, then what I know now led me to believe that they went into it, you know, blindfolded, right, and just started making wine without knowing about basics, and this is clear from their wines that's the case. You know, 90%, of winemaking is sanitation, you know, without knowing that or without testing their soils or, or talking to, to area growers, or their extension agents about what's going to do well on this site. You know, so a lot of people had to pull out vines, or they were making substandard wines that hurt the entire industry. It's the ones that I visit, they say, and they're, you know, they just, they don't show when I've been to wineries and tasted their wines, obviously have volatile acidity across the board. And I'm just like, okay, this one might have a problem. Would you like to, you know, go back in your winery, and kind of yeah, see what we can do, and they reply, that's my best-selling wine. I don't want to make any generalizations. But usually, smaller producers will just stop in, and they might have been I have no idea what their actual production facility is, like, rarely do they even let me see that. But just producing wines that are faulted obviously faulted and then sometimes trying to sweeten them to mask that.

These previous testimonials and much of the data reflect this hobbyist approach to winemaking as a problematic aspect within the Pennsylvania wine industry. While on the surface this does not seem troublesome, as discussed in the previous sections and shown in the literature, quality assurance mechanisms within the wine industry greatly improve the overall economic impact of individual wineries, overall regionality, and collective reputation; Pennsylvania is deficient within this industry benchmark (Angulo et al., 2000; Barber et al., 2007; McCutcheaon & Bruwer, 2009; Roma et al., 2013; Olsen et al., 2015; Di Vita et al., 2015; Caracciolo et al., 2015; Ugochukwu, 2015; Carsana & Jolibert, 2017; Dal Bianco et al., 2018). While the need for a Quality Assurance Requirement has been discussed, the data also illustrated implementation and enforcement to be difficult. This data, however, also revealed the most common remedies.

Quality Assurance Compliance Mechanisms

One private actor participant discusses the need for quality assurance mechanisms in the industry, but also diagnoses the main issue with implementation in the free market while speaking to the state's past attempts:

> That's sort of in a sticky wicket. Right. So so there was once upon a time there was a group called Pennsylvania Quality assurance or PQA. It was flawed from the beginning because the founders were making crappy wine. So it started out with that as an idea of quality insurance, but there was no quality, and of course, there was no foundation. The children were ugly, yeah, so how do you so the question always is why you do this, right? It's needed, but quality assurance thing is always tricky. So, so, one individual or group of individuals that you weren't allowed to tell entrepreneurial owners that are children are ugly?

This issue was also demonstrated by another private actor participant, "but then the question is what I found, and that's, like I said, been attempted in a couple of times. But I don't think strong enough lines have been drawn with the wines and the producers that have been involved. And, you know, you got to make tough choices, and you're gonna make some people unhappy."

Both participants are discussing a quality assurance program named the Pennsylvania Quality Assurance Group, implemented in 2003, that failed to enact quality assurance improvements or mechanisms within the state following operational deployment (Cattell & McKee, 2012). The data clearly illustrates the difficulty of implementing quality assurance within the market.

That said, there were multiple discussions within the data on how to remedy this issue within Pennsylvania. Throughout the data, there was a clear emphasis on the need for a regulatory framework within the state. Whether private or public action, the data demonstrates a need for formal quality assurance mechanisms. While there were multiple ideas discussed, the first dominant suggestion was a formalized, tightly-regulated private or public collective action process. One public actor participant discussed this in detail:

> The other thing that is possible is actually creating an appellation system, similar to what you have in Rhone Valley, which is hasn't really been done in the United States yet. But it is possible to do that, is creating a private group and, and having a stamp of approval that you can actually promote now is sort of like the VQA in Ontario, where they said they're okay, based on quality alone and they get the stamp, or the rooster in Chianti or in fact, like things like, like the lodge are reserved, like having specific terms that are trademarks that only anyone who's in your group can use and only they have to can only get in the group if they pay, and they hit a certain level of quality.

Another private actor participant furthered this idea around formalized regulatory quality assurance mechanisms:

> Alright, so if I'm King and I have total control over everything, I would create some sort of some sort of regulatory board to, to bring quality up. So, some sort of regulatory

> Quality Board would be number one, as this would lift all boats. And, you know, I think to countries to look at the view for background look at South Africa and look at Austria and the issues that Austria had, yeah, in this you said South Africa had with apartheid and whatnot. But now they've got the wine of origin scheme, like they went from, like, we need to put some sort of sticker stamp, whatever you call on here, and I would look at those two is a recent way of how it started and then kind of model into the VQA or VDP once we kind of got it running. Yeah. So look at Austria with the, the ethylene glycols issues that they had in the 80s and how they kind of combat it that for quality. And South Africa, it was I think they created the wine turned into the wine quality version scheme, about quality, sustainable production, and they all have stickers and labels. Yeah. You know, eagles and whatnot, so you can understand their labels. If those two did it anyone can.

These public and private actor participants are describing multiple formal regulatory frameworks to ensure quality, including a geographic indication, a wine certification, and formal stamp of approval, all of which have been illustrated to improve quality, reputation, and price per bottle within a wine region (Beatty, 2007; Ugochukwu, 2015; Paolo & Davide, 2016; Ugochukwu et al., 2017).

In addition to the formal, looser overall geographic indicator and wine certification frameworks discussed previously, multiple participants discussed the need for further American Viticultural Areas, or AVAs, to improve quality assurance mechanisms within the industry. As discussed in detail in Chapter One, there are AVAs within Pennsylvania, but it was clear throughout the data that the AVA system is underutilized. A private actor participant describes this, “that's the problem, too. Yeah. Nobody here uses the AVA. Yeah, we have them. You don't use them in marketing or in wine making. They use like North, Northeast and Southwest and like state designates, which are not just AVAs, and no one in the market knows what that means, and does not enforce any product improvement."

Multiple participants discussed the need for a better AVA system within the state to assist in marketing, collective reputation, and a formalized quality assurance mechanism. One private actor elaborates on this need, "well, the first thing I would do, okay, the first thing I would do is I, I would actually immediately build out seven different AVAS that are tight and small, and exclusive within the state." While the need for a more formalized AVA system within the state is reflected through the data, it is also clear from the data and literature that this may be difficult at scale given the size of the state and the current reputation. As a result, the data reveals a targeted approach within the best current wine regions would be more applicable (Chaney, 2000; Cross et al., 2017; Keating, 2020; Lim, 2021).

Another primary factor that emerged regarding implementing quality assurance mechanisms was a more informal private collective action approach. This was diffused from the wine makers co-op in New Jersey, a private collective of the state's top wineries who share the goal of improving quality and highlighting and encouraging fine wine production (The Winemakers CO-OP, 2022). This co-op is described in detail by a private actor participant:

> I'm going to compare it to New Jersey, just because I know so much about it. So again, the Garden State winery Association also has to support all its members, there are five wineries that have come together that do create quality winery, and they call themselves the winemakers co-op. And they've, they work together. They taste each other's wines, they actually make a wine they call open source where they all take their Chardonnay juice that they pick on the grapes they pick on the same day. They press it at one of the

> wineries, they divide the juice, and then they all go back to the wineries may make the Chardonnay on their own style. But it all started with the same exact juice from all five of their wineries. Yeah, we've worked together as a marketing agency for those five wineries. And their goal is to elevate the vinifera wines in New Jersey.

As described by the previous participant, this co-op model is a private action framework to market, brand, and improve the quality of the product. This model was discussed by multiple participants. Another private actor participant discussed how the New Jersey model is a starting point for quality assurance, “you look at like New Jersey, and I feel like they're starting to move towards that VQA through the like, New Jersey winegrowers co-op. It’s like, here's quality. We're trying to push that out.” In addition, this type of co-op model was also reflected throughout the data, as previously discussed, in the Finger Lakes Wine Alliance in New York State (Finger Lakes Wine Alliance, 2022).

In conclusion, as clearly detailed previously through the emergent data and the empirical literature within the wine industry, the Pennsylvania wine industry needs a quality assurance requirement (Delmastro, 2005; Rabkin & Beatty, 2007; Ugochukwu, 2015; Megyesi & Mike, 2016; Ugochukwu et al., 2017; Cross et al., 2017). While multiple problems and models emerged, the following colorful quote from another private actor participant simplifies and summarizes this need well, “like we need to find and gather and to be able to just keep it a pretty exclusive the right people in the group without offending too many people, but we have to keep shit wine out of it, or it just brings down our entire brand.”

The Marketing and Tourism Deficiency

The fifth emergent theme and primary finding cited throughout the data by many private and public actor participants and confirmed in the text mining and document analysis, was the Marketing and Tourism Deficiency. The Marketing and Tourism Deficiency describes two primary emergent themes. The first is the perceived insufficient marketing strategy and resource allocation within the Pennsylvania wine industry, primarily centered around the PWA. The data specified multiple factors relevant to the marketing deficiency, notably a failure to elevate the best wines and wineries and resource allocation issues, each of which will be analyzed in detail. The second primary emergent theme details the central policy issue impeding the state's wine tourism industry growth, which is the perceived deficiencies in the Pennsylvania Agritourism Protection Act as it relates to the wine industry.

Perceived Insufficient Marketing Strategy and Resource Allocation.

The first primary emergent theme cited consistently throughout the data is a perception of generic marketing from the Pennsylvania Winery Association (PWA). This is illustrated by one public actor participant, "what's interesting with PWA as well, when you look at the marketing they use, none of its targeted, and sometimes they don't even highlight Pennsylvania wine. It'll be, they'll highlight a varietal grown in Pennsylvania, and they'll use a generic label without any local winery." This was a common complaint cited within the data and was echoed almost word-for-word by a private actor participant discussing the PWA marketing efforts, "they just put generic labels that say cab sav, cab from whatever on it and they don't even represent individual wineries or Pennsylvania wine with the messages. They literally slap a generic label instead of highlighting us or anyone. It's silly. But they'll get bottles from us. And then just put a generic label on it. So that's why that's where we're at." These complaints were also reflected in the document analysis of the PWA marketing efforts. To illustrate this complaint, the PWA's regular PA Wine School articles discuss an individual varietal in detail while neglecting any mention of Pennsylvania wines or wineries that produce this varietal (PWA, 2021).

The data points continue to illustrate this perception of generic marketing as private and public actors expressed additional frustration with the nature of PWA's social media marketing. One public actor participant describes this problem, "but like, gosh, here, this is what a vineyard looks like. Yes. You know, this is what grapes look like grown on vineyard, you know, have scenery of that, not just people that, again, couples, different arrangements of groups together, and just with their wine glass. Instead of telling the story of the wine and the wine makers." And while this may seem like a small problem, it was cited throughout the data as making very little strategic impact while allocating limited resources ineffectively.

A related subtheme regarding marketing strategy that emerged was the frustration around the resource allocation within marketing and social media campaigns; this was expressed concisely by another private actor participant, "like I know, they're spending just thousands and thousands of dollars for someone to handle the social media. And they don't do anything they just copy other wineries posts. They literally just share stories here and there, mostly on IG. That shouldn't cost $100,000 annually."

This concern of resource allocation and the lack of effective marketing was reflected throughout the data as well as in the document analysis, which supported this previous data point. The document analysis showed most of the social media marketing content from the PWA to be reposted content from individual wineries. This concern was also furthered by the document analysis which revealed that $531,200 was allocated towards PA Media Group and Momentum Digital in 2021 for marketing support (governor.pa.gov, 2022). These quotes and data illustrate that there is a clear perception of generic marketing through the PWA and a lack of strategic social media usage and effective resource allocation. Additional negative externalities also emerged within the data that warrant further investigation.

Elevating the Best

The next emergent subtheme relevant to this discussion is the perception that the PWA fails to elevate or market the best wines within the state, which bears external costs. The literature and data demonstrate this is an integral marketing strategy and industry best-practice to improve reputation, brand awareness, and overall regional economic improvement (Hall et al., 2000; Orth & Krška, 2001; Carlson, 2007; Koch et al., 2013; Cei & Delfrancesco, 2018; Winfree et al., 2018; Santos et al., 2021). The rationale for this marketing strategy is also discussed throughout the data. To illustrate, one private actor participant discussed the problematic nature of collective marketing strategies and boards:

> Um, so I think the thing is, with these marketing boards, these overall arching marketing boards, they have to promote everybody. And they can't frequently single out the better wines, the ones that are going to catch the attention of the wine world which improves the overall equity in the state, as opposed to the casual wine drinker who loves to go sit on a Saturday and enjoy it. And I don't want to put those places down, they need to exist for lots of reasons, from the consumer, to keeping open space to people just get to make the kind of wine they want. I mean, what it is, but these overall, arching boards have to promote everybody regardless of potential impact.

This overall demand on the PWA and their resulting marketing strategy detailed above is replicated throughout the data. Another private actor participant elaborates:

> They market all the wineries, but they could be a lot more kind of positive. If you elevate a couple wineries. It elevates everybody because a rising tide lifts all boats and like this winery being upset because Galen Glen was focused on something and other winery being upset because this winery was, or another winery was highlighted. It's just

> ridiculous, right? Because a lot of the marketing that they that they've had to do in the past, is not about individual wineries. It's about the grapes. It's about the regions. But for the most part, like you can't talk about individual wineries. If you're doing any of the marketing, just generic wine.

Both previous participants are describing the perceived restrictions on the PWA that require them to emphasize generic marketing without singling out individual wineries—even if this would elevate the industry as a whole (Friberg & Grönqvist, 2012). This perceived concern was reflected throughout the data and bolstered by multiple private actor participants. For example, one private actor participant described their own experience receiving national attention and press for their product yet failing to receive promotional support from the PWA. The participant elaborates on this and the potential external costs this marketing approach bears to their business and the industry overall:

> I'm returning to that article, and the way things I think, would normally work is that, you know, I'm waiting to see if there are any additional press or interviews that get done with us because of that article, or any promotion from the state. I mean, I don't want to toot my own horn, but it's a pretty big deal. Right, I mean, and whether it's my winery or someone else's. Someone should be talking that up. And I'll do that myself. And I have to but that shouldn't be the case. In a healthy in a healthy wine region. That would absolutely not be the case. And it's only been a couple days, but I haven't heard a peep. So I mean, we've heard a lot from, you know, our, our patrons and our email list, and we got a lot of folks like that. But I, I find that, like I said earlier that the press in Pennsylvania, is seems to be afraid of making choices, but they can at least share national press about our great wines and wineries.

This sentiment is reflected throughout the data and furthered by a comparable anecdote by another private actor participant:

> You know celebrate the folks that are doing quality and things like that. And for my own good. I would tell them, Listen, I would, I don't, we're very private, and I don't really feel comfortable if you share our stuff, but I think you should share when other people do cool things. You should I think it's really important if somebody sends something to some magazine, we don't do that but if somebody else does it and they get you know a nice write up. You guys should be plastering that and you guys should be talking about you know the local wine and the best restaurants, and make the restaurants feel like they have the support, you know? You know, look at what, look at places that are doing it successfully, it's pretty simple. Look at what they're doing. And just kind of like use that as a template. And then you know, make your adjustments to make sure the Pennsylvanian but this is a really great time, we don't want to miss the boat. Everybody knows their events going on. You don't really need to drive that anymore. Everyone knows, but they don't know the high-quality wines being made and that needs to be celebrated. This has been done elsewhere and quality drives the reputation.

As clearly described by these private actor participants, they feel a lack of support from the PWA to assist in marketing their business following a positive review of their product. Instead, the data unveils a perception that PWA focuses on generic marketing material, such as events, labels, lists, and basic description of grapes varietals. A more individualized, less generic approach is shown in the literature and data to valuably contribute to a wine region's economics and an individual winery's growth. For instance, emphasizing positive reviews and press results in increased sales (Friberg & Grönqvist, 2012). As an aside, the PWA does include a list of recent press articles on their website, but it is difficult to access with no real further distribution (PWA, 2021). And while this generic marketing approach has been established as problematic by the data, document analysis, and literature, another private actor participant draws a succinct picture of this main issue, “and right now PWA markets everyone the same, the shit and the high quality, so how can the consumer choose correctly?”

***Regulatory Deficiencies in the Pennsylvania Agritourism Protection Act*.**

The regulatory deficiencies in the Pennsylvania Agritourism Protection Act is the second primary emergent theme and finding that was cited throughout the data by relevant public actor participants and is supported by document analysis and triangulation. In detail, the Pennsylvania Agritourism Protection Act, passed in 2021, provides civil liability protection for specified agritourism production covered under the act. It also codified a legal definition of agritourism in Pennsylvania (Schmidt & Powell, 2021). While on the surface this seems to be a beneficial policy action for the Pennsylvania wine industry, it is evident from the data that the wine industry was largely omitted from this protection and act. One public actor participant discussed this in detail:

> Unlike every other state, Pennsylvania specifically excludes liability protections for injuries that occur during weddings or concerts. This is a problem when you have a wedding on your winery. I mean, municipalities are usually opposed anyhow to have a religious service on an agritourism property. And it doesn't apply to injuries sustained during overnight stays or as a result of food and beverage service, and food safety is not included. The big thing is really that weddings and concerts are not included in this liability protection. So you have to see all the all these separate entities that are have an interest in this right, you have the hotel association, they don't want to have agritourism

> operators or wineries excluded from this, or food safety restaurants, right. So they don't want them to have any special rates that they do not have. So they still have to conform with all those others. But in a lot of other states weddings and beverages are included.

What this public actor participant is discussing is that while the act offers clear protections, many of the protections that would be applicable to wineries—such as weddings, concerts, and, most notably, food and beverage services—are omitted from civil liability protection. This is not the case in comparable states. This sentiment is further made evident by a Penn State Extension publication by Schmidt and Powell (2021):

> It is important to note that Pennsylvania's Act is different from other state agritourism liability statutes in a few significant ways. Unlike every other state statute, Pennsylvania specifically excludes liability protections for injuries that occur during weddings or concerts. In addition, Pennsylvania's Act will not apply to injuries sustained during overnight stays or as a result of food and beverage service (Schmidt & Powell, 2021).

The document analysis and the emergent data reveals a crucial issue that warrants further exploration. Examining the liability statutes from comparable states and their well-defined protection of the wine industry highlights the clear deficiency in the Pennsylvania policy. One public actor participant shared a holistic and detailed written legal and policy analysis comparing Pennsylvania's Agritourism Protection Act with similar acts from New York, Delaware, Iowa, Oregon, and Virginia. This written analysis is disclosed in its original formatting to preserve the intricate legal argument:

> **Pennsylvania's Agritourism Protection Act**
>
> (https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2021&sessInd=0&act=27)

Provides civil liability protections for agritourism providers covered under the Act

Enacted: 2021.

Definition:

“A farm-related tourism or farm-related entertainment activity that takes place on agricultural land and allows members of the general public, whether or not for a fee, to tour, explore, observe, learn about, participate in or be entertained by an aspect of agricultural production, harvesting, husbandry or rural lifestyle that occurs on the farm.”

Exceptions:

(1) Overnight accommodation.

(2) A wedding.

(3) A concert.

(4) Food and beverage services.”

PSU Extension article for more:
https://extension.psu.edu/pennsylvania-agritourism-activity-protection-act-27-of-2021

New York Agritourism – “Safety in Agricultural Tourism Act”

Definition of agritourism law: https://www.nysenate.gov/legislation/laws/GOB/18-302

(All NY agritourism law in one article: https://nationalaglawcenter.org/wp-content/uploads/assets/agritourism/newyork.pdf)

Provides civil liability protections for agritourism providers covered under the Act

Enacted: 2017.

Definition:

“1. "Agricultural tourism" means activities, including the production of maple sap and pure maple products made therefrom, farm and **winery tours**, equine activities both outdoors and indoors but excluding equine therapy, u-pick Christmas trees, hiking, hunting and other forms of outdoor recreation offered to farm visitors, conducted by a farmer on-farm for the enjoyment and/or education of the public, which primarily promote the sale, marketing, production, harvesting or use of the products of the farm and enhance the public's understanding and awareness of farming and farm life.”

Other states that mention wineries:

Delaware

https://delcode.delaware.gov/title9/c003/sc01/index.html#306.

“Agritourism activity” means any activity that allows members of the general public to view or enjoy rural activities, including: farming; ranching; **wineries**; historical, cultural or harvest-your-own activities; guided or self-guided tours; bed and breakfast accommodations; or temporary outdoor recreation activities.”

Enacted in 2008.

Iowa

https://casetext.com/statute/code-of-iowa/title-xv-judicial-branch-and-judicial-procedures/subtitle-5-special-actions/chapter-673a-iowa-agricultural-tourism-promotion-act/section-673a3-definitions

Definition of farm: “"Farm" includes but is not limited to a farm field, orchard, nursery, greenhouse, garden, elevator, seedhouse, barn, warehouse, animal feeding operation structure, **winery**, brewery, distillery, or any personal property located on the land including machinery or equipment used in the production of a farm commodity.”

Enacted in 2021.

Oregon

https://www.oregonlegislature.gov/bills_laws/ors/ors030.html

Definition: “Agri-tourism activity” means an activity carried out on a farm or ranch that allows members of the general public, for recreational, entertainment or educational purposes, to view or enjoy rural activities, including farming, **wineries**, ranching and historical, cultural or harvest-your-own activities or natural activities and attractions. An activity is an agri-tourism activity whether or not the participant paid to participate in the activity.”

Enacted in 2015.

Virginia

https://law.lis.virginia.gov/vacode/title3.2/chapter64/section3.2-6400/

“Agritourism activity" means any activity carried out on a farm or ranch that allows members of the general public, for recreational, entertainment, or educational purposes, to view or enjoy rural activities, including farming, **wineries**, ranching, horseback riding, historical, cultural, harvest-your-own activities, or natural activities and attractions. An activity is an agritourism activity whether or not the participant paid to participate in the activity."

Enacted in 2006.

As clearly and exhaustively detailed in this previous legal policy case comparison, unlike other neighboring states, the Pennsylvania Agritourism Protection Act neglects the wine industry and provides very little to no legal civil liability protection or overall incentives to improve wine tourism within the state. This is problematic as the literature indicated wine tourism is a major driver of overall agricultural economics and rural development (Gatti & Incerti, 1997; Hall et al., 2000; MFK, 2007; Rimerman, 2011; Dunham, 2017; Dunham, 2018). Although the previous legal comparative analysis details the problematic nature of this issue in comparison to neighboring states, the following public actor participant summarizes the impact, or lack of impact, for the Pennsylvania wine industry acutely:

> But our statute is a little bit problematic, in that it has a couple of exclusions that are unusual. One of the exclusions is weddings, weddings are specifically excluded, and these are huge profit, profit for wineries. I mean, you get that big barn on vineyard, and then you hold a wedding. And that's, and that's wonderful. But you do not get this liability protection for weddings, and you do not get this liability protection for overnight guests. So if you're planning to do any kind of thing like that, you also don't get the liability protection for food service. So food and beverages that are served on the property, you do not get this liability protection. So it's anyone who's a vineyard owner is just sitting there like thinking, what is it even protect for the wine industry? That? Nothing? I mean, because if it's not food and beverage, then it's nothing, right?

As plainly described by this public actor participant and the previous participants, a perception exists that there is little to no policy support for wine tourism within the state of Pennsylvania. Examining comparable states' policy offers more support to this claim.

In conclusion, first, as clearly detailed through the emergent data, document analysis, and the empirical literature within the wine industry, there is a perception that the marketing strategy, primarily through the PWA, is insufficient and needs reform—specifically around resource allocation and strategies to elevate the best wines within the state (Hall et al., 2000; Carlson, 2007; Koch et al., 2013; Cei & Delfrancesco, 2018; Winfree et al., 2018; Santos et al., 2021). Second, as illustrated by the emergent data, legal statutes, comparative legal analysis, and relevant policy analysis, there is a deficiency within the Pennsylvania Agritourism Act with regard to the wine industry which may have external costs for agricultural tourism and rural development (Gatti & Incerti, 1997; Hall et al., 2000; MFK, 2007; Dunham, 2017; Dunham, 2018).

Agricultural Needs: Policy, Rural Development, and Viticulture

The sixth emergent theme and primary finding that was cited throughout the data by many private and public actor participants and confirmed in the text mining and document analysis was a collection of smaller complementary subthemes relating to overall agricultural concerns. These included Agricultural Policy, Rural Development, and Viticulture within the Pennsylvania wine industry. Throughout this section each collection of emergent factors and subthemes will be explored under the three larger primary themes.

Agricultural Policy

The first primary emergent theme that was cited throughout the data was the need for further agricultural support from the state. This theme emerged in multiple outlets, but the overall sentiment reflected throughout the data was that grape farming for wine production, in comparison to other agricultural products, has minimal state support. One private actor participant illustrates this perception, “nobody at the state level really cares about the wine trade, what they really care about is agriculture in general, and specifically dairy although that is declining and shortsighted.” This is problematic because of the high capital costs of founding a winery and the inherent risk within the industry (Le Ann et al., 2005). One public actor participant discusses this cost issue and the need for further state support:

> I know they have incentives in Virginia, that type of almost like as an incentive for folks to be able to take that risk, we need that because at this, when they started putting the numbers up there, that's going to be up to $10,000 per acre, you know, when you look at the, you know, the posts and the wire and the vines and everything, people are just kind of like what? Yeah, and I even question why people plant vineyards, because in this, you know, and the mid-Atlantic with the weather and all of the rain, and you're doing sprays and those sprays can cost $1000’s when you spray.

The sentiment around the need for incentives and state support because of the challenging business model and environment is furthered by a private actor participant:

> God, well, yeah. You know, especially absolutely, or low zero or low rates, loans for supplies, you know, like for, you know, for investment in winery equipment’s in you know in large hard scale things. Yes, absolutely things like that are going to you. And also the most pragmatic things. Yeah, just the things that aren't necessary gonna cost a lot of money to have a big rate of return. Yes, absolutely. Yeah, no and no, you know, tax credits always are fantastic specially because you're dealing with a industry that actually its income is sporadic at best. You you have years that just you know, like you have, you'll have good years bad years.

Both previous participants are lobbying for targeted industry agricultural support from the state because of the high capital costs as well as the sporadic nature of agricultural production (Le Ann et al., 2005). This need for further support through mechanisms such as tax credits is reflected throughout the data and in in neighboring states' agricultural laws, as referenced previously. For example, Virginia has a farm wineries and vineyards tax credit statute that Virginia farm wineries and vineyards can apply towards capital expenditures and improvements (58.1-339.12, 2012). In addition, New York State gives a production credit to grapes grown and gallons of alcohol produced (tax.ny.gov, 2022). These serve as just two examples of the types of tax credits common within the industry, which include credits toward capital expenditures, incentives, and grape production subsidies (Brown, 2000).

The problematic issue of pesticide drift was another emergent subtheme related to agricultural policy that was cited throughout the data. Pesticide drift, "is the movement of pesticide dust or droplets through the air at the time of application or soon after, to any site other than the area intended" (EPA.gov, 2022). This is highly problematic for wineries and was reflected throughout the data as a serious area of concern because pesticide drift from local agricultural farms severely damages grapes and vineyards. This concern is demonstrated by a private actor participant, "our vineyard has gotten damaged from phenoxy herbicides in the last three years, other vineyards I know have for years. Other producers in the Lehigh Valley have. So it's getting worse and worse because more people are using these products. And they are, they are really nasty around vineyards." This concern is reflected throughout the data and is furthered by a public actor participant, "pesticide drift has been somewhat problematic for some of the winemakers, you know wine makers that are trying to grow high quality vinifera."

In addition to participant concern around pesticide drift, the literature indicates that pesticide drift is devastating to broadleaf planting such as grapevines. It often leads to the shriveling and curling of leaves, and it can take weeks to recover the loss of primary buds, which can severely damage the following years' crops (Williams, 2021). While further agricultural support and pesticide drift are clearly issues within the Pennsylvania wine industry, another primary interrelated emergent theme is rural development.

Rural Development

Another primary emergent theme related to agriculture that was cited throughout the data was the role of the Pennsylvania wine industry in rural development within the state. Throughout the data, the wine industry was specified as a major potential rural development tool, especially as the dairy industry, which was once the primary driver of agricultural within the state, continues to regress. A decline in the dairy industry is seen nationwide; since 2003, over half of the licensed dairy operations have exited the business (Nepveux, 2021). Pennsylvania is not immune to this economic reality with dairy farms declining 5.2% from 2019-2020 and milk production declining by 1 million pounds from January 2020 to January 2021 (Hardburger, 2021). The data reflected this decline with an emphasis on the state's need to recognize this change and pivot toward the wine industry. One public actor participant describes this focus on dairy and the evolving economic outlook, "I think we also need a governor to step up and say you know what, I'm going to make the wine industry important again, because right now we still talk a lot about dairy, dairy, dairy, dairy, and penciling it will you know what? Dairy has been on the decline for 10 years and the wine industry is long-term agritourism and rural development for the state." And while this is one participant's view, it is also reflected throughout the literature and data (Gatti & Incerti, 1997). One private actor participant illustrates this sentiment from their perspective:

> Here is the thing that's strictly a Pennsylvania thing. Yeah, so the Department of Ag has only recently, the Pennsylvania Department of Ag has only recently taken us into their homes, so to speak, they were more focused on dairy and mushrooms. And when we started. Every year, I asked the same question. They have a big thing in January, up in Harrisburg, which is the Farm Show. And I would ask every year Why don't we have a booth there? As far as you know, for wineries, Pennsylvania wineries can't do that, the people that the Head of Department of Ag is always a dairy person, and they were anti-alcohol. They would not even I remember once, I remember once when they wouldn't even let us place an ad in the brochure. Dairy doesn’t add rural development like wineries and for things like wine tourism. Wine is such an just such an expansive industry, with restaurants, tourism, hotels, food, right all this across the board, even dairy would have probably a higher impact. Maybe not big dairy, but like the smaller farms wide because of cheese. So cheese, if they supported us further. So they have been shamed in recent years into recognizing us. And now they, you know, they have a booth, we have a booth there. And I mean, Pennsylvania wines has a booth there. And, you know, they do it. They do whatever they do. But it took a really long time. So my point of this story is that this is how far you know we have been that black sheep. Yeah, that red headed stepchild.

This participant’s perspective is that the wine industry has been the black sheep in Pennsylvania’s agricultural community. They also discuss the impact on the industry overall, as well as the potential rural development impact through the related businesses that support the wine industry, which results in sustainable local and regional development (Gatti & Incerti, 1997; Hall et al., 2009). While the dairy industry was the primary emergent theme regarding resource allocation and attention within the state, the overall sentiment is a need for further support because of the viability and potential of the industry, which is reflected throughout the data and literature (Gatti & Incerti; MFK, 2007; Rimerman, 2011; Cvijanovic et al., 2017). This holistic issue is summarized in detail by one public actor participant:

> The wine industry provides an agritourism economic development along with ancillary businesses that benefit from a winery taking open space and making it economically sustainable without using tax dollars in farmland preservation. So in my mind, you know, I've always said well, I appreciate farms that are put into farmland preservation. You know, I think that all open space which stays open if it's economically viable, yes, reason most people sell the land is because they don't have another choice. They'll want to sell the land. But most people own large sums of open rural, productive ag land, choose to hold it, until there's no other choice. And we gotta put this federal and state dollars to work economic growth, versus giving it to one family to preserve land, that they're gonna move off that land or die. You know what I mean? And it's going to go to somebody who's not a farmer anyway. So I don't know, I just see the one industry that is not getting the full shake of acknowledgement that it's a viable ag industry in PA is wine.

The previous public participant discusses the potential of the Pennsylvania wine industry on rural development within the state, illustrating the local application of the emergent theme that is reflected throughout the data and literature: The wine industry is an important sustainable and economic rural development tool (Gatti & Incerti; Hall, 2000; MFK, 2007; Hall et al., 2009; Cvijanovic et al., 2017). That said, one private actor participant summarizes this issue succinctly, “we are part of the two leading, you know, economic impacts in the state, agriculture and tourism, and that sometimes goes unnoticed.” Although rural development and further support from the state are clearly issues within the Pennsylvania wine industry, another primary affiliated emergent theme is viticulture.

Viticulture

The third primary emergent theme related to agriculture that was diffused throughout the data was the unique environment and needs of the Pennsylvania wine industry regarding overall viticulture within the state. The overarching theme of viticulture was cited throughout the data with an emphasis on overall regionality, site selection, varietal selection, and the lighthouse varietal idea—all of which are interconnected.

One of the most prevalent ideas that emerged from the data regarding viticulture was the overall regionality issue. As discussed in detail in Chapter Two, geographic indicators and regionality are a valued aspect of wine economics, and presently Pennsylvania viticulture is generally discussed as an umbrella brand without a focus on regional terroir (Wilson, 1998; Joy, 2007; Easingwood et al., 2011). One private actor participant describes this issue from a viticulture and branding perspective in great detail:

> Pennsylvania is so varied with its regionality and climates so one marketing and farming strategy, and say varietal selection won't work, even with even within the Lehigh Valley, you know, I was, so I've participated for all now five or six years of the Pennsylvania wine judgment. And so I've tasted a lot of Pennsylvania wine that way. And I had been convinced, up until very recently, that every winery in Pennsylvania should rip out their Chardonnay, because it's all bad. Like, when you go through 50 Chardonnays, and Nothing even comes close to palatable. It's hard to say like, you know, keep going. And then then I tasted Setter Ridge, and they're brilliant. Now, that's in the conversation for me when I want to talk about what Chardonnay can do. But that, that's very site specific.

> That's like 1000-foot altitude, on shell soils, you know, farmed appropriately and made with a skillful hand like, it's it also leads me to like part of the next point about communication and marketing strategy and the needs of regionality, site and varietal selection within the state. I think a big thing is part of like, the underpinning of this conversation is we're talking about Pennsylvania wine, right? Which is insane. Like we would we would never sit here and talk about even just New York wine. Because you have to break it into Long Island, Hudson Valley. Yes. Finger Lakes and then Niagara Escarpment. Like, it's impossible to talk about all of all of those regions as a monolith in the same way that it's impossible to talk about Pennsylvania as a monolith.

This private actor participant is describing the need for a greater regionality emphasis in the marketing as well as the viticulture within the Pennsylvania wine industry because Pennsylvania is such a geographically large state with varied macro and microclimates as well as soil composition. This need for a stratified viticultural and marketing strategy is reflected throughout the data and literature (Ciolkosz & Cunningham, 1987; Centinari & Chen, 2005; Penn State Extension, 2020; 2021; Stevenson, Wallace, 2021; USDA, 2021). This need is further supported from a viticulture perspective by multiple private actor participants. One of these private actor participants describes this concisely:

> And, you know, we've got it's such a big state, it's got different types of climates. You know, there are all sorts of great things we can produce from different parts of the state. So you know, there is no one wine region. I hate the thing about Oh, what's this state's grape? Yes. Ridiculous. Right. And that's changing. In addition, because of, you know, climate change is altering what we can do. I mean, who would have thought that

> Nebbiolo would produce a really good wine in Pennsylvania? So we need marketing grape production by region, varietal by region.

This idea around regionality regarding viticulture and branding is seconded at great length by another private actor participant who compares the overall viticultural environment to relevant neighboring states:

> The other part of the issue, I will say this. Let's, let's take a look, say Virginia, Virginia, to me has three regions. You go down Route, you're gonna have 95. You got your coastal region, between there, and 29, and then from 29, West, up into the Shenandoah somewhat 281 let's say, it's really simple to understand, it's down three highways. Pennsylvania is nothing like that. I joke about this with people when they ask about, you know, the climate on I'm like, you know, we're like Virginia, and we had a cabin in Clinton County, and that's basically Alaska. And we have such diversity in Pennsylvania of climate that it's just crazy. And that makes it a little bit more difficult for the consumer, but also for ourselves, to wrap our minds around and to sell. It's real hard. So what I, I've been suggesting since day one is get out of the idea about states producing good wine because that's basically just manmade borders. Yes, you have to talk about but for marketing, in my opinion, is the sweet spot and that's the Piedmont plateau. The Piedmont plateau runs from a little strip in Jersey, all the way down to the Carolinas. Southeastern facing slopes high enough that they're just above the coastal plain, so that the humidity levels are lower. Soils are much more interesting. Because coastal plains are essentially sand, you're somewhat outside of the hurricane zone. You're right on the edge of the polar vortexes. But anyway, what in my opinion, we should be talking about is the northern Piedmont can grow these things. And the mid Piedmont can grow these things and the southern

> Piedmont grows these things. Looking at it as a reverse California, as opposed to North Carolina, South Carolina. Yes, Virginia, West Virginia. That's how the public should be seeing now I understand Pennsylvania has to promote Pennsylvania. So within this what I'm talking about is the little SES corner is vinifera and we can do very good vinifera here. And then as you go back, I think that we need to be looking at this as wine zones, they do great whites in this area. This is a wonderful should be a wonder I've always argued this, the next zone should be a wonderful reds, and then beyond that, you're going to have to be going into strictly hybrids and Americans, but that's okay, because the current consumer cares less about that, but we should be branding and growing by regionality and the varietals which do well in those locations.

While this previous participant meticulously describes the overall ideal growing conditions, specifically highlighting the advantages of the Piedmont plateau and the southeast corner of the state, both previous participants included the need for specific site selection as well varietal selection; this was cited throughout the previous literature on the Pennsylvania wine industry as vital (Harper & Kime, 2013; Golley, 2017; Thompson, 2017; Smith, 2018; International Wine Review, 2019). Another private actor participant furthers this need:

> Site selection really makes a difference on the east coast because it does rain here. This is the reasons why our site can produce really compelling wine even in a crappy vintage like 2018. Site selection really matters on the East Coast for quality reasons. Part of the challenge here is because of the climate, because we get rainfall. Because site selection is so important, when we're still learning which varieties can make the best wines on which sites. Yeah, there's a lot of unknown dealing with so we don't have enough of the answers yet. But we also don't have enough people who are willing to, I think, experiment and try

> for that. On good sites. I know of other wine growers, we're playing around with things on sites that I can tell you with their experiments are probably never gonna work, water really makes a big difference. Water, water holding capacity of soils is really, really critical.

As discussed in detail by this previous participant, there is a clear need for careful site and varietal selection on the east coast and Pennsylvania because of the variance in climate (Harper & Kime, 2013; Thompson, 2017; Smith, 2018). Within this need for careful site selection in the state, there is the aligned need of careful varietal selection for each geographic region and site. This has been diffused throughout this section and is supported by the previous literature; however, it is so prevalent throughout the data it warrants further discussion (Harper & Kime, 2013; Thompson, 2017; Smith, 2018; International Wine Review, 2019). One public actor participant succinctly discusses this issue, “so that's, you know, because that's actually something that every state has is you need that ability to know, like, what is actually a very good region? Where should we be planting, and what varietals in each region.” This participant is discussing the need for specific wine varietals in specific areas of the state; this need was also cited throughout the previous participants discussions, documentation, and literature (Thompson, 2017; Smith, 2018).

Moreover, a related emergent subtheme was the lighthouse varietal discussion, which has been touched upon by previous participants. This is the idea that each region of the state should emphasize certain varietals that are advantageous to the local growing conditions and use this as a branding tool for consumer awareness. One public actor participant describes this issue, “I feel like we've lost our way a little bit with research and marketing and we're less focused on developing varietals for Pennsylvania, that we can do really well. And find those two or three varietals that make us an elite producer of in specific areas in the state and brand that." This idea was supported further by one private actor participant:

> You know, yeah, you go out to you go out to Oregon and its Pinot Noir, you know, you know, Napa has Cab, those things become synonymous. So wow, they are not necessarily the only thing, it is something in a very simplistic way for consumers to equate with a region and a brand and can be successful.

This idea of improving regional brand salience through single varietals is a long-established wine policy mechanism. It was even discussed in *Wine Enthusiast* by Carl Helrich of Allegro Vineyard in Brogue Pennsylvania, "not being able to say that we are good at 'X grape' has meant that there has been an unfocused industry struggling to find an identity" (Schamel & Anderson, 2003; Thompson, 2017).

Throughout the data, this idea was emergent with different varietals recommended for different regions of the state as a viticultural and marketing strategy. One private actor discusses the promise of certain white wine varietals, "I think I think we can, I've always I've always been in this position; I think we can do white wine as good or better than anywhere in the world. I think we can totally compete in that avenue, specifically in certain areas of the state." The support for white wine varietals in certain regions within the state was cited throughout the data and literature (International Wine Review, 2019). In addition, this was repeated almost verbatim by a different private actor participant, "our whites seem to be consistently good all the time. So Pennsylvania has the potential to literally be world-class in in white wines."

While the data as well as the literature made clear that white wine varietals can compete internationally, there was also clear support to apply this lighthouse idea to red wine varietals in the southeast corner of the state (Sheenan, 2015; McIntyre, 2016). One private actor participant details this, “there's a couple of factors. I'm essentially in the southeastern corner, where we're blessed, it has a different climate than the rest of the state and can produce incredible red varietals.” This participant’s perception was also reflected by the document analysis which highlighted multiple wineries producing high-quality fine wine in the southeast region of Pennsylvania (Daily Meal, 2017; Beavan, 2019; Delany, 2019; Wallace, 2021; Vinepair, 2021).

The data and literature indicated a need for careful regionality, branding, and site and varietal selection as emergent themes within the overall agriculture needs and viticulture of the Pennsylvania wine industry (Ciolkosz & Cunningham, 1987; Centinari & Chen, 2005; Wikler & Moloney, 2009; Smith, 2018; Penn State Extension, 2020; 2021; Stevenson, 2020). One public actor participant floated an idea to improve the overall viticulture, “there's been a lot of conversations about site selection, but the idea of almost like an open data dashboard on what works well and what doesn’t and like a completely, you know, process focus where, you know, if you had soil, you know, everything across the board A to Z, folks would probably be able to make more high-quality wine.”

In conclusion, as detailed throughout the emergent data, document analysis, and empirical and popular literature within the wine industry, there is a clear need and opportunity for further agricultural policy discussion and support, a greater emphasis on the wine industry within rural development, and detailed local viticultural literacy (Gatti & Incerti; MFK, 2007; Rimerman, 2011; Cvijanovic et al., 2017). In addition, the need for aligned marketing, branding, and public and private support was diffused throughout the data, which is also reflected throughout the literature (Hall & Mitchell, 2001; Beverland, 2001; Wargenau & Che, 2006; Hall, 2007; Conto et al., 2015; Winfree et al., 2018; Trisic et al., 2020 Santos et al., 2021).

Stakeholder Discussions: PLCB, PWA, PWMRB, Penn State Extension, and State/Local governance

The seventh emergent theme and primary finding is an umbrella theme representing primary factors relating to industry stakeholders that have not been investigated at length previously. This theme was dispersed throughout the data, discussed in one way or another by every participant, and confirmed in the text mining and document analysis. This section includes a catalog of Pennsylvania wine industry issues that warrant further exploration relating to the following major stakeholders: PLCB, PWA, PWMRB, Penn State Extension, and State/Local Governance. As such, each relevant emergent theme relating to each major stakeholder will be cataloged and investigated briefly.

PLCB

The PLCB is the first major stakeholder within the Pennsylvania wine industry with additional relevant primary issues that emerged from the data. While the PLCB has been discussed throughout this analysis, there were multiple primary factors relating to the Pennsylvania wine industry that require further analysis, some of which are closely related to auxiliary wine industry enterprises. The three primary issues that emerged—all of which are related—were wholesale pricing, restaurant delivery, and the handling fee lawsuit.

The wholesale pricing issue, an emergent theme cited by multiple private and public actors, describes the inability of Pennsylvania wineries and wine distributors to sell their products with wholesale discounts. One private actor participant described their frustration with the restrictions impact on wineries and restaurants, “so you're restricted from actually giving case by case discounts, by law. So this impacts sales, you know, wholesale orders to restaurants all that across the board. So you know, I get a coupon, I get a coupon or discount in my email from wine.com basically daily. But a Pennsylvania winery by law is not allowed to do any such thing." This private participant is illustrating the frustration around the PLCB's continued control of wholesale pricing with an interesting example of discount rates from other industry participants while excluding in-state wineries.

This sentiment is supported by another private actor participant, "there, you know, there's the first challenge is you're only allowed to register the product at one price, there are no volume discounts." The data and literature indicate this issue creates higher margins for individual wineries as well as vital auxiliary businesses such as restaurants (Sherman, 2020). It is also aligned with the secondary related primary emergent theme, restaurant delivery.

As discussed previously, the PLCB controls the wholesale and distribution operations within the state of Pennsylvania through its 600+ distribution centers (Pavlecic, 2017). An overall criticism on the constraints and external costs this process puts on bottle shops and restaurants was one of the primary issues that emerged within the data, expressed by multiple participants. One public actor participant explains this issue concisely, "there is a need to minimize the trek to distribution centers in the state would just, it would allow bottle shops, restaurants, all to have larger margins." In detail, this public actor participant is describing the process beverage directors and restaurants, hotels, and private actors must take to pick up their orders from a PLCB distribution center by physically traveling to distribution centers weekly. This issue was cited throughout the data, and the multiple negative externalities of this policy were described in detail by a private actor participant:

> I think the real issue where we're way behind and really held back by the PLCB, is restaurants. And so the fact that you mentioned it earlier that they have to go through that whole process, and there's the extra costs, there was there was there was a lot of like, there was a lawsuit, I think about the whole picking up. And I don't know, whatever,

> what exactly happened to that. But it was like, I think there was something even with COVID that like having to pick up the wine was discriminated against or something like that was what the people were saying. But like, there's even an extra cost about that. I mean, I've heard people complain, like, I there's nowhere to park and I end up getting a ticket when I go to pick up my wine and because they have to go to the distribution centers instead of being delivered to the restaurant. Right, so like that, that is the kind of stuff that raises the prices in restaurants, and then, like discourages trial. Right. And so if restaurants is a great place, and wine bars and things like that is a great place for people to try local wines and realize that they're good. Those types of cost inhibitors are like, I think I think that that hold our wine industry back versus another state where it's a little more open. And I know there's like something about I saw something recently about, like grants for a local thing. It was for beer, wine and spirits. But like, yeah, there are some things that they're trying to do. But again, it comes back to like, that the whole restaurant thing and distribution thing is a real issue.

This private actor participant is describing in detail the external costs an additional step in the supply chain process creates such as lower margins, higher costs, distribution inefficiencies for the private market, and even disincentives for the local industry. It must be noted that one point made by this previous participant is slightly mistaken. As discussed previously, local wineries can distribute directly, without PLCB administration, through six locations (Vigna, 2017).

Furthermore, this private actor touches upon the final related emergent theme, the handling fee lawsuit. The handling fee lawsuit, as discussed briefly in Chapter One, is referencing that by law the PLCB was supposed to eliminate a handling fee of $1.75 for every 750-milliter bottle of wine; however, this was never eliminated. (Malamud, 2016; Brubaker, 2020). This issue was cited by multiple participants and was discussed as a serious concern because of the monopolistic enterprise and additional cost layers (Munshi, 1997; Gwartney et al., 2017).

One private actor participant illustrates this apparent violation of law, “this has been law since 2016. It's, you know, it was signed into law. And in 2016, it's supposed to have been put into effect in 2017. But the PLCB still has not done that. And of course, they're still embezzling 10s of millions of dollars of handling fees. So that's part of what the lawsuit is about.” In addition to this concern being discussed by multiple participants, it was recently debated by a commonwealth judge. Brubaker (2021) illustrates this colorfully:

> A Commonwealth Court judge pointedly asked a lawyer for the PLCB, “How do we get the government to stop violating the law?” Judge Anne E. Covey was talking about the wine and liquor monopoly’s ongoing violation of a law requiring it to permit wine dealers to ship wines not carried by the agency directly to retailers and restaurants. The agency snags a fee for that, but was supposed to stop taking those payments by June 2017. More than four years later, the PLCB still hasn’t stopped charging fees, despite a May 2020 Commonwealth Court order — upheld by the state Supreme Court — ordering the agency to allow direct shipments and to stop charging handling fees. That was the backdrop for Commonwealth Court arguments Wednesday over whether the PLCB should pay unspecified damages, costs, and interest to the wine dealers, as well as lawyers’ fees. A lawyer for the PLCB said the independent state agency has sovereign immunity and should not be on the hook, even for refunding millions in handling fees it has been collecting illegally since June 1, 2017, from restaurants and private retailers licensed to sell wine (Brubaker, 2021).

This handling fee issue is still under legal analysis. That said, examining the previous legal analysis and the participants' perceptions, there is a clear emergent theme around the overall distribution and wholesale issues being restrictive, and in some cases, regarding the PLCB, illegal. One private actor participant summarized this issue compellingly, "it's the mafia man." While this is a dramatic interpretation of this policy issues within the industry, it does illustrate a perception of the overall state monopolistic external costs (Munshi, 1997; Gwartney et al., 2017).

PWA

The PWA is the second major stakeholder within the Pennsylvania wine industry with relevant primary issues that emerged from the data. While the PWA has been discussed throughout this analysis, there was one major primary factor relating to the Pennsylvania wine industry and closely related auxiliary enterprises that warranted further exploration. The need for improved governance and a strategic reset for the Pennsylvania Winery Association was reflected throughout the data by multiple primary and public actors.

This issue is referencing the overall emergent theme that the PWA needs operational efficiency and better overall governance, as well as a strategic change. The overall problematic issues with governance are illustrated in detail by one private actor participant:

> The downside is we lost the Pennsylvania Winery Association last year. The Marketing Director and they had a lobbyist as well that were pushing for grants and pushing for like ag tourism, and both are gone. So without having somebody full time committed to that the association I will say not necessarily the industry but the association took a hit which then in turn will hurt the industry. Now it's a volunteer board of winery owners and winemakers that honestly, they have enough other things on their plate. That's why they

> hired somebody to handle it full time. And by losing that director, the association the winery association lost about 40% of its members because they didn't feel like there was as much reward for pay.

This private actor participant is reflecting on a sentiment that was cited throughout the data: the PWA, because of the overall lack of leadership and effective governance, is losing influence within the state and from individual wineries. This void in effective governance and leadership is illustrated by another private actor participant, "yeah, which is kind of the way I see it moving. It's all the same people, it's all the same, you know, things. They basically only chase what they see somebody else doing when it's too late, you know, they've already done, you know, they're, they don't want to lead in anything, and there is no one to lead it." This theme was emergent throughout the data with the lack of leadership and direction being a clear issue. One public actor participant furthers this point and describes a potential direction:

> I would actually step back and say that there needs to be some sort of strategic, all encompassing, strategic, thoughtful process embarked upon to see where is the opportunities for the wine industry? Well should start with research, which includes a SWOT. I think it includes a non-biased party to conduct a strategic conversation since we have really been out of touch and it hasn't been strategic. Start over and do it right.

Regardless of the explicit direction defined, it is apparent from the previous participants there are overall governance and strategic direction concerns with the Pennsylvania Winery Association.

PWMRB

The PWMRB is the third major stakeholder within the Pennsylvania wine industry with relevant primary themes that emerged from the data. Unlike the previous two primary stakeholders, the PWMRB been analyzed to a lesser extent previously, and this trend continues in this section. Throughout the data, the PWRMB was cited as having a positive influence on the wine industry and was of secondary concern to the majority of public and private participants. That said, one minor issue emerged from the data: a need for better communication and cooperation with the PWA. One public actor participant illustrates this need:

> I'll tackle the first one, which I believe is, you know, your trade associations in your state governance. As a Secretary of Ag and the governor, I think they need to develop a workable, a workable relationship built on trust, right. And, and while they may have, respectively, different missions, they do have space where they overlap. And I think they need to come back together at some point. Because those funds, there's going to dollar, so when you commingle the funds, they can get greater impact, yes. And they can get greater push from a lobbying perspective, advocacy perspective, right now they talk but there's a distance. I think that it's going to be difficult in a state like Pennsylvania, to really get the needed momentum, both in the legislative side as well as in the grant funding side, because they're not going to be speaking the same language, right. They're not going to trust one another. And that won't work well, for an industry that's growing. But in order to get to the next level, they won't have the strength to do it.

Although data demonstrates further exploration into the PWMRB is unnecessary, it is apparent from the previous participant's quote, as well as the literature, that a need exists for improved communication and governance among the different major trade associations and stakeholders within the Pennsylvania wine industry (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021).

Penn State Extension

The Penn State Agricultural Extension is the fourth major stakeholder within the Pennsylvania wine industry with relevant primary themes that emerged from the data. Comparable to the previous primary stakeholder, Penn State Extension has been explored to a lower degree previously, and this section maintains that direction. In general, the data reflected a highly positive perception of Penn State Extension and their work. One private actor participant described an aspect of their impact by asserting, “the idea of having a grape growing specialist and a winemaking specialist is a good idea. It's done all over the country, and it’s been helpful here.” This was bolstered by another private actor participant:

> You know, maybe on the public policy side, maybe there's a little bit, you know, you've got, you know, a public institution in Penn State and their extension program that can support the industry. And there's been great strides there, you know, the 15 years have been back in the industry, what was nonexistent in terms of a wine and grape team, Penn State now exists in terms of some amazingly impressive individuals, I would say, you know, that program, the quality of work and the credentials of that team, rival, you know, Cornell and other programs that are well regarded within the industry, and really all we need is more of that and funding.

This sentiment was reflected throughout the data, and the only need that emerged was the position that Penn State Extension needs additional resources to continue to positively impact the Pennsylvania wine industry, as above-mentioned.

State/Local Governance

The state/local governance is the fifth major stakeholder within the Pennsylvania wine industry with relevant primary issues that emerged from the data. Though these issues have been diffused throughout the research findings and prior stakeholder analysis, two primary factors relating to the Pennsylvania wine industry warrant further exploration. First, the need for streamlined industry zoning regulations. And second, the need for long-term sustainable state commitment toward the industry for business growth. These issues were reflected throughout the data by multiple private and public participants, including this private participant who summarized it well:

> I tell you what they could do to make new wineries easier. Yeah, there's such a patchwork of regulations for putting in wineries between you've got the PLCB that has to approve it, you've got local townships that have you've got state approvals, there's such a patchwork of things you got to work through to ultimately to get a permit to sell it is because of because the regulations vary so much by Township, you know, some it's not clear or there's not even consensus on whether wineries are considered commercial agriculture. Okay, that is huge, you know, has a huge impact on your zoning, what you're allowed to do, whether you can do events or not is such a patchwork, it is not for the faint of heart to go establish a winery because you're dealing with so many different agencies and entities and so that is the one thing government could do is to provide more uniform guidance on how wineries are classified have some level of you know, whether they're protected under the Right to Farm act, you know, like that says yeah, you got a right farm and as a farmer, you have the right to sell your product it's not clear as to whether that applies to a winery. Anyway, I just go on and on. And it's just before the bureaucracy because they don't, I mean, they don't care the other day that yeah, he doesn't care whether you open or not. And so it's just annoying. It's like a thing. It's the state that is the one thing the government could do. I'm not gonna say the government's gonna solve all

> our problems, but I'm just saying like all these little patchwork people you get to work with open a wandering, streamlining that would be big.

Evidently, the tightly coupled regulations distributed through the state and local government, as described previously, negatively influence the business environment. This perception is furthered by another private actor participant:

> So we didn't like hire a bunch of lawyers or anything up front to get all the licensing together. And like, hire like an account to get everything together, we kind of just like, learned as we went. And there, I know, there is resources to help you start with this kind of stuff. But it was just kind of, I don't know, we were just, we didn't know what we were going to do originally. So we're just going to grow some grapes. And then after the first year growing grapes were like holy shit, this is so much work. And we can't just give these away for what they're selling them for, like to sell great. We were like, Alright, now we need to make wine. And we need to get like our wine license and everything like that. And we just slowly got into it. But it was good, because we didn't really have anything to sell for four or five years. So we have plenty of time to figure it all out as we got to that point, which for a lot of people isn't possible, so simplify all this shit would really help out.

As clearly described by both private participants, there is perception that streamlining state and local regulations will improve the overall business environment of the Pennsylvania wine industry, which is reflective of the literature (Le Ann et al., 2005; Vaudour & Shaw, 2005). While this is one primary theme that emerged, another related theme is simply long-term sustainable state commitment toward the industry for business growth. This need is lobbied for by a private actor participant:

> So it is, I think, to a degree, and this is where, you know, the complexity lies is it is a persistent long-term effort that has to be strategic with regards to the components of quality of the policies, you know, that provide access and sales to, to, to the wines that allow wineries to effectively do business without, you know, unnecessary barriers, but with you know, also appropriately supporting regional agriculture. So it's a systematic process where it's, state and public support for this consistently over the long-term.

This need for continued state support was reflected throughout the data and is supported by the literature as an industry best-practice for continued improvement and growth (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021).

In conclusion, problematic policy issues within the PLCB, PWA, and state/local governance were unveiled through this comprehensive stakeholder analysis of the catalog of emergent themes, which were not investigated prior in the findings. This was detailed throughout the data, document analysis, and empirical literature within the wine industry. That said, there were also clear positive findings regarding the role of the PWMRB and Penn State Extension.

The Growth and Emergence of the Industry and Secondary Emergent Themes for Consideration and Future Research.

The Growth and Emergence of the Pennsylvania Wine Industry is the eighth and final emergent theme and primary finding that was dispersed throughout the data, discussed by many private and public actor participants, and confirmed in the text mining and document analysis. This section also includes an index of relevant secondary yet important emergent themes within the industry that developed out of the findings and justify further future exploration and research.

Growth and Emergence of the Pennsylvania Wine Industry

Much of the previous analysis and emergent themes that developed out of the data discussed problematic aspects of the current Pennsylvania wine industry or barriers to its future growth. However, there was also a clear perception from participants, the document analysis, and literature that there has been extensive positive development and growth within the industry. The prevailing feeling from multiple relevant participants seemed to be, “we are getting there.” Repeated throughout the data, this was applicable to the financial health of the industry, growth in terms of the number of wineries, and the development of fine wine. In detail, one private actor participant discussed this evolution, “so my experience with it's been interesting to watch. To watch the industry sort of morph. It's not where it needs to be yet, but I think it's getting there, and certainly when I was working in the PA wine industry, it you know, it was just like, fine wine, you know, quality Pennsylvania wine, was just starting to get there.”

This private actor participant reflected an overall sentiment of the slow industry growth in terms of quantity and quality. Another public actor participant spoke about this evolution of quality improvement:

> We are, it's just so much better than it was 20 years ago. And it is mixed because that's one great thing, and there's some wines that are coming out that are fantastic. We're seeing some really interesting things happening with some really great wines being produced.

This position regarding the growth in quality production and fine wine was repeated throughout the data. This included thirteen wine producers that were identified through text mining frequency analysis that emerged as exemplary models of this growth of quality fine wine production from the participant data and document analysis. These included:

- Va La Vineyards
- Vox Vineti
- Galen Glen Winery
- Setter Ridge Vineyard
- Penns Wood Winery
- Wayvine Winery and Vineyard

- Karamoor Estate Vineyard and Winery
- 1723 Vineyards
- Galer Estate
- Maple Springs Vineyard
- Mazza Vineyards
- Fero Vineyards & Winery
- Allegro Winery

Beyond the progression of fine wine production, the data revealed a perspective that the business side of the industry has also improved overall. Another private actor participant discussed the developing strengths of the industry from a more financial perspective, “I think the industry is from a financial and revenue generating perspective, I think it's quite healthy. I think it's rebounded. And I think the industry in general, as a whole is quite healthy financially and growing.”

Other participants discussed positive factors that have influenced the industry’s growth and development more specifically, including the development of the PWA, the PWRMB, Penn State Extension, and overall state support. One private actor describes this industry growth, “the industry has done several good things and, and I have a really short list, but it could be longer, I'm sure. For instance, it created an industry association. It created competitions. And it had a system for advising grape growers and winemakers.” And while this seems like a minor development, it is clear from the literature as well as the participant sentiment that this type of networked state and non-profit support has positively impacted the industry (Beverland, 2001; Hall, 2007). Further, the approval of the policy changes from the PLCB, the Liquor Code, and Act 39 demonstrate great impact to the Pennsylvania wine industry (House Bill 1690; Act 39, 2016; 47 P.S. § 5-505). One public actor participant illustrated this positive affect:

> Yeah, for the change in law in 2016. And, you know, all of those like weird laws and whatnot, right? It's like when I came to Pennsylvania, and the only thing I could buy was

> like a 24 case of beer or something. Yeah. Oh, my gosh, ridiculous. So the 2016 Act. That's, you know about that, right. That change? Yeah, so Act 39. So that changed everything, including tourism and ag tourism, this just allowed people to collaborate more, because now they can sell each other's alcohol. And you know about that, I just want to put some emphasize emphasis on it that I think this was really good for the industry.

Reflected throughout the data was the perspective that policy change led to improvements for multiple industry channels, including tourism.

The idea of distribution improvement because of this policy implementation was also discussed at length by multiple participants. One private actor participant discusses this in detail, "I would say positive components of progress with regards to access to market. So previously, if you weren't selling to the PLC, and you couldn't support a broader distribution, which a small handful of wineries could, you really didn't have another route to market, so Act 39 helped provide direct access to grocery and convenience and other channels." The market access and differing distribution channels was echoed throughout and summarized by another public actor participant, "so I think there's just a whole lot of opportunity for the future. So and, and never mind, you can now buy wine in the grocery store. We've come a long way."

In conclusion, as detailed in Chapter One, it is evident that the Pennsylvania Wine industry has made substantial progress and continues to grow and evolve; this was reflected throughout the data, document analysis, and literature, while bolstered by text mining (Pinney, 2005; Cattell & McKee, 2012; Stevenson, 2020). A private actor participant summarized this belief and the current environment appropriately:

> And Pennsylvania has come a long way. But yeah, we look at you know, our neighboring states, So, you know, there are states that feel like they've surged ahead. New York and Virginia has gained a lot of notoriety. Pennsylvania has some phenomenal wines, we still have to maybe work a little harder to make that collective name for ourselves. And I think there has been some great progress in recent years. A lot of work to still do, though, for sure. we're looking at a static but they're not looking at the progress we have made. And that's not to say that there's not more progress you need that you need to look at, okay, what did we accomplish because if you're not a student of history, you don't understand how to move that forward.

It is clear there is work to be done, but this previous participant is communicating the overall sentiment within the industry well: there has been positive overall growth.

Secondary Emergent Themes for Consideration & Future Research

Throughout this comprehensive industry analysis there has been an attempt to aggregate all potential emergent themes that are relevant to the Pennsylvania wine industry. While the previous eight emergent themes and related subthemes represent the primary findings that developed from the data, there were multiple secondary emergent themes that warrant further exploration, discussion, and future research, but were out of scope of the previous analysis. This section will briefly index and describe the secondary emergent themes that developed throughout this examination.

External Distribution. A secondary emergent theme was the perceived need for improved distribution of Pennsylvania wine outside the state as this would assist in sales, reputation, and brand salience. This included national and international distribution with an emphasis on securing space on bottle shop shelves and restaurant wines lists for Pennsylvania fine wine producers.

Breadbasket Marketing Campaign. A secondary emergent theme was that Pennsylvania has a perceived reputation as a farming capital and this should be applied to the wine industry in their marketing efforts. The New Zealand wine industry was identified as an aspirational peer due to their successful co-opting of the green and sustainable image of New Zealand and generating brand salience within the wine industry through this marketing strategy and campaign (New Zealand Wine, 2022).

External Marketing Efforts. A secondary emergent theme was the perceived need for out-of-state marketing campaigns, rather than only emphasizing Pennsylvania wine to Pennsylvania residents. This also included discussions around the need for further efforts to bring in out-of-state wine journalists and critics. The PWA has done this in the past, but participants wanted further support and efforts toward this marketing effort.

Pennsylvania Sommelier Judgement Concerns. A secondary emergent theme was the perception that the Pennsylvania Sommelier Judgement did not always enforce its requirements that the wines entered in the contest must be produced from agricultural grapes from the state of Pennsylvania (PWA, 2021).

Further Research in Restaurant Distribution Ideation. A secondary emergent theme that was discussed briefly, but warrants further research, was the perceived need for increased restaurant distribution through wine by the glass, keg wines, and other distribution channels to introduce Pennsylvania wine to the market. This also included discussion around the potential limitations on local wine distribution and access because the prevalence of BYOB restaurants in Pennsylvania.

Cellar Door Hospitality Improvements. A secondary emergent theme was the perceived need for improved cellar door experiences at the individual wineries to enhance overall hospitality and tourism experiences.

Business Incentives & Grants. A secondary emergent theme was the perceived need for state-supported targeted business improvement or marketing grants for wineries.

Consumer Preference Research. A secondary emergent theme was the perceived need for further research on consumer preferences and attitudes towards Pennsylvania wine. This included the need for additional analysis regarding price point per bottle, preferences regarding organic wine production, and local sourcing of agricultural products.

Wine Trail Signage. A secondary emergent theme was the perceived need for additional wine trail signage support, as there was a sentiment this was lacking.

Agricultural Mediation Program. A secondary emergent was the need for more marketing and education around the Agricultural Mediation Program. This is part of the USDA agricultural program that farmers can use for free to mediate legal disputes—including conflicts over pesticide drift.

Spotted Lantern Fly Reduction. A secondary emergent theme that developed out of the data was the need for further research and state support to reduce the potential damage of the spotted lantern fly infestation.

Varietal Clone Selection. A secondary emergent theme was the need for further research and education on curated varietal clone selection for improved local viticulture.

French Hybrids. A secondary emergent theme was the need for further research, marketing, and education on French Hybrid grape varietals. This included the growing importance of this varietal because of climate change challenges.

Data Deficiency. A secondary emergent theme was the need for improved data collection processes within the wine industry. This included data collection needs from each individual farmer regarding overall grape yields, wine production amounts, and varietals and site selection.

PLCB Pennsylvania Wine Section. A secondary emergent theme was the need for an improved Pennsylvania wine section in the PLCB state stores. There was a clear perception that the PLCB did not market and represent Pennsylvania wine satisfactorily.

Pennsylvania Wine Direct Distribution Through Bottle Shops. A secondary emergent theme was the need for increased direct distribution of Pennsylvania wine through private bottle shops to avoid PLCB distribution and restrictions. This included further supply chain analysis and marketing around this issue.

Bottle Shop Restrictions. A secondary emergent theme was the need for the PLCB to loosen restrictions on private bottle shops so they can be more competitive. This included removing the purchase limit quantity restriction as well as the additional taxes.

Grant Funding Processes. A secondary emergent theme was the need for improved processes for grant funding through the PLCB as there was a perception it takes too long to release funds for grant recipient, hampering research development.

Pennsylvania Culture. A secondary emergent theme was the need for further research on the perception of Pennsylvania culture being anti-alcohol and the impact this has on the wine industry.

In summary, the previous eight primary emergent themes: 1.) The Limited Winery License Loopholes 2.) The Collective Action Issue 3.) The Collective Reputation Problem 4.) The Quality Assurance Requirement 5.) The Marketing and Tourism Deficiency 6.) Agricultural Needs: Policy, Rural Development, and Viticulture 7.) Stakeholder Discussions: PLCB, PWA, PWMRB, Penn State Extension, and State/Local governance 8.) The Growth and Emergence of the Industry. The Secondary Emergent Themes for Consideration and Future Research illustrate the growth of the industry thus far and the issues yet to be resolved.

Chapter Five

Policy Recommendations and Conclusion

The fifth chapter encompasses a set of actionable, integrated policy recommendations for industry improvement. This final chapter is in fulfillment of the dissertation's stated purpose: To analyze the current environment of Pennsylvania's wine industry and provide actionable policy recommendations for industry improvement based upon empirical analysis. The ensuing set of proposals take into consideration the industry overview from Chapter One; the literature and industry best practices from Chapter Two; and, most importantly, the emergent themes, primary findings, and secondary findings that emerged from the empirical, comprehensive research analysis in Chapter Three, which were discussed and analyzed in detail in Chapter Four. To conclude this chapter, a discussion will follow summarizing the issues analyzed and methods, emergent themes, and primary and secondary findings. The importance and value of this study to the Pennsylvania wine industry will also be reflected upon.

As discussed in Chapter Four, the industry is inherently interconnected. Consequently, every policy decision, public or private, impacts other related industries and their involved actors. Therefore, it is difficult to strictly categorize each policy recommendation. However, as this chapter is targeted toward policy actors and other relevant industry stakeholders, in attempt to minimize complication and extraneous details, each policy recommendation is categorized under the following policy proposal portfolios: public policy recommendations and private action recommendations.

For each of the 50+ recommendations, a specific policy issue, informed by the previous analysis in Chapter Four, will be defined. A public policy recommendation will follow. This includes aggregation of the previous discussed findings to effectively organize related recommendations. Inherently, an overlap of ideas between the two portfolio sections of will be observed. Nevertheless, this format will standardize and streamline the policy recommendation process.

In an attempt to make it easier for relevant public policy makers and private actors to digest and adapt these informed policy proposals, each recommendation will be succinct and actionable. In addition, each will be designed and targeted to remedy and alleviate issues, problems, and findings that have emerged throughout this comprehensive analysis. Moreover, recommendations are founded and supported by the previous literature, industry best practices, and empirical emergent themes and findings.

Public Policy Recommendations

The first portfolio of policy recommendations is the categorical indexing of all policy proposals that are associated with public policy action. This incorporates all potential policy actions that would require action from the state of Pennsylvania and any related entity, stakeholder, or funding mechanism. This section will briefly define the policy issues, which include: The Limited Winery License Loopholes & Other PLCB Complexities, Governance Bottlenecks, PWA Marketing Problems, Tourism Support, and Agricultural and Viticultural Support. These are followed by succinct public policy recommendations.

Policy Issue: The Limited Winery License Loopholes & Other PLCB Complexities

Policy Recommendation: Close the Loopholes While Maintaining Compliance. The state of Pennsylvania and the PLCB should immediately close all Limited Winery License loopholes that have negative externalities on the Pennsylvania wine industry, as discussed at length in Chapter Four. First, the PLCB must decouple the Limited Winery License as a compliance mechanism for *Granholm V. Heald* and locally *Cutner V. Newman.* They must begin to enforce the statutes that require the use of agricultural products grown in Pennsylvania (LCB-458, p.8). Multiple avenues of compliance have been validated in neighboring and aspirational states with enforceable local agricultural production quotas who have maintained compliance with *Granholm V. Heald*. For policy diffusion and inspiration purposes, one can look to examples such as New York State with a Farm License or Maryland, California, and Oregon. (Clougherty, 2021; nycbusines.gov, 2022). As much of the Pennsylvania wine industry currently uses out-of-state grapes for wine production, there would need to be an additional policy mechanism to control for this including a timeline horizon for compliance. This would allow the market to respond to the new regulatory frameworks, followed by state enforcement mechanisms, or obtain a secondary license with differing compliance and fewer local benefits for out of state producers.

As Pennsylvania already has a direct shipping license, at a minimum the PLCB must dissociate the Limited Winery License from the legal compliance issues and begin to use the direct shipping license as the only compliance mechanism. Following this, the PLCB must enforce the current legal statutes regarding local fruit production, which will inherently minimize the issues discussed at length in Chapter Four and help incentivize local agricultural production, thereby reaping the associated benefits to the industry and state. (Hall et al., 2000; Carlson, 2007; Woldarsky & Geny-Denis, 2019; Santos et al., 2021).

Policy Recommendation: Direct Delivery. The state of Pennsylvania and the PLCB should immediately allow for direct delivery of all products to restaurants and bottle shops, rather than enforcing the physical pick-up of products at PLCB distribution centers. Many participants even discussed continuing to pay the required fees, or even paying an extra fee, to make this possible. In doing so, the PLCB would maintain their current revenue while minimizing all external costs associated with this unnecessary operation, as discussed in detail in Chapter Four. Moreover, they would assist in creating a more profitable industry while being held harmless.

Policy Recommendation: Handling Fee Compliance. The state of Pennsylvania and the PLCB must immediately comply with the state Supreme Court ruling from 2017, eliminating the handling fee of $1.75 for every 750-milliter bottle of wine (Gwartney et al., 2017; Brubaker, 2021). Currently, they are illegally charging handling fees and embezzling a vast sum of money, which negatively impacts the industry at large and the reputation of the PLCB.

Policy Recommendation: **Allow for Wholesale Pricing.** The state of Pennsylvania and the PLCB must allow Pennsylvania wineries to enact wholesale pricing and case-by-case discounts. This policy change would allow wineries to compete with out-of-state producers on pricing while maximizing profit margins for distributors, bottle shops and restaurants. As discussed in detail in Chapter Four, this is vital for the growth of the industry (Wallace, 2016; Sherman, 2020).

Policy Recommendation: **Remove the Purchasing Limit.** The state of Pennsylvania should revisit and update Act 39, removing the consumer purchasing limit of four 750-milliter bottles, a current restriction that applies to all private bottle shops and grocery stores (Vigna, 2017). While allowing private sales was positive policy action, the current limitations restrict the private market and the industry at large while enforcing the negative monopolistic aspects and perception of the PLCB (Luciew, 2009; Sechrist, 2012; Seim & Waldfoge, 2013; Snyder, 2014; Wallace, 2016). In removing this limit, the state would allow for further industry growth, positively affecting auxiliary business and individual wineries through another positive distribution avenue. This distribution advantage has been validated in other emerging wine regions such as Virginia (Dunham, 2017).

Policy Recommendation: Made in Pennsylvania Liquor License. The state of Pennsylvania and the PLCB should create a second liquor license for restaurants that is restricted to products made in Pennsylvania (Vigna, 2017). Pennsylvania has a restrictive quota for liquor licenses that limits a valuable distribution channel for local wineries and minimizes profit for auxiliary businesses, such as restaurants. In adding this second license, all current BYOB restaurants would be eligible to purchase a license that allows the distribution of Pennsylvania-made liquor, including wine (Dombrosky & Gajanan, 2013).

Policy Recommendation: Improve the Pennsylvania Wine Section. The PLCB should consider improving the Pennsylvania Wine Section within the PLCB state stores. As discussed briefly in Chapter Four, there is a perception that this section could be improved through better marketing and placement within the store. Wine placement within stores is an important factor in quality perception and sales (Mueller, 2009).

Policy Issue: Governance Bottlenecks

Policy Recommendation: Streamline Zoning. The state of Pennsylvania should create a streamlined zoning process for establishing wineries. As discussed in detail in Chapter Four, the current business environment is overly complex and unappealing, and simplifying this process would be an effective step to create a more beneficial environment. This could also include more proactive business support through the deployment of business operations toolkits, best practices for navigating complex zoning and legal issues, and even a state supported consultant, like the viticulture support through Penn State Extension. In creating a streamlined zoning process and additional business resources, the state of Pennsylvania would help simplify the process and incentivize a more productive farming and agricultural community within the state (Propertymetrics, 2017).

Policy Recommendation: PWA Strategic Reset. The PWA should consider a strategic reset which includes rehiring a disciplinary expert as the director, implementing a new strategic planning process and plan, and auditing the current resource allocation distribution. As discussed in detail in Chapter Four, this is a major need and opportunity, and reestablishing trust with effective non-profit and quasigovernmental governance is a vital need for the Pennsylvania wine industry (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021).

Policy Recommendation: PWMRB and PWA Formal Communication/Governance Protocols. The PWMRB and PWA should create formal communication and governance protocols to improve the relationship and efficiency of the two primary governing bodies within the Pennsylvania wine industry. One potential policy mechanism is an annual or bi-annual meeting to discuss shared goals and operations. As discussed in detail in Chapters Two and Four, this type of operational efficiency is vital for an emerging wine region (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021).

Policy Recommendation: Further State Support through the PWMRB. The state of Pennsylvania and the Department of Agriculture should increase the funding available to the Pennsylvania wine industry by increasing allocation to the PWMRB. This would assist in long-term sustainable development for the Pennsylvania wine industry, which as discussed in detail in Chapters Two and Four is of major importance to the future of agricultural development within the state and the continued growth of the wine industry (Beverland, 2001; Hall, 2007; Winfree et al., 2018; Trisic et al., 2020; Santos et. al., 2021; Heyard & Hottenrott, 2021).

Policy Recommendation: Streamline Grant Funding Allocation. The state of Pennsylvania and all relevant parties should work on improving the grant funding processes. As discussed in Chapter Four, a clear perception exists that funding allocation is often delayed after being awarded a research grant through the relevant process. This impedes industry improvements and streamlining this process and funding allocation would allow for more effective implementation of the research findings (Heyard & Hottenrott, 2021).

Policy Issue: PWA Marketing Problems

Policy Recommendation: Elevate the Best. The PWA must focus on the high-quality wine and wineries within the state of Pennsylvania. As discussed in detail in Chapters Two and Four, the finest product must be used as a representative of the region in order to improve and elevate a wine region. This is a validated industry best-practice to improve reputation, brand awareness, and economic growth both regionally and industry-wide (Hall et al., 2000; Orth & Krška, 2001; Carlson, 2007; Koch et al., 2013; Cei & Delfrancesco, 2018; Winfree et al., 2018; Santos et al., 2021). To implement this policy, the PWA should celebrate all local and national press, advertise wine awards in all communication channels, and market specific wineries with a well-known reputation of producing high quality wine (Miller, 2015).

Policy Recommendation: PWA Website/App Filters. In continuation with elevating the best wine and wineries within the state, the PWA must implement a filter on the PWA website. In doing so, the PWA would remain supportive of all wineries and wine production styles, but consumers would be able to filter by winery, varietal type, and style of wine produced (i.e., sweet wine and dry wine). This should also include the creation of a PWA application that reflects this same filtration capability. As a result, consumers could make informed decisions based upon their preferences, thereby minimizing consumer confusion and potential reputational damage stemming from their misconceptions. This is a best practice that has been validated elsewhere, including Willamette Valley Oregon (Willamette Valley Wine, 2022).

Policy Recommendation: Expand Camp Pennawine. In continuation with elevating the best wine and wineries within the state with the goal of industry growth, the PWA should continue to support and expand Camp Pennawine. Camp Pennawine is a curated annual trip for wine journalists and other relevant industry press to introduce them to Pennsylvania wine (PWA, 2021). This is a great program that has been validated elsewhere, including in Willamette Valley with Camp Pinot (OPC, 2022). The PWA should reallocate additional resources toward this programming; emphasize the highest quality wines within the state; and provide honorariums to highly regarded critics, wine personalities, and press with extensive influence and audience.

Policy Recommendation: Regional Lighthouse Varietals. In continuation with elevating the best wine and wineries within the state with the goal of industry growth, the PWA should emphasize varietals that are highly effective in individual regions within the state, as discussed in detail in Chapter Four. When combined with complementary marketing, an approach where each region of the state focuses on varietals aligned with the local climate, soil, growing conditions, and terroir, is a highly validated strategy to improve brand salience within an emerging wine region. (Schamel & Anderson, 2003; Thompson, 2017). As discussed previously, Pennsylvania is a large state with extreme variance in terroir, so the regional lighthouse method is a strategy aligned with the environmental conditions (Smith, 2018).

Policy Recommendation: Pennsylvania Terroir Education. The PWA should implement a marketing campaign educating consumers on the unique terroir of Pennsylvania wine and the resulting aroma and flavor profiles of varietals produced within the state, which may be drastically different then consumers' prior experiences with select varietals (Gardner, 2016).

Policy Recommendation: Lean into the Breadbasket Marketing Campaign. The PWA should implement a Breadbasket Marketing Campaign where they emphasize an overall image of quality and portray Pennsylvania as a farming mecca, which would include wineries as part of the strategy. As discussed in Chapters Two and Four, this would assist in changing consumer perception of Pennsylvania wine through product diffusion and the depiction of a beautiful winescape—a technique which has been validated in previous emerging regions and literature (Thompson et al., 2016; New Zealand Wines, 2022).

Policy Recommendation: Additional Marketing on French Hybrids. The PWA should expand their marketing of French Hybrid Varietals to increase consumer brand salience with an unknown product's collective reputation (Landon & Smith, 1998; Perrouty et al., 2006). As discussed in Chapters One and Four, French Hybrids are valuable in Pennsylvania—specifically in regions not ideal for Vitis Vinifera—because of the complexities and variance in the Pennsylvania wine industry's environment and the varietals' overall hardiness and resistance to fungal disease (Gardner, 2018; International Wine Review, 2019).

Policy Recommendation: Targeted External Marketing. The PWA should expand their marketing footprint to a targeted external market, such as the mid-Atlantic or New York State, rather than primarily marketing Pennsylvania wine to Pennsylvania residents. This should include relevant local wine publications. Targeted external marketing would increase regional brand salience to a greater market and influence collective reputation.

Policy Issue: Tourism Support

Policy Recommendation: Include Wineries in the Pennsylvania Agrotourism Protection Act. The state of Pennsylvania must immediately revise the Pennsylvania Agritourism Protection Act passed in 2021. It provides civil liability protection for specified agritourism production covered under the act and codifies a legal definition of agritourism in

Pennsylvania while omitting protection for Pennsylvania Wineries (Schmidt & Powell, 2021). As detailed in Chapter Four, this omission creates disincentives for the state's wine industry and agritourism because there are no civil liability protections for common wine tourism activities such as weddings and food and beverage services (Gatti & Incerti, 1997; Hall et al., 2000; MFK, 2007; Dunham, 2017; Dunham, 2018). This simple revision would greatly improve wine tourism within the state of Pennsylvania and be aligned with most agritourism statutes including those in Delaware, Iowa, Virginia, New York State, and Oregon, as illustrated in Chapter Four.

Policy Recommendation: Improved Wine Trail Signage. The state of Pennsylvania should invest in improved wine trail signage. As discussed briefly in Chapter Four, improved wine trail signage would enhance access and the overall wine tourism experience. This is also reflected in the literature as a valuable aspect of wine tourism and a need for the Pennsylvania wine industry to improve tourism (Dombrosky, 2011; Dombrosky & Gajanan, 2013).

Policy Issue: Agricultural and Viticultural Support

Policy Recommendation: Workforce Development through Sponsored Apprenticeships. The state of Pennsylvania through the Department of Labor and Industry should invest in establishing a formal apprenticeship program to assist in human capital development within the Pennsylvania wine industry. As discussed in Chapters One and Four, the lack of highly trained human resources is a deficiency within the industry (Wolf, 2008; Smith, 2018). This type of program has been validated within Pennsylvania at Galen Glen Winery, and there are currently discussions around state support (PWA, 2021). Furthermore, this type of workforce development has been validated to improve human capital issues within other wine regions, including New Zealand (Skinner, 2021). As discussed in detail previously, highly trained human resources are among the industry's greatest needs, and with state support this program would benefit the industry, the state, and the apprentices (Skinner, 2021).

Policy Recommendation: Mandatory/Highly Incentivized Agricultural Data Reporting. The state of Pennsylvania should create a mandatory or highly incentivized data reporting structure for the Pennsylvania wine industry. This would include overall grape yields, wine production amounts, varietal, clone, soil type, and site selection data for each individual farmer. As discussed in Chapter Four, this data deficiency is problematic for the industry and mandatory reporting would improve agricultural support and planning.

Policy Recommendation: Data Dashboard. The state of Pennsylvania should create a data dashboard that lists which varietals and clones are effective in each part of the state, including, with further data collection, which varietals and clones are effective for each microclimate and site within the state.

Policy Recommendation: Mandatory Hygienic Audits. The state of Pennsylvania should create a policy to enforce hygienic operations within wineries following the model of restaurant sanitization compliance. As discussed in Chapter Four and shown in the literature, hygienic operations and sanitation within the winery are among the most vital aspects for creating high-quality wine (Sipowicz, 2015). This would be a simple policy to implement that would greatly improve the quality of wine and thereby the industry as a whole.

Policy Recommendation: Continued/Further Support and Access for the Wine Industry. The state of Pennsylvania through the Department of Agriculture must continue and further their support for the wine industry. As discussed in detail in Chapter Four, as an agricultural product, there is a perception that the wine industry is a black sheep within the agricultural community. As validated by the literature, to remedy this perception and improve long-term sustainable development within the state, the Agricultural Department must make the wine industry a priority through additional funding and continued support (Gatti & Incerti; MFK, 2007; Rimerman, 2011; Cvijanovic et al., 2017). While this is a comprehensive policy recommendation, the following related policy proposals should be taken under consideration.

Further Funding/support for Spotted Lantern Fly Containment. The state of Pennsylvania should create further funding mechanisms to eradicate and contain SLF. As discussed in Chapters One and Four, SLF are a serious threat to the wine industry and the agricultural economic health of the state (Harper et al., 2019).

Policy to Address Pesticide Drift. The state of Pennsylvania should create legislation or policy to address pesticide drift within the agricultural community. As discussed in Chapter Four, this is a problematic reality for grape farmers within the state (Williams, 2021). This assistance could be in the form of a more effective compliance enforcement or emergency grants for crops damaged by pesticide drift.

Tax Credits for Grape Farmers. The state of Pennsylvania should create tax credits for farm wineries and vineyards for grape farming and production. This has been validated in New York State as an effective incentive for grape production and local rural development (tax.ny.gov, 2022). This credit could also apply to crop replacement, incentivizing grape farming within the state.

Tax Credits for Business Improvement. The state of Pennsylvania should create tax credits targeted toward farm wineries and vineyards that are applicable for capital expenditures and business improvements. This has been validated in Virginia and is an effective incentive for business development and rural development as wineries incur high capital costs (Le Ann et al., 2005; 58.1-339.12, 2012). This could also take the form of business improvement grants or low interest loans for initial business start-ups.

Emergency Grants for Extreme Weather. The state of Pennsylvania should create emergency grants available to grape farmers that assist in the case of disaster caused by extreme weather. This would help make the fiscal reality of grape farming and operating a winery in Pennsylvania more practical.

Policy Recommendation: In-kind Subsidies for PA wine. The state of Pennsylvania should consider a potential in-kind subsidy to help make Pennsylvania wine more accessible for consumers at a cheaper price-point per bottle. As discussed in Chapter Four, the agricultural economic realities of Pennsylvania wine create a price per bottle that is often not attractive to consumers. The state should consider creating a policy mechanism through subsidies to minimize this cost—and in doing so make Pennsylvania wine more attractive for consumers. This is a common policy mechanism used to support and stimulate emergent markets (Weimer & Vining, 2017).

Policy Recommendation: Market the Agricultural Mediation Program. The state of Pennsylvania should market and communicate the Agricultural Mediation program more widely and effectively with respect to wineries and grape farmers. This program is part of the USDA agricultural program which farmers can use to mediate legal disputes for free—including conflicts over pesticide drift (Penn State Law, 2021).

Private Action Recommendations

As detailed above, the second portfolio of policy recommendations is the categorical indexing of all policy proposals that are associated with private policy action. This incorporates all potential policy actions that would involve individual action from relevant industry stakeholders, yet not require action from the state of Pennsylvania and any related entity or funding mechanism. This section will briefly define the policy issues: Collective Action, Reputation, and Quality. This is followed by succinct private action recommendations.

Policy Issue: Collective Action, Reputation, and Quality

Policy Recommendation: Improved Communication and Collaboration. The individual actors within the Pennsylvanian wine industry must make a deliberate effort to communicate and collaborate effectively. This includes both stakeholders working within the PWA and PWMRB and relevant entities such as wineries. As discussed in Chapter Four and validated by the literature, collaboration is a vital mechanism for success within an emerging wine region (Cassi et al., 2012; Dressler & Paunovic, 2020). This collaboration should include tastings, trainings, best-practice discussions, knowledge diffusion, and collective political action. While this policy recommendation may be more holistic in nature, explicit outcomes are needed, including collective lobbying for further state support (Charters & Michaux, 2014). The Pennsylvania Wine Society (PWS) is one relevant benchmark organization attempting to further this idea within the Pennsylvania wine industry that warrants further recognition, support, and prominence. The PWS is a non-profit whose mission is to support the local wine industry and educate people about the wine making process and high-quality fine wine (PWS, 2022).

Policy Recommendation: Pennsylvania Wine-Makers CO-OP. As an initial step toward improved collective reputation and quality assurance and control, individual actors should create a Pennsylvania Wine-Makers co-op. The Pennsylvania Wine-Makers co-op must be tightly regulated and allow only winemakers and farmers who exclusively use Pennsylvania-grown fruit and create high-quality wine from Vitis Vinifera, or alternatively certain French Hybrids. They should model themselves after the Finger Lakes Wine Alliance and the New Jersey Wine Makers co-op (Finger Lakes Wine Alliance, 2022; Winemakers CO-OP, 2022). This is a culturally aligned recommendation as Pennsylvania farming has a history of cooperatives and Penn State Extension has experience and expertise in cooperative governance (Harper & Kime, 2005). As detailed in Chapters Two and Four, within emerging wine regions this type of regional quality assurance and branding tool for reputational is vital for advancing reputation and creating economic growth, on both a regional and individual scale (Ostrom, 1990; Oczkowski, 1994; Wade, 1999; Telfer, 2001; Megyesi & Mike, 2016; Sigala, 2019).

Policy Recommendation: Reinstate the Pennsylvania Quality Assurance Group/ Create Tightly Regulated AVAs. As a secondary step following the creation and implementation of the Pennsylvania Wine-Makers co-op, the Pennsylvania wine industry should consider reinstating the Pennsylvania Quality Assurance Group (Cattell & McKee, 2012). As discussed in detail in Chapters One, Two and Four, there is a need for further collective reputation and quality assurance mechanisms within the Pennsylvania wine industry (Loureiro, 2003; Johnson & Bruwer, 2007; McCutcheaon & Bruwer, 2009; Chamorro et al., 2015; Cacchiarelli et al., 2014; Cacchiarelli et al., 2014; Gardner, 2016). To alleviate this deficiency, the Pennsylvania Quality Assurance Group, much like in the initial step with the co-op, must limit its membership to farmers who exclusively use Pennsylvania-grown fruit and create high-quality wine from Vitis Vinifera, or alternatively certain French Hybrids. They must also create and enforce tightly regulated quality benchmarks and sensory evaluations modeled after the VQA in Ontario (VQA, 2021). As reflected in the literature, doing so would help bolster a positive collective reputation and increase prices on certified wines as previous research has illustrated VQA certified wines command a significant premium (Rabkin & Beatty, 2007; Ugochukwu, 2015; Ugochukwu et al., 2017).

Another possible option for consideration is the creation of targeted AVAs or Sub-AVAs as a mechanism for collective reputational growth and quality assurance. This strategy was reflected by the previous literature and discussed in Chapters One, Two, and Four. The process is more capital- and time-intensive and requires support from public policy actors, however targeted Sub-AVAs indicate positive value-adds to the overall region and substantial value-adds to individual wineries (Oczkowski, 1994; Wade, 1999; Loureiro, 2003; Johnson & Bruwer, 2007; McCutcheaon & Bruwer, 2009; Chamorro et al., 2015; Cacchiarelli et al., 2014; Cacchiarelli et al., 2014; Cross et al., 2017).

Regardless of the path chosen, the empirical literature and findings in Chapter Four illustrate the need for a either wine certification through the co-op model—and eventually a Pennsylvania Quality Assurance Group—or tightly regulated AVAs within the state, as collective reputation and quality assurance is required for significant growth (Lim, 2021).

Policy Recommendation: External Distribution. Individual wineries and producers should attempt to distribute even small amounts of their wine to targeted external, out-of-state distribution channels, such as quality bottle shops and restaurants. Doing so would help build brand salience and collective reputation for Pennsylvania wine through brand diffusion with placement in proximity with other quality brands and regions (Bonn et al., 2020).

Policy Recommendation: Emphasize Restaurant Distribution. Individual wineries and producers should attempt to distribute their wine—even small amounts—to targeted restaurants. As discussed in Chapters One, Two, and Four, restaurants are a validated distribution channel to improve sales, brand salience, and regional perception (Asimov, 2007; Dombrosky, 2011; Kelley, 2015; Bonn et al., 2020).

Policy Recommendation: Restaurants Support of Pennsylvania Wine. Local restaurants should attempt to distribute local Pennsylvania Wine as this will assist in overall reputational growth and sales. In addition, as discussed previously in Chapters One and Four, distribution through restaurants will assist in avoidance of the PLCB (Asimov, 2007; Dombrosky, 2011; Kelley, 2015; Bonn et al., 2020). One benchmark restaurant within the

Pennsylvania industry that should be used as an aspirational guide is Bloomsday Café in Philadelphia. They have partnered with local wineries and carry an extensive list of Pennsylvania-made wine (Bloomsday, 2022).

Policy Recommendation: Emphasize Bottle Shop Distribution. Individual wineries and producers should attempt to distribute their product through Pennsylvania independent bottle shops, such as Fishtown Social in Philadelphia (Fishtown Social, 2022). As discussed previously in Chapters One and Four, distribution through private bottle shops will assist in avoidance of the PLCB and introduce the product to the greater consumer community.

Policy Recommendation: Attend Penn State Extension Trainings for Quality Improvement. Individual wineries and producers should attend Penn State Extension winemaking trainings. This simple action would improve overall quality and, specifically, human capital within the state through professionalization of aspects of the trade. Trainings and information sharing sessions include multiple overviews on important winemaking processes, such as the following topics.

Policy Recommendation: Individual Quality Assurance Through Sanitation. Individual wineries and producers should attempt to improve quality in their wines through hygienic audits and an extreme emphasis on sanitation, techniques that greatly improve individual and collective reputation and quality (Sipowicz, 2015). This includes sanitizing all equipment (e.g., the crushers, destemmers, presses, carboys) within processes and before and after grape productions, followed by relevant sanitation treatments such as acid-sulfur dioxide blends. Moreover, the entire facility should be audited and sanitized regularly (Gardner, 2016).

Policy Recommendation: Wine Analytics. Individual wineries and producers should attempt to improve quality in their wines through wine analytics. This is a quality control mechanism informed by data analysis which includes steps such as:

> Confirmation that harvested fruit has reached full maturity, Obtain the appropriate data to make decisions in altering wine chemistry (i.e., acid, sugar, or tannin additions), Monitor and manage the microflora associated with each wine, and improve microbial stability, Make decisions in terms of which filtering techniques are appropriate, Adhere to TTB regulations (e.g., alcohol concentration, volatile acidity), Have wines analyzed to meet exporting regulations, Confirm a suspected problem or flaw within a questionable wine, Enhance the winery's record keeping of each vintage. These benefits, among others, contribute to an enhancement of wine quality. Having available data takes pressure off of the winemaker and cellar personnel to remember the data associated with each wine, and it can be used as a powerful tool to make commercially viable wines (Gardner, 2016).

In implementing this type of rigorous quality control there will be more consistent quality throughout the market.

Policy Recommendation: Farming and Harvest Consideration. Individual wineries, farmers, and producers should attempt to improve quality in their wines through farming and harvest consideration best-practices. This includes defined standard operating procedures, processing and lab equipment audits, regular vineyard scouting, sampling for nutrition, crop thinning, canopy management, insect and disease management, and harvest timing—to name a few (Gardner, 2016; Hickey et al., 2021).

Policy Recommendation: Individual Quality Assurance Through Sensory Training & Compliance. Individual wineries and producers should attempt to improve quality in their wines through sensory training their staff and themselves. In doing so, they will be able to diagnose flaws and faults in their product, such as cork taint (TCA), oxidation, and maderized wine (Nase, 2013). Quality assurance through sensory training and compliance is needed in Pennsylvania, as discussed in Chapters One and Four, and will result in improved quality differential (Dombrosky, 2011; Nase, 2013).

Policy Recommendation: Experiment with Small-batch Vitis Vinifera Production. Individual wineries and producers who are not currently producing dry Vitis Vinifera wine should attempt to improve overall quality in the Pennsylvania wine industry through experimental programs and pilot programs involving the planting or purchasing of Vitis Vinifera to make high-quality dry wine. This would help correct the boutique winery issue, discussed in Chapter Four, by introducing this style to the consumer and the winemaker in a limited scope while improving the overall market price structure (Chaney, 2000; Laffont & Martimort, 2002; McCutcheaon & Bruwer, 2009; Keating, 2020).

Policy Recommendation: Improve Sweet Wine Quality. Individual wineries and producers should attempt to improve quality in sweet wines by following quality sweet wine benchmarks, eliminating flaws through audits, and avoiding additional sugar augmentation designed to mask flaws (Gardner, 2016). As discussed in Chapters One and Four, this would improve the quality differential and the resulting individual and collective reputation while maintaining Chateau Cashflow (McCutcheaon & Bruwer, 2009; Keating, 2020).

Policy Recommendation: Ice Wine Market Growth. Individual wineries and producers should attempt to improve quality in sweet wines through production of ice wine as a mechanism to meet consumer demand for sweet wine, while simultaneously improving quality and collective reputation. In similar regions demand for ice wine has created a market for sweet wine while controlling for wine quality and collective reputation (Stephens, 2022). This wine style has already been successfully validated within the state of Pennsylvania, including a 2018 Vidal ice wine from Mazza Vineyards in Erie County winning the PA Wine Society's Wine Excellence award (Vigna, 2020).

Policy Recommendation: Improve Cellar Door Hospitality. Individual wineries and producers should attempt to improve cellar door hospitality. As discussed in Chapters Two and Four, and indicated in the literature, individual wineries can improve their reputation and commercial success through positive experiences at the cellar door; this may include emphasizing their brand story, educating on product and terroir, improving aesthetics, utilizing effective signage, curating wine clubs, holding tasting events, and elevating customer service (Dodd, 1995; Hall et al., 2000; O'Neill & Charters, 2000; Carlson, 2007; Held 2012; Woldarsky & Geny-Denis, 2019; Kelley, 2021).

Policy Recommendation: Tell Your Story. Individual wineries and producers should emphasize improving their marketing by engaging proactively and communicating the story of the winery, farm, and wine makers. This type of communication, coupled with effective social media marketing, is valuable for collective and individual reputation, as reflected throughout the literature (Flint & Golicic, 2015; Canovi & Pucciarelli, 2019). Wayvine Winery & Vineyard is one benchmark winery within the Pennsylvania wine industry that should be used as an aspirational guide as they effectively use Instagram to illustrate their product, process, and philosophy (Wayvine, 2022).

Conclusion

A detailed analysis of the primary factors and major influences within the Pennsylvania wine industry is highlighted within this dissertation. The analysis attempts to diagnose the public and private actions that can facilitate continuous improvement in an emerging wine region. The resulting research clearly indicates there are multiple regulatory, state, federal, non-profit and non-state factors, environmental concerns, and policies that have impeded the comparable growth of the Pennsylvania wine industry. This includes the primary eight emergent themes and findings developed in Chapter Four: 1.) The Limited Winery License Loopholes 2.) The Collective Action Issue 3.) The Collective Reputation Problem 4.) The Quality Assurance Requirement 5.) The Marketing and Tourism Deficiency 6.) Agricultural Needs: Policy, Rural Development, and Viticulture 7.) Stakeholder Discussions: PLCB, PWA, PWMRB, Penn State Extension, and State/Local governance 8.) The Growth and Emergence of the Industry and Secondary Emergent Themes for Consideration and Future Research. Collectively, these themes detail eight primary findings with numerous sub-findings that provide clarity to the chief question at study, which, simply put, seeks to answer: Why there is still so much ‘meat on the bone’ in the Pennsylvania wine industry in comparison to other relevant wine regions? The explanations revealed are diffuse and interconnected, but it would be negligent not to give prominence to the comprehensive issues raised within in this final synopsis.

In simple terms, from a public policy perspective, the findings demonstrate a need for an immediate regulatory redesign to emphasize local agricultural production in the Pennsylvania wine industry through multiple policy mechanisms. From a private actor perspective, a clear emergent need for collective and collaborative action is indicated with actors focusing on quality assurance and improvement—as well marketing this quality assurance mechanism to the consumer for enhanced brand salience (Koch et al., 2013; Ugochukwu, 2015; Cross et al., 2017; Cei & Delfrancesco, 2018; Winfree et al., 2018; Santos et al., 2021). Without these policy adjustments and developments, the Pennsylvania wine industry will continue to see significant unrealized gains. The state of Pennsylvania will not fully benefit from the advantages the wine industry can bring to the state, including: rural economic development, preservation of agricultural land, long-term sustainable local job creation, increased tourism, a stronger sustainable tax base, and improvement in overall quality of rural life. Moreover, without adjustments, the collective reputation of the wine region will lack the advancement necessary for market differentiation and thereby increased individual brand salience and a higher price-point per bottle, as illustrated by the previous literature and findings within this analysis (Oczkowski, 1994; Wade, 1999; Hall et al., 2000; Winfree & McCluskey, 2005; MFK, 2007; Wikler & Moloney, 2009; Rimerman, 2011; Lee & Sumner, 2013; Cvijanovic, 2017).

Decidedly, multiple findings, best practices, and recommendations emerged from the analysis, but many issues can be boiled down to one predominant need. The Pennsylvania wine industry needs to be primarily a Pennsylvania-produced agricultural product with aligned Pennsylvania branding and supporting policies to incentivize this production and enforce compliance. Concurrently, there is a need for private action to continually create actionable frameworks for quality assurance to improve quality differential and collective reputation while also collaborating as a networked business model (Wilson, 1998; Chaney, 2000; Joy, 2007; Easingwood et al., 2011; Cassi et al., 2012; Patel-Campillo & DeLessio-Parson, 2016; WIPO, 2017; Cross et al., 2017; Keating, 2020; Dressler & Paunovic, 2020; Lim, 2021).

Though over 50 actionable and important recommendations are covered, the real value of this industry analysis derives from the comprehensive, empirical findings in Chapter Four, which private and public actors should interpret and apply in their own disciplinary portfolios and areas of expertise to stimulate continual growth and improvement. In summary, this growth and improvement, including rural development, agricultural economic growth, and an improved collective reputation of the wine region—a primary driver of individual private stakeholders’ economic growth and success—can be realized to its fullest potential through key changes. Collective and collaborative public and private action needs to be taken to improve the regulatory and private market frameworks of the Pennsylvania wine industry (Oczkowski, 1994; Wade, 1999; Hall et al., 2000; Getz et al., 2000; Beverland, 2001; Carlson, 2007; Winfree et al., 2018; Woldarsky & Geny-Denis, 2019; Trisic et al., 2020; Santos et al., 2021). In essence, a rising tide lifts all boats, and individual public and private actors, as well as the state as a whole, stand much to gain from implementing measures to benefit the Pennsylvania wine industry.

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Appendix A

Interview Guide

Interview Guide: A semi-structured approach

- Tell me a little bit about your history and experience in the Pennsylvania wine Industry?
- How do you personally feel about the current state of the Pennsylvania wine Industry?
    - Potential follow up:
        - In your opinion, what are the strengths and weaknesses of the Pennsylvania wine Industry?
- With your expertise in mind, what resources are needed to improve the Pennsylvania wine Industry?
- What opportunities do you feel are available to improve the Pennsylvania wine Industry?
- Some people would say that one reason for the lack of comparable industry growth is the poor collective reputation of Pennsylvania wines. What would you tell them?
    - Potential follow up:
        - How would you ideally improve this reputation?
        - Do you believe that to improve this reputation and in turn the overall market, there needs to be further regulatory action such as creation of sub-ava's, or quality assurance certifications?
            - If not, what regulatory action would be successful?
- Marketing and branding is an important part of the wine industry, what do think needs to be done to improve this in Pennsylvania?
- Wine tourism is vital part of the economic success of the wine industry and has major economic benefits for the state. What do you think can be done to grow wine tourism in Pennsylvania?
- I have heard it been said that the regulatory framework of the state, specifically the PLCB, has restricted the growth of the wine industry in Pennsylvania, compared with say New York and Virginia, in your experience is that accurate and why or why not?
- Hypothetically, do you feel it may improve the overall wine industry if the state implemented further agricultural support policies for the wine industry such as subsidies in case of incremental weather, spotted lantern fly devastation, or potentially tax credits for grape production?
    - Potential follow up:
        - Is there anything else the state could do to support this agricultural product?
- Hypothetically, if you were the King/Queen of the Pennsylvania wine industry what would you do to improve the overall industry and reputation?
- In your opinion what policies can the state or local governments implement to improve the Pennsylvania wine Industry?

- Is there anything else you'd like to share about your experience in Pennsylvania wine Industry and how to improve it, or talk about that we haven't covered, or that I haven't asked?

Appendix B

IRB Approval Notice

WEST CHESTER UNIVERSITY

Office of Research and Sponsored Programs | West Chester University | Ehinger Annex
West Chester, PA 19383 | 610-436-3557 | www.wcupa.edu

Oct 4, 2021 12:20:33 PM EDT

To: Seth Porter
Department: Col of Business & Public Manag, Public Policy and Administra.

Re: Exempt - Initial - IRB-FY2022-61 A policy analysis of the Pennsylvania Wine Industry

Dear Seth Porter:

Thank you for your submitted application to the WCUPA Institutional Review Board. We have had the opportunity to review your application and have rendered the decision below for A policy analysis of the Pennsylvania Wine Industry.

Decision: Exempt

If there are any questions, please don't hesitate to reach out to irb@wcupa.edu

Sincerely,
WCUPA Institutional Review Board

IORG#: IORG0004242
IRB#: IRB00005030
FWA#: FWA00014155

Appendix C

Informed Consent Form

Project Title: A Policy Analysis of the Pennsylvania Wine Industry: An empirical policy and regulatory industry analysis with applicable recommendations for industry improvement and growth

Investigator(s): Seth Porter; Kristen Crossney

Project Overview:

Participation in this research project is voluntary and is being done by Seth Porter as part of their Doctoral Dissertation to determine what regulatory, state, federal, and non-state factors, and policy, have impeded the growth of the Pennsylvania wine industry, and determine what, are the most effective strategies for improving this regulatory and policy environment and the overall Pennsylvania wine industry. Your participation will take about 45 minutes to complete the interview. The benefits from this research will be actionable recommendations for relevant policy actors to implement in an attempt to improve the overall wine industry in Pennsylvania, which has positive benefits on overall economic growth and rural development.

The research project is being done by Seth Porter and Kristen Crossney as part of their Doctoral Dissertation to determine what regulatory, state, federal, and non-state factors, and policy, have impeded the growth of the Pennsylvania wine industry, and determine what, are the most effective strategies for improving this regulatory and policy environment and the overall Pennsylvania wine industry. If you would like to take part, West Chester University requires that you agree and sign this consent form.

You may ask Seth Porter any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from West Chester University. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

1. **What is the purpose of this study?**
    - To determine what regulatory, state, federal, and non-state factors, and policy, have impeded the growth of the Pennsylvania wine industry, and determine what, are the most effective strategies for improving this regulatory and policy environment and the overall Pennsylvania wine industry.
2. **If you decide to be a part of this study, you will be asked to do the following:**
    - Complete interview
    - This study will take 45 minutes of your time.
3. **Are there any experimental medical treatments?**
    - No
4. **Is there any risk to me?**
    - None

5. **Is there any benefit to me?**
    - Other benefits may include: The benefits of this study will be actionable recommendations for relevant policy actors to implement in an attempt to improve the overall wine industry in Pennsylvania, which has positive benefits on overall economic growth and rural development.
6. **How will you protect my privacy?**
    - The session will be audio recorded.
    - The session will be audio recorded for transcription purposes which will be analyzed and coded. Following the transcription processes, which will have no identifiable information, each participant will be labeled as their participant number e.g., Participant One, Participant Two, the recordings will then be destroyed.
    - Your records will be private. Only Seth Porter, Kristen Crossney and the IRB will have access to your name and responses.
    - Your name will **not** be used in any reports or research output.
    - Records will be stored:
        - Encrypted File
    - Each recording will be saved in an encrypted file and be on my personal computer which is password protected. Moreover, in the transcripts as well as the eventual research output, any identifiable information will be redacted and destroyed.
    - Records will be destroyed After manuscript development, but no less than three years.
7. **Do I get paid to take part in this study?**
    - No
8. **Who do I contact in case of research related injury?**
    - For any questions with this study, contact:
        - **Primary Investigator:** Seth Porter at 307-680-1756 or sp939940@wcupa.edu
        - **Secondary Investigator:** Kristen Crossney at 610-430-5838 or kcrossney@wcupa.edu
9. **What will you do with my Identifiable Information/Biospecimens?**
    - Not applicable.

For any questions about your rights in this research study, contact the ORSP at 610-436-3557.

I, ___________________________________ (your name), have read this form and I understand the statements in this form. I know that if I am uncomfortable with this study, I can stop at any time. I know that it is not possible to know all possible risks in a study, and I think that reasonable safety measures have been taken to decrease any risk.

____

Subject/Participant Signature Date:_________________

____

Witness Signature Date:________________