

5-5-2012

An Adapted Model for Small Business Innovation Networks: The Case of an Emergent Wine Region in Southern California

Jeanette Kay Miller

Executive Doctorate of Business

Follow this and additional works at: http://scholarworks.gsu.edu/bus_admin_diss

Recommended Citation

Miller, Jeanette Kay, "An Adapted Model for Small Business Innovation Networks: The Case of an Emergent Wine Region in Southern California." Dissertation, Georgia State University, 2012.
http://scholarworks.gsu.edu/bus_admin_diss/6

This Dissertation is brought to you for free and open access by the Programs in Business Administration at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Business Administration Dissertations by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

PERMISSION TO BORROW

In presenting this dissertation as a partial fulfillment of the requirements for an advanced degree from Georgia State University, I agree that the Library of the University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote from, to copy from, or publish this dissertation may be granted by the author or, in his/her absence, the professor under whose direction it was written or, in his absence, by the Dean of the Robinson College of Business. Such quoting, copying, or publishing must be solely for the scholarly purposes and does not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential gain will not be allowed without written permission of the author.

Jeanette Kay Miller

NOTICE TO BORROWERS

All dissertations deposited in the Georgia State University Library must be used only in accordance with the stipulations prescribed by the author in the preceding statement.

The author of this dissertation is:

Jeanette Kay Miller
2171 Westbury Court
Marietta, GA 30064

The director of this dissertation is:

Dr. Mark Keil
Executive Doctorate of Business Program
Robinson College of Business
Tower Place 200
3348 Peachtree Road NE, Suite 500
Atlanta, GA 30326

An Adapted Model for Small Business Innovation Networks:
The Case of an Emergent Wine Region in Southern California

BY

Jeanette Kay Miller

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY
ROBINSON COLLEGE OF BUSINESS
2012

Copyright by
Jeanette Kay Miller
2012

ACCEPTANCE

This dissertation was prepared under the direction of Jeanette Kay Miller's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business in the J. Mack Robinson College of Business of Georgia State University.

H. Fenwick Huss, Dean

DISSERTATION COMMITTEE

Dr. Mark Keil, Chair
Dr. A. Wayne Lord
Dr. Lars Mathiassen

ABSTRACT

An Adapted Model for Small Business Innovation Networks:
The Case of an Emergent Wine Region in Southern California

BY

Jeanette Kay Miller

May 9, 2012

Committee Chair: Dr. Mark Keil

Major Academic Unit: Executive Doctorate of Business

Small businesses and small business networks have become increasingly important over the past two decades. However, limited empirical research has been carried out on the interactions of these small businesses, specifically within supportive networks. This research focuses on the interaction of firms and organizations within a successful small business innovation network, and how innovative business practices are developed. Innovation network theory was used as a lens to view the dynamics within an innovation network comprised entirely of small businesses and organizations. For this research, a qualitative case study was undertaken, with an emergent wine region in Southern California targeted as an ideal case in which to study a small business innovation network. This research showed that in this instance of a small business innovation network, a hub firm, as defined by innovation network theory does not exist to orchestrate and manage the interactions within the network. Thereby, an adapted model for small business innovation networks is proposed and the results from this qualitative case study are mapped using this adapted theory. The results show a constellation of firms and organizations at the core of the network composition, undertaking deliberate and emergent strategies that affect the outcome and success of all members of the small business innovation network. The research identified a significant sense of place embedded in the regional culture and the importance of effective regional planning in positively impacting the success of the small business innovation network.

Key words: innovation network theory, small business innovation networks, Temecula Valley Wine Country, sense of place, regional planning, model for small business innovation networks

Acknowledgements

The completion of my doctoral degree is the culmination of a personal journey, but this journey has not been traveled alone. I could never have reached this accomplishment without the support of family, friends, colleagues, and those involved in the Executive Doctorate of Business (EDB) program at Georgia State University. My support system is comprised of a large, close family and supportive friends – both near and far – who have sustained me through the past three years of pursuing my doctorate, but also over the past decades of international positions as well as personal and professional challenges and triumphs. I am eternally grateful to those I call my friends, those who believed in me unconditionally, especially during those times when my conviction faltered.

On my academic journey, I want to specifically thank Dr. Lars Mathiassen for his vision for this doctoral program, for providing clarity in helping me understand use and enhancement of theory, and his time and dedication in serving on my committee. My academic advisor, Dr. Mark Keil, provided the tools, guidance and patience to create this dissertation – I am eternally grateful. Dr. A. Wayne Lord shares my passion for emerging markets and I thank him for remaining on my dissertation committee when my dissertation topic deviated from the original plan. I would also like to thank Dr. Steve Olson whose passion has lit a fire in me to pursue extraordinary opportunities as I return to my career, and the guidance and wisdom from Dr. Arun Rai, Dr. Felix Rioja and Dr. Detmar Straub has impacted my approach to research and business in general.

I am proud to be a member of the first cohort of this extraordinary executive doctorate program and my colleagues in this endeavor have provided laughter, camaraderie, support and undying friendship. I cannot imagine a more interesting group of people with whom to spend three years of my life. I appreciate each of you. Maury Kalnitz, the executive director of the program believed in my abilities enough to accept me into this program – thank you. Finally, my gratitude goes out to Heather Jacobs for supporting and encouraging us throughout this process.

On a personal basis, my parents told me from a young age that I could be and do whatever I wanted. My father, who was my biggest fan, passed during the first year of this program and I miss him terribly. My mother, the solid rock of our family, has provided unconditional love and support. I would be half the person I am without her in my life. My wonderful boys, Sasha and Conrad, provide me with the inspiration to change the world for their futures. My love for and pride in them is unending. My dear friend David endowed a chair, or rather a seat, on numerous flights to California with frequent flyer points, allowing me to conduct research for this dissertation. Other extraordinary people in my life who have provided support during these three years include my sister Glenna, Andrew, Matthew, Michelle, Chandra, Steve, Brigitte, Stefano, Terri, Jim, Jennifer, Kami, Jennifer, Lisa, Lynet and of course all of The Westbury Tribe.

Thank you all.

Table of Contents

Abstract	Error! Bookmark not defined.
Tables and Figures	10
1 Introduction	11
1.1 Research Domain	11
1.2 Research Perspective.....	12
1.3 Research Approach	13
1.4 Summary of Dissertation	16
2 Literature Review	17
2.1 Innovation and Small Businesses in Regional Development.....	17
2.2 Regional Winery Networks.....	19
2.3 Government Role in Regional Development	22
2.4 Innovation Network Theory.....	23
3 Research design and Methodology	27
3.1 The Temecula Valley Wine Country	28
3.2 Sampling and Data Collection	31
4 Analysis and results	38
4.1 An Adapted Model for Small Business Innovation Networks.....	39
4.2 Network Composition	43
4.2.1 Network Membership	43
4.2.2 Network Structure	46
4.2.3 Network Context.....	48
4.2.4 Sense of Place Embedded in Regional Culture.....	48
4.2.5 Regional Planning in Temecula Valley Wine Country	51
4.3 Coordination	53
4.3.1 Business Practices	58
4.3.2 Joint Initiatives.....	64
4.4 Network Process	71
4.4.1 Knowledge Mobility	71
4.4.2 Innovation Appropriability	72

4.4.3	Network Stability	73
4.5	Network Output	74
5	Discussion.....	75
5.1	Successful Environment for Interaction of Firms and Organizations in Small Business Innovation Networks.....	76
5.2	Innovative Business Practices of Small Businesses in Innovation Networks	79
5.3	Underlying Network Context.....	80
5.4	Implications for Research	81
5.5	Contribution to Practice	83
6	Conclusion.....	85
7	REFERENCES	86

TABLES AND FIGURES

Table 1: Contributions to Research (adapted from Mathiassen et al. 2012).....	15
Table 2: Overview of Interviews and Interviewees:	32
Table 3: Winery Representatives Interviewed	34
Table 4: Organizations Interviewed.....	35
Table 5: Government Representatives Interviewed.....	36
Table 6: Primary and Secondary Members of the Temecula Valley Innovation Network	44
Table 7: Examples of Deliberate and Emergent Strategies.....	55
Table 8: Quotes from Interviewees regarding direct sales and margins	61
Figure 1: Framework for Orchestration in Innovation Networks (Dhanaraj & Parkhe, 2006).....	26
Figure 2: Adapted Model for Small Business Innovation Networks	41

1 INTRODUCTION

1.1 Research Domain

In the field of economic research, the focus on industry concentration in regions has been a topic of interest over the past decade and more, as well as the importance of small businesses and small and medium-sized enterprises (SMEs) on economic development and growth of economies.

“Economic development policy is increasingly focused on SMEs as a means of generating growth” (Clifton, Keast, Pickernell, & Senior, 2010). Innovation in regional development is a topic of great importance, as countries and regions attempt to stimulate their economies, through creation of new technologies or implementation of innovative business practices. Due to complex, fast-changing, competitive markets in the global environment, growth-oriented small firms exert growing influence on national economies around the world. (Yeh-Yun-Lin, 1998) As the importance of entrepreneurship and small business growth gains importance, some research has included the important role that small businesses can play in regional development.

However, the research tends to focus on learning patterns of small businesses (Doloreux, 2004; Mika & Risto, 2010; Westerlund & Rajala, 2010), and the influence of specific industry sectors, most notably the information technology sector, high-tech and nascent technologies. (Cooper & Park, 2008; Ford & Koutsky, 2005; Lorentzen, 2008) Many small towns rely on the local businesses for employment and prosperity of the region, and furthermore, small businesses oftentimes support each other as their challenges are different than large, multinational businesses. It is commonplace in Europe, Canada and other countries where governments play a stronger role in defining business, to have dedicated regional agencies funded by the government to facilitate growth. The U.S. structure relies more on organic growth and industrial clustering as a means for growth.

Small businesses play a vital role in the U.S. economy, with over 5 million small businesses with fewer than 20 employees registered in the United States in 2008. These 5 million-plus small businesses employed over 21.4 million people in 2008, representing almost 18% of the total U.S. workforce. (US SBA statistics) Statistical data on small business in the U.S. is plentiful, but there is limited empirical information on how the small businesses form alliances and more importantly how they work together within self-supporting networks. The ability to understand the dynamics of small business networks will provide insight into how to facilitate future interaction of small businesses, and thereafter to motivate the small business networks to work together towards positive growth. Understanding the origins of this growth and development can be useful to instruct other regions on their developmental objectives.

1.2 Research Perspective

Innovation network theory has been used successfully to explain the interactions of firms within networks, and has been used primarily in regions of dynamic growth to understand regional prosperity. Innovation network theory defines the roles of the network members, highlights the network design and the orchestration process that creates successful innovation networks. In this exploratory research, it is of specific interest to see how small businesses interact in a dynamic setting, and within this focus, innovation network theory seemed to be the closest informing theory available to see how networks of small businesses work together. Innovation network theory was therefore used as the lens, and guiding direction to assess the interactions of the network, with the consideration that the theory may need to be adapted and expanded for use with small businesses. For instance, in networks of small businesses, it is unlikely that there is one single firm that is suitably placed and forceful enough to act as a driver of the network. Therefore, this research undertook adaptation of innovation network theory in order to explain the interactions of small firms within networks.

In environments where networks of small businesses are active in the same industry, it is posited that the small businesses actively work together to emerge as a viable innovation network, possibly with a stronger motivation to work together because the network is comprised of small businesses. Small businesses, along with active and responsive government offices and supportive supplemental organizations, have an opportunity for mutual support within an innovation network to function in a self-supporting fashion for the benefit of the entire network. In order to see how small businesses interact and work together, a case study of an innovation network comprised of small business that has achieved a presumed level of success was sought out.

Hence, this exploratory research used innovation network theory as an informing theory to understand the interaction and success of small businesses innovation networks. The research questions addressed in this case study include:

RQ1: How do firms and organizations interact within their small business innovation network?

RQ2: How are innovative business practices developed in a small businesses innovation network?

1.3 Research Approach

This research is an exploratory case study that expands upon the existing innovation network theory, taking the core concepts and building upon that base as a lens to view the dynamics within an innovation network comprised of small businesses. It is an opportunity to take what is known about innovation networks and adapt the theory to include networks of small businesses for a more complete description of what is happening within small business networks. Specifically, the research has addressed how small businesses act within an innovation network, looks at the

network composition, the coordination between firms, the process of a functioning network and the outputs of the entire network. In the absence of a hub firm, which is presumed the likely scenario in the case of small businesses, this research will address how the network adapts, but still maintains the overall characteristics of an innovation network.

To investigate this challenge, a subset of small businesses, intrinsically connected, was considered the ideal case in which to study the dynamics and interactions of small businesses within an innovation network. The innovation network needed to have firms actively working together and the researcher needed to be able to identify the primary network firms, supportive organizations and government entities that may govern the region. The innovation network needed to be small enough, preferably under 50 firms, in order to gain an understanding of the network and players during the research cycle as well as specific and cohesive enough to define the group as an innovation network. For this exploratory research, an innovation network in a specific industry was beneficial in order to define the players as well as concentrated in a specific regional location, again for definitional purposes.

In southern California, there has been an emergence of a small, dynamic wine region in and around the Temecula Valley over the past two decades, with the most aggressive growth since 2005. This wine region is comprised of approximately 35 wineries that are all small in size, both in terms of employees, production capabilities and revenues generated. The Temecula Valley Wine Country has developed through the combination of two unique geographic advantages: a positive agricultural position, as well as access to a market of approximately 25 million people within a 2 hour driving radius. The Temecula Valley Wine Country was an ideal case for this proposed research to determine the interactions of the businesses and peripheral organizations in their innovation network, to define the characteristics and their practices of success, as well as witness the differences of an innovation network comprised of small businesses. The emergent

wine region of Temecula, California was targeted as an ideal case study due to the assumption that the small businesses in the region were pursuing innovative business practices that have led to a successful environment for all of the network members. Furthermore, there are no medium or large businesses within this network, allowing the research to focus exclusively on the small business interaction, and further see how this small business network interacted with the local and regional government.

The Temecula Valley Wine Country is relatively new on the map of US wine regions and is still gaining importance. Riverside County California, where the Temecula Valley is located, was one of the fastest growing counties in the United States in 2000. It is assumed that the emergence of the Temecula Valley Wine Country was aided by this regional growth, as well as contributed to the growth of the county in a minor way. The size of the small business innovation network in Temecula seemed to be ideal for this case study research, allowing the researcher to approach a representative sampling of the network members and supporting organizations. The emergent wine region in the Temecula Valley was therefore considered a good fit for this research on innovation networks.

Contribution Area	Literature	Contribution
Problem Situation (P1)	Emergence of wine region comprising of small businesses	Underlying factors for the development of wine region
Area of Concern (A)	Innovation and Small Businesses in Regional Development	Develop understanding of role of small businesses operating within an innovation network
Theoretical Framing (F)	Innovation Network Theory	Adapt Innovation Network Theory for use with small businesses, in absence of strong hub firm

Table 1: Contributions to Research (adapted from Mathiassen et al. 2012)

1.4 Summary of Dissertation

Chapter 1: Introduction and Motivation – This chapter includes overviews on the research domain, research perspective and research approach, including the research questions addressed in this case study in order to set the stage for the research.

Chapter 2: Literature Review – A detailed literature review addresses the problem situation, the primary area of concern and the theoretical framing of this research, and will include the following sections: 1) innovation and small businesses in regional development research, 2) regional winery networks, 3) the role of government in regional innovation development, and 4) a review of innovation network theory and the empirical research to date supporting the theory and its intended use.. The limited research that touches on the small businesses and networks in regional development will also be highlighted, showing the need for additional knowledge in this area. Additionally, the background of innovation networks in regional development and their growing role in dynamic development is addressed in order to position this research using innovation network theory.

Chapter 3: Research Design and Methodology – This chapter describes the research methodology and design in approaching this case, including case study design, sampling, data collection and analysis. The details for conducting interviews, coding, and synthesizing the data is addressed in detail along with an overview of the California wine industry and more specifically the region of the Temecula Valley Wine Country, providing details as to why the study of Temecula can be viewed as an ideal case to test small business networks using innovation network theory.

Chapter 4: Analysis and Results – This chapter starts with discussing the limitations of innovation network theory for use in the area of small business networks, and it proposes an adaptation to the current model of innovation network theory. The adapted model is mapped out to show changes and is then applied to the assessment of this case study research. The results of

this qualitative research will be presented, discussing the results and salient concepts that emerged from the data. The results of nineteen qualitative interviews are analyzed and reviewed, and the emergent themes of the research presented. Quotes from the various interviews are included to support the conclusions derived from the synthesis of the data and the adapted model for small business innovation networks. Each of the areas of the adapted model for small business innovation networks is presented to verify that the adapted model is capable of supporting conclusions resulting from case study research. Two areas are outlined that were important to the success of this case, namely the sense of place embedded in the regional culture and the importance of regional planning.

Chapter 5: Discussion and Conclusions – A detailed discussion of the results of this qualitative research is presented and conclusions outlined, based on the innovation network theory for small businesses. Suggestions for further research and contributions to research are included.

2 LITERATURE REVIEW

2.1 Innovation and Small Businesses in Regional Development

The Organization for Economic Cooperation and Development (OECD), representing 34 developed countries, has expressed that innovation is the main and increasing source of growth in OECD countries, and further explains that “regions are key actors in shaping virtuous innovation trajectories and in mobilizing untapped potential for national growth”. (OECD, 2011) Much has been published on clusters and the role of cluster in regional economic development spurred by Porter’s (1998) work in the late 1990s, and as research continued into the 2000s, the focus has shifted to looking deeper into the networks that make up clusters. In a flurry of activity to expand on the concept of clusters and how companies interact in business environments, much research has been conducted on clusters, communities and networks, including recent literature in the field of economic development that highlights the importance of the innovation process across

networks and clusters of firms. (Pekkarinen & Harmaakorpi, 2006; Schoonmaker & Carayannis, 2010; Sternberg, 2000). When considering the importance of networks in communities, it is necessary to distinguish the roles of communities and networks and their influences. Dal Fiore (2007) puts forth that “Communities are social containers for incremental innovation, whereas networks are the place for boundary spanning learning and as a consequence, for radical innovation” (pg. 847). It is this presence and dynamic structure of the network that will allow for and encourage innovation, so this research will focus on the role of networks in regional development.

We look to Tijssen (1998) to provide a clearer definition of a network:

An evolving mutual dependency system based on resource relationships in which their systemic character is the outcome of interactions, processes, procedures and institutionalization activities within such a network involve the creation, combination, exchange, transformation, absorption, and exploitation of resources within a range of formal and informal relationships. (pg 792)

In defining innovation for this research, we use Van de Ven’s (1986) description of innovation as the development and implementation of new ideas for problem solving. We further add to this description by noting that network players will try to imitate others, and in the process inadvertently generate new ideas as the imitator may not have direct network ties, and therefore must rely on cues from observing the other, increasing the likelihood of mutation and innovation. (Bell, 2005) Although innovation networks and regional innovation networks are defined in many ways depending on the industry sector and the spatial dynamics, for this research, we take the basic definition set forth by Dhanaraj and Parkhe (2006) of an innovation network:

“Innovation networks can often be viewed as loosely coupled systems of autonomous firms.” (pg. 660)

Small businesses are seen as an essential element of development and growth as they are innovative and adaptive to challenging environments, and often agile and adaptive to implement innovation in products and services. Research has shown that the economic process values small and medium-sized enterprises (SMEs) and their involvement in regional development. (Clifton, et al., 2010; Julien & Lachance, 2001) Edwards et al. (2005) explains the limitations of research involving SMEs and innovation, “Our current understanding of innovation in SMEs is relatively poor. In part, our level of understanding will be improved by assessing intra- and inter-organizational firm links.” (pg. 1124) They expand by suggesting that understanding the connection between SME activities and connection with networks will provide insight to understand how the innovation process is shared among numerous actors in the network. The process of building trust and understanding between network members, both individuals and the group as a whole, is reliant on the process of network linkages. (Pittaway & Cope, 2007)

2.2 Regional Winery Networks

One factor that impacts the network design of an innovation network is the constraints - and opportunities – implied by the nature of the industry. In many innovation networks, there is the assumed issue of potential attrition of members due to the mobility of many companies and the real issues of mergers and acquisition, especially in highly volatile industries. The attrition factor is not a serious issue in the wine industry, as in other agricultural based industries that have long growing cycles, due to the fact that the primary capital of the vines and other long-term agricultural assets are not easily moved. In the wine industry, it is a minimum of three years from the time vines are planted until there is any fruit available for harvest. Thereafter, in the first years of harvest, the grapes are very young and therefore not used for full wine production until typically the sixth or seventh year of harvest. The most beneficial yield of grapes occurs between the tenth and twentieth year of the vines (depending on the varietal of grape), thus the decision to

establish a vineyard in a specific location is a long-term decision and one that is not readily changed due to the long growing cycle. Research on wine region development and long-term agricultural development can provide insightful background to assist in understanding the dynamics and drivers in these areas. (Alonso & Northcote, 2010; Lazzeretti, Capone, & Cinti, 2010; Wiskerke, 2009)

Based on the static nature of the wine industry, the decision to establish a vineyard in a specific location is a very long-term commitment, dictated by the nature of the wine industry.

Additionally, the American labeling requirements for wines specifies that 85% of the juice used to make a wine needs to be grown in that specific appellation of origin, the American Viticultural Area (AVA), in order for the appellation of origin to be noted on the label, and 95% if it is labeled from a specific vineyard. The AVA labeling requirements provide advantages to AVA and single vineyard wines, attracting customers to more specialized regions for wine production, creating loyalty to brands and localities.

Geography has an important role in the learning process and subsequent innovation, because innovations are less about the product or process of a specific firm, but rather the combination of resources, knowledge, capabilities that are localized in specific places. These capabilities are the general human and physical resources of a geographic region, but also the knowledge embedded in the industrial and institutional structure. (Doloreux, 2004; Maskell & Malmberg, 1999) The proximity of network members also has an impact on the network position of the innovation network, with an implied understanding that firms in close proximity will have stronger and tighter linkages due to this proximity as noted in regional development research (Julien, Andriambeloson, & Ramangalahy, 2004; Lorentzen, 2008; Porter, 2000). Research further notes a gap in understanding the nature of the industry of a start-up and the regional environment in which it operates. (Dejardin & Fritsch, 2011; Hannu & Hannu, 2010) The role of regional food

in destination marketing has gained importance recently (du Rand, Heath, & Alberts, 2003), in both the promotion of existing tourist regions (Lazzeretti, et al., 2010) as well as emerging regions (Alonso & Northcote, 2010). The food and wine of a region play an important role in the mind of the consumer or tourist, both through the attraction of the visitor to a destination, but also through the lingering memory of a location. Destination marketing therefore has a strong positive correlation with marketing the food products of a region, specifically the specialty, higher-end foods and wines of a specific locale. This is important for the “branding” of a destination or a product. The destination “brand” has to further support a specific idea or understanding of that place, so there is a deep connection between tourism and food products of a region. When there is a positive connotation, there is a further desire to maintain that identity, which in the case of wine, is further protected by the AVA designation in the United States, noting that specific quantities of a wine needs to be sourced from that appellation.

In the existing literature on dynamics in wine clusters, Morrison and Radellotti (2009) address the dynamics within the wine region of “Colline Novaresi” in the Italian region of Piedmont, most famous for Barolo, Barbaresco and Asti Spumante wines; contributing 23% of Italian wine exports – the second largest region in Italy. Their research is focused primarily on the learning dynamics within this wine cluster representing over 300 producers, most of which are micro or small wine growers. Their study notes that the “larger firms remain in the periphery of the knowledge network and strengthen their linkages with sources of knowledge external to the cluster, whereas the smaller firms are highly interconnected and communicate with external sources of knowledge only through a local broker.” (Morrison & Rabellotti, 2009) (pg. 984) The region of Colline Novaresi has a multitude of players, both large and small, as well as wine growers, wineries, and other industry players and organizations. Additionally, there is significant disparity between the players including length of time in the area as well as the competitive position of some of the players in terms of power.

The importance of organizations in the dissemination of information and coordination of mutual cooperation in wine networks in other locales is highlighted in the literature. Morrison and Rabellotti use the example of the winegrower's organization in Piedmont, noting that "Vignaioli Piemontesi is a key player in the Piedmont Wine Regional Research System, connecting small and marginal producers to several sources of knowledge." (pg.989) As noted previously, destination marketing with a strong focus on food and culture can further support the development of this research. Research on destination marketing in South Africa using food and wine has been reviewed (du Rand, et al., 2003) as well as regional marketing in Greece and Turkey. (Kumral & Önder, 2009)

2.3 Government Role in Regional Development

Governments at a local and regional level oftentimes have a role in providing structure and planning for the economic direction of a region. The role of the central government in the support of regional innovation network initiatives has been studied, specifically in understanding the role and influence of the central government and the European Union's role in policy support and planning for Dutch innovation networks at the regional level. (Aarts, Woerkum, & Vermunt, 2007) Additionally, the role of the regional government in a European setting has also been researched, specifically in regards to the regional government's relationship with a major multinational corporation (Lange & Büttner, 2010). Gretzinger, et al. (2010), also noted the trend towards small businesses contributing to the innovation process due to the past two decades of decentralization and outsourcing. Their research further notes that small businesses have limited resources to support research and development towards innovation, thus government support, as well as external consulting support, are important to the innovation support of SMEs, at least in the European context. (Gretzinger, et al., 2010) These studies show the influential role of the national and EU governing bodies and their active involvement in supporting

regional innovation networks. In the US, this national support does not exist at the same level for regional innovation networks. The interaction of government with business in the United States is limited to planning and development support at the local level and regional level, and typically financial support is not available.

Additional research highlights the role of government in the development of the wine industry in other countries, where the national and regional governments have the ability to provide policy and financial support and often mandates the support of the wine industry, especially when the industry is of strategic importance to the country (Aylward & Clements, 2008; Giuliani, Morrison, Pietrobelli, & Rabellotti, 2010; Larreina & Aguado, 2008; Morrison & Rabellotti, 2009). Within the U.S., there is an approach that allows for organic growth of individual businesses and networks, with government involvement at a local or regional level, typically only in a planning and regulatory capacity with limited influence to the networks overall.

2.4 Innovation Network Theory

Innovation network theory has been applied to networks at a regional level that generally have input from the national and regional governments, research institutes and universities, and connections with larger business networks. The typical innovation network will have one large, influential hub firm and numerous peripheral and semi-peripheral players. Most of the research to date has been applied to regional innovation networks in Europe due to the planned policy support of networks in important industries for the country or region. Dhanaraj and Parkhe (2006) outlined how innovation networks functioned, highlighting the network design, the important role of a hub firm interacting with the semi-peripheral and peripheral firms, the interaction of the firms for knowledge sharing and appropriability and the outcome of the innovation network. It is proposed in this research that innovation network theory can also be applied to understand the

role of small businesses within a regional innovation network in order to evaluate the dynamics between the small businesses of a specific region and assess the connections that define the interactions of the network. Batternick et al. (2010) proposes the use of innovation network theory for innovation brokers, where a commercial hub firm is not present, but the inter-workings of the network still exist. In their research, they attempt to “show that their framework of innovation network orchestration processes also fits other facilitative intermediary organizations that are not part of the original network, i.e. specialized independent innovation brokers. These innovation brokers may facilitate the design and management of innovation networks.” (Batterink, et al., 2010) (pg. 51) These innovation brokers are not part of the original network, but rather independent “innovation brokers” that enter the network to initiate innovation, facilitate network composition and innovation process management.

Within an innovation network, it is assumed that the members of a network will pursue opportunities in their own self-interest, and through each individual firm’s involvement in the network, it will gain more than if pursuing opportunities independently. In the successful innovation networks studied to date, the hub firm is the key for orchestrating the successful diffusion of information as well as maintaining stability of the network and the hub firm also assumes this role of prominence due to the benefits the firm will gain from the success of the entire network. (Dhanaraj & Parkhe, 2006) For the case of small business innovation networks, it is assumed that not one specific hub firm exists, therefore, an alternative explanation to the existence of a single hub firm will be explored in this research. There exists a gap in the literature in regards to the role of the hub firm as addressed by Winch and Courtney (2007), as they note, “The question of how innovation hub firms operate and the conditions in which they are most effective remains unanswered” (pg. 747).

As illustrated in the Framework for Orchestration in Innovation Networks put forth by Dhanaraj and Parkhe (2006) (see Figure 1), innovation networks can vary by the size and diversity of the membership, the density and autonomy of the structure as well as the status and position of the hub firm within the network. There are three primary premises put forth that occur during the orchestration process of successful innovation networks: managing knowledge mobility, managing innovation appropriability and managing network stability. The transference of knowledge is a key element for fusing networks together especially when the network is operating in a challenging environment. Trust and strong bonds need to be present for the knowledge diffusion to be successful, and the hub firm - or as presented in this research, an alternative to the hub firm – needs to facilitate this process. The value creation of the network needs to also be equitably distributed; again raising the important issue of trust oftentimes using procedural justice and joint asset ownership in order to maintain appropriability. The final issue of orchestration is that of stability, which can perhaps be the most challenging. As the firms interact, they create stronger ties and respect (oftentimes resulting in joint asset ownership or other binding ties) which creates a more cohesive network and increases stability. The hub firm's role in creating stability needs to include the ability to manage the needs, personalities and expectations of the network firms; and also to “lengthen the shadow of the future”; meaning the consequences of current actions will have greater long-term benefits into the future for the network. (Dhanaraj & Parkhe, 2006) Figure 1 below shows the interaction and orchestration of the innovation network proposed by Dhanaraj & Parkhe.

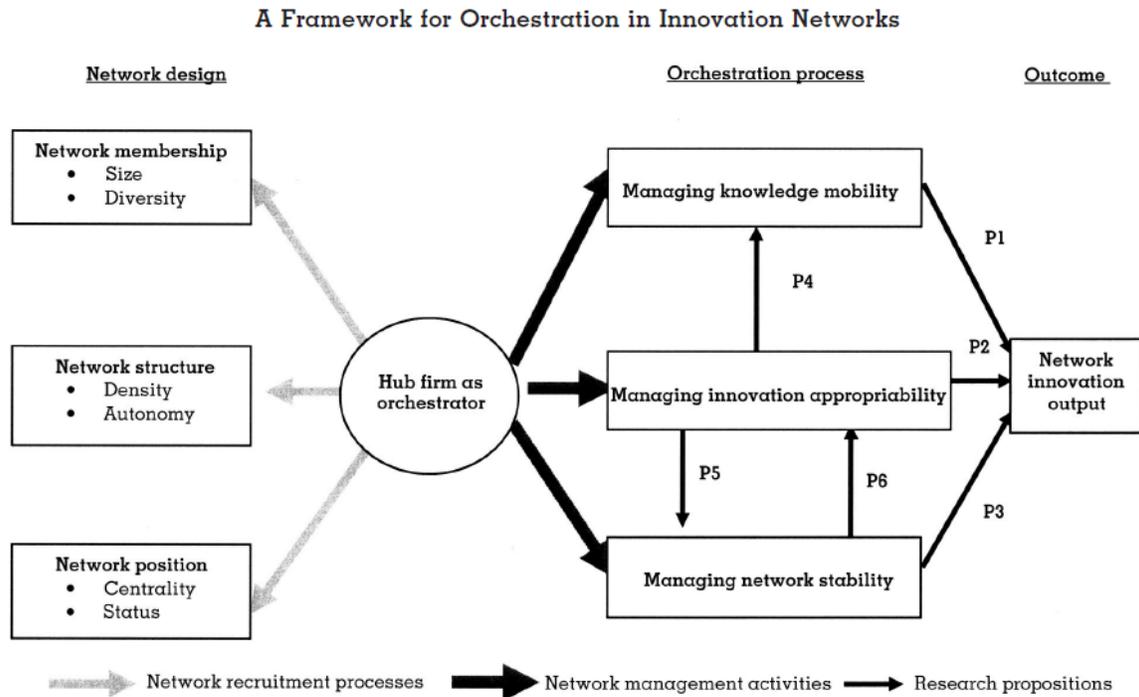


Figure 1: Framework for Orchestration in Innovation Networks (Dhanaraj & Parkhe, 2006)

In order to use innovation network theory in the context of regional development, it is necessary to understand that innovation includes the beneficial management and marketing practices that influence the entire network. Empirical research has tested the notion that managerial functions are the innovation defining the success of the network, specifically Smart Business Networks (SBNs), where an orchestrating or focal firm coordinates actors and resources for innovation to occur within the network (Busquets, 2010). In this case of the emergent wine region in Temecula, we are specifically looking at the business and marketing practices as the definitive innovations of the network. Porter (1990) included business practices as one of the innovative practices undertaken by clusters, so it is appropriate to extend this to the concept of innovative network theory. It is further assumed that the individual firms in the innovative network pursue similar business strategies, due to the fact that there was precedence with the original network firms for specific business and marketing approaches, and thus adaptation and expansion on these practices was a natural progression. There is additional empirical use of innovation network

theory in regards to regional development for regionally clustered enterprises (Lawson & Lorenz, 1999).

3 RESEARCH DESIGN AND METHODOLOGY

Due to the unique attributes of this research, a qualitative research design was undertaken, based on the need for in-depth understanding, adaptation of theory to encompass the characteristics of small business networks, and evaluating numerous individual points of view in this research (Miles & Huberman, 1994) The researcher used qualitative and inductive approaches to understand the dynamics of the region. (Eisenhardt, 1990) A single case study approach was used to gather extensive and context-rich data from nine wineries, supportive government agencies and related businesses in Temecula, California (Yin, 2009). Based on Yin (2009), the single case study format is appropriate as the case analysis will be revelatory in its descriptive information. The focus on an innovation network made up entirely of small business is a unique opportunity to understand the dynamics of the network, and thus adapt innovation network theory to situations where small businesses are the primary force in the network.

The case study was designed to assess the activities and initiatives of small businesses to determine the characteristics within an innovation network of small businesses to determine the business practices of the firms within the innovation network as well as network activities. (Dhanaraj & Parkhe, 2006) The sampling is regarded as the most important element in design of case study research, (Eisenhardt, 1990; Yin, 2009) so much diligence was assigned to selecting the case to study and in this research, the representative sample to include in the study in order to get a comprehensive understanding of the innovation network. The sample was extended to include government representatives and peripheral organizations to fully understand which members were primary to the network and which were secondary to the network.

3.1 The Temecula Valley Wine Country

California's wine industry has become a serious player in the world wine production, especially important as the per capita wine consumption and quality of wine consumption has continued to rise in the U.S. California accounted for about 90% of the value of U.S. wine production in 2006. The number of California wineries, numbering approximately 3,000 in 2006, has doubled from a decade earlier. There is furthermore a trend of industry consolidation that has resulted in large conglomerates purchasing many large and mid-sized wineries. As of 2006, the four largest California wine companies represented 60% of the wine shipments of California wine (both domestic and export distribution). (Goodhue R, 2008) Consolidation in the wine industry has resulted in minimal economies of scale, but real benefits have been derived from joint sales and marketing efforts as well as benefits of distribution for these conglomerates. The California wine industry shows positive trends for production and quality growth, but challenges exist for new regions emerging into the competitive landscape as well as small producers attempting to market their products against large established brands. The importance of a robust wine industry in economic growth and development has been documented in regions where the wine regions are established and well known; specifically in Spain, (Larreina & Aguado, 2008), Italy (Morrison & Rabellotti, 2009), South Africa and Chile (Giuliani, et al., 2010), and the American Association of Wine Economists has published extensive reports on a number of the global wine regions.

The region of Temecula Valley, California has seen the emergence of a small, dynamic wine region over the past several decades developed through the combination of two unique geographic advantages: a positive agricultural position, as well as access to a market of 25 million people within a 2 hour driving radius. The Temecula Valley Wine Country is located 80 miles from Los Angeles, 60 miles from San Diego, and approximately 40 miles inland from the Pacific Ocean in a valley historically home to the growing of citrus orchards and avocados. In the mid-

sixties, a couple of vineyards and modest wineries were established in the Temecula Valley, followed by several more from the mid-eighties through the mid-nineties. The past decade has seen further growth with many additional vineyards and wineries being established to reach a current total of 35 wineries. The County of Riverside, where the Temecula Valley Wine Country is located, has further developed a plan to increase the number of wineries up to 125 by the year 2020, so the dynamic development will most likely continue. The number of wineries, production quantities, quality, and facilities and services offered at the wineries has been steadily increasing over the past twenty years to create a small yet robust wine region. The primary collective challenges faced by the Temecula Valley wineries include managing the growth of the region, developing a positive brand awareness of the Temecula Valley wines, and attracting an appropriate client base. These challenges are amplified due to the fact that the region is quite small and relatively unknown, especially in a state with dominant wine competition from the well-known Central and Northern California appellations.

The small, yet dynamic wine region of Temecula has been in an attractive position and stage of growth over the past decade and this is presumed to continue. The wine region's growth has been primarily organic, but the development growth of the adjacent municipality and the engagement of the county in effective planning seem to be instrumental factors in the growth of the wine region. The wineries have been developed in the area for two reasons: a) attractive growing conditions for grapes including early afternoon breezes coming through the valley from the Pacific Ocean, and b) access to a large target market – a population of an estimated 25 million people within a two hour drive of the wineries. The wineries have been actively creating a unique and successful base in which 95-100% of the total production of the wineries (albeit small production volumes), are sold directly to day and weekend visitors to the winery or through the individual wine clubs at each of the wineries. The current price point for each bottle of wine sold at the winery is a very substantial \$18-\$35 per bottle. This is an extraordinary price for wine

from a newly established wine region and also through direct sales channels. An average retail price in the U.S. for a bottle of super-premium wine is \$7-14 per bottle, and ultra-premium wine is over \$14 per bottle. (Goodhue R, 2008) In a typical retail situation, 30% of the per bottle cost goes to the distributor and 30% goes to the retailer, thus the direct sales approach taken by the Temecula wineries is yielding a high relative price and very high margins by industry standards. Additionally, the fastest growth in the volume of wine sold in the U.S. has been in the super-premium category, accounting for one-quarter of U.S. wine sales, followed by the ultra-premium category (Goodhue R, 2008), showing that the price-point of Temecula wines is on track with the trend in the U.S. wine industry.

The Temecula Valley Wine Country has emerged most prominently in the past two decades, with the majority of wineries being established during this time, resulting in 35 wineries operating in the region at present. All of the wineries are small-sized, with an average annual production between 5,000 to 10,000 cases of wine. Two wineries produce over 30,000 cases per year, but these are still considered small in size for the wine industry overall. For this proposed research, the innovation network in Temecula is further expanded to include the Temecula Valley Winegrowers Association, the Temecula Chamber of Commerce and the Temecula Convention and Visitor's Bureau, due to all three organizations having the role of promoting the region as part of their organizational objectives. The role of the county has also been crucially important during stages of rapid development due to their introduction of policies effecting land use and regulations for development. The mandate of the adjacent municipality of Temecula is important as well as due to their role promoting tourism, encompassed in the tourism development plan. The role of inbound tourism is an imperative element to the success of the Temecula Valley Wine Country due to the business practice of direct sale of wine to daily visitors of the wineries.

The challenge has been to take a relatively unknown wine region comprised of small firms and organizations, and determine how their innovation network has been successful, specifically to understand the dynamics of the innovation network, how the network members work together, and how their network outputs have impacted the wine region. The survival and growth techniques of small producers and new regions can provide interesting insight into competitive behaviors, especially in relation to innovation networks of these producers.

3.2 Sampling and Data Collection

The case of the emergent wine region of the Temecula Valley Wine Country was chosen as a representative case to study a small business network, which included wineries, organizations and government representatives. This research only involved interaction with voluntary participants. Interviews were conducted with winery representatives, including owners and managers in order to understand the roles of decision making and strategy development. This research purposively sampled nine wineries in Temecula, associated industry organizations, local chambers of commerce, as well as government officials and related businesses. The diversity of the sample provided the opportunity to assess the role of various wineries, providing a unique perspective in which to compare and contrast the firms in order to understand their role within the innovation network and to learn from the owners and managers of the wineries how the network functions, and what activities emerged as outcomes from the innovation network.

The size of the Temecula wineries range in terms of production levels from 2,000 cases to 65,000 cases produced each year (considered micro to small-sized in the wine world). The establishment of the wineries ranges from the mid-1960s until today – with the majority being established in the last two decades, and the range of services and facilities offered to the public from direct winery sales to full-service spa and conference facilities. Additionally, the region is continuing to expand with an estimated 19 wineries in the development stage at present. The sampling for this research

was such that wineries representing each size range, as well as from each time-frame of establishment, were included in the case study research in order to gain a deep and robust understanding of the dynamics involved.

This case study research of the Temecula Valley Wine Country included 11 interviews at 9 wineries; 6 interviews with representatives of 4 important regional organizations; and 5 interviews with representatives from the county and municipal government in order to get an accurate understanding of the dynamics within the innovation network in Temecula. In two instances, the same person was interviewed a second time to gain clarity on questions or comments from the initial interview, as well as expand on topics that were important as the research progressed. Also, at one winery, two organizations and both government organizations, two or three people in different roles were interviewed to gain different views on the network interaction and development of the region. As the region is small and the network integrated, many of the people interviewed at the wineries also held positions within the supportive organizations that were also interviewed, allowing for a deeper and richer understanding of the interworking of the network. Table 2 provides an overview of the interviews conducted.

Type of Network Member	Number of Organizations	Number of Interviews	Number of People
Wineries	9	11*	10**
Organizations	4	6*	6
Government Representatives	2	6*	5**
	15	23	21
* 2-3 people from one company or organization were interviewed			
** Same person interviewed twice as follow-up and verification of initial information			

Table 2: Overview of Interviews and Interviewees:

Of the 35 wineries currently registered and operating in Temecula, this research included 9 of the wineries, or 26% of the total wineries. At one winery, the general manager was interviewed twice as well as the winemaker, so a total of 11 interviews were conducted with winery owners,

managers and decision makers at the wineries. The winery participants were chosen for their role in their innovation network, obtaining a cross-section of wineries in terms of production size, number of years operating in Temecula and unique attributes of their business. There are four prominent wineries in Temecula that spearhead much of the activity within the network. Representatives of two of these prominent wineries were included in the sample, including the second largest producer in the region. The production levels of the wineries sampled include producers as large as 30,000 case of wine annually with significant alternative activities that supported revenue streams for the company, down to micro-producers that produced a little over 1,000 cases annually with limited additional activities. The case study sample also includes wineries that have been operating since as early as 1980, and newer wineries that have been in operation for less than 5 years. Table 3 lists all of the wineries interviews with details regarding the year established, the production level in 2011, the services offered and the significance of why that winery was chosen for inclusion in the study. The names of the wineries have been changed to ensure confidentiality.

Wineries	Role	Significance	Year Established	Production	Services Offered
<i>Champagne Winery</i>	Owner/ General Manager	One of the larger, prominent wineries, family owned and operated. In addition to own production, has sparkling line made under their label for retail distribution	1998	30,000 cases	Concerts, Weddings, Restaurant, Tasting Room, Wine Club
<i>Petit Verdot Winery</i>	Owner/ Winemaker	Micro, boutique winery, producing organic, unfiltered wines.	2000	1,200 case	Tasting Room, Organic Farm
<i>Zinfandel Winery</i>	Managing Director	Prominent winery, relocated from another California appellation, family owned and run	2000	9,000 cases	Wine Club, Weddings, Tasting Room
<i>Zinfandel Winery</i>	Winemaker	Proved perspective on growing conditions in Temecula versus other regions	2000	9,000 cases	Wine Club, Weddings, Tasting Room
<i>Cabernet Sauvignon</i>	Marketing Manager	Moderately- sized winery, family run	2003	10,000 cases	Tasting Room, Wine

Wineries	Role	Significance	Year Established	Production	Services Offered
<i>Champagne Winery</i>	Owner/ General Manager	One of the larger, prominent wineries, family owned and operated. In addition to own production, has sparkling line made under their label for retail distribution	1998	30,000 cases	Concerts, Weddings, Restaurant, Tasting Room, Wine Club
<i>Petit Verdot Winery</i>	Owner/ Winemaker	Micro, boutique winery, producing organic, unfiltered wines.	2000	1,200 case	Tasting Room, Organic Farm
<i>Zinfandel Winery</i>	Managing Director	Prominent winery, relocated from another California appellation, family owned and run	2000	9,000 cases	Wine Club, Weddings, Tasting Room
<i>Zinfandel Winery</i>	Winemaker	Proved perspective on growing conditions in Temecula versus other regions	2000	9,000 cases	Wine Club, Weddings, Tasting Room
<i>Winery</i>					Club
<i>Meritage Winery</i>	General Manager	Makes wine and bottles for micro & small wineries and distributes through direct sales and wine club	2010	20,000 cases	Tasting Bar Downtown, Wine Club
<i>Syrah Winery</i>	Owner	Small boutique winery, newer winery	2006	2,000 cases	Weekend Tasting Room, Weddings
<i>Cabernet Franc Winery</i>	Owner/ Winemaker	One of the original wineries, small, family-owned, restaurants	1986	6,000 cases	Tasting Room, Wine Club, Restaurant
<i>Sauvignon Blanc Winery</i>	Owner/ Winemaker	One of the original wineries, small, family-owned	1980	5,000 cases	Tasting Room, Wine Club
<i>Chardonnay Winery</i>	Owner	Moderately-sized, launched De Portola Wine Trail	1989	10,000 cases	Tasting Room, Wine Club

Table 3: Winery Representatives Interviewed

Due to the vibrant nature of the emergent wine region of the Temecula Valley, and the presence of small businesses as network members, it is imperative to understand the role and importance of the supporting organizations in the region. The goals and objectives of the supporting

organizations were important in order to validate the breadth and expanse of the innovation network and the coordination between the wineries these supportive organizations and the government agencies. Therefore, the research included the Temecula Valley Winegrowers Association, the Temecula Chamber of Commerce and the Temecula Valley Convention and Visitors Bureau at the onset of the research. Both the director and the current president of the winegrowers association were interviewed for this research, because of the organization’s key role in some of the network factors. The Old Town Temecula Merchant Association was added after the start of the research to understand the impact on the regional economic environment through the eyes of other small business owners in the region. Table 4 outlines the representatives and the organizations interviewed in this research.

Organization	Role	Significance
Temecula Conference and Visitors Bureau	Director	Organizing in-bound tourism
Temecula Chamber of Commerce and Industry	President	Coordinating business cooperation
Temecula Valley Winegrowers Association	Director	Association of wineries and winegrowers in the Temecula Valley
Temecula Valley Winegrowers Association	President	Association of wineries and winegrowers in the Temecula Valley
Temecula Old Town Merchants Association	President	Attracts visitors to Old Town Temecula. Small business owner and also sits on the Old Town Redevelopment Board
Temecula Old Town Merchants Association	Board Member	Attracts visitors to Old Town Temecula. Small business owner.

Table 4: Organizations Interviewed

It is also important to examine the government interaction in regional development, thus this research also targeted representatives of the Temecula municipal government as well as the County of Riverside to determine the reach, support and possibly the restrictions of these government bodies. Interviews with government officials were also valuable to determine if there were existing incentives or structures in place for the wineries to work together, as an alternative

hypothesis to the network innovation theory. The government members interviewed for this research are outlined in Table 5 below.

Government	Role	Importance
City of Temecula	Assistant City Manager – Planning	Works on planning initiatives for the city, has worked for City for 14 years
City of Temecula	Assistant City Manager – Development	Works on development initiatives for the City of Temecula
County of Riverside	Former County Planner	Wrote first county plan for Temecula Valley Wine Country
County of Riverside	County planner	Worked on both wine country plans, primary county contact for wine country
City of Temecula	Finance Director	Background of Temecula, resident in wine country

Table 5: Government Representatives Interviewed

The majority of the interviews were conducted in-person during three visits to Temecula, California from June 2011 to November 2011, and the onsite interviews were conducted at the winery or office of the interviewee. In addition to the onsite interviews, visits to eight additional Temecula wineries that were not interviewed along with travel throughout the wine region provided rich, detailed information to inform this research. Two interviews were conducted by telephone in November and December 2011 with winery owners as they were unavailable for interview during the research trips. In two cases, a second interview was warranted to confirm details or theories developed the initial research phase.

At the onset of the interview, the researcher explained the research focus and the interview process, presented the approved consent form, and asked the participant if they had any questions. The consent forms were signed prior to starting the interview, or presented by email prior to the interview in the case of the telephone interviews. Oral consent for audio recording was confirmed prior to the commencement of the interview. No identifiable private information was collected from the interviewees. To protect each participant’s privacy and confidentiality, the list

of interviews is maintained separately from the interview data, and the names of the wineries have been changed in this research to maintain confidentiality. Each interview lasted between 45 minutes to 75 minutes and most interviews were audio recorded with permission granted by the participant. Also, the names of the wineries have been changed to ensure confidentiality. The approved Institutional Review Board (IRB) consent form is attached in Appendix 1.

Semi-structured interviews were conducted using a prepared interview protocol, so similar questions regarding the network structure, orchestration and outcomes, mapped to innovation network theory were posed to each interviewee in order to determine similarities and differences; highlight the dynamics between various wineries; determine the structure of the innovation network and the role of each of the players; as well as the role of Temecula Valley Winegrowers Association and other organizations. The interview protocol was closely mapped to the innovation network framework proposed by Dhanaraj & Parkhe (2006). The interview protocol is attached as Appendix 2. The semi-structured interviews allowed the interviewees to expand upon interesting topics relating to the evolution of the Temecula wine region, and also allowed interviewees to relate personal experiences. The three trips to the Temecula Valley Wine Country allowed the researcher to conduct follow-up interviews with two interviewees to clarify the structure and dynamics of the innovation network in the Temecula Valley Wine Country in order to create more robust understanding of the unique attributes of this case. (Yin, 2009)

The digitally recorded interviews were transcribed, and then coded in NVivo by the researcher. Upon completion of the interviews and prior to coding, an initial coding scheme was prepared which mapped closely to the interview protocol and thus, the innovation network framework. The coding scheme initially mapped closely to the elements of innovation network theory, including network composition, network process and network output. The initial coding scheme is attached in Appendix 3. The coding scheme thereafter expanded significantly through the

coding process in NVivo (Charmaz, 2006). The process of coding and analysis allowed the researcher to determine areas within the innovation network theory framework which were insufficient to explain the entire dynamics of the innovation network of small business networks in Temecula, and thus showed areas that needed to be adapted.

Through the NVivo coding, the researcher was able to see the network areas that mapped closely to the original innovation network theory framework, and the areas that were divergent to the original framework. Coding confirmed that one specific hub firm did not exist in this case of a small business innovation network. The coding showed the existence – and importance – of emergent and divergent strategies within the network composition. Additionally, the coding highlighted the groupings of categories for challenges and joint initiatives to overcome these challenges and the network outcomes. The coding process allowed the researcher to group the network outcomes into business practices by individual firms within the network as well as business initiatives pursued by the entire network. The final coding results are shown in Appendix 4.

4 ANALYSIS AND RESULTS

The qualitative research on small business innovation networks in Temecula, California has shown that Dhanaraj and Parkhe's (2006) innovation network theory was an appropriate lens to assess the attributes and interactions amongst the firms. However, as this innovation network is made up of small businesses, an adaptation to the framework was necessary in order to accurately assess the interactions of the firms. Based on the results of this research, an Adapted Model for Small Business Innovation Networks is presented to more accurately portray what was occurring within this small business network. The adapted model with a detailed description of the reasons

for each adaptation is presented. Similarities and differences in relation to the orchestration framework for network innovation are discussed.

The adapted model for small business innovation networks is used to portray the results derived from this study, presenting the results of the research as they correspond to each of the areas of the revised model. The three research questions posed at the onset of this research, regarding the ecosystem for a successful small business innovation network, how firms interact within such a network and the outcomes of small business innovation networks, can be mapped to the adapted model and will be addressed as the adapted model unfolds. In addition to the mapping of the elements and inter-workings of the innovation network, there is also an underlying structure and support that exists in Temecula that creates an even more cohesive innovation network. There is a sense of place embedded in the regional culture which has allowed the community to embrace the positive elements of the wine country. Foresightful county planning efforts were also undertaken by the Riverside County Planning Office to protect, support and expand the Temecula Valley Wine Country. These two areas will be addressed in the final section of the Analysis and Results.

4.1 An Adapted Model for Small Business Innovation Networks

Within the small business network studied in this research, a strong, single hub firm does not exist to orchestrate network structure, process and outcomes. As observed in this case study, an innovation network still functioned effectively in the absence of a single, centrally-focused hub firm. Cohesion within and surrounding this small business network still existed, with many of the interactions among the network members still functioning as Dhanaraj and Parkhe (2006) had posited. Through the researcher's interaction and evaluation of this small businesses innovation network, the adapted model is presented, and it is posited that this model can be used to assess small business innovation networks in other industries.

In this small business innovation network, a “constellation” of firms and organizations acted in concert to spur the coordination of the core of the network. The firms acted independently but within the same field of reference and in an environment with specific boundaries and definitions, similar to a constellation of stars. In the original framework from Dhanaraj and Parkhe (2006), the hub firm is the primary component for the orchestration of the innovation network: “We define a hub firm as one that possesses prominence and power gained through individual attributes and a central position in the network structure”. (Dhanaraj & Parkhe, 2006) In their scenario, the hub firm acted as a lone star with the other firms acting as planets orbiting the star, however, this current research shows that a single hub firm is absent in this example of small business networks. The sense of belonging to the group was a strong cohesive factor for the Temecula innovation network as well as the importance of the location and the underlying sense of place.

Furthermore, and perhaps most importantly for the dynamic state of the network, there are both emergent and deliberate strategies occurring at the firm level, and at the network level that affect the constellation core of the network. In the work by Dhanaraj and Parkhe, it is assumed that deliberate strategies are occurring, or “orchestrated” by the hub firm. This orchestration is not as pronounced in this study of a small business network. Some deliberate strategies are at play, specifically at the network level, but due to the nature of small business growth and development in this case, emergent strategies are also prevalent, most notably because small businesses tend to be agile and responsive to opportunities in their environment. See Figure 2.

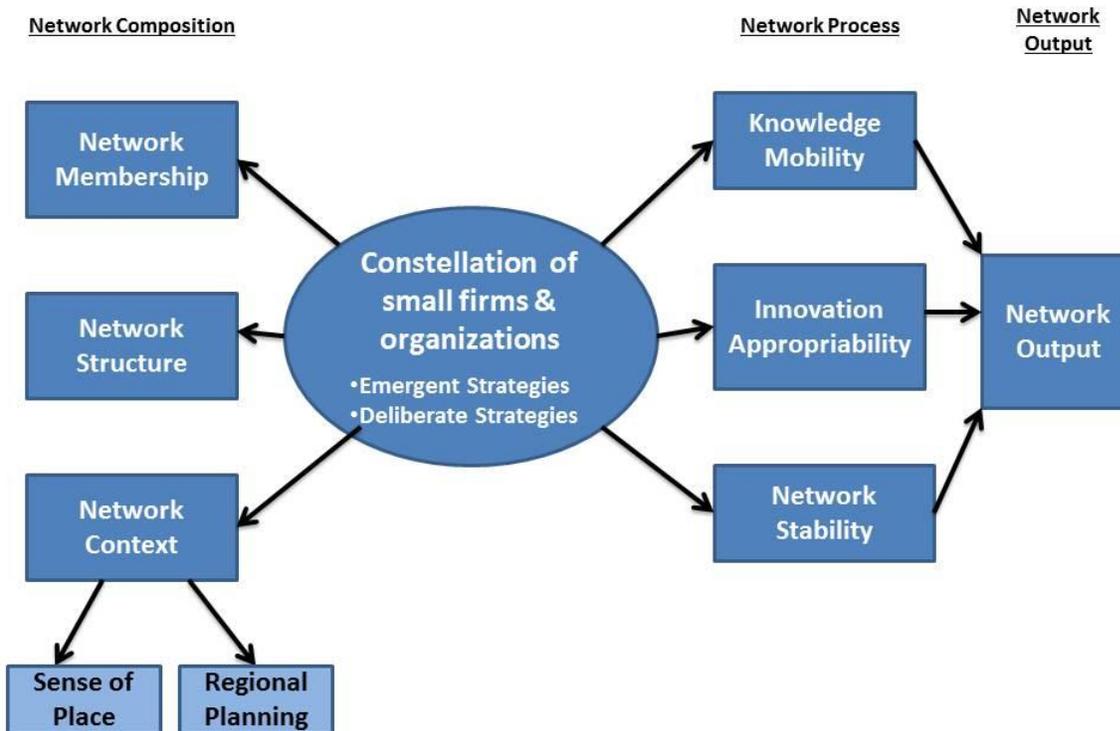


Figure 2: Adapted Model for Small Business Innovation Networks

This adapted model for small business innovation networks provides a lens to evaluate the unique characteristics of a network comprised of small businesses, allowing researchers to assess the interactions and outputs of these networks. Prior to this research, a hub firm was assumed to be the crucial element to orchestrate the activity and interworking of the network. The hub firm would exert its influence by seeking out members or restricting membership as well as influencing control and autonomy of peripheral and semi-peripheral firms. The hub firm's status and centrality within the network was very important, however this element is not important when a hub firm is not present.

In innovation networks without a hub firm, the size and diversity of the network occurs naturally, and the interaction of the network members defines the density and autonomy of the primary and

secondary members. The growth of small business networks also happens through emergent strategies in the simple act of company formation, as additional companies become established in the same geographic area, oftentimes drawn to a region due to the nature of the industry as noted in various literature sources. (Jones, Macpherson, & Thorpe, 2010; Lechner & Dowling, 2003) The attraction of additional companies is not always an intentional activity of the network, but rather the natural growth and establishment of companies to create an expansion of the network membership can be classified as an emergent strategy, due to the fact that the growth is most likely occurring beyond the control of the members of the network. Network context is an important element of the small business network that has been added to the model to show the importance of the underlying environmental factors that affect the cohesion and success of the small business networks.

The original innovation network framework, assumes that the membership of the network is comprised of the hub firm, semi-peripheral and peripheral firms. In the small business framework, it is more accurate to show that the firms and supporting organizations are either *primary* to the functioning of the network, or *secondary* to the functioning of the network, thereby defining the levels of functionality. The primary members work as a cohesive core of the constellation, taking on the activities of the hub firm. The secondary members have a similar role to the peripheral and semi-peripheral firms in the original innovation network framework, in that they thrive off of the interaction of the network, but are not necessary for the primary functioning of the constellation of the network.

This adapted model for small business innovation networks has changed the terminology of the third section of the model from *orchestration process* to *network process*, in order to more accurately define what is occurring within this small business network. The term orchestration implies a deliberate and managed strategy, which in this case of small business network did not

occur. Therefore, the term *network process* is used and the word *managing* from the original innovation network framework has been dropped, in order to more accurately present what happens in small business networks. The network output from a small business innovation network is similar to the network output of other innovation networks, so this section has remained the same, with the exception that it is specifically called network output in this model. The results of this qualitative case study of the Temecula Valley small business innovation network will be presented in subsequent sections along with examples of each network process. By viewing the results through this adapted model for small business innovation networks, the research questions will also be addressed as these sections are defined. Specifically, in seeking an answer to the first research question: *How do firms and organizations interact within their small business innovation network?*, the answer can be found in the network composition and the network process. The second research question, *How are innovative business practices developed in a small businesses innovation network?*, can be addressed by examining seen as within the coordination function of the network, specifically the observed constellation in this research, as well as the outputs from the innovation network.

4.2 Network Composition

There are three primary components in identifying the network composition of innovation networks of small business networks: network membership, network structure and network context.

4.2.1 Network Membership

In the innovation network in the Temecula Valley Wine Country, the membership is comprised of both primary and secondary members linked within the network. The primary members act as the core of the innovation network constellation, while the secondary members are also important for

the overall functioning of the network but are not the core motivators of the network. Table 6 shows the primary and secondary members of the network membership.

	Primary Members	Secondary Members
Network Membership	<ul style="list-style-type: none"> • 35 wineries • Temecula Valley Winegrowers Association • Riverside County Government • Temecula Valley Convention and Visitor's Bureau 	<ul style="list-style-type: none"> • Temecula Municipal Government • Temecula Chamber of Commerce • Winegrowers • Vineyard Managers • Old Town Merchants

Table 6: Primary and Secondary Members of the Temecula Valley Innovation Network

The size and diversity of the Temecula Valley innovation network is influenced by the emergent strategy of growth of the region, including the additional investment and development of wineries currently under construction or planned. At the time of this study in 2011, there were approximately 35 wineries operating in the Temecula Valley when this study was launched in July of 2011. There were an additional 6 wineries under construction and a number of interested investors considering property and development. The County of Riverside supervisor, has created a 2020 Vision for the Temecula Valley Wine Country, which projects a total of 125 wineries to be developed in the area. There is, however, speculation from all sides as to whether that number is achievable given the limitations of the current demarcation of the Temecula Valley AVA.

For this research, the 35 wineries create the core network and are primary network members. The Temecula Valley Winegrowers Association (TVWA) is another primary member, as it acts as an agent of the wineries. (All but two wineries in the Temecula Valley are members of the TVWA.) Additionally, the County of Riverside, California is considered a primary member of the network

due to the planning and development role it plays in the network, as well as the Temecula Convention and Visitors Bureau (CVB), which is tasked with inbound tourism for the region.

The secondary members of the network include the Municipality of Temecula, as the sphere of influence for the municipality does not geographically extend into wine country. The Temecula Chamber of Commerce has a supportive role in the network as well, but no direct influence. The vineyard managers and winegrowers are considered secondary members in this context as they are suppliers to the wineries who are the industry final producers. Finally the merchants in Old Town Temecula are also secondary members of the network, as Old Town is a driver of tourism and visitors which complements the tourism component of the Temecula wineries. The university system of California, specifically University of California Riverside, and the US Department of Agriculture which operates through the university system, were also considered as members of the Temecula innovation network. The department of agriculture and the university do support the monitoring of the sharpshooter pest control of the valley for the wineries and also provide some vineyard management training, but their role is not significant enough to warrant inclusion in either the primary or secondary tier even though they are involved in a tertiary capacity for supporting the network.

The members of the Temecula Valley innovation network are similar in size and output, and all of the primary members are wineries and the remaining primary members and secondary members are all related directly or indirectly to the Temecula wine industry. The connection between the wineries and the Temecula Valley Winegrowers Association (TVWA) is very strong, likely stronger due to the fact that the network is made up of small businesses. The wineries choose to use the TVWA as a central organization and cohesive member, allowing TVWA to be their collective voice of many lobbying initiatives and single voice to the government. This is specifically noted as the region deals with water and sewage challenges for wine country. At

present, there is no sewer connection in the area so all of the wineries are on septic systems which are causing the ground water to deteriorate. This is especially important for the properties that have restaurants and hotel facilities, and restrictions due to health reasons will be implemented in the next couple of years. The sewage extension into wine country is estimated at over 50 million dollars, a cost which the wineries will need to absorb. Issues such as the sewage extension into wine country are appropriate for a member organization such as TVWA to represent the entire network in relation to the government and other related parties. Furthermore, the density is further supported as many of the board members for the organizations within the innovation network are actually the owners or general managers of the wineries, thus extending a deliberate strategy within the network members to tighten the network for mutual benefit.

4.2.2 Network Structure

The network structure of the Temecula Valley innovation network is unique, comprised of small businesses and located within an agricultural-based industry, thus affecting the density and the autonomy of the network. The Temecula American Viticultural Area (AVA) was originally established in 1984 by The United State Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau. It was renamed the Temecula AVA in 2004. The official area of the Temecula Valley AVA is 33,000 acres, including 5,000 acres that are the protected vineyard and citrus zone. Due to the legal and geographic limitations of the Temecula Valley AVA, the density of the network defaults to the wineries located within the AVA, of which almost all are located within the protected vineyard zone.

The density of this innovation network is restrictive, due specifically to the fact that the wineries must be located within the Temecula AVA. However, there is also a deliberate strategy involved as most of the original wineries are physically located on one major road, Rancho California which is approximately 10 miles long. A supplementary area is also emerging on the De Portola

Road, which is parallel to Rancho California, at a distance of approximately three miles away, and connected in three places by cross roads. The density of the innovation network is tight given the nature of the industry, the strategy to attract day visitors to visit the wineries, and the geographic limitations of the wine-growing AVA. The general manager of Champagne illustrated the factor of close proximity and small business collaboration in the following quote: *“It’s much more intimate. Plus, you know, we’re in this small little region. You know, we’re very tightly spaced. We don’t have miles in between us: its boom, boom, boom. We have acres not miles in between us. So you can just go right along and see 35 wineries.”* Due to the fact that all of the wineries in the Temecula Valley are small businesses, there is an implied sense that these companies have a greater desire to work together and this was noted in many of the interviews, thus affecting the cohesion of the network.

The Temecula Innovation Network is also autonomous, due to the fact that the network members come together voluntarily and also because the network is not reliant on outside government, financial or supplier support. The wineries are obtaining their grapes from their own vineyards or from other regional growers (a requirement to be called Temecula wines based on AVA restrictions), so their primary raw material is sourced locally. The minimal equipment and additional supplies needed are easily obtainable and their access does not affect the autonomy of the network.

In addition to the legal Temecula Valley AVA demarcation, agricultural based industries that have multiple-year growing time will be by definition a long-term member of the network. The time from the first vineyard plantings until grapes are used in winemaking is 4-6 years depending on varietal, and thereafter a number of years before any initial profits are derived. The investment is high for the land and the vines, and the years for any return can be prohibitive for

most interested individuals or companies considering vineyards as a profitable venture. As one of the winery owners noted:

“...just the economics of everything, and it’s so expensive. And time – it takes so long to build a winery that it’s not an easy thing to do, as people find out. Yeah, you got three years before you get your first crop and then, you know. 5-6 [years] before you bottle. Yeah, so, you know it’s seven or eight years in before you even see a dime... and it’s probably 10 years before you can even expect to even make any profit.”

4.2.3 Network Context

The network context defines the background and the dynamics which influence small business networks. Network context is the situational forces that influence the environment and the ultimate success of the network. In the case of the Temecula Valley Innovation Network, there were two contextual enablers that were seen as influential and crucial to the underlying success of the innovation network. There is an intangible sense of place embedded in the regional culture which has allowed the community to embrace the positive elements of the wine country. Additionally, there were foresightful county planning efforts undertaken by the County to protect, support and expand the Temecula Valley Wine Country. These underlying factors of network context were crucial in creating the environment for an innovation network of small business to thrive. This underlying network context exists in the Temecula Valley innovation network to create an even more cohesive innovation network. The underlying sense of place and the effective regional planning will be addressed in detail in the following sections.

4.2.4 Sense of Place Embedded in Regional Culture

From the initial establishment of Temecula there has always been a proactive community spirit. The municipality of Temecula was established in 1989, and the name Temecula was voted as the official name of the city, rather than Rancho California. Temecula was the original Lusino Indian

name for the area, and the Lusino Indian reservation is near the outskirts of the Temecula municipality where the Pechanga Casino is located on the reservation. As the city was being established, there was a sense of determination from the citizens, which did not miss the attention of the governor. *“Ronald Reagan said in one of his speeches that Temecula was one of the ‘can-do’ communities, because the mothers raised money for the first park. So, if they wanted something, they were going to make it happen”*, related one business owner in Temecula. An assistant city manager explained the connections Temecula had as a young, growing city, *“Temecula’s been very fortunate to have the success that we’ve had - growing and building out a young, a very young city, and having things like the mall and the Pechanga and the wine country, and the housing and the road systems has all attributed to something that we try to sell and try to further economic development.”* Another positive element supporting the community and sense of place in Temecula is the fact that there are now 40 municipal parks within a 36 square mile area of the municipality, which supports an active community.

The municipality of Temecula has always been focused on creating a positive community feel for its citizens. One assistant city manager explained the following, *“Well I think you have to have a marketable product or lifestyle or something that’s attractive to lure economic development and then retain development that you already have. Temecula’s fortunate that we’re a fiscally solvent city, we have a lot of stability in our leadership from the city council down, you know, to our city management staff. There’s a lot of continuity.”* The city council and city management has been very proactive in creating a community that is responsive to the needs of the citizens. The Director of the Temecula Chamber of Commerce supported the foresight of the City government by telling the following, *“And the city is very proactive. Just recently we had a workshop. We called the community in and said, “OK, so what’s your vision for Temecula for 2030?” They had senior citizens come in; they invited everyone in. We all worked on a worksheet and it was good that they wanted to hear from everyone.”* When asked if there was one specific leader in the

community or the wine country innovation network, one of the assistant city planners explained, *“No, there was not a specific leader. It was kind of the attitude of the community. The council’s focus was to make this just a great place to live.”* He expanded by saying, *“I think the people in Temecula have this strong sense of place, strong sense of what they wanted, and its reflected in the council members that have been in there and its reflected in the leadership and the city organization.”*

When speaking about the cooperation between the City of Temecula and the Wine Country, one of the assistant city managers described it in the following way,

I kind of see it as a just a really fortuitous kind of relationship between the wine country development and the city development. It’s an interesting thing because it was just happening. And the city was kind of doing its thing and then the county was approving whatever they needed to approve and the growers were planting. And it kind of just grew into – almost into one body.

The other assistant city manager added by saying, *“So Temecula created this sense of place. It capitalized on the wine country. The Temecula Valley, the wine country, all of that, the city really played on it. And so the city capitalized on that and that sense of place and tying themselves into the wine country.”*

The literature supporting this sense of place, can be extrapolated from the seminal works of Mintzberg (1987) and Weick & Roberts (1993) on the Collective Mind theory. Mintzberg puts forth the assumption that a sense of collective action is pursued due to an overarching sense of belonging to the system, and this sense of belonging is important to describing the dynamics of what is occurring within the Temecula Valley innovation network.

4.2.5 Regional Planning in Temecula Valley Wine Country

Another important area that creates a foundation for the innovation network to function effectively in the Temecula Valley Wine Country, is the foresightful county planning efforts to protect and expand the wine country. In the 1980s the County of Riverside prepared the first “citrus vineyard zone”, spearheaded by the elected county supervisor for the region of Temecula, who was also formerly the mayor of Temecula. This citrus/vineyard zone was intended to maintain the rural character of the Temecula Valley, but gave the provision to allow the wineries to have tasting rooms as well as walking tours through the winery grounds.

In 2000, over 25% of the land in the Temecula Valley Wine Country was being subdivided for residential homes. At the same time, the glassy-winged sharpshooter was destroying the vineyards due to the Pierce’s Disease the pest spread, so there was a danger that the growth of the young wine region would be stunted. In order to protect wine country, which was already seen as an economic contributor to the county, the county planners defined restrictions on the land use within wine country. Co-existing in wine country was also several equestrian farms, so the planning efforts had to manage the expectations and needs of the wineries, the residents and the equestrian farms. This plan restricted residential building to cluster plots of homes, allowing for larger, contiguous areas that were available for vineyards. It also provided restrictions for the wineries and put forth minimum land requirements for wineries that wanted to have tasting rooms, restaurants, host weddings and other amenities for guests. For instance a winery had to have at least 10 acres dedicated to vineyards in order to have a tasting room. For wineries that wanted to build small hotels, there were restrictions, including a provision to allow only 2 hotel rooms per acre of land and also the height of the hotel in wine country could only be three stories high. There were also restrictions as to the number of acres needed in order to have weddings on the property as well as land requirements for wineries that wanted to have restaurants. The

county actively sought out the input from the winery owners, the equestrian contingent and the residents in wine country in order to make sure the plan encompassed these needs and provided a compromised plan for all parties.

The collaboration and support between the county supervisor, the county planning division and the wineries allowed for a realistic plan for the growth and development of the wine country. The interactive planning process was unique in that it obtained support and input from those residents in wine country and the wineries themselves. An additional wine country plan, referred to as the “Wine Country Vision 2020”, is currently being developed with the same collaboration sought between the county residents and wineries. This plan will take the planning and restrictions for Temecula Valley Wine Country to an additional level. One of the key county planners described the process as the following, *“So just in the last few years when we really provided a framework within which the wine country could succeed, from then to now, you know, you have 20 plus new wineries that have emerged. And that’s quite remarkable, especially with the kind of economy that we are in right now. This is the only area where we haven’t seen any slow-down in building activities.”* This current plan will also expand the protected citrus and vineyard zone within the Temecula Valley American Viticultural Area (AVA) from 5,000 acres to up to 20,000 acres.

The county planners believe this will open up opportunities for additional investors to come into the Temecula Valley Wine Country. The county supervisor that started the planning process is still in office and he believes that there will be space for up to 125 wineries. There are mixed feelings on the number of viable wineries in the region, with some of the wineries believing that number is much too high. The owner of Syrah mentioned the limitations of such a plan, *“Well I think that that would deplete the customer bases of the 35 that are already there if they do not have an initiative to be able to drive new business into the region, new customers into the region.”*

One winery owner, who is the chairman of the 2020 Vision committee, shared this insight,

There's no trying involved. It was happening. When this 2020 vision thing got put together, there was no recession. No one heard about recession. They have, right now, in the process at some stage, 19 wineries in addition to the 35, with 10 virtual wineries [within a cooperative]. And so all of a sudden you look at that – and that's right now – that if you look at the demand of the wine industry and the romance of Temecula and you get the economies of scales.

He continued by explaining,

And we about fell off our chair when our supervisor came back from his trip to Napa and Sonoma and said, 'I foresee 125 wineries here.' And we went, 'No! Stop! What are you saying? Don't say that.' Because he goes, 'It's happening. So we better plan for it.' Well, here you're right next to LA, San Diego. You know, you're getting the groups here. It's easy marketing, so to speak, because they're already coming; you just have to take care of them.

Regardless of the future potential and development, the wine country has developed to date with the foresightful guidance and planning efforts of the Riverside County planners and the county supervisor. There was no model that was followed that mapped out the direction or the restrictions necessary on land-use, but there was the openness of the county to involve the residents, winery owners and the equestrian farm owners in order to create an effective plan that could both restrict and assist the development of the region.

4.3 Coordination

The adapted model for small business innovation networks shows network coordination as a constellation of small firms interacting within the network with the existence of emergent strategies and deliberate strategies. The research on the Temecula Valley innovation network has shown that no single hub firm exists within the network comprised entirely of small businesses.

The small businesses however work in concert within the constellation, undertaking the activities

that a hub firm typically manages within an innovation network. It is seen that the primary network members within the Temecula innovation network interact within this constellation for this innovation network.

The constellation functions through joint responsibility and support of the members, and is held together through the cohesion and support established through the sense of place that has been established through all network members over the past 15 to 20 years, as well as the collective mind (Weick & Roberts, 1993) that exist within the innovation network. This constellation influences the knowledge mobility, innovation appropriability and network stability of the innovation network within the network process section. The emergent strategies and deliberate strategies play a significant role in maintaining the cohesion of the constellation.

Emergent strategies are those that are not planned by, nor implemented by the entire network. However these emergent strategies still impact the overall network. Emergent strategies within the Temecula Valley innovation network include activities that increase the interest of the region for potential visitors within a 2-hour driving radius as well as improve the outputs of the region including improving the quality of the products and the diverse offerings of the region. Deliberate strategies include the activities individual firms and other primary network members pursue to support the overall inter-workings and success of the innovation network. Deliberate strategies can include coordinated meetings of the network members and planned strategies and opportunities that are open and influenced by the network members.

The focus on improvement of quality pursued by some of the wineries is an emergent strategy that is important to the entire region. As visitors explore Temecula and find great wines to verify and complement their experience, the reputation of the entire valley increases. The owner of the Syrah winery explains,

There is a competitive nature between all of the wineries, but everybody is willing to help because in Temecula Valley the idea is to raise the bar and the impression of the appellation so that we have more educated wine consumers that come in to buy wine and to frequent our area.

One winery produces a specialty product that is distributed nationally. The uniqueness of this product creates interest for the region of Temecula, even though it is not produced within the Temecula Valley. As the producer is based in Temecula, interests and exposure has been created for the region. Due to the unforeseen positive impact it has had on influencing the broad marketplace by getting Temecula’s name associated with a popular product, this product is seen as an emergent strategy. One of the other wineries confirmed that, *“they’ve probably done a lot for [Temecula] and their [specialty product] has probably helped in some regard.”* Even though the product is not made from grapes grown in Temecula or produced specifically by the winery, the broad interest for the product has brought attention to Temecula. This producer believes that their product and its broad distribution, *“Absolutely”* benefits the whole valley. There are 50,000 cases of this product distributed, but it is not calculated in the amount produced within the Temecula Valley APA as it is not grown or produced in Temecula.

Deliberate Strategies	Emergent Strategies
Close cooperation between the winery owners and the regional organizations and government steering committees, including cross-supportive roles.	The national distribution of a specialty product produced for a local winery, which spurred interest and regional recognition for the Temecula Wine Valley.
Periodic information and networking meetings of the Temecula Winegrowers Association and other organizations for members.	Efforts to improve the wine produced throughout the region, as well as improving vineyard management resulting in better raw materials for production.
Joint initiatives and pooling of resources for attraction of visitors to the region, especially with the Convention and Visitors Bureau, the Temecula Winegrowers Association and the Chamber of Commerce.	Diverse offerings of wines from the Temecula producers, including the making of wine using lesser-known, European grape varieties to provide diversity.

Table 7: Examples of Deliberate and Emergent Strategies

Deliberate strategies include some of the strategies pursued by the Temecula Convention and Visitors Bureau (CVB) and other supportive regional organizations actively seeking out the owners and general managers of wineries to sit on the boards of these organizations to represent cross interest ideas and pursuit of mutually beneficial programs. The supporting business organizations in the Temecula Valley region play an important role, most notably in the coordination of joint promotion of the entire region, with the wine region as a primary driver. The Temecula Valley Winegrowers Association (TVWA) fills an important role within the network, as well as coordinating with the Temecula Chamber of Commerce and the CVB for tourism and promotion of the region. As an example of the connections, the executive director of TVWA was previously a marketing executive at two of the original wineries and has worked in the Temecula area for over twenty years. The executive director's previous role in winery management, allows for an understanding of the development of the region, the challenges of motivating the wineries to work together and the dynamics in undertaking a marketing campaign to attract visitors to a relatively new wine region.

The interaction and support of the regional organizations is a deliberate strategy, in that the TVWA, the CVB and the Chamber of Commerce work together to market the destination of Temecula Valley for the benefit of the members in the wine network. There are limitations in regard to budget for marketing, as well as the challenge of marketing Temecula in competition with the other wine regions in California, as well as the specific mandates of the organizations. Notably the Chamber of Commerce and the CVB are both focused on the municipality of Temecula, due to the constraints of their bylaws. However, all three organizations see the benefit of working together, and actively meet to coordinate marketing programs and activities, pursuing a deliberate strategy of joint marketing as a tangible benefit of working together for the greater success of all. The TVWA also hosts periodic meetings regarding vineyard management and wine production techniques. Many of TVWA pursuits and objectives can be considered deliberate

strategies for the network. The owner of the Cabernet Franc Winery, one of the original wineries in the Temecula Valley, shared details of the original network,

For the first 20 years that I was in this, the owners would meet monthly. We could talk to each other about common problems. For those 20 years there were maybe 15 wineries at the most. That was the network. We maybe would get together for tastings and talk about the wine we are making compared to other places, and it would always be all of us.

That initial cohesion has been supportive as the network has grown. The events hosted by TVWA are no longer just the owners on a monthly basis, but rather, there are more diverse educational and business practice workshops and networking events, to support the knowledge growth and the cohesion of the network members.

The business practice that all of the Temecula Valley wineries have chosen to pursue – to sell all or almost the entire local production of locally grown wine directly to visitors and wine club members – is a deliberate strategy that supports the cohesiveness of the regional innovation network. This innovative business and marketing model is a strengthening factor as the wineries need to work together in order to successfully target the day-trip customer or the weekend guest that will acquire several bottles of wine per visit and potentially have follow-on sales through the wine clubs at the wineries. Of specific importance for the direct sales of wine from the wineries, are the successful attraction of tourists to the Temecula Valley, typically as day visitors or weekend visitors, and the production of quality wines to create a strong reputation for the wines produced in Temecula.

These emergent and deliberate strategies act as a cohesive agent within the constellation of small businesses and supporting organizations. These strategies along with the network outputs, create support and cohesion amongst the network participants. Some of the emergent strategies overlap with the business practices and initiatives, creating an intertwined supportive network that further increases the solid nature of this small business innovation network. The deliberate and emergent

strategies observed in the Temecula innovation network can also be categorized as, 1) business practices undertaken by each firm in the network, but the entire network is pursuing the same or similar strategies, so the strategies are pursued in aggregate, 2) joint initiatives pursued and challenges addressed by the network as a whole with a group response. The successes to date within this small business innovation network illustrate how the network will continue to flourish. The overall focus of the network has been to create an experience for the customer and typically the customer will purchase wine to take home as a reminder of that experience. The positive experience will possibly bring that customer back again and share their experience with friends to expand the positive influence of the Temecula Valley wine experience. The owner of Sauvignon Blanc Winery summed up the focus, *“Obviously we recognize that we are selling an experience as much as we are selling wine. People are here for the experience and they want to take home some nice wine to remember the experience.”*

4.3.1 Business Practices

The wineries within the Temecula Valley innovation network have individually pursued the business strategy of direct sales from their winery. The deliberate strategy of individual wineries results in the aggregate selling close to 100% of their total production through direct sales channels. The success of this strategy for each individual winery is due to the fact that all of the wineries in the region have pursued very similar directions in terms of marketing and sales, and have also undertaken a joint effort to market the region, thus attracting the visitors needed for the success of a direct sales approach. Within this overarching strategy, there are four key business strategies undertaken that create revenue streams for the winery. The business strategies/revenues streams can be grouped into the following categories: tasting rooms at each of the wineries, direct wine sales to day visitors, wine club sales, and special events and weddings held at the wineries.

The wineries in the Temecula Valley Wine Country feel that the adoption of these business practices have provided them a distinct advantage over other wine making regions, including the wine regions in northern California, specifically Napa Valley and Sonoma County as well as the closer Central Coast California wine region. Wineries in these other regions have elements of these strategies; however the Temecula Valley wineries have pursued these initiatives in a combined manner and thus have a successful all-encompassing strategy for direct winery sales. The wineries also understand the importance of service and building an experience for the visitor, *“I have people tell us all the time that Napa has gotten too hoity-toity, it’s too expensive, people aren’t friendly up there like they are here.”* The results of the direct sales at the Temecula Valley wineries include a high price point for individual bottles of wine and furthermore, extremely high margins for the wineries in the Temecula Valley.

4.3.1.1 Tasting Rooms

Each of the wineries in Temecula has a tasting room that typically is open every day from 10:00am to 5:00pm. There is a reliance on the population base of 25 million in a 2 hour radius of Temecula, so many of the wineries have a steady flow of visitors. There is a tasting fee, which is usually \$10 to taste 6 wines of the customer’s choice. Each winery has between twelve to twenty wines for the visitor to choose. The tasting rooms can range from modest: a table in a barn or enclosed in the production facilities to get the authentic feel of the winery, or the tasting experience can be an elegant building specifically built for this purpose or a wood paneled room with seating to enjoy the view. The tasting room usually has an attached gift shop for the guests to browse while they taste their wine, and about twelve wineries have restaurants attached to their tasting facilities that serve lunch and some even serve dinner.

One interviewee described the wine tasting experience, *“It takes on that Tuscan feel when you’re out there; it’s really beautiful. And the fact that [the first established winery] did it, it’s*

like, 'Well, let's do it ourselves.' And so, it kind of spread into this business model." The tasting room experience is definitely one of the unique directions that the Temecula Valley innovation network has pursued, especially as there are currently limits on tasting rooms in other wine regions, "Most of the wineries in Napa can't even have an open tasting room. You've got to do it by appointment only. So the rules up there [Napa] have really changed over the years to try to limit the whole retail aspect of it. So those few people that do have licenses to have tasting rooms, they've really got something that a lot of those guys don't have."

Of course, the tasting room necessitates an increased number of staff, trained to effectively handle the visitors, especially when it becomes crowded. There is an obvious revenue stream from the individual tastings, but the tastings are also a way to sell the wines directly to the visitors, or even entice the visitor to join the wine club for repetitive purchases.

4.3.1.2 Direct Sales

Direct wine sales are the primary driver of all wineries in the Temecula Valley and this business strategy has been successful to date. The tasting room experience typically results in purchases of wine for the guest to enjoy when they return home. The entire focus is on the experience the guest has in Temecula, and the purchase of wine will prolong that experience when they have the wine at a later time. The experience also confirms the high per bottle cost and the higher margins that the wineries obtain for their wine, reaffirming the guest of the unique experience. The interviewees had much to relate on this topic as presented below:

I think that it's easier for us to sell at retail at our front door than to have to be concerned about somebody else's credibility. And you diminish your story by selling it to a restaurant owner who then has to rely on your server or a sommelier that hasn't been completely schooled on the 5,000 brands that they're selling in there to know your wine. – Syrah Winery

Since we are tasting room wineries, we have to get people here. They visit the region. They don't come here because they heard Cabernet Franc Winery is in Temecula. They come here because they heard wineries are in Temecula and let's figure out where

<i>we're going to go. – Cabernet Franc Winery</i>
<i>The wineries all have their own personality but they all offer wine tasting, you know. And their wines are all a little bit different. So it's really – it's a pretty incredible experience when you go out there. – Municipal Representative</i>
<i>Producing what the customer wants and producing a good experience and re-investing in your business to make for nice facilities and training your staff and those are things that we need to do. – Zinfandel Winery</i>
<i>[We are obtaining] Incredibly high margins, especially with the economy. What we had done previous to the recession, you know – because the recession changed everything: changed our business model, changed our style of thinking, changed a lot of people's style of thinking. – Champagne Winery</i>
<i>So you have to make a business decision: do you want to be a big winery, invest in the tanks and all the equipment or do you want to go the other route, go with high margins and spend it in retail? So we bought this expensive property and we've spent millions of dollars putting in all of this infrastructure, buildings and everything. And then it requires a huge number of staff, so you have to spend the money. So instead of spending it on a huge production facility and huge tanks, we decided to spend it on small winemaking capacity and good retail. – Zinfandel Winery</i>
<i>And therefore achieving 60% higher margins than through retail. Every day I go pinch myself. How can this be? – undisclosed interviewee</i>

Table 8: Quotes from Interviewees regarding direct sales and margins

4.3.1.3 Events and Weddings

The experience and sense of place of the Temecula Valley Wine Country provides a unique opportunity to access the 25 million people within a two-hour radius of the Temecula Valley. In addition to the winery experience, visiting tasting rooms, and purchasing wine to take home, there is also the business practice amongst many of the wineries of hosting events including concerts and other entertainment. The Temecula Valley is also becoming very well known as a destination for weddings. Additionally, there is a winery that has built a resort, spa and conference facilities. All of these opportunities contribute to the sense of place of the Temecula Valley Wine Country. Syrah Winery explains, *“What makes Temecula a little bit more unique versus Napa/Sonoma is the entertainment aspect of it. And I think that, you know, I think that part of what happens in Temecula is they're driving customers that are looking to be entertained with music and other types of things, as opposed to actually sitting down and learning about wine.”*

Another element that supports the overall strategy of the region and the unique experience for the guest is described further by the owner of Chardonnay Winery, “*And one of the other kind of unique things about our wine country that differentiates it from Napa and Sonoma in Northern California is that we encourage an integration of restaurants and lodging, bed and breakfasts, resorts in with the wineries. And up in Napa it’s like all the wineries in one place, all the lodging and restaurants someplace else. So that has spurred development because it encourages different types of businesses to locate in wine country at one point. I think it has had a real strong impact the economic growth for our region.*”

This provides a further attraction from potential investors in the region, as a representative from the Riverside County government illustrated,

I’m getting many phone calls from new investors, whether it’s from Napa, from Sonoma, that they’re looking at this area because those wine countries don’t allow a lot of hospitality type of uses, you know, whether it’s special occasion or hotels, restaurants, and now resorts. So they are really seeing this as a showcase for their talent.

Weddings are another important event, with an estimated 1000 destination weddings being hosted in Temecula each year. The guests are introduced to the region; they spend a night or two, visit the winery for the wedding, including drinking the winery’s wine and then return home with an even deeper experience than the average visitor. Weddings therefore play into this continual experience of the sense of place for the guest, very much aligned with the business strategies of the Temecula Valley innovation network. Champagne explained, “*Weddings are a nice marketing opportunity. Concerts actually bring in foreigners to the area to look around and go, ‘Wow, look at this. This is great,’ which it is – and they pay you for it. How fantastic a marketing plan is that?*” The wine country also benefits from the events and initiatives pursued by Old Town Temecula, as well as the Pechanga casino which is the largest Indian gaming initiative in California. Pechanga also hosts a constant flow of national headliner acts, which further draws

the visitor to the Temecula area. Events in Old Town Temecula include antique car weekends and western-themed weekends.

4.3.1.4 Wine Club Sales

Oftentimes, the day visitor becomes a repeat customer through membership in the winery's wine club. Many of the wineries have one-third or more of their total production going to their wine club members. The general manager of the Zinfandel winery described the consistency of the cash flow, *"It's one of those things that you build the wine club and it's just a nice consistent cash flow. Every other month you get to charge all their cards."* The wine club builds a customer base that is also likely a repeat customer in addition to their wine club membership which ships to the wine club member every over month. The wineries often host events with music and food for their wine club members to pick up their periodic allotment, creating an exclusive experience for the guest. *"You know I mean some of them are just really fanatical about, you know, they want to come to the pick-up parties and, 'I'm one of your wine club members.' It's amazing how they are so dedicated to you."*

Another winery explained the importance of the wine club phenomena, and the challenge to obtain and retain that client base:

I think that in some of that capacity what floats all wineries in Temecula is that wine club person that's signing up to receive wine, as like an automatic payment. You know, it's like a future. I think [the wineries are] in competition to be able to get that customer because how many wine clubs do people actually belong to? So, there's a fair amount of attrition that happens, like you might gain – you might have 2,000 new wine drinkers. You have one bad wine or a bad season, you know that person will cancel your club and go to your next-door neighbor. I think that it's important that if you have the trading of customers, much like what happens in the casinos when you're winning or losing. [We] have to draw more customers, you have to get your word out, there needs to be a greater marketing effort to bring in new customers and new wine drinkers and have an education

process that makes people keeps people coming back and having experiences that make them to be a more consistent and loyal customer.

4.3.2 Joint Initiatives

An important component of an innovation network is the joint initiatives that the network members pursue as a network. The initiatives that the Temecula Valley innovation network pursue can be classified into four major areas, including joint promotion and marketing, attraction of visitors, education of the guest/wine consumer while focusing on producing quality wine and the approach to overcoming challenges.

4.3.2.1 Attraction of Visitors

The attraction of visitors is the core to creating the Temecula experience, and thus the success of the Temecula Valley innovation network. The unique geographic position of Temecula allows for a potential customer base of up to 25 million people within a two-hour traveling radius. However, the attraction of visitors must be approached very specifically in order to portray the sense of experience for which the Temecula Valley is currently known. The wineries and other primary members of the network understand the importance of the attraction of visitors, as each visitor could become a customer, a potential wine club member, and possibly a returning customer for future events and experiences.

One of the prominent Temecula wineries was originally operating in Lodi, California and relocated to the Temecula Valley. While operating in Lodi, the winery purchased grapes for wine making under its own label and distributed their wine regionally. This winery relocated its production facility to Temecula when it considered expansion into its own vineyards, partially due to the positive growing conditions, but most notably due to its access to a 25 million person market within a two-hour travel time. When speaking with the wine-maker at this winery, he was asked if the growing conditions were better in Temecula. He answered frankly, that the growing

conditions in Lodi were better, although Temecula was quite good. He reiterated that the reason they were in Temecula was due to the vast potential market within a 2-hour drive of Temecula. The Temecula Convention and Visitors Bureau (CVB) is a key organizer for the attraction of visitors to the region. The wineries, being small businesses, have a limited scope due to their size and limited resources, so there is a reliance on organizations such as the CVB to support the attraction of visitors. The owner of the Chardonnay Winery, which also serves on the CVB Board, related this information about the CVB,

They are very active. They promote tourism throughout the region but about three years ago the organization kind of rebranded itself under the title Temecula Valley Southern California's Wine Country, so it's very much focused – an important part of their focus; not all of it, but an important part of it is promoting Temecula Wine Country. So there's also a network there and we always have at least two or three of the winery owners or representatives from the Temecula Valley wineries that are on the board of the Convention and Visitors Bureau.

The CVB also took an important step in the past two years and has created a branding guide for the region as well as for the wineries to use, from the broad focus of the region to the details of the colors in the logo and the design in order to give all of the wineries a similar look in their design and marketing. Zinfandel winery added,

[We are] just starting to get a critical mass here at enough wineries, enough marketing stuff going out from all of us that I think it's bringing the people in. And I think the economy's actually helped us in a way. People aren't going on those long trips to Napa anymore; they're going to go out and are looking for a day trip. We're a day trip.

4.3.2.2 Joint Promotion and Marketing

Joint promotion or marketing is closely related to the attraction of visitors to the Temecula Valley. The wineries within the innovation network understand the importance of the joint promotion and marketing of the "experience" for the guest who visits the Temecula Valley. This

joint promotion and marketing extends to the cooperation between the pitch on the casino, the old town Temecula, and other Temecula Valley events such as the balloon festival held each year.

Each of the wineries has their own limited marketing materials, so the joint initiatives supported by the organizations that are within the Temecula Valley innovation network are important. The owner of Zinfandel said, *“I would say it’s just starting to get a critical mass here at enough wineries, enough marketing stuff going out from all of us that I think it’s bringing the people in.”*

A representative of the Temecula Winegrowers association explained a joint initiative, *“We do get a grant every year from the county [Riverside] of about \$35,000, and that pays for our consultant – to the PR firm. We’ve used it – for the last couple of years on this PR firm, which is a brilliant move because then they can manage it and do the whole thing.”* The general manager of Champagne winery, talked about the work to date and the future potential, *“When I came out here, there were 25 million people [in our geographic scope, and now] maybe a million knew where Temecula is. Now I’d probably say after 11 years of really hard work and whatnot, 24 million people still have no idea that Temecula exists. We have just scratched the surface with the wine and knowledge and the people. And when we do, watch out.”*

4.3.2.3 Educating Customer and Focus on Quality

The Temecula wineries are overall producing a high quality wine, and thus fetching a higher price point of \$30-45 per bottle, rather than the average \$10-\$12 bottle of wine available in a retail store. The wineries have expressed the need to thereby educate the customer to the differentiating qualities of a fine wine that is worth the additional price point. The Temecula Valley winegrowers are growing many European varietals that are not typically known to the average wine drinker in the United States, and the continued education including tasting of these varietals is needed for a deeper understanding of the characteristics these grapes and the resultant wines. Furthermore, the wineries understand the importance of producing high quality wine, especially due to the fact that

they are in a premium price category and they are selling close to 100% of their production directly to the consumer. Many wineries expressed the need to focus on quality and rely on the Temecula Valley Winegrowers Association to support this specific initiative.

The owner of Syrah explained,

There is a competitive nature between all of the wineries, but everybody is willing to help because in Temecula Valley the idea is to raise the bar and the impression of the appellation so that we have more educated wine consumers that come in to buy wine and to frequent our area. There needs to be a greater marketing effort to bring in new customers and new wine drinkers and have an education process that makes people keeps people coming back and having experiences that make them to be a more consistent and loyal customer. In that capacity I think we're still young.

The owner of the Champagne winery expanded on this thought, *“It takes a region. It takes everybody making good wine, because if you make crap wine and I’m the only one that makes good wine, they’re not going to come back. They’re going to view Temecula as crap wine. You know, one bad apple ruins a bushel, as they say. So, let’s everybody make great wine.”* TVWA has periodic seminars for oenology and viticulture, so the most modern wine-growing and winemaking processes are being introduced and expanded.

4.3.2.4 Challenges

The approach and process by which the innovation network works together to overcome challenges, is an important characteristic of the Temecula Valley innovation network. Throughout the evolution of the network there have been numerous challenges that the network members have joined together to support each other in the initial stages of winery establishment, including the challenges faced in obtaining permits and approval from the county, providing a united front to overcome joint challenges such as pest infestation as well as combined voice for lobbying the

regional and state government on issues such as the water challenge facing the entire Temecula Valley Wine Country.

The newer wineries noted very specifically that they received collegial support as they were establishing their operations. This support ties into the regional initiative for improving the quality of all the wine produced in the region. The wineries within the Temecula Valley innovation network feel their competition is from other wine regions, rather than their individual neighbors. The TVWA is also supportive in the educational initiatives and programs that it manages in support of all of the wineries in the region. However the costs of establishing the winery and the series of permits needed from the county were challenging and cumbersome. The owner of the Zinfandel Winery noted,

You've got all the different departments you have to go through and the county and it's a big deal. All the requirements: the fire sprinklers to the landscaping to - you name it. I mean every little detail: the building permit process, the approval process, all that, the zoning requirements and everybody's got to get their fingers in the pie, you know.

And the owner of the Syrah Winery further expanded with the following comment,

Riverside County is not the easiest county to work with; there is a lot of political stuff that you have to do and we do share information on how to get through the process. It will be a five solid-year process of having all of the issues resolved that were issues or shouldn't have even been issues, as far as we're concerned. And I think that everybody that touches the fact that they're going to have a tasting room in Temecula faces the same issues, so we do share on how to overcome them. The county is making it a little bit harder now with the growth - it's harder to get the job done because of regulations and red tape and changing of the guards. I think the issues with that need to be addressed so that the people are coming in are not exhausted - exhausted by the process and financially exhausted from the process.

In the late 1990's there was an infestation of the Temecula Valley Wine Country of "glassy winged sharpshooters" which causes Pierce's Disease. Pierce's Disease is a bacterial infection, which is spread by bugs that feed on grapevines, particularly the glassy-winged sharpshooter. Grapevines that become infected with Pierce's Disease can quickly become sick and die. (Mulherin, 2006) The support received from the government agencies during the outbreak and thereafter to control the bugs has been extensive. The owner of the Sauvignon Blanc Winery explained,

And then when they had the issue with the glassy wing sharpshooter, severe outbreak of Pierce's Disease we got a lot of government support and we're still getting government support: state – see it started actually locally, county and then the state and some federal money. We still have an ongoing University of California, primary UC Riverside, support monitoring the sharpshooter. I just got an email on it just a few minutes ago the latest sharpshooter count for our valley. Got sticky traps – 400 of them in the Valley and they monitor them weekly and send us an email weekly on where they found them and so we have things like that going.

As the region continues to grow with additional wineries and supporting activities expanding, there is an ongoing challenge regarding the water and sewage system in wine country. There is a need for the placement of a water and sewage system from the Temecula municipal border down the main corridor into wine country. The cost is estimated over \$50 million, and there is a question regarding the cost-sharing of the wineries, and the amount that we covered by the county and by the state. The owner of the Zinfandel Winery summed up the challenge of the sewage problem,

So basically the water quality control down in San Diego, which is an agency mandated by the Feds says, "This is what your total dissolved solids can be and your salts can be in the ground water. You're at the limit. You can't do any more. You can't have any more septic. So that's going to squash all the development. They could do some waivers to allow for temporary usage but somebody's not going to want to spend \$5 million building

a little place and then have the state coming down and saying in a few years, “I’m sorry you have to close down because we don’t have a sewer in.” So right now any larger development – [our neighbor’s] is – his hotel that he’s putting up is probably one of the last things that’s going to go in until we resolve the sewer issue. So that’s right now the number one issue.

He expanded further on the basic water problem for the wineries,

So then the water – the problem with the drought that we had they were taking Colorado River water and pumping it into the local aquifer as storage –that has high salts in it. That’s what raised the salt level in the aquifer. So we’re toast. That also affects the grapes, too, when you have too much salt water. And we have drought years we didn’t have a lot of rain then you have a lot more salts and grapes get stunted and – this last winter was great because we had all that rain come and wash the salt away. Bleached out the soil. So the grapes are growing like crazy this year.

The water and sewage challenge must be resolved for the near-term and future growth in the Temecula Valley Wine Country. The resolution will need to be solved through cooperation and coordination of the wineries, Riverside County and the State of California. As this debate continues, the strength of the Temecula innovation network will be tested as a resolution to the water issue must occur for additional growth to occur. Other challenges for the future development of the wine region includes the need for increasing the number of hotel rooms as there is a deficit of beds for visitors. A couple of the wineries also have or are planning restaurants, small resorts and Bed and Breakfasts in wine country. However the development of small hotels and restaurants are restricted by the county plan due to the necessity to have the sewage lines run into wine country. There are significant health concerns if a restaurant or hotel enterprise is using only a septic tank for their sewage needs, and thus restrictions are in place from the county.

4.4 Network Process

The network process within the observed small business innovation network includes knowledge mobility, innovation appropriability, and network stability, similar to the original innovation network framework, but these interactions are even more important in small business networks as they increase the cohesion amongst the members. These three functions are crucial to the stability and interworking of small business innovation networks, and also relate to answering the question of how firms and organizations interact within their small business innovation network.

4.4.1 Knowledge Mobility

The sharing of knowledge is a cohesive factor within innovation networks, and has an even stronger impact within small business innovation networks, due to the limited resources available to small businesses and the value to the shared knowledge dissemination. The Temecula Valley innovation network has both formal and informal channels for knowledge mobility. The primary formal channels are facilitated through TVWA and include seminars and information dissemination on vineyard management, winegrowing techniques, market related activities and other topics relevant to the winery members. The informal channels include business owners and winemakers interacting on a social level, as well as sharing information as needed as a means of mutual support. Even when new wineries are being established, the existing wineries have been open to share information and providing support for the newcomers.

All interviewees were in agreement about the extensive knowledge mobility existing within the innovation network providing numerous examples of both the formal and informal channels. The owner of the Syrah winery explained the following about the formal network, *“So we do have fairly strong organization in the Temecula Valley Winegrowers Association and we have a viticulture committee and a wine enology committee that both have seminars and that are quite*

helpful. Of course some are put on by people who are trying to sell us stuff, but nevertheless they're very useful seminars." The owner of the Syrah winery continued by explaining, *"If I have a lab problem – wine with some issues I can go down the road and have friends that will taste them and give me their opinions"*, and the owner of the Cabernet Franc winery added, *"[one of the original winery owners] would pull together little dinner parties and things just to kind of keep people connected and keep communications open"*.

The Champagne winery was established in the past decade, and the owner was surprised at all of the information shared by existing wineries and finally asked one of the existing wineries why they would share so much information and he was told:

It takes a region. It takes everybody making good wine, because if you make crap wine and I'm the only one that makes good wine, they're not going to come back. If I told you exactly how to make it, exactly what we did, with exact same barrels, exact recipe, exact everything and everything right down to the T, you're five years out before you can produce that. So why wouldn't I share with you little tidbits of how to save money and enhance quality and do that? It's still going to be a different product: it's a different year, different grape, it's a different mix– every year is completely different.

4.4.2 Innovation Appropriability

Due to the nature of the wine industry, there are limited technological innovations developed amongst the members of the Temecula Valley innovation network. There are however many opportunities for sharing resources and collaboration of know-how, specifically in the case of vineyard management and wine-making knowledge, where the small business factor provides an element of added motivational support. The owner of the Chardonnay winery said, *"The winemakers know each other and they help each other out, especially during harvest and production times. And the winery owners support each other."* The winemaker at Sauvignon

Blanc winery added, *“There are two or three winemakers I talk to. If I have a winemaking problem, I ask them if they’ve faced that problem before.”* The owner of Champagne winery further noted, *“In the wine business: it’s not a matter if you’re going to have a situation it’s when. And so you have different people that, ‘Hey, can I borrow this,’ you know, ‘Hey do you got any extra of this?’ ...we have other wineries bottling other people’s wines, we’ve got – I’m selling my extra bottles to people. And so everybody buys and helps from everybody.”*

Joint asset ownership is more common with the smallest wineries to leverage cash and assets, *“We bought our equipment, our crushing and pressing equipment together”* one small winery owner informed the researcher. Some appropriability is shared due to the acquisition of land and other resources from neighbors, thus tightening the support provided within the network.

Another winery explained, *“We talk a lot with our neighbor because he helped us get started and we helped him get started and so we share a lot of information.”* In an interview with Zinfandel Winery, the general manager summed up the collaboration and cooperation as opposed to other industries:

But in the wine business, you call somebody, “Oh yeah, we do it this way. This is what you do,” and, “Here, why don’t you try this or that.” It’s so helpful; it’s so different than other industries. It’s neat that everybody works together for the common good. Even though you’re competitors, you still try to help each other. That’s what we’re trying to do here with the winegrowers is to help – everybody help each other to make us all better and that will make the whole valley better and bring more customers here; have more people discover us.

4.4.3 Network Stability

As noted previously, within networks consisting of agricultural-based businesses that have a long growing season, there is less attrition within a network due to the high investment factor and length of time before return on the investment. Additionally there is an assumption that small

business networks have a tighter relationship amongst other members due to the size and mutual support gains through the small business network. In the case of the Temecula Valley innovation network there is an assumed stability due to these two primary factors. There is however continued network growth as a number of wineries that are currently under development and/or planned.

4.5 Network Output

In the Temecula Valley innovation network, the network output was seen as individual firm performance and regional growth. The extent of the growth of the number of firms in the wine valley as well as the increase of the firm's output is impressive for a small business network. The potential for the region was expressly discussed with almost everyone included in this study.

The output and scope of services has steadily increased over time with the wineries present in Temecula. The owner of Sauvignon Blanc, explained some of the history, "It's not what I anticipated and yes I am surprised. The number of wineries – when we started, we opened our doors in 1980, there were three wineries here and there's somewhere between 30 and 40 wineries now. Most of them are small." The growth to date, as well as the continued and planned growth has been a positive result from the network coordination.

The owner of Champagne explained how they did not expect the volume of clientele when they first opened. We had a bar that was maybe 18' long and we thought that would be enough for the mid-week and we have a 6' section on either side and we open that up on the weekends and we thought that would be it because we're too far out. All of a sudden, it was two and three deep. We had to take away an area and it was still two and three deep. We had to open up the back room, it was two and three deep. We had to open up another bar, two and three deep. And it just kept growing and growing and growing." Regarding expansion and regional growth, one of co-owners of one of the newer wineries had this to say about the planned expansion, "I think it's smart and if

it's done right I think it's very viable. We have plenty of open land and area to expand that, you know, includes similar growing conditions in terms of the appellation.” The growth of individual wineries and the impact to the county's economic situation will continue to expand with the network cooperation it sees now.

5 DISCUSSION

The primary focus of this research has been to determine the characteristics of a successful small business innovation network, how firms and organizations interact within these networks and the business practices developed in these networks. Innovation network theory proved to be a useful lens to view the interaction of network participants, but the Framework of Orchestration in Innovation Networks, (Dhanaraj & Parkhe, 2006) had the limitation that a hub firm was the primary orchestrator of the network interactions. It was observed in this research that no hub firm was necessary for the successful functioning of the small business innovation network. The characteristics of an innovation network, specifically its network coordination and outputs are still important and applicable even in the absence of a hub firm. Therefore from the knowledge gained through field research of small business innovation networks, this research undertook the adaptation of the original theory. The result is an adapted model for small business innovation networks showing that a constellation of small firms and organizations acts as the center of the network coordination, and these firms are continuously engaged in emergent and deliberate strategies.

The Analysis and Results section mapped the outcomes of this qualitative research using the adapted model, which shows the similarities to the original innovation theory framework, as well as the elements where small business networks deviate from the original framework. The information that addressed the research questions was noted previously within the Analysis and

Results section, but the results will be revisited again in this section based on the research questions:

RQ1: How do firms and organizations interact within their small business innovation network?

RQ2: How are innovative business practices developed in a small businesses innovation network?

This research further highlighted two important areas that provided the underlying situational elements supporting the network context. In this research, the importance of the sense of place provided an even greater cohesion of the innovation network and further, the importance of effective regional planning was a positive element in the setting up an environment that allowed for the innovation network to function efficiently. Since the research highlighted an emergent wine region, there are also implications for the growth of wine regions.

5.1 Successful Environment for Interaction of Firms and Organizations in Small Business Innovation Networks

The results from this qualitative research aligns with previous research on innovation networks noting the importance of knowledge sharing, (Pekkarinen & Harmaakorpi, 2006) coordination of activities between primary and secondary firms and organizations in the network, (Edwards, et al., 2005; Pittaway & Cope, 2007) and the focus on the output of the network as a whole. (Lawson & Lorenz, 1999; Porter, 1998) It was seen that the environment, or ecosystem, of a successful small business innovation network can be mapped specifically to the network composition and the coordination elements of the model of the small business innovation networks (refer back to Figure 2). The network membership is comprised of small firms and organizations that work successfully together for mutual benefit, and although production sizes

vary, the fact that these businesses are all considered “small business” in the broader definitional context, is likely a further cohesive factor for the network. The Temecula Valley innovation network is relatively diverse in terms of longevity in business and competitive advantage. Due to this level of heterogeneity, there are stronger supportive firms and younger, emergent firms, but in this study there was a definite existence of a desire to work together for the benefit of all members of the network, and therefore a stronger likelihood of continued success. Research in other industries supports this position. (Bell, 2005; Huggins & Johnston, 2010) The density and autonomy of the network structure in the case of the Temecula Valley innovation network showed an autonomous network with a dense population of the network in close proximity. It is noted that agriculture-based industries tend to have a denser network due to the geographic limitations on the growing location. The differentiating elements of this research include the existence of a constellation of small businesses and organizations actively working together rather than a single hub firm orchestrating network dynamics; (Batterink, et al., 2010) the composition of the network of small and medium-size firms and organizations; and the coexistence of emergent and deliberate strategies as drivers for network coordination.

This research has shown that a successful innovation network has emerged in the Temecula Valley Wine Country. This innovation network has emerged naturally due to the collaborative efforts of the small businesses and organizations present, rather than a forced network established by external forces, such as large, powerful business conglomerates (Lange & Büttner, 2010) or government influence as happens frequently in Europe and other regions with strong government influence. (Gretzinger, et al., 2010; Morrison & Rabellotti, 2009) The network needs the interaction of the members of the innovation network as well as beneficial outputs that positively impacts all network members. The cohesive nature of the innovation network is driven by communication between network members, access to and dissemination of information, joint

support, identification of present and future opportunities, and tangible results or outputs from the network.

Within the Temecula Valley innovation network, there exist both primary and secondary firms and organizations working on concrete coordination efforts and processes to achieve mutually beneficial outputs of the network. The primary members include 35 wineries that are producing, marketing and selling the wine, the Temecula Valley Winegrowers Association, the Riverside County Government and the Temecula Valley Convention and Visitor's Bureau. The secondary members of the network include the Temecula Municipal Government, the Temecula Chamber of Commerce, winegrowers, vineyard managers and merchants in Old Town Temecula. As noted in the Analysis and Results section, these members interact effectively and provide support to other network members on various levels including joint marketing efforts, attraction of day visitors to the region, information sharing, and informal support. The organizations in the Temecula Valley act as the agents to disseminate information and coordinate activities. Membership dues support these activities, and many of the small business owners or managers sit on the boards of these organizations to further link the activities of this innovation network.

One interesting finding from this qualitative research was the presence of emergent strategies and deliberate strategies. In this case, the network composition is comprised of a constellation of small firms and organizations that focus on their individual firm success, but also understand the success of the entire network will benefit their firm as well, and therefore the members will pursue joint business initiatives as well as business practices that are similar to the other network members. Within this network, deliberate strategies are important as the network members pursue similar business practices that in aggregate show the network pursuing a collective business practice. An example of this is the practice of each winery selling virtually its entire production to day visitors and wine club members. This seems to the outside world as a collective practice

pursued by the network, when in fact it is each company pursuing a business practice independently. Emergent strategies including the natural growth of the network and expansion of the constellation providing diversity, openness to ideas from other members, and thus facilitation of the unique attributes for the innovation network. The deliberate and emergent strategies combined show the robust nature of the network that is constantly changing and adapting, but the core remains in pursuit of mutually beneficial outcomes for the network.

5.2 Innovative Business Practices of Small Businesses in Innovation Networks

The cohesion of a successful small business innovation network comes from the environment surrounding the network, as well as the cohesive interaction amongst the members. Once these two elements are in place, the network can focus on innovative business practices and joint initiatives that impact the entire network. In the case of the Temecula Valley innovation network, the network members pursue a number of interesting practices and initiatives. Wineries in other regions of the US, as well as other wine regions throughout the world pursue direct sales as a component of their overall strategy. However, the Temecula Valley innovation network is unique as the network members pursue a strategy in aggregate to sell the entire production of the region through direct sales channels, specifically through day visitors to the winery and through monthly or bi-monthly wine clubs. The business practices of the individual wineries include the operation of tasting rooms as the individual wineries, direct sales to day visitors to the wineries, special events and weddings at the wineries, and wine club sales. All of these activities, especially the concerts, weddings and special events, lead to the unique experience of the Temecula Valley that is the driving force for the customer. Each of these business practice areas are profit centers for the individual wineries, but also act as supporting areas for marketing and promotion of the primary focus of selling wine.

The advantageous location of the Temecula Valley Wine Country, notably the fact that there are 25 million people located within a two-hour driving radius of Temecula in the Los Angeles, San Diego and Inland Empire region of Southern California, provides the region a tangible customer base to attract the day visitors. The wine produced in the Temecula Valley is very high quality, and the wineries are fetching a very high price per bottle of wine, most wines costing from \$28 to \$45 per bottle. This is an extraordinary price point, especially due to the fact that almost 100% of the wine is sold directly from the winery. These combined factors and the opportunistic innovation practices of the wineries, has resulted in continued success of the innovation network.

Due to the cohesive nature of the Temecula Valley innovation network, the network also has launched joint initiatives for the attraction of visitors to the region, joint promotion and marketing of the region, education of the customer on the characteristics of fine wine and a focus on quality as well as the network working together to overcome challenges. These joint initiatives show the cohesive and successful nature of the network and the opportunities for continued success.

5.3 Underlying Network Context

The results of this research highlighted the importance of an underlying sense of place. The municipal and county planning when the municipality was established helped to establish the sense of place for Temecula. As the municipality and surrounding region grew, the growth was facilitated by government leaders who included the voice of the citizens in their planning efforts, to the extent of including students and retirees on planning committees for major development plans. The Temecula Convention and Visitor's Bureau, Chamber of Commerce and the Winegrower's Association all embrace the sense of place and expand upon this as they market the destination of Temecula as an experience. The Temecula experience is an expansion of the sense of place that exists within the Temecula Valley region that is pervasive with the residents, the business owners and the government officials. The experience is a cornerstone of the offerings of

the wineries in the Temecula Valley, including the events hosted by the wineries, the tasting room experience and the wine clubs. All these elements have an overall impact on the sense of place.

Foresightful regional planning is also a significant element providing a foundation for growth of the Temecula innovation network. The county planners helped restrict the land use within wine country, which protected contiguous vineyard use rather than allow for sporadic residential building in wine country and laid the foundation for additional growth and investment in wine country. These underlying factors throughout the growth of wine country have allowed for effective growth of a cohesive innovation network.

5.4 Implications for Research

Innovation networks have gained importance in academic research and their role in regional development has been an important topic over the past two decades. However, research has focused on innovation networks with a dominant hub firm, which as this research highlights, is not always the case. (Batterink, et al., 2010) This qualitative case study has looked exclusively at an innovation network comprised of small firms, and as a result has put forth an adapted model for small business innovation networks. The previous innovation network models and frameworks relied on a hub firm to orchestrate the interactions of the network, which did not exist in the case in the Temecula Valley innovation network. This qualitative research therefore adds to the body of knowledge through a) introducing the Adapted Model for Small Business Innovation Networks, b) by using the innovation network framework for small business networks as a lens to view the development of a network comprised primarily of small firms and organizations, and c) providing empirical data to define the dynamic interactions between the firms, organizations and other supportive network players. The empirical results from this research show the dynamic interactions of the small firms and organizations within the network and the innovative business practices and initiatives as a result of this dynamic interaction. The

research put forth the adapted model for small business innovation networks that is a guideline to assess innovation networks and guide future research. This adapted model will be more appropriate for academic researchers to use when assessing small business innovation networks, thereby allowing researchers to assess more fully the interactions of small business networks.

This research shows the robust interactions between small business network members, and clearly shows the role and importance of a constellation of small firms cooperating in the network composition through the collaboration of deliberate strategies. As Winch and Courtney (2007) noted in their research that little is known about the hub firms in innovation networks and how they are most effective within a network. As hub firms have yet to be the focus of primary research, perhaps one explanation is that there are more important elements to the internal functioning of innovation networks that make the network successful, regardless of the size or characteristics of the membership, rather than the role and strength, and indeed the existence, of a hub firm. Investigating the true motivation of the network members is one area for future research of innovation networks. Additional empirical research is needed to test the adapted model for small business innovation networks in other industries, other locations and also other networks comprised of diverse-sized firms that lack a strong hub firm.

As a majority of the research using innovation network theory has been European based regional development, this research allows for the expansion of use of the theory in a US-based context. There are definite similarities in the use of the theory in the US and the European contexts, with the major difference being the involvement and influence of the national government in the innovation networks in Europe.

This research also verified that geography is important in the learning and innovation process and thus confirms the research of Doloreaux (2004) and Maskell and Malmberg (1999). It was also observed that proximity of network members is important, supporting regional development

research (Julien, et al., 2004; Lorentzen, 2008; Porter, 2000). The use of the adapted model for small business innovation networks for the wine industry also provided insights into the network dynamics of the Temecula Wine Valley, illustrating the support and mutual cooperation of the network members. The results of this research are contrary in some ways to the work of Morrison and Rabellotti (2009), as their work shows that there are vast differences in the cooperation between small companies and larger prominent companies in a well-known wine-growing region in Italy. Overall, the increasing importance of the wine industry will attract additional research in this area, and the research on the Temecula Valley innovation network can be a useful empirical study for comparison and contrast to other wine regions in the US, Europe and other countries.

5.5 Contribution to Practice

As innovation networks impact regional development, empirical research, such as this case study, can be used by other regions and small business networks to illustrate the benefits of innovation networks, especially in the growth and development of small business networks. Small businesses are becoming more important as their role in economic and regional development becomes more apparent, especially as businesses and organizations form naturally attractive innovation networks where their impact can be amplified. The success of the innovation network of small businesses can be used as a model for the success of regional development in other rapidly developing areas. This research showed interaction within networks comprised of small firms and organizations, thus future research can compare and contrast this case study to innovation networks in other industries and other countries.

The business practices of the individual firms can be illustrative for other individual firms and how they can succeed within a network, rather than fear the competition of their neighboring firm. Additionally the joint business initiatives of the entire network can be representative of how collaboration can be a benefit for network membership. The underlying factors for success of the

Temecula Valley innovation network, namely the sense of place and the importance of regional planning efforts, were unforeseen results from this research and these insights can be put effectively into practice. The underlying sense of place can be an objective for regional planners and architects of new municipalities with the knowledge that creating the sense of belonging to a community and interaction between the government and the community can have innumerable positive results.

Most individuals and companies view government interaction with caution and oftentimes disdain. In the case of the development of the Temecula Valley Wine Country, it has been shown that effective regional planning has been a positive benefit to the region, the community and the county as an economic resource. The importance of effective planning in this case included the involvement of the local businesses, specifically in this case the wineries, as well as the plan to revisit the plan on a continuous basis as the growth and development progress. Setting restrictions and standards for vineyard development, residential home building, and restrictions on the minimal land requirements for the amenities at wineries has resulted in a viable innovation network. This example can be shown to both government bodies and business communities to show how the development can happen effectively with mutual cooperation and effective planning.

As this study focused on an emergent wine region, there are also a number of learning opportunities for the owners and managers of wineries in various regions throughout the world. Where allowed, other wine regions can introduce additional revenue streams in the form of events, tasting rooms, and wine clubs. (There are restrictions in Napa for events and tasting rooms, as well as other regions.) The study of other wine regions can verify the use of innovation network theory, and confirm that it is a viable theory to assess networks that have the attributes of

less attrition due to the nature of the industry, including long growth cycles, high level of investment, and length of time for return on investment.

6 CONCLUSION

Research on innovation networks has focused on networks where a hub firm orchestrates the interaction amongst the members and the output of the network. Networks of small businesses are pervasive throughout the United States and the world at large, thus their importance is increasing as their influence on regional development activity increases. This qualitative case study research focused exclusively on an innovation network comprised of small firms and organizations, showing the importance of the interaction of the small firms and organizations within a network and how the network is able to implement innovative business practices and initiatives through deliberate and emergent strategies. The Adapted Model of Small Business Innovation Networks presented in this research can provide a tool for researchers and practitioners to assess small business innovation networks.

The sense of place and the importance of regional planning are two areas that the research exposed as interesting elements of the foundation for the successful functioning of the Temecula innovation network, and are intriguing areas for future research in other regions. This research also contributed to the knowledge of wine regions and will support future comparison and contrast to other wine regions. It is presumed that innovation network theory for small businesses is in its infancy and will be a useful tool in future research on regional development.

7 REFERENCES

- Aarts, N., Woerkum, C., & Vermunt, B. (2007). Policy and planning in the dutch countryside: The role of regional innovation networks. *Journal of Environmental Planning and Management*, 50(6), 727.
- Alonso, A. D., & Northcote, J. (2010). The development of olive tourism in Western Australia: a case study of an emerging tourism industry. [Article]. *International Journal of Tourism Research*, 12(6), 696-708.
- Aylward, D., & Clements, M. (2008). Crafting a local-global nexus in the Australian wine industry. *Journal of Enterprising Communities*, 2(1), 73.
- Batterink, M., Wubben, E., Klerkx, L., & Omta, S. (2010). Orchestrating innovation networks: The case of innovation brokers in the agri-food sector. *Entrepreneurship and Regional Development*, 22(1), 47.
- Bell, G. G. (2005). CLUSTERS, NETWORKS, AND FIRM INNOVATIVENESS. [Article]. *Strategic Management Journal*, 26(3), 287-295.
- Busquets, J. (2010). Orchestrating Smart Business Network dynamics for innovation. [Article]. *European Journal of Information Systems*, 19(4), 481-493.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*.
- Clifton, N., Keast, R., Pickernell, D., & Senior, M. (2010). Network Structure, Knowledge Governance, and Firm Performance: Evidence from Innovation Networks and SMEs in the UK. [Article]. *Growth & Change*, 41(3), 337-373.
- Cooper, S., & Park, J. (2008). The Impact of 'Incubator' Organizations on Opportunity Recognition and Technology Innovation in New, Entrepreneurial High-technology Ventures. *International Small Business Journal*, 26(1), 27.
- Dal Fiore, F. (2007). Communities Versus Networks. *American Behavioral Scientist*, 50(7), 857-866.
- Dejardin, M., & Fritsch, M. (2011). Entrepreneurial dynamics and regional growth. *Small Business Economics*, 36(4), 377.
- Dhanaraj, C., & Parkhe, A. (2006). ORCHESTRATING INNOVATION NETWORKS. *Academy of Management. The Academy of Management Review*, 31(3), 659.
- Doloreux, D. (2004). Regional Networks of Small and Medium Sized Enterprises: Evidence from the Metropolitan Area of Ottawa in Canada. *European Planning Studies*, 12(2), 173.
- du Rand, G. E., Heath, E., & Alberts, N. (2003). The Role of Local and Regional Food in Destination Marketing: A South African Situation Analysis. [Article]. *Journal of Travel & Tourism Marketing*, 14(3/4), 97-112.
- Edwards, T., Delbridge, R., & Munday, M. (2005). Understanding innovation in small and medium-sized enterprises: a process manifest. *Technovation*, 25(10), 1119.
- Eisenhardt, K. M. (1990). *Basics of Qualitative Research Techniques and Procedures for Developing Grounded Theory* (Vol. 270): Sage.
- Ford, G., & Koutsky, T. (2005). BROADBAND AND ECONOMIC DEVELOPMENT: A MUNICIPAL CASE STUDY FROM FLORIDA. *Review of Urban & Regional Development Studies*, 17(3), 216.
- Giuliani, E., Morrison, A., Pietrobelli, C., & Rabellotti, R. (2010). Who are the researchers that are collaborating with industry? An analysis of the wine sectors in Chile, South Africa and Italy. [Article]. *Research Policy*, 39(6), 748-761.
- Goodhue R, G. R., Heien D, Martin P (2008). California wine industry evolving to compete in 21st century. *California Agriculture*, 62(1), 12-18.
- Gretzinger, S., Hinz, H., & Matiaske, W. (2010). *Cooperation in Innovation Networks: The Case of Danish and German SMEs***. Mering, Germany, Mering: Rainer Hampp Verlag.

- Hannu, L., & Hannu, N. (2010). The rapid growth of young firms during various stages of entrepreneurship. *Journal of Small Business and Enterprise Development*, 17(1), 8.
- Huggins, R., & Johnston, A. (2010). Knowledge flow and inter-firm networks: The influence of network resources, spatial proximity and firm size. [Article]. *Entrepreneurship & Regional Development*, 22(5), 457-484.
- Jones, O., Macpherson, A., & Thorpe, R. (2010). Learning in owner-managed small firms: Mediating artefacts and strategic space. [Article]. *Entrepreneurship & Regional Development*, 22(7/8), 649-673.
- Julien, P.-A., Andriambeloson, E., & Ramangalahy, C. (2004). Networks, weak signals and technological innovations among SMEs in the land-based transportation equipment sector. *Entrepreneurship and Regional Development*, 16(4), 251.
- Julien, P.-A., & Lachance, R. (2001). Dynamic regions and high-growth SMEs: Uncertainty, potential information and weak signal networks. *Human Systems Management*, 20(3), 237.
- Kumral, N., & Önder, A. Ö. (2009). Tourism, Regional Development and Public Policy: Introduction to the Special Issue. [Article]. *European Planning Studies*, 17(10), 1441-1443.
- Lange, B., & Büttner, K. (2010). Spatialization Patterns of Translocal Knowledge Networks: Conceptual Understandings and Empirical Evidences of Erlangen and Frankfurt/Oder. *European Planning Studies*, 18(6), 989.
- Larreina, M., & Aguado, R. (2008). Beyond the cluster: how wine drives regional economy to success. *International Journal of Wine Business Research*, 20(2), 153-153-170.
- Lawson, C., & Lorenz, E. (1999). Collective learning, tacit knowledge and regional innovative capacity. *Regional Studies*, 33(4), 305.
- Lazzeretti, L., Capone, F., & Cinti, T. (2010). The Regional Development Platform and “Related Variety”: Some Evidence from Art and Food in Tuscany. [Article]. *European Planning Studies*, 18(1), 27-45.
- Lechner, C., & Dowling, M. (2003). Firm networks: external relationships as sources for the growth and competitiveness of entrepreneurial firms. [Article]. *Entrepreneurship & Regional Development*, 15(1), 1.
- Lorentzen, A. (2008). Knowledge networks in local and global space. *Entrepreneurship and Regional Development*, 20(6), 533.
- Maskell, P., & Malmberg, A. (1999). Localised learning and industrial competitiveness. *Cambridge Journal of Economics*, 23(2), 167.
- Mika, W., & Risto, R. (2010). Learning and innovation in inter-organizational network collaboration. *The Journal of Business & Industrial Marketing*, 25(6), 435.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.): Sage Publications.
- Mintzberg, H. (1987). The Strategy Concept I: Five Ps for Strategy. *California Management Review*, 30(1), 11-11, 25.
- Morrison, A., & Rabellotti, R. (2009). Knowledge and Information Networks in an Italian Wine Cluster. [Article]. *European Planning Studies*, 17(7), 983-1006.
- Mulherin, R. S., John; Toscano, Nick; Ballmer, Gregory; Gispert, Carmen. (2006). Riverside County Glassy-Winged Sharpshooter Area-Wide Management Program In The Coachella And Temecula Valleys 2006 *Pierce's Disease Research Symposium*.
- Pekkarinen, S., & Harmaakorpi, V. (2006). Building regional innovation networks: The definition of an age business core process in a regional innovation system. *Regional Studies*, 40(4), 401.
- Pittaway, L., & Cope, J. (2007). Simulating Entrepreneurial Learning: Integrating Experiential and Collaborative Approaches to Learning. *Management Learning*, 38(2), 211-233.

- Porter, M. E. (1990). The Competitive Advantage of Nations. *Harvard Business Review*, 68(2), 73.
- Porter, M. E. (1998). Clusters and the new economics of competition. *Harvard Business Review*, 76(6), 77.
- Porter, M. E. (2000). Location, competition, and economic development: Local clusters in a global economy. *Economic Development Quarterly*, 14(1), 15.
- Schoonmaker, M., & Carayannis, E. (2010). Assessing the Value of Regional Innovation Networks. *Journal of the Knowledge Economy*, 1(1), 48.
- Sternberg, R. (2000). Innovation networks and regional development--evidence from the European Regional Innovation Survey (ERIS): Theoretical concepts, methodological approach, empirical basis. *European Planning Studies*, 8(4), 389.
- Tijssen, R. J. W. (1998). Quantitative assessment of large heterogeneous R&D networks: The case of process engineering in the Netherlands. *Research Policy*, 26(7,8), 792.
- van de Ven, A. H. (1986). CENTRAL PROBLEMS IN THE MANAGEMENT OF INNOVATION. [Article]. *Management Science*, 32(5), 590-607.
- Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on. *Administrative Science Quarterly*, 38(3), 357-357.
- Westerlund, M., & Rajala, R. (2010). Learning and innovation in inter-organizational network collaboration. *The Journal of Business & Industrial Marketing*, 25(6), 435.
- Winch, G. M., & Courtney, R. (2007). The Organization of Innovation Brokers: An International Review. *Technology Analysis & Strategic Management*, 19(6), 747.
- Wiskerke, J. S. C. (2009). On Places Lost and Places Regained: Reflections on the Alternative Food Geography and Sustainable Regional Development. [Article]. *International Planning Studies*, 14(4), 369-387.
- Yeh-Yun-Lin, C. (1998). Success factors of small- and medium-sized enterprises in Taiwan: An analysis of cases. *Journal of Small Business Management*, 36(4), 43-56.
- Yin, R. K. (2009). *Case study research: Design and methods*.