

**TRANSFORMATIONS
IN THE OKANAGAN WINE INDUSTRY**

- and -

**REFLECTIONS ON COMMUNICATION, DIFFUSION
OF INNOVATION AND SOCIAL CAPITAL
IN THE CASE OF THE OKANAGAN WINE CLUSTER**

by

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Bachelor of Arts, Simon Fraser University, 2002

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ABSTRACT

This essay discusses transformations in the Okanagan wine industry as a consequence of specific developments in technology and industry innovation. It also considers the role of NAFTA (North American Free Trade Agreement) and other economic initiatives as these impacted the British Columbian wine industry. The essay considers the roles played by industry associations, research groups, and academic institutions in setting the context in which various social, cultural, and economic changes affected the production and marketing of wine in the Okanagan valley.

DEDICATION

For Derek and Rollande who have given me all the tools I could hope for to reach this level of education. Your support with my early education provided me with a strong foundation that has contributed to the pages that follow. Thank you for being such wonderful parents.

Tim Padmore, I do not believe the depth of your mentorship can be articulated because it will only accumulate with time. You have taught me so much that will stay with me for the rest of my life. When colleagues and friends ask me about wine, I will forever think of you and all our research in the Okanagan. Your trust and confidence let me soar. Something worth raising our glass to...Cheers!

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EXTENDED ESSAY

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INTRODUCTION

“In vino veritas” is a proverb quoted by Plato, meaning in wine there is truth. By exploring the history of wine production in British Columbia it is the intention of this paper to reveal certain truths about where the industry has been, is and is going.

Wine Markets and Tastes

“The new-world approach is winning” said Gideon Ranchman in an Economist Survey on the world wine industry (Rachman, 1999). The success of the non-European wine industries led by the United States, South Africa, Chile, Australia and New Zealand has caused a flurry of attention and led to these types of comments. New World producers have made significant advances in their placement on the international wine producing market in a remarkably short time period. Successes of this sort are not entirely without precedent. The California wine industry made a mark on the global scale when Paris wine critics selected wines from California over French wines in the 1970s. In the late 1990s, European producers (France, Italy, Portugal and Spain) exported 13 per cent less than the decade before from 95 per cent down to 72 per cent. Simultaneously, New World producers have reached a 400 per cent export growth from Chile and 350 per cent from Australia in the 1990s. The Canadian wine industry is also a New World producer, and while it is not experiencing such

high levels of wine exports yet, it has been experiencing significant changes and growth in the last few decades.

Not only have European producers been exporting “fewer wines”, the local consumption in their countries has been falling significantly, while consumption of New World wines has increased. From the British Columbia Wine Institute Annual Report (1998-1999), it is clear that from 1980 to the mid-1990s France, Italy and Portugal have suffered a deep decrease in the per capita wine consumption. And Australia, Canada, New Zealand, South Africa and the United States show basically stable per capita consumption. While this may not be encouraging news for the New World wine producers, according to the BC Wine Institute Annual Report (1998-1999), there has been a trend towards increasing consumption of higher quality wines (as observed in America, Australia and France).

The history of the Okanagan wine industry demonstrates constant action towards producing higher quality wines. These actions are observed not only in wine making, but in quality standards, and in industry associations and structure. How the industry started such a short time ago, and where it is today is a fascinating story. This paper will explore that story by reviewing a variety of facets of the industry: the history of Okanagan wine making, the North American Free Trade Agreement, geography, people, education and institutions, wine sales, and

industry associations. Through this narrative, it will become clear how much this young industry has achieved and the endless possibilities in its future.

The research used in this paper was conducted under the Social Science and Humanities Research Council of Canada, under the umbrella of the Innovation Systems Research Network. The work was funded as a three-year collaborative research initiative to study the impact and importance of cluster-driven innovation in Canada. The first of its kind in Canada, this research studies how local networks of firms interact to spark economic growth. While previous studies have focused on individual regions, this project analyzes how the growth of clusters contributes to economic growth and development within a number of regions across Canada. This research includes more than 20 clusters¹ across the country in emerging knowledge-intensive areas (such as biomedical, wireless) and in traditional sectors (such as food and beverage, manufacturing, wood products). Within the food and beverage sector in this study, there are two wine making clusters, one in the Okanagan Valley in British Columbia and the other is in the Niagara Peninsula in Ontario.

The work on the Niagara peninsula focused on technical innovations and the regulatory environment in the Ontario wine industry (Mytelka & Goertzen, 2003a; Mytelka & Goertzen, 2003b). The British Columbia study used a different focus

¹ A cluster is defined as “a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities”. Bramwell, A., Nelles, J. & Wolfe, D. (2004)

and studied more networking and marketing issues. As a result of both studies being a part of the Innovation Systems Research Network, a common framework was used allowing for points of comparison.

The Innovation Systems Research Network developed an interview guide for different categories of interview participants: companies, civic associations, government, venture capitalists and research institutes. Where appropriate each interview guide consists of 7 key sections for discussion: background and history, research and innovation, networking and relationships, location and infrastructure, research institutes, cluster characteristics and future opportunities. The interview guide for companies was modified slightly for the Okanagan wine industry. A few key people in the industry were invited to be a part of a focus group in the summer of 2002. The most significant change to the interview guide, after the focus group, was the addition of a question that asked the participant to draw on a map of the linkages to contacts (such as other firms, infrastructure, suppliers and clients) that were very important to the firm (Question 11 in Appendix 1). Although the focus of the interview guide is on innovation, collaboratively the answers to each of these sections provide a general overview of how the industry functions, key networks and touches on the key challenges and opportunities.

HISTORY OF OKANAGAN WINE INDUSTRY

In 1859 a French Oblate priest, Father Charles Pandosy established a mission on one of the banks half way down the middle of Lake Okanagan. He wrote a letter soon after arriving in the Okanagan Valley which described the land as cultivable and immense. He believed he could start a vine plantation with the help of Fr. Blanchet, an Oblate in Oregon, who could send him some vine cuttings. Although the purpose of planting the vines was for sacramental wine, he has been named the father of the British Columbia wine industry (Schreiner, 2003).

Early winemaking in Canada was established with local varieties. Early settlers did try the European varieties, but were not as successful because these grapes could not stand up to the cold nor fight local plant diseases. Although the local Labrusca varieties were easier to grow, they lacked the quality flavour of the European grapes. (CBC: Canada's Wine Renaissance, broadcast Oct 1987)

Wine access in Canada has been restricted since Prohibition forcing winemaking to be a non-commercial activity due to governmental limitations. In 1921 Prohibition legislation was repealed resulting in the facilitation of wine production, especially for commercial purposes.

Calona Vineyards, located in Kelowna B.C., started making wine from Okanagan grapes in 1935. At this time commercial wine production used Labrusca grapes and the industry was focused on making dessert and fortified wines. According to the Canadian Vintners Association (Canadian Vintners Association): "Table wines made from these native-based grapes had a peculiar taste, often described as foxy which, to those more tolerant, tasted like boiled strawberries, and to the more critical, like a throat-catching pitch." When fortified into sherry or port-styled wines, the Canadian Vinters Association continues, the flavours were passable, the products were affordable and their purchase accessible.

In the 1960s the industry transitioned away from fortified wines and towards "Baby Duck Champagne" from hybrid grapes. Over time, the tastes of wine drinkers worldwide became more sophisticated. These drinkers favoured table wines that were less sweet and had a lower alcohol content. Tastes at this time shifted to more complex European styles of wines suitable for drinking with food and for aesthetic enjoyment.

Some Canadian winemakers began to change their focus away from local Labrusca grapes to European Vinifera² varieties because of a desire to produce better quality wines. In the 1980s, this desire became stronger with more serious

² Vinifera varieties include Chardonnay, Riesling, Sauvignon Blanc, Pinot Gris, Gewurztraminer, Pinot Noir, Cabemet Sauvignon, Merlot, Cabernet Franc.)
(BC Wine Industry Final Report January 2001)

free trade discussions in the works. Winemakers knew that with the implementation of free trade, they would lose their competitive advantage in the domestic market, and would have to compete on a new level at a globally competitive scale. Winemakers realized that to compete internationally they would have to make excellent quality wines (CBC: Canada's Wine Renaissance broadcast Oct 1987).

This transformation was occurring around the world, as some New World areas were growing *Vinifera* varieties, including California, Chile, and Australia. With some early commercial success, there was a push to support the industry in these regions. The New World areas launched public research centers which gave them an advantage over the recognized European industry. The research centers developed better technologies and increased access to finer grape varieties and disease-resistant clones.

The Mission Hill winery, now one of the grandest local wineries in the Okanagan, opened in 1966. One of the original investors of Mission Hill was R.P. Walrod who had previously founded the Sun-Rype apple processing firm. It was his aspiration to open a winery in the style of Napa Valley, California. Unfortunately he suffered a fatal heart attack before the winery was completed. With this loss, the winery went through some difficulties getting off the ground until Walrod's vision had been realized and extravagantly surpassed by Anthony von Mandl. Mission Hill has been owned by von Mandl since 1981. The winery

was located with a luxurious view which von Mandl used to his full advantage when he rebuilt the winery. In addition to cellars dug into the mountain, there is an open-air restaurant, and an amphitheatre for concerts to look out over the valley and the lake. Mission Hill attracts more than 150,000 visitors to this spectacular location each year. Mission Hill is considered one of the giant successes of the Okanagan wine industry evident from its large investment in a spectacular hilltop winery with a 12-storey bell tower, graceful arcades and vast cellar. The total investment is rumoured to be \$50 million (Schreiner, 2003, pg. 92-93).

In the 1970s in Ontario and British Columbia, it was the foresight of a few businessmen who were able to persuade their governments to welcome smaller more creative players into the industry. In Ontario, Donald Ziraldo and Karl Kaiser convinced the Liquor Control Board of Ontario to give them a licence to produce and sell wine. This licence ended a moratorium of over forty years on new wine producing licences in Ontario. In British Columbia, Harry McWatters and others persuaded the provincial Liquor Licensing Branch to establish a new category of Estate Winery. This category required a minimum 20-acre vineyard investment with a ceiling on production, but guaranteed a place on the government liquor stores with favourable pricing. McWatters bought one vineyard and planted another with *Vinifera* grapes. The Okanagan Valley soon found itself with four Estate Wineries and a significant portion of the vineyards were planted with *Vinifera* grapes.

These leaders in the industry established a new tier of winery demonstrating their faith in the future of the industry. Keeping in mind that Canadian wine had not seen tremendous success at home or anywhere in the world, it was a difficult time to be proclaiming the quality of Okanagan wines. There was little to show for this belief without many wine awards or much demand for Canadian wine. Dating back to Father Charles Pandosy to Harry McWatters and Anthony von Mandl, the industry had been developed by individuals creating their own path towards a sustainable winemaking future.

The next significant milestone in the Okanagan wine industry was the North American Free Trade Agreement in 1988 which changed the world for the Canadian industry.

North American Free Trade Agreement – Pull-out Program

The most significant change in the wine industry, one that is often talked about today, was the 100 per cent replanting to replace vines in a short period before and after 1990.

Formerly, British Columbian wines were well priced with mark ups of only 50 per cent compared to 110 per cent for imported wine (BC Wine Industry Final Report January 2001). With the North American Free Trade Agreement (NAFTA), the Canadian wine industry lost its price advantage: preferential retail

markups were phased out over 10 years. Price competition pushed the industry to lower costs and increase quality. The federal government helped the industry by giving one-time cash grants to adjust to NAFTA. The industry chose to spend the money on pulling out old vines. It was unclear whether B.C. could make good wine, but many believed it was possible. The leaders rallied a consensus and the industry committed its future to Vinifera grapes in B.C.

Ontario faced the same adjustment but chose a different path. Ontario spent less money on pulling out old vines and more on rebuilding plant and equipment, probably because Ontario had a strong grape marketing board, the result of tensions between winemakers and grape growers (Mytelka & Goertzen 2003a; Mytelka & Goertzen 2003b). In British Columbia, unlike Ontario, there was almost 100 per cent switch to new varieties in a few short years, and an already weak marketing board collapsed.

The B.C. Grape Marketing Board which had previously negotiated a “reference price” to freeze the price of grapes lost its power with the onset of the North American Free Trade Agreement. The grape reference price was eliminated as of 1995. Growers in B.C. now have the ability to negotiate prices directly with the wineries (BC Wine Industry Final Report January 2001).

The 1990s brought furious investment to the wine industry in British Columbia. Land prices were soaring. Initially with the pull out program, the

vineyard acreage decreased, but it consistently grew and has now surpassed the original area. The pre-vinifera plantings totaled almost 4,000 acres in the Okanagan and after the re-planting there was an excess of 5,000 acres, with a speculation that there will be 7,000 to 8,000 acres. With the increased acreage and rising popularity, some of the best properties in British Columbia were bought by eastern Canadian and international companies towards the end of the 1990s.

GEOGRAPHY OF OKANAGAN VALLEY

For the purposes of analysis this essay focuses on the wineries in the Okanagan Valley which is defined here as stretching between Winfield, a community 30 km north of Kelowna, to Osoyoos, which borders on the USA. This is not to say that the only B.C. wineries are to be found in this region. Indeed, there are over 100 wineries in the province with close to two dozen wineries on Vancouver Island and in the Lower Fraser Valley. There are links between the Island, Fraser Valley and the Okanagan but Vancouver Island and the Fraser Valley wineries are not strongly connected with the Okanagan (Schreiner, 2003). Some of the owners and workers once lived in the Okanagan and learned some of their skill in there. Furthermore, many of the Island and Fraser Valley wineries buy grapes from the Okanagan. Beyond these factors, connections between the regions as they relate to wine production are not particularly strong.

Moreover, focusing exclusively on this one region makes sense given that the Okanagan Valley is clearly distinguished from other geographical areas in B.C. by its climate and geography. An outsider can learn very quickly that the land characteristics are vital for the wine industry. "All my homework tells me if you haven't got good grapes, you can't make good wine," said Barry Tunzelmann (Schreiner, 2003, pg. 66). Some geographical features that have made the

Okanagan wine industry what it is today are an arid climate, warm weather, large lakes, soils, bench-lands above the lake and scenic vistas. Each of these has its own benefit for grape cultivation. For example, the dryness reduces the chance of diseases, the bench-lands allow the cold air to drain which extends the growing season, and the scenic views attract customers to visit the area. And each pocket of the Okanagan Valley has its own combination suitable for different varieties of grapes. The Southern end of the Valley has experienced a recent increase in vineyards. It is most notable for having a good terroir³ for red wines. "For the most part, this is red wine country." (Schreiner, 2003, pg. 176). Sheridan, a vineyard professional from Australia, describes the Osoyoos Lake Bench characteristics: the vineyards slope southwards towards the lake which wards off frost in the spring and fall. With tailored irrigation, the sand soil produces a small but full-flavoured grape. "It has a marked effect on red wines," Sheridan says (Schreiner, 2003, pg. 176).

However, some geographical characteristics of the Okanagan Valley hinder the growth of grapes such as cold winters and early frosts destroying vineyards. Occasionally, if the conditions are right, these cold winters can produce quality grapes for ice wine. Unfortunately, wine makers can not always turn cold winters into a positive outcome which can be a costly effect of cold weather.

³ "Terroir: Borrowed from the French, this term encompasses the entire environment – soil, climate, aspect – that makes a vineyard special." (Schreiner, 2003)

PEOPLE IN THE OKANAGAN WINE INDUSTRY

This paper will describe the make-up of people, where they are from and the diversity of backgrounds and skills they have. This demonstrates that the wine industry is filled with a mixture of people, but that all these people are connected by their ties to the wine industry. Each individual's background is different but they all had to go through the process of learning their trade. There are two typical ways to acquire such knowledge, through formal education and informal training, both of which will be explored later in this paper.

The Okanagan has seen an influx of people entering the wine business since the late 1980s. Today, approximately two decades later, people from across the country and all over the world can be found in the Okanagan Valley. Based on the interviews conducted for the research, that underlies this essay their reasons for coming are varied. Some wanted to try a new challenge and came looking to buy a vineyard or establish one. George Heiss and his wife were talented hairdressers in Edmonton with clients who booked three months in advance. "I'd seen too many old hairdressers," George Heiss describes his jump to the wine making business, "and I didn't want to be one of them" (Schreiner, 2003 pg. 85).

Others had more romantic notions and wanted to get away from the busy city-life and decided to move to a gentler environment. There are some families or individuals who came to the Okanagan early enough that it was a more affordable way of life for them. Josef and Margrit Zuppiger and their winemaking son Manuel came to Canada in 1986 from Switzerland. "We were just born framers," says Josef Zuppiger. "Here in Canada we could afford a large farm" (Schreiner, 2003 pg. 86).

Others lived in the Okanagan or had family who lived there, inherited Okanagan property and decided to start a winery. Elephant Island winery in Naramata was originally purchased in the early 1970s as property investment by Paul Wisnicki and his wife Catherine. In 2001, Elephant Island fruit winery was opened by Miranda, grand-daughter of Paul and Catherine, with her husband Del.

The frequency of kin relations within the Okanagan wine industry is remarkable. There are a total of sixty wineries in the Okanagan and forty of those are run by families. Many wineries were established in the last 15 years by husbands and wives. Of those sixty wineries, twenty have children involved in the running of the business (derived from information published by Schreiner, 2003).

With such a diverse group of people comprising the wine industry, their backgrounds and skills are just as varied. Some did come from a family winery

and vineyard, or they were trained to be in agriculture. Some were entrepreneurs in a variety of industries such as real estate, cars, hairdressing, software, and hospitality. Others were experienced in the trades, such as sawmilling, construction, and cuisine. Despite the mixture of backgrounds, there are three traits required of everyone who wants to survive in the wine industry: monetary capital, hard work and industry knowledge.

The first two traits are self-explanatory but are extremely important. Everyone in the wine industry is candid about how much work is involved to keep a winery in operation. Some acknowledge their romantic ideas of starting a winery but admit this fantasy is quickly dissipated when reality hits. Starting a winery requires a heavy financial commitment upfront long before there is any return on investment. "If you don't have lots of money and want to get into the wine business, you have to be prepared for 14 to 16 hour days of hard slugging," said Russ Niles. "Man, you work your guts out at this!" (Schreiner, 2003 pg. 66). Generally, the way many of the wineries began, involved planting the vines and cultivating the grapes for approximately four years so they can mature. Then a couple more years pass through experimentation with the grapes and learning how to make drinkable wines from these grapes. During this time, all the required equipment must be purchased for the vineyard and the winemaking process, which can be very costly. For example, one barrel which can hold 225-230 litres on average, can cost in excess of \$2000 (The Uncorked Cellar). An average wine bottle holds 750mL which means one barrel holds approximately 300

bottles of wine. Those hard-working and lucky individuals, after approximately 6 years, are ready to make wines commercially.

Furthermore, there is hard manual labour involved in cultivating grapes and making wine. If a winery is starting from ground zero, the vines have to be planted, watered and protected from animals or diseases. Many of those who work in the vineyard also take on their own research on their vines. This entails a lot of trial by error including testing new ways to prune, new fertilizers to use, and new hedging techniques. All of these tasks sound straightforward, but it usually never is. When fermenting wine, a winemaker must take meticulous notes of every action, including when the wine was put in the barrels, when yeast was added, and what kind of barrel was used (oak or otherwise). Plus, it requires diligent monitoring for analysis of the wine through its fermenting stages. In addition to manual labour, there are the organizational and administrative tasks that can be very demanding in the business of wine making. Like any other business, there are key duties that need to be fulfilled: customer relations, communication products for the customers, accounting, supplier interaction. Many wineries find it beneficial to be associated with some of the industry associations such as the British Columbia Wine Institute or the Grape Growers Association. Many individuals devote some of their time to volunteer for these groups for the betterment of the industry, despite their already heavy time commitment to their business.

Aside from the hard work and the financial commitment to get into the winemaking business, an important prerequisite involves cultivating skills of viticulture and oenology which is discussed further in the next section.

EDUCATION AND ACADEMIC INSTITUTIONS

Winemaking is very knowledge-intensive. Throughout the history of winemaking, the most important type of knowledge is of the “terroir”, the local conditions of the climate, soil, and slope and how these interact with other variables in winemaking. Beat and Prudence Mahrer emigrated from Switzerland and opened Red Rooster winery in Naramata. “On the Naramata Bench, you are on the right side of the valley,” Prudence Mahrer said. “By growing on the slope, we are catching 60 per cent more sunlight than on level ground. We didn’t know this when we started. We talked to everyone who knew something about grapes” (Schreiner, 2003 pg. 126). Those who came to the Okanagan with knowledge in viticulture or oenology, still had to learn the terroir of their vineyard to make a desirable wine.

There are two methods by which people can learn about terroir, viticulture and oenology: formalized training and hands-on training. Formalized training is available at schools around the world, including some of the renowned institutions such as University of California at Davis. In Ontario, Brock University offers a Bachelor of Science degree at the Cool Climate Oenology and Viticulture Institute. The Okanagan University College in British Columbia, with the main campus in Kelowna, offers technical training for winery and vineyard workers, but

it does not have an oenology program. However, when asked about requirements for hiring, most winemakers indicate that hands-on training is the most important, thus stressing the most essential type of learning is informal and terroir-specific. Some hands-on training occurs by way of research in the vineyard. Some grape growers try different techniques in different pockets of land to see what will happen, which seems to be a regular occurrence in the industry. Research, training and technology can create new ways to exploit the terroir and can speed up the learning process. However, when compared to long-established wine regions that have a stock of terroir knowledge, the Okanagan winemakers must painstakingly acquire knowledge over time.

Okanagan University College

Okanagan University College offers technical training for winery and vineyard workers, but it does not have an oenology program. The Penticton Okanagan University College has developed three certificate courses: viticulture, winery assistant and wine sales.

The Winery Assistant Certificate is designed for individuals wanting to work in any entry level position within the wine industry. It includes courses on grapes and wine, introduction to wine making, cellar management, quality control and public work experience. There is also a mandatory work experience component.

The Wine Sales Certificate gives students an introduction to grape growing and winemaking, an overview of legal regulations and standards, identification of marketing strategies and knowledge of wine shop management.

The Viticulture Certificate is designed to equip students with the skills and knowledge to manage a vineyard or find employment in viticulture. Some of the courses include introduction to grapes and wine, grape growing, vineyard management, operation, management and safety of vineyard equipment. (Okanagan University College) Several of the interview participants indicated that they hired program graduates because Okanagan University College is an important source of entry-level technician training.

There is one research scientist at the Okanagan University College – Kelowna campus in the chemistry department who studies aroma precursors which helps growers know when grapes have reached an optimal stage of growth for flavour maximization. In February 2004 the Okanagan University College received federal funding to purchase a Nuclear Magnetic Resonance spectrometer to help the regional wine industry increase research capabilities, improve grape production, and enhance the quality of wines produced.

University of British Columbia Wine Research Centre

The University of British Columbia has a Wine Research Centre in Vancouver headed by an internationally respected researcher. However, the centre at U.B.C. is hundreds of kilometres away and does not train winemakers.

The mandate of the Wine Research Centre is to research oenology and viticulture and develop scientific expertise to promote the technological advancement of the wine industry in Canada.

The facilities, consisting of molecular biology laboratories and a mass spectrometry laboratory, position the centre to significantly contribute to the research on chemistry of wine. Some of this research includes functional genomics which is the study of gene expression patterns in wine yeasts during vinification.

In September 2002, the Wine Research Centre opened the B.C. Chapter of the Canadian Wine Library. The library can hold 22,000 bottles which are kept under temperature and humidity-controlled conditions. Wines are tasted annually over a period of 24 years for chemical analysis and researchers provide feedback to wineries to assess the ability of B.C. wines to age well.

In March 2004, the provincial government announced that the Okanagan University College campus would become a satellite campus of the University of British Columbia. This could lead to a more substantial research presence in the Okanagan and may lead to a viticulture and oenology program.

Brock University

Brock University offered the first research centre in the world dedicated to making wines and growing grapes in cool climates. The Cool Climate Oenology and Viticulture Institute, established in 1997, offers a Bachelors of Science degree and has a two-year certificate program for returning professionals. The facilities consist of a biotechnology lab, sensory evaluation facilities, viticulture lab, pilot winery and a 43,000 bottle wine cellar including the collection of the Canadian Wine Library. This program is much more popular for those wishing to work in Ontario (Mytelka & Goertzen 2003a; Mytelka & Goertzen 2003b).

WINE MARKETS

Currently, there are several methods of distributing wine and the industry is well adapted to the regime. The Liquor Distribution Branch is the main channel of distribution for wineries in B.C. The most appealing form of sales is direct retail at the winery. Sales outside the province have practical barriers for many of the wineries. Despite some challenges selling to other provinces, some wine is sold in Alberta and Ontario. British Columbia and Canadian wines have some sales outside the country, however this is still an untapped market.

We take “domestic markets” to mean markets within British Columbia. British Columbia wineries make VQA wine, which is 100 per cent British Columbia grapes. They make other wines that may include a portion, which can range from zero to 100 per cent of grapes, juice or wine imported from outside the province. These wines are also regarded as B.C. products – published in statistics distributed by the industry. The balance of the market is made up of imported bottled wine.

Today, there are a half dozen distinct channels for distributing wine: retail sales at the winery, sales from industry-operated wine stores, sales from stores associated with pubs or hotels, sales from several types of government liquor

store, and sales to restaurants and other businesses that serve liquor by the glass. The industry is well adapted to the existing regime, but many interview participants remarked on the complexity and cost of compliance.

The most appealing form of sale is direct retail at the winery. This outlet is important because it allows for maximum unit profit and wineries have control of shelf space and promotional strategies. An industry survey (KPMG, 2001) reports retail sales at wineries in 2000 at \$22 million of which an exceptional \$6 million was at the smallest wineries. For small wineries, most of whom struggle for profitability and are regionally focused, these sales remain the most lucrative (BC Wine Industry Final Report KPMG, 2001, pg. 38).

Ice wine production around the globe is limited to below zero weather conditions making it easy for the world to see the link between Canada and ice wine, even if some have no idea how ice wine is really made. For the best quality of ice wine, temperatures of minus 10 make premium ice wine. In 1995, Canada produced \$6 million dollars of ice wine which would sell for \$30 to \$50 for a half bottle of wine in Canada, and could sell for up to \$200 internationally because it is such a rare product.

Direct retail in the Okanagan region

Direct retail is important, and for some small wineries it is the only type of retail they would entertain. Wineries make their best margins selling direct to the

public at the winery. They also have complete control of shelf space and other product decisions such as tasting sequences.

According to an industry survey (KPMG 2001) retail sales at wineries totalled \$22 million in 2000, of which \$6 million was at the smallest wineries. The \$22 million was almost half of total VQA sales in the province that year. Penetration of the regional market is not particularly high, as consumer tastes still favour beer. The main urban centre in the Okanagan is Kelowna, population 148,000. The B.C. Liquor Distribution Branch Annual Report (2002-2003) illustrates the distribution of sales at liquor stores in Kelowna compared with the main provincial liquor store in Vancouver. The Kelowna consumption of all types of wine is half that the Vancouver flagship store, and similar to the 10 to 15 per cent typical of small-town liquor stores elsewhere in the province.

However, based on personal experience of the researchers, incidental to this study suggests that VQA penetration of the wine lists of upscale restaurants in the Okanagan is quite high, and clearly higher than in Vancouver. There appears to be a stronger focus towards demonstrating an international face in the city of Vancouver. It seems that the "demanding customers" esteemed by Michael Porter (Porter 1990) are being created, even if they do not currently exist in large numbers.

The rest of British Columbia

In British Columbia, the Liquor Distribution Branch (LDB) is the main channel responsible for distributing, importing and retailing beverage alcohol. The Liquor Distribution Branch also authorizes the operation of private sector retail outlets. In September 2003, British Columbia had 767 private retail outlets, 234 rural agency stores and 12 independent wine stores (B.C. Liquor Stores).

Although the Liquor Distribution Branch is the largest and dominant outlet for wine sales in B.C., it is the least profitable for the industry. The advantage of the Liquor Distribution Branch is the guaranteed and widespread distribution. For the wineries, it is one point of contact for immediate circulation around the province. The Liquor Distribution Branch stores give disproportionate shelf space and good placement to British Columbia wines but provide very little shelf space to Ontario wines, relative to their share of the Canadian market. Transportation and transaction costs are higher for all imported wine. The signing of the North American Free Trade Agreement in 1988 was around the same time as a ruling under the General Agreement on Tariffs and Trade (GATT). This latter agreement extended “national treatment” of listings and distribution to the European Union and other countries. National treatment includes providing access for imported products under the same terms as those provided for inter-provincial trade of wine products. Currently, the government’s strategy for the distribution and retailing of beverage alcohol is under review (Agriculture Canada).

After the Liquor Distribution Branch, the major mode of distribution is sales to licensee establishments such as restaurants and hotels. Restaurant wine lists invariably include British Columbia wines, at relatively attractive price points, and some lists specialize in the domestic product as a conscious marketing tactic.

The potential domestic market is very large. Australia has a 97 per cent share of its own market and the U.S. has 86 per cent (KPMG 2001). The strategy of most Okanagan producers, to improve penetration of the domestic market, seems well-founded. One industry observer said that by 2010 there will be enough supply to serve 40 per cent of the British Columbia market with wine made from 100 per cent BC grapes, but that will only happen if consumers can be persuaded to pay a premium for the home product. The pressure will be greatest on wineries with large outputs. Many small wineries with niche products and a loyal clientele sell out early each year and, with careful marketing, they should continue to do so.

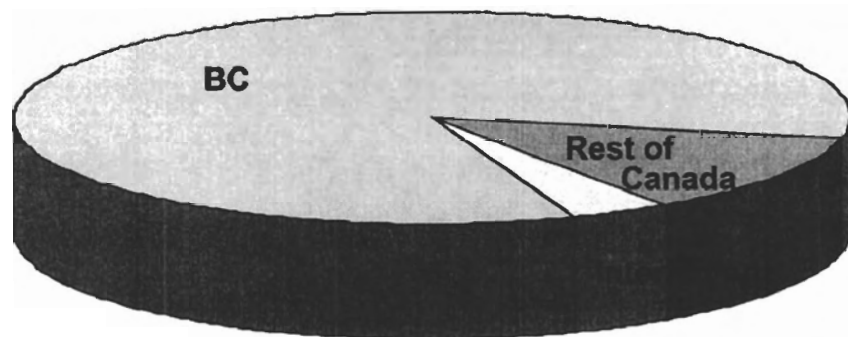
In 2001-2002, VQA wines had sales of \$70 million, 14 per cent of the British Columbia market, up from 10 per cent the year before and zero per cent at the beginning of the decade. Imported bottled wine had about 50 per cent of the market, a share that has been declining by about 1 percentage point a year. (BCWI 2002).

Markets beyond British Columbia

One winemaker said "It's been a honeymoon here to not have to look beyond the B.C. market at the world market." Outside British Columbia, there are

many barriers to access and the rest of the World starts with the rest of Canada. Non-VQA Okanagan wine appears in products sold throughout Canada, often blended with imported wine. However, the Canadian market has hardly been penetrated by the higher quality VQA wine. In 2001-02, VQA sales to the rest of Canada were 440,000 litres in about 12 per cent of VQA production (BCWI 2002) amounting to less than 1 per cent of consumption in the rest of Canada. Some wineries, however, have experienced some success in marketing to other provinces. One winery said 20 to 50 per cent of their product goes to Alberta; another medium-sized winery had begun targeting the central Canada market and said Ontario sales will soon exceed Alberta sales. In principle, there are no institutional barriers, as the provinces have subscribed to an inter-provincial free trade agreement. But there are practical ones: trusted contacts need to be developed, customer recognition cultivated, and political foot-dragging countered.

FIGURE 1: Destination of British Columbia VQA wine sales, by volume



Worldwide Markets

On a global scale, about 4 per cent of VQA sales are exported outside of Canada. The majority of this export is icewine. Canada has been successful in promoting its ice wine to the world, but it has been difficult to compete with the table wine market, despite its achievements in international competitions. Ice wine production began in Canada in the mid-1980s and helped boost Canada's reputation as a wine producing country. In 1991 a Canadian ice wine beat over 4,000 competitors to win the Grand Prix D'Honneur at VinExpo in Bordeaux, France. After this great success, the world started taking a serious look at Canada (CBC: Canada's Wine Renaissance).

It is commonly said that the best Okanagan wine is world class, and the results of international competitions support the idea. In 2003, Domain Combret Estate Winery emerged a winner of 9 gold, silver and bronze awards at the prestigious international wine competition in Atlanta (Domain Combret Winery). Sandhill won a silver award at the San Francisco Wine Competition for their 2002 Cabernet Franc, and a Gold Award for their 2002 Chardonnay (Sandhill Winery). Mt. Boucherie winery won a silver medal for their 2001 Estate Collection Gewurztraminer at the Calgary international Winefest.

However, only 4 per cent of VQA production is exported outside of Canada. Canada has been successful in promoting the ice-wine franchise worldwide (BCWI 2002) which has probably been facilitated by the ease with

which foreigners associate 'Canada' and 'ice'. Success has been harder to achieve in the table-wine market. Many international buyers judge that the quality available is not worth the price, and that it is difficult to promote unknown Canadian wines. Some things that increase costs in the Okanagan include: high land costs, lack of domestic equipment suppliers, and relatively high wages. However, these factors apply equally in California, which exports successfully. Experience and recognition probably count for more. Patience and innovative market development will be required in order to break this barrier and expand sales internationally. There are negotiations underway with the government and industry representatives to establish a national wine standards program to help the marketing of Canadian wines at an international level (Ministry of Agriculture, Food and Fisheries December 8, 2004).

INDUSTRY ASSOCIATIONS, RESEARCH & ACADEMIC INSTITUTES

In this section, a brief description of the key associations explains how the industry is structured and what types of organizations are valued by the industry. It is unfortunately impossible to talk about all associations in the Okanagan, therefore there is a focus on those that were most commonly raised in interviews and seem to hold the greatest value for the industry. These associations include the B.C. Wine Institute, Vintners Quality Alliance, Wine Festival Society, and Pacific Agri-Food Research Centre. Each of these institutions has different things to offer the wine industry which I describe briefly.

British Columbia Wine Institute

The British Columbia Wine Institute was established in 1990 by an act of the provincial legislature. It resulted from the collaboration of the industry and government to work towards an internationally competitive wine industry. This collaboration included the removal of Labrusca and hybrid grapes and replanting of Vinifera in B.C. vineyards (BC Wine Institute).

The B.C. Wine Institute has two primary functions critical to the industry: marketing and research. Its mission is to promote the interests of the British

Columbia grape and wine industry, which is fulfilled by its mandate including: setting and administering standards for 100 per cent B.C. wine; promoting the production and marketing of 100 per cent B.C. grapes and wines in domestic and other markets; serving as primary information source on industry issues for members, government and the public; being the voice of the B.C. wine and grape industry; developing and improving viticultural and oenological practices; and providing a forum for discussion and debate of industry issues (B.C. Wine Institute Industry Handbook, August 2002).

Members of the Institute pay a levy so they have a direct interest in the programs and research projects supported by the Institute. Other services are provided on a fee-per-use basis. Some of the benefits for joining the institute include: exclusive access to 12 VQA wine stores across B.C., marketing, VQA paneling of wines, priority setting, participation in lobbying the government, and learning opportunities. While there is a lot the B.C. Wine Institute does for the industry, there are some shortcomings. The mandate dictates the institute represent the entire industry, however not all wineries are members. Also, the institute lacks enforcement power to safeguard the industry.

Vintner's Quality Alliance (VQA)

Shortly after the creation of the B.C. Wine Institute in 1990, a program known as the Vintners Quality Alliance (VQA) was implemented. This program became the cornerstone of the wine certification and marketing strategy for the B.C. Wine Institute. The VQA label on wine bottles certifies that wine categories,

quality standards and labelling regulations are followed. For example, wines with the designation “product of British Columbia” must contain 100 per cent B.C. grown grapes. Each wine with a VQA label undergoes a wine-tasting panel for final approval. This panel is comprised of experts who do blind tastings of the wines submitted by individual wineries. The measurement is qualitative, but there are continued efforts to improve consistency and eliminate bias. Participation in VQA has been voluntary and open to all grape producers and wine processors in the province. However on December 8, 2004 the provincial government announced a plan to implement a new wine quality standards program for B.C. wines. This program is expected to be similar to the VQA except that it would be run by the government by a soon-to-be established B.C. Wine Authority. Plans to implement this new wine quality standards program are scheduled for March 2005 (Ministry of Agriculture, Food and Fisheries December 8, 2004).

The onset of the VQA and the flurry of investment in the B.C. wine industry in the 1990s was paralleled by an increase in the number of commercial wineries and the beginning of consumer recognition of the VQA medallion. British Columbia was starting to prove its winemaking abilities, a trend that would continue steadily. In 1990/91 sales of VQA wine in B.C. was at 600,000 litres, and in 2000/01 the sales grew to over 2.8 million litres (<http://bcwine.ca/vqa/>).

There is no doubt that consumers have more confidence in the wine labeled with VQA certification. However, there has been some controversy within

the industry whether the VQA should do more (or less), prior to the recent establishment of mandatory VQA. At the beginning of the VQA program, only a minority of wine produced in Canada was VQA-labelled. Since then, the popularity of the VQA label has grown rapidly and consistently. Of all wine produced from B.C. grapes, approximately half was VQA wine until 2004. VQA wine production was about a quarter of production of all "B.C. wine"⁴ which counted the import-component of blended wines (KPMG, 2001), and VQA sales were about 15 per cent of provincial wine sales, which counted imported bottled wine (BCWI, 2002).⁵

Without a federally regulated appellation system, it is difficult for Canadian wines to develop a credible image internationally. It has allowed producers to misrepresent their products. In Asia, fraudulent Canadian "ice wine" products have been sold (BC Wine Industry Final Report January KPMG, 2001). In Taiwan, labels with a red and white Maple Leaf flag on thin bottles look like genuine Canadian ice wine to unsuspecting consumers. These bottles, sold for far less than the real stuff, has left Canadian ice wine makers competition with pale imitations of themselves (Walter, 2004). However, negotiations are underway with the government and industry representatives to establish a national wine standards program to help the marketing of Canadian wines at an

⁴ A large but undocumented portion of non-VQA wine produced from BC grapes is blended with imported wine to make what the British Columbia Liquor Distribution Branch classifies as "other BC wine". (Padmore & Hickton, 2004)

⁵ Sales and production are not the same as some wine is held for aging. In an environment of increasing output, production will run ahead of sales.

international level (Ministry of Agriculture, Food and Fisheries December 8, 2004).

Okanagan Wine Festival Society

In 1980 a group of wineries and tourism operators saw an opportunity to expand the draw of wineries by attracting tourists to the Okanagan region. They came up with the idea of creating an annual festival to develop tourism around the wineries. Originally, the intended tourism was for local Okanagan residents to develop their knowledge of the local wineries and celebrate the harvest of grapes with food and wine events. The wine festivals include a variety of wine events across the Okanagan Valley, either at wineries or hotels. Some of these events involve pairing wine and cheese, or a sit-down dinner with featured wines.

As the wine industry grew, so did the festival. There are now over 100 events during the ten day fall festival. Tourists come to the festival from all over B.C. and the Pacific Northwest, and recently from around the world.

In 1995, the Wine Festival Society started the first Spring Wine Festival to start a new wine season, drawing people to the area at the beginning of the season and at the end to maximize the potential of wine tourism. The Okanagan Wine Festival had been developing its status as a leading event and in 1996 the American Bus Association ranked the Okanagan festivals among the "Top 100 Events in North America". In 2002, a Summer Wine Festival was established. Working throughout the year, the Okanagan Wine Festival Society is attracting

visitors and residents to come and stay in the Okanagan Valley while promoting B.C. wine.

Pacific Agri-Food Research Centre

The Pacific Agri-Food Research Centre is located in Summerland, in the middle of the Okanagan Valley. The Centre focused on tree-fruit research until 1974 when new facilities were needed. In the mid 1980s modern buildings were constructed and included state-of-the-art laboratories for food and soil analyses. The mandate of the Pacific Agri-Food Research Centre is to provide technology for tree fruit research and value-added food research. Until 1995, there was a single scientist at the centre for viticulture projects. After major staff reductions at the government, the scientist moved to Ontario and the B.C. industry wanted to do something about their loss. They proposed a new direction for the Centre to be more closely connected to the industry rather than academically focused. Now, there is a new scientist, a graduate from the University of California at Davis, who is supported by collaborative researchers, visiting scientists and students.

The research projects involve many of the wineries in the Okanagan Valley. True to its vision in the 1980s, the Centre takes direction from the wineries for input and preference of research endeavours. This collaboration has already proven its effectiveness for the wine industry. In the late 1970s and the early 1980s experiments in the vineyards scientifically demonstrated that the vinifera grapes could be grown in “cool climate regions” such as British Columbia

if cropped at lower than standard tons per acre. This project was called the Becker Project, led by the prestigious Dr. Helmut Becker from Geisenheim Institute in Germany. With these results right before the North American Free Trade Agreement, it set the new direction of the wine industry to develop premium wines from the European grape variety Vinifera.

While this selection of associations has been limited, there are other organizations in the Okanagan that serve important functions for the industry. Some such groups include the Thompson Okanagan Tourism Association, Destination Naramata, B.C. Grape Growers Association, Wine Lovers Society and local Chambers of Commerce.

CONCLUSION

There is an array of examples that demonstrates the strides taken by the British Columbian wine industry to advance itself. The ambition of a few visionary leaders transpired into practical associations, programs and structures. With favourable fortuitous factors, the industry was able to capitalize positively on the opportunities they created collectively with the government.

The B.C. wine industry focuses on structural requirements or advances in market penetration when looking into the future. There is rarely any concern with the basics of the industry, that is, the grapes, terroir, knowledge or skills. The opportunities for growth lie in the untapped markets and strategic partnerships.

Typical of all New World wine producing areas, there is a heavy reliance on sales in the domestic market during the early stages of development. New World countries, like New Zealand and Australia have reported that their international export success was founded on local acceptance and dominance of their product. Currently at approximately 45 per cent market share in the province, there is significant room to increase.

After stronger domination in the Canadian market, there is limitless opportunity for the B.C. wine industry to expand into an international market.

However, there are significant issues that need work before this potential can be explored. The first and foremost is the branding of Canadian wine. The industry is aware of the importance of branding Canadian wines for international recognition before attempting to expand too rapidly into the foreign markets.

Strategic partnerships can be underrated in their importance but could prove to be extremely valuable. There are a variety of types of affiliations that could be expanded or developed. Collaboration between independent grape growers and wineries could warrant a stronger relationship to further the establishment of B.C. brands. Wine tourism seems to be an area that could have a vast potential for the wine industry if properly fostered and planned. Some achievements have already been made by some who have taken the initiative to do so, such as the naming of Oliver as “Wine Capital of Canada”. And the successes of these achievements demonstrate the limitless possibilities.

Finally, the real power of the B.C. wine industry is its clear and focused vision, even if at times only a select few believed in it. This common vision has gained popularity over the decades while seeing the visions of the past come to life. It is this vision with a quality foundation that will secure a future of success as the industry enters into its next growth stage.

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**REFLECTIONS ON COMMUNICATION,
DIFFUSION OF INNOVATION AND SOCIAL CAPITAL
IN THE CASE OF
THE OKANAGAN WINE CLUSTER**

by

Caroline Hickton
Bachelor of Arts, Simon Fraser University, 2002

EXTENDED ESSAY

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APPROVAL

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ABSTRACT

This essay assesses the merits of two theoretical models when applied to a study of innovations in the Okanagan wine industry. The first approach, diffusion of innovation theory, was developed by Everett Rogers, and explores how innovations are diffused through various communication channels over time within a social system. The second model, Robert Putnam's theory of social capital, examines the role of trust and relationships in the constitution of stable networks of exchange and communication. Both the strengths and weaknesses of each theoretical model are examined in this paper as they relate to a study of the Okanagan wine industry.

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INTRODUCTION

The wine industry balances on the divide between art and science, much like the study of communication within the wine industry balances natural science and social science. In this essay I reflect on the Okanagan wine industry through the framework of two theoretical perspectives: 1) diffusion of innovation, and 2) social capital. These theories have not been used together with a case study because at first glance they appear to have very different objectives. However, I hope to demonstrate that the differences between the two theories are not as great as their similarities. Indeed, taken together these perspectives are more complementary than contradictory, each in its way focusing on important dimensions of communication at different levels of practice. Diffusion of innovation touches largely on communication at the institutional and industry level while social capital generally speaks to concerns at the level of familial and interpersonal communication. In combination they can help reveal insights that would otherwise remain undiscovered. The intention of this paper is to provide descriptive analysis of the Okanagan wine industry and compare the theoretical frameworks of diffusion of innovation and social capital to determine the most effective and eloquent theory.

Research Background

This paper deals with data that was collected through a major research initiative. The research was conducted as part of a larger Social Science and Humanities Research Council of Canada grant, under the umbrella of the Innovation Systems Research Network. The work was funded as a three-year collaborative research initiative to study the impact and importance of cluster-driven innovation in Canada. The first of its kind in Canada, this research studies how local networks of firms interact to spark economic growth. While previous studies have focused on individual regions, this project analyzes how the growth of clusters contributes to economic growth and development within a number of regions across Canada. This research includes more than 20 clusters⁶ across the country in emerging knowledge-intensive areas (such as biomedical and wireless industries) and in traditional sectors (such as food and beverage, manufacturing, and wood products). Within the food and beverage sector in this study, there are two wine making clusters, one in the Okanagan Valley in British Columbia and the other in the Niagara Peninsula in Ontario.

The work on the Niagara peninsula focused on technical innovations and the regulatory environment in the Ontario wine industry (Mytelka & Goertzen, 2003a; Mytelka & Goertzen, 2003b). The British Columbia study used a different focus and studied networking and marketing issues. As a result of both studies

⁶ A cluster is defined as "a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities". Bramwell, A., Nelles, J. & Wolfe, D. (2004)

being a part of the Innovation Systems Research Network, a common framework was used allowing for points of comparison.

The Innovation Systems Research Network developed an interview guide for different categories of interview participants: companies, civic associations, government, venture capitalists and research institutes. Where appropriate each interview guide consists of 7 key sections for discussion: background and history, research and innovation, networking and relationships, location and infrastructure, research institutes, cluster characteristics and future opportunities. The interview guide for companies was modified slightly for the Okanagan wine industry. A few key people in the industry were invited to be a part of a focus group in the summer of 2002. After the focus group, the interview guide was modified slightly. The most significant change to the interview guide was the addition of a question that asked the participant to draw on a map of the linkages to contacts (such as other firms, infrastructure, suppliers and clients) that were very important to the firm (Question 11 in Appendix 1). Although the focus of the interview guide is on innovation, collectively the answers to each of these sections provide a general overview of how the industry functions and touches on the challenges and opportunities.

One of the key terms used by the Innovation Systems Research Network in the study of innovation is “cluster”, which is defined for this research as “a concentration of firms that prosper in part because of their interaction, whether

that is through competition or cooperation, or by serving as suppliers or customers in a value chain.” Michael Porter (1990) used the word cluster and established the importance of clustering for economic success in a global market. Also related to clustering is the ability of people to form relationships of trust, cooperation and competition (Lorenz, 1992).

Theories

During the interviews conducted under the Innovation System Research Network, discussions of innovation allowed the story of the relationships in the wine industry to surface, although it was not intended as the focus of the research. Given the focus on innovation in the interviews, it is clear that seeing how Diffusion of Innovation theory applies is particularly appropriate. The narratives about relationships are the focus of this paper which was achieved through the qualitative research on innovation. Due to the interest in analyzing relationships in the wine industry, the theory of social capital, an increasingly popular theory, is applied to this case study of the wine industry in the Okanagan Valley.

The primary difference between the theoretical framework of the diffusion of innovation and social capital is each theory’s approach. One theory discusses networks by examining innovation, the other theory tries to study networks through the definition of “social capital”. The benefit of using the theoretical framework of the diffusion of innovation is that it exposes and details the

character of the system's structure. The intended use of diffusion of innovation is not to uncover innovation within the wine industry, but to have a framework upon which to begin open discussion about the structure of the industry. Social capital appears to be a perfect framework with which to describe the relationships in the wine industry. However, what is problematic is its checklist-like definition that leads researchers to describe the same relationship in several ways, rather than providing qualitative analysis of new relationships within a network. A detailed definition of each theory with its application to the wine industry will now be explored.

DIFFUSION OF INNOVATION

In the 1960s, Everett Rogers came up with a very narrow definition of Diffusion of Innovation stating it is innovation that is “communicated through certain channels over time among members of a social system” (Rogers, 1983). Two decades later, Rogers criticized his theory recognizing several limitations with such a restricted definition. Having since published new editions of his *Diffusion of Innovation*, Rogers takes into account the context of diffusion that was excluded in the first edition. He supplemented his theory with a definition of communication as a “convergence process in which the participants create and share information with one another in order to reach mutual understanding” (Mattelart & Mattelart, 1998, p. 130; Rogers and Kincaid, 1981). To replace his former diffusionist model he developed “communication network analysis” when the network includes individuals who are connected through patterned communication flows.

Rogers' original model of diffusion was a one-dimensional concept of progress that assumed that the adoption of innovations brought about development. The B.C. wine industry has been through significant change and development since the early 1990s. Applying Rogers' theory of diffusion of

innovation which takes into account context, the relationships in the wine industry that contributed to its development are revealed.

Diffusion is a type of social change whereby a transformation occurs within a social system. One way in which social change can happen is when new ideas are invented, diffused and adopted or rejected leading to certain consequences (Rogers, 1983). The process of diffusion entails a new idea being exchanged through communication channels over time within a social system. The four main elements of diffusion are: innovation, communication channels, time, and a social system. Each of these elements of diffusion will be defined and applied to the Okanagan wine industry. With each application the inner workings and relationships of the wine industry will be discovered.

Innovation

The first element of diffusion is innovation itself for which there are many definitions. Everett Rogers (1983) defines innovation as an idea, practice or object that is new to an individual or unit. In *Diffusion of Innovation*, Rogers focuses on technological innovations. When using the term innovation while conducting research in the wine industry, however, a broad sense of the word was used. Innovation included a new idea, practice or product that was new to the individual, the firm, the local, provincial, national or international industry or market.

Innovation researchers have been concerned with the economic and social consequences of innovation. The economic developments stemming from innovation tend to be of three types. First, innovations can lead to the creation of new products, such as cars or computers. Second, innovations can improve current products or services, such as internet banking services or DVD quality production. Third, innovations can lead to new or improved processes for the production of products or services such as the Ford motor assembly line (Chrisman, Chua and Holbrook, 2002). In the wine industry these types of economic innovations would be things like a wine using a new blend of grapes (new product), using a new type of yeast or a different type of wood barrel for fermentation (improvement of current product), and new grape pressing tools or a new method of pruning (improvement of process).

Rogers states that the newness in an innovation does not just involve new knowledge. An idea may have been known about for some time but may not have been adopted or viewed favourably. This extension of Rogers' definition is particularly applicable to the Okanagan wine industry. One of the most significant innovations in the Okanagan Valley was the movement to replace local grapes with *Vinifera* grapes⁷. A repeated motto in the wine industry is "it takes good grapes to make good wine." High quality grapes are deeply valued and recognized as the most important contribution to making wine. The change to *Vinifera* grapes would produce a premium wine and give the industry the

⁷ *Vinifera* varieties include Chardonnay, Riesling, Sauvignon Blanc, Pinot Gris, Gewurztraminer, Pinot Noir, Cabernet Sauvignon, Merlot, Cabernet Franc.

opportunity to compete internationally. In 1988, when the North American Free Trade Agreement was implemented, this switch to *Vinifera* grapes was assisted in British Columbia by the provincial and federal governments with support to pull out the local grapes. A few wineries had already tried growing *Vinifera* grapes prior to the late 1980s. Therefore it was not a completely new idea. But the widespread adoption of the concept had not been seen before.

Another example of an innovation seen frequently in the wine industry involves growing grapes. There are many variables that can pose challenges when trying to cultivate premium grapes. Sometimes a new animal or bug infects the grapes or the weather conditions are not ideal in the growing season. These variables are quite common when growing grapes and there is a vast amount of information published on how to deal with these problems. However some of these problems may be new to a particular grape grower. Hence, finding the solution could be an innovation for one individual, but not necessarily for others in the industry.

It must be acknowledged that diffusion research is tainted with a pro-innovation bias which implies that innovation should be spread and adopted by all members in a system. Generally, it also entails the belief that innovation should be immediately adopted, not re-invented or rejected, and it should be diffused more rapidly. The adoption of innovation is assumed to bring about positive development. As a result of the pro-innovation bias our knowledge about

diffusion is limited. While Rogers published new editions of *Diffusion of Innovation* to recognize the importance of context, the pro-innovation bias leaves a lot to be desired when trying to acknowledge and examine context. By assuming all innovation should be adopted, the bias ignores the knowledge and human capital of individuals who might have rejected or changed the innovation based on their skills and experience. Furthermore, the bias disregards the process of discussion and sharing of ideas of a rejected or changed innovation. This process could be studied from an ethnomethodological perspective to reveal significant information about diffusion and interaction. Recognizing this bias, *Diffusion of Innovation* still has value and is worth applying to the study of the B.C. wine industry.

One of the questions in the interview guide specifically asked respondents to identify product or process innovation in the last three years, and to indicate whether these innovations were firsts for the firm, for the region, or for Canada. The questions typically elicited more than one innovation. After analyzing all responses, there were 50 reasonably separate innovations among the 18 firms. When asked to identify the most important innovation - a question many firms had difficulty answering - one comment was that they "innovate continually."

While diffusion research may be tainted with a pro-innovation bias, the respondents may be biased towards not thinking in terms of innovation. One winemaker began by saying that he did not do anything innovative since the

technology was hundreds of years old. As the interview continued, he conceded that wine-making has changed in the last 20 years and he provided some examples of new techniques for handling grapes differently.

Of all the responses to the question about innovative products or processes in the last three years, the answers could be divided almost equally into three categories. Growing or viticulture, which refers to the growing, cultivation and harvesting of grapes; making, which includes crushing, fermentation, finishing and packaging; and marketing, which is distribution, wholesale, retail sales and product design. The growing and making innovations were mostly technical, technological or scientific in nature, for example, daily soil-moisture monitoring, and a mobile bottling plant. There were many marketing innovations, for example a high-end ice wine made from Fuji apples, paid tastings, and an “Adopt-a-row” customer loyalty program.

Communication channels

The second element of Rogers’ diffusion of innovation is communication channels. Communication, as defined by Rogers (1983), is the process of creating and sharing information with one or more other participants for the purpose of reaching mutual understanding. When the information exchanged is concerned with new ideas the process is called diffusion. In order for the exchange of information to occur a communication channel is required. A communication channel is the means by which the messages are relayed. Upon

examining the communication channels of diffusion in the wine industry, it is clear there are a variety of ways that messages are communicated.

The pro-innovation bias is apparent in Rogers' discussion about efficient means of communicating innovations. Sharing new ideas to a mass audience through mass media channels is described as a desirable outcome. Using the radio, television or newspapers enable one individual to reach an audience of many. However, for those in the wine industry mass communication channels are not always the most popular or effective choice of communication. The mass communication channels in the wine industry would not necessarily be television, radio or newspapers, but industry associations would serve this function. These forms of communication channels are also directly related to the fourth element of Rogers' diffusion of innovation. There is the British Columbia Wine Institute or the public research institution the Pacific-Agri-Food Research Centre which uses the channels of newsletters or conferences to communicate ideas to many people. There are some outreach initiatives that these organizations do to transmit knowledge to the many wineries in the Okanagan. Usually contact through these associations is for a very specific purpose, such as research information from the vineyard, annual industry reports or membership updates.

There is a variety of organizations in the Okanagan Valley for the wine industry each with a different purpose or goal. It is very common for people to be involved in many organizations whether it is as members or as leaders. The key

organizations with which most wineries are involved include: British Columbia Wine Institute, Okanagan Wine Festival Society, Wine Information Centre, and Pacific Agri-Food Research Centre. These are the larger organizations that are central to the industry. There are other important organizations but they are not necessarily as relevant to the majority of the wineries. The mandate of these groups is not necessarily related to communicating new ideas, as Rogers would suggest in his definition of communication channels. However, it seems that the sharing of new ideas and information happens by default through these organizations. Thus, it is these key organizations that are most effective as mass communication channels. More on these organizations will be discussed in Rogers' fourth element of diffusion of innovation, the social system.

In addition to a communication channel that is focused on communicating new ideas within the industry, there are other forms of communication channels directed at sharing new information to the outside world, such as marketing directly to customers. The majority of the Okanagan wineries' customers are residents of British Columbia, Alberta or Washington State and Oregon. A number of wineries use newsletters or email as their communication channel to correspond with their customers in order to tell them about new products or services available to their customers. The new information can be about a new type of wine, the release date for a particular wine, a new mail order service, or a new location where their wine is being offered. Often the most effective

communication channel is the interpersonal channel. This form of communication channel is not revolutionary but is new for some wineries.

Rather than communicating to a large group from a distance, interpersonal channels involve face-to-face communication between two or more people. This seems to be a frequent method of knowledge exchange in the Okanagan.

Rogers describes interpersonal channels as more effective for persuading the adoption of a new idea. Although the intentions are not necessarily to persuade, face-to-face communication does happen frequently in the Okanagan and sometimes it does involve the adoption of new ideas. Sometimes one winemaker will visit another winery to borrow equipment and in their discussions problems of winemaking or grape growing arise. Possible solutions or ways of finding solutions are explored and consequently a friendly visit can turn into diffusion by interpersonal channels. The frequency of this type of communication is much higher between small and close groupings of wineries. With geographic proximity it makes it much easier to have friendly visits.

Closer to Rogers' definition of communication channels, there are some individuals in the Okanagan wine industry who elect to rely on or utilize mass media as sources of new information. Albeit not the most popular method within the industry, it is used from time to time. There are a variety of worldwide publications that provide a wealth of information on the latest trends or techniques in viticulture or winemaking. There is also the widespread availability

of the internet to research other wineries in other wine regions or to research new information to apply to the Okanagan Valley. Some grape growers, winemakers, and winery operators who are less interested in the industry organizations use these methods of communication channels to find new information.

Time

The third element of Rogers' diffusion of innovation is time. While it is true that time is an obvious aspect of any communication process, in *Diffusion of Innovation* it is discussed in relation to the innovation-decision process and the rate of adoption. The inclusion of time in diffusion theory allows for the application of empirical research. Time relates to diffusion in three ways: from knowledge of the innovation to adoption or rejection, the rate of adoption as compared to others, and the number of individuals who adopt the innovation within a given time period.

The nature of viticulture, like any other agricultural activity, relies on uncontrollable factors such as weather and insects or animals. These factors make the element of "time" within the diffusion a little more complex to apply to the wine industry. Time can be a factor in two ways. The appropriateness of adopting or rejecting an innovation is one consideration. An innovative process or product could only become appropriate if certain weather conditions had changed the crop of grapes. Only when trying to overcome certain challenges with the quality of grapes could some innovations become applicable. Such

innovations could include coming up with a new process of blending grapes or fermenting in a different way to overcome the weakness in the grapes. Under normal circumstances when the quality of grapes is high, these types of processes may not be necessary or optimum. A second consideration of time in the wine industry as it relates to diffusion is the travel time between wineries. Visits between wineries would not occur as frequently or at all if two wineries were located at opposite ends of the Okanagan Valley. Generally, the interpersonal communication channels happen mostly between wineries in the same sub-region of the Valley, such as the Southern Okanagan Valley including Oliver and Osoyoos. The reason for this is very practical: everyone is busy and it takes about an hour and 30 minutes to drive from the Southern end of the Valley to the Northern end. Often those wineries within the same sub-region can travel to a local winery within 15 to 20 minutes. Wineries located close to each other share equipment, ideas, and geographical challenges (related to terroir⁸). In this case, time affects the frequency and occasionally the quality of relationships between wineries which in turn influences the diffusion of innovation.

Social system

The fourth and final element of Rogers' diffusion of innovation is the social system which is defined as a group of interrelated units that are engaged in joint problem solving to accomplish a common goal. The members of the social

⁸ "Terroir: Borrowed from the French, this term encompasses the entire environment – soil, climate, aspect – that makes a vineyard special." (Schreiner, 2003)

system can be individuals, groups, organizations or subsystems. All members cooperate to solve a common problem so that a mutual goal is reached. This sharing is what, according to Rogers, unites the system. There are two key aspects to the social system that will be discussed below, social structure and communication structure. These elements exist within the social system.

Social structure

Rogers eloquently describes a social structure at a rudimentary level. Units within a social system are not all alike in their behaviour, thus structure exists in a system. Structure is the patterned arrangements of the units in a system. Regularity and stability of human behaviour in a social system can be found when structure exists thus allowing for some degree of predictability in behaviour. Patterned social relationships among members within a system are what constitute social structure.

The British Columbia Wine Institute is a form of structure within the system of the wine industry. All the members of the wine institute would be expected to share a type of relationship that follows and supports the mandate of the institute. The British Columbia Wine Institute was established in 1990 by an act of the provincial legislature. It resulted from the collaboration of the industry and government to work towards an internationally competitive wine industry. Those who are not members could be found to behave in a manner unsupportive of the institute's goals. Other examples of formal structure in the industry include

the VQA program, Okanagan Wine Festival Society, Association of B.C. Winegrowers and Destination Naramata.

In addition to the B.C. Wine Institute, there are two other associations with membership including a majority of the wineries: the VQA and Wine Festival Society. Shortly after the creation of the B.C. Wine Institute in 1990, a program known as the Vintners Quality Alliance (VQA) was implemented. This program became the cornerstone of the wine certification and marketing strategy for the B.C. Wine Institute. The VQA label on wine bottles certifies that wine categories, quality standards and labelling regulations are followed. Each wine with a VQA label undergoes a wine-tasting panel for final approval. This panel is comprised of experts who do blind tastings of the wines submitted by individual wineries. The measurement is qualitative, but there are continued efforts to improve consistency and eliminate bias. Participation in VQA has been voluntary and open to all grape producers and wine processors in the province. However on December 8, 2004 the provincial government announced a plan to implement a new wine quality standards program for B.C. wines. This program is expected to be similar to the VQA except that it would be run by the government by a soon-to-be established B.C. Wine Authority.

In 1980 a group of wineries and tourism operators saw an opportunity to expand the draw of wineries by attracting tourists to the Okanagan region. They came up with the idea of creating an annual festival to develop tourism around

the wineries. Originally, the intended tourism was for local Okanagan residents to develop their knowledge of the local wineries and celebrate the harvest of grapes with food and wine events. The wine festivals include a variety of wine events across the Okanagan Valley, either at wineries or hotels. Some of these events involve pairing wine and cheese, or a sit-down dinner with featured wines. As the wine industry grew, so did the festival. There are now over 100 events during the ten day fall festival. Tourists come to the festival from all over B.C. and the Pacific Northwest, and recently from around the world.

The organizations described above exist to help every winery in the industry and while the majority of wineries are members and participate, membership is not all-inclusive, except for the VQA, until recently.

Additionally, there is a basic type of formal structure based on jobs. With time, a more formal structure could become more apparent as the wine industry grows. Currently at many wineries there are several different jobs done by one person. As the wineries expand, the overlap of these duties will cease and the wine shop manager and winemaker will not necessarily be the same person, for example. This type of structure currently seems to create a general closeness among the wineries because the characters are known. There is no doubt that the closeness among some wineries fosters a feeling of trust and collaboration that has propelled the development of the industry to where it is today. As the industry grows and the demand that a wine shop manager, a

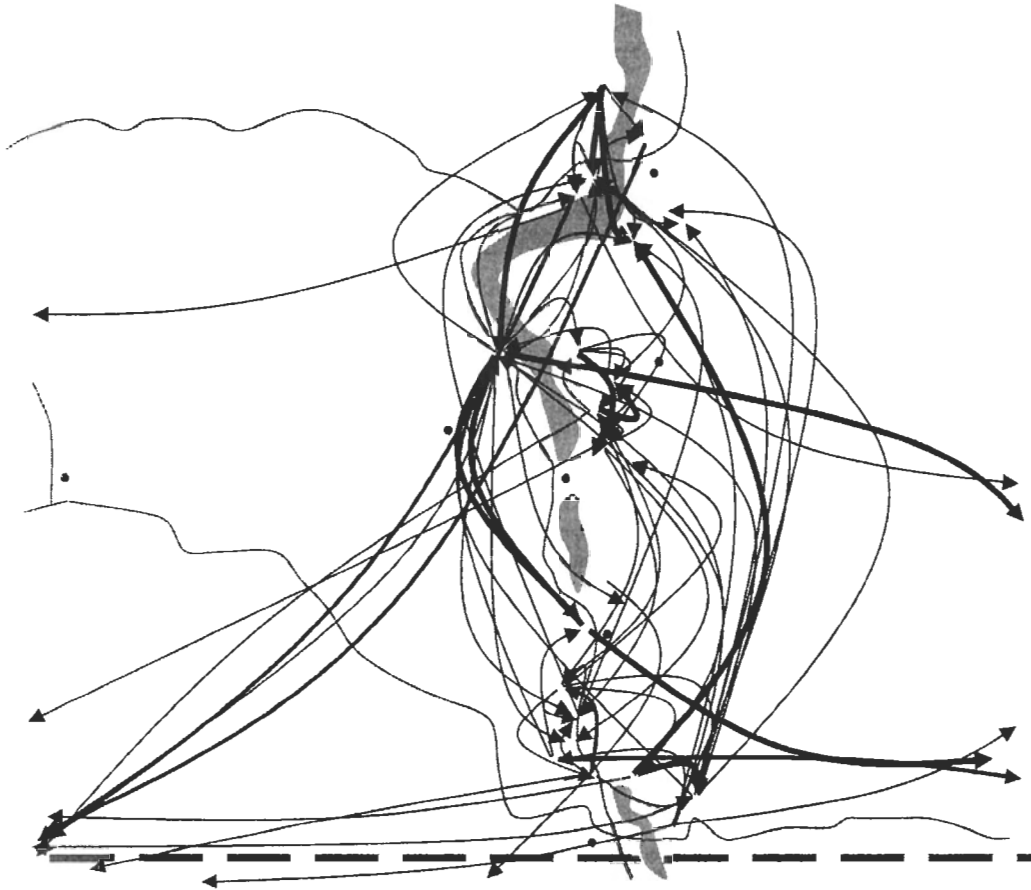
winemaker, and an accountant be separate people the relationships that currently exist among wineries may transform. This shift towards the division between job titles and people and could have an impact on the diffusion within the industry in the future.

Communication structure

In addition to the formal social structure of a system, an informal type of structure can also exist. This sort of informal arrangement is apparent in the interpersonal networks and is called a communication structure. The elements of a communication structure create a patterned communication flow within a system, determining who interacts with whom and when. The absence of a communication structure would create a situation where members of the system would have equal probability of talking to other members. In diffusion literature, a principle commonly applied to communication occurrence is homophily, the degree to which individuals who interact are similar in certain attributes, such as beliefs, education or social status. When given the choice, individuals choose to interact with others who are most like him or herself. Individuals who have similar interests, belong to the same organizations or live or work near each other have physical and social closeness. In these situations communication is more likely to be effective and satisfactory, thus the principle of homophily. There are several types of informal communication structures in the wine industry that facilitate interactions which are often based on geographical proximity to others with similar jobs.

There is a very informal communication structure within the industry that is difficult to capture and define, but that is important to maintaining networks of information flow. There are several overlapping interpersonal networks in the industry that serve informative and social functions. These networks were pinpointed by sketching links on a map of the Okanagan in the interview. Participants were asked to draw arrows to wineries, suppliers, institutions or customers that were “most important and fruitful for innovation.” The maps and arrows were then copied to Power Point, for ease of comparative analysis. With the names removed (to maintain confidentiality) important geographic and relationship data can be seen from the Power Point maps. Figure 1 is a composite diagram that shows all the linkages among winemakers. Each arrow indicates a “go-to” relationship, with information flowing back to the tail of the arrow. It was obvious from the interviews that almost all relationships involve two-way flows.

Figure 1: Geographical Display of Peer to Peer Knowledge Linkages



The relationship data from the map shows an approximate visual of the informal communication structure in the industry. With the map, it becomes clear how quickly and easily word can travel. Wineries, through the complex network of relationships, can find out about all sorts of information. At the time of this research there appeared to be a handful of individuals who were involved in several aspects of the industry. Generally, in addition to operating their own winery, they were involved in at least one industry organization, one tourism related association and were directly linked to research centres or consultants.

When one individual has so many responsibilities, it is easy to learn what is happening in all aspects in the industry by talking to this one person. As the news travels to one person, it can quickly travel to many more.

The map in Figure 1 shows geographical information that demonstrates sub-regions within the Okanagan. The relationship among wineries in the same sub-region (such as Naramata, Oliver or Westbank) is contrary to what many business researchers may expect. There is a feeling of closeness, collaboration, openness and trust. Generally, business literature talks about the relationship between such businesses as competitive. The wineries acknowledge that they may call their neighbour a competitor, but in reality that does not accurately describe the relationship. These so-called competitors realize that everyone else is going through the same challenges with winemaking, marketing and sales, and collectively they create a grouping of wineries which attracts visitors to the region. Tourists may come to see one winery, but often take the time to stop at others along the way.

The extent of cooperation in the Okanagan wine cluster is impressive. The high level of trust and openness in the industry allow for sharing of problems, solutions, materials, and equipment. In Naramata, La Frenz winery was based at a nearby winery, Poplar Grove, for several years until they opened their own winery in 2002 (Schreiner, 2003). This is a scenario that is very common in the Okanagan. Several wineries have been in another location at the beginnings of

their winery. A remarkable story of collaboration derived from a sad story shows the genuine and caring character of the wine industry. Victor Manola established Silver Sage winery with his wife Anna. In November 2002, tragedy struck Silver Sage winery when Victor was overcome by carbon dioxide while leaning into a tank of fermenting wine. Their consulting winemaker, Frank Supernak jumped in to rescue Victor but was also overcome (Schreiner, 2003). After this incident, consultants and winemakers from across the Okanagan Valley pitched in to help Anna get through the season (Padmore & Hickton, 2004). There are several other examples of the cooperation in the wine industry that have undoubtedly collectively contributed to the growth of the industry.

Families

In addition to the network of relationships, as identified by the maps, there is a high number of communication structures in the wine industry based on kinship, another example of homophily.

The frequency of kin relations within the Okanagan wine industry can not go unnoticed. There is a total of sixty wineries in the Okanagan and forty of those are run by families. Many wineries were established in the last 15 years by husbands and wives. Of those sixty wineries, twenty have children involved in the running of the business (derived from information published by Schreiner, 2003). Of the family operated wineries, children who went on to do further schooling often chose something related to winemaking. Finding research that adequately

discusses theory applicable to the wine industry, especially the frequency of family, is challenging. The abundance of families in the wine industry warrants further discussion and examination.

The research on innovation and family firms seems to be an area that requires deeper and more thorough investigation. The statistics on family firms typically do not correspond to what the family wineries have demonstrated to date. For example, the often cited statistics include the fact that 70 percent of family firms fail to successfully pass the business to the second generation, and that only 10 percent pass it on to the third generation (Litz and Kleysen, 2001). Thus, the reasons for this rate of succession do not seem appropriate to use in relation to the wine industry.

What is different about the wine industry compared to many other businesses, is that further schooling is not a high priority for many wineries. Often, winery operators are more concerned with the field knowledge of the workers than years spent in a classroom. Family relationships seem to hold great value to the industry because the knowledge can be passed on through generations in a field where learned lessons of the trade can be more valuable than schooling. Children who did go on to do more schooling often had a foundation of knowledge from growing up on the winery or learning from their parents. The environment in which they were raised required a constant closeness between the children and the parents which allowed for direct learning.

Secondly, it is evident that the “hands-on” knowledge is important enough that children have learned enough from their parents so that further education is not always necessary. Thirdly, schooling could provide education to fill gaps in human capital. In addition to learned knowledge about operating a winery, children also have the advantage of knowing key players in the industry and having the ability to build on the relationships already established by their parents. While it is difficult to empirically measure the strength and characteristics of these existing relationships as they are passed on to second generations, evidence from the interviews in the wine industry would indicate these relationships are strong and trusting.

One such example is at Grey Monk, a three generation winery. George Heiss Sr. worked in their Okanagan vineyard at Grey Monk with Helmut Becker, a legendary director of vine research at Geisenheim in Germany. Becker told Heiss he could grow almost anything in their location and the result of their subsequent trials of grape varieties was known as the Becker Project. A large number of European grapes were grown for eight years in two Okanagan spots. Successful varieties from that project have become the backbone of the industry’s quality wine in British Columbia. One variety that particularly interested Heiss was the Rotberger which makes a true rosé wine. Grey Monk is the only winery in North America producing a Rotberger wine. A limited 1,300 cases of Rotberger are made each year and sell out quickly. Based on the association

between Heiss and Becker, the winery and in turn, Heiss' children benefit from the outcome of the relationship.

Family operated wineries increase the capacity of the industry and its efficiency as a cluster. Although family-run businesses are not an original way of doing business, sometimes they act as a catalyst for new outcomes or innovations affecting the entire industry. One example is Anthony von Mandl and his dream in 1981 of the Okanagan Valley being on the verge of an economic giant. At the time, many were skeptical of von Mandl's vision, but, he was devoted to realizing the potential of building a strong and prosperous family name in the New World. Mission Hill is considered one of the giant successes of the Okanagan wine industry evident from its large investment in a spectacular hilltop winery with a 12-storey bell tower, graceful arcades and vast cellar. The total investment is rumoured to be \$50 million (Padmore & Hickton, 2004).

The examples above illustrate the impact of familial ties within the wine industry. It is evident from the research data, the frequency of families operating a winery is significant and can lead to beneficial results in the cluster. Families can pass on human capital to other generations and create an automatic network of contacts for the following generations. The kinship can influence and provide a structure that leads to the collective benefit of the industry.

SOCIAL CAPITAL

After a detailed analysis of the wine industry using the diffusion of innovation theory, it is easy to recognize that there may be some academics who would think that social capital theory is a perfect fit for the wine industry given the level of collaboration and trust among individuals. Social capital consists of an aspect of social structures and the ability to facilitate certain actions within the structure. It is productive and leads to the attainment of goals that would not otherwise be possible. This theory has been gaining recent popularity with academics and governments. I believe that social capital theory can be applied to the wine industry, but it does not allow for the amount of detail about relationships to surface as does diffusion of innovation theory. I demonstrate this belief by looking at Robert Putnam and James Coleman's definition of social capital and how it applies to the wine industry.

The term 'social capital' can be dated as far back as 1916 but it has gained recent popularity since the 1970s. Its definition is still ambiguous despite the recent growth in research. Two key theorists are credited with building the contemporary foundation for social capital, James Coleman and Robert Putnam. Coleman defines social capital by its function stating that it consists of an aspect of social structures and the ability to facilitate certain actions within the structure.

It is productive and leads to the attainment of goals that would not otherwise be possible. Putnam uses social capital as it relates to civic engagement, applying the term much more broadly. Social capital, according to Putnam, is the feature of social life, including networks, norms and trust facilitating activity towards a mutual benefit.

Coleman

Social capital, according to Coleman, is defined by its function. It consists of two parts, an aspect of social structures and the ability to facilitate certain actions within the structure. Social capital, like other forms of capital, is productive, facilitating the attainment of goals that would not otherwise be possible.

Social capital resides in the relational structure between and among persons. In *Social Capital in the creation of Human Capital*, Coleman focuses on social capital as a resource for persons, but clearly indicates social capital can also be a resource for organizations. Physical capital is created by changes in materials towards an end, and human capital is generated by changes in persons such as skills that enable them to act towards an end. Social capital is seen through changes in the relations among persons that lead to action.

According to Coleman's definition of social capital, its key elements include obligations and expectations, information channels, norms, and effective

sanctions encouraging or constraining behaviours (Coleman, 2000). Obligations and expectations depend on trustworthiness and the extent of obligations. This form of social capital describes the relationship between actors when one actor does something for another. Performing an action beneficial to another can be motivated in part by the expectation that the benefit, resulting from that action will be repaid at a future time. In other words, obligations can lead to debt, that we trust will lead to reciprocation. The value of outstanding indebtedness is dependent upon the availability of the resource when needed. Secondly, there is the supply of information which is deemed valuable for its capacity to enable action. Thirdly, a powerful form of social capital is norms and effective sanctions. This form can not only facilitate action but also constrain it. A norm should be dictated by the interests of the collective rather than of the individual.

Coleman is concerned with the application of norms and sanctions to families towards the realization of human capital. In his study of the disparities of educational success of high school children and the role of family, Coleman is interested in how social capital in family and the community is a resource to human capital for an individual.⁹

Putnam

Robert Putnam is well known for his work in social capital which began with a study of regional governments in Italy. *Making Democracy Work: Civic*

⁹ Winter, I. (2000). Towards a Theorised Understanding of Family Life and Social Capital. Melbourne, Australian Institute of Family Studies: 1-24.

Traditions in Modern Italy attracted a lot of academic attention and argued that the success of democracies depends on the bonds that make up social capital. In 1995 Putnam published "Bowling Alone: America's Declining Social Capital" in the *Journal of Democracy*. Again, he found himself gaining attention for his work, but not all of it was supportive. Some critics argued new organizations and forms of social capital were being ignored. Five years later, Putnam published *Bowling Alone: the Collapse and Revival of American Community*, an expansion of the original publication in a book format. He added new information to respond to the critics. Putnam continues to focus on reviving American social capital and discusses strategies to re-connect Americans with their communities (Putnam, 2000).

Putnam derives his definition of social capital from Coleman, but applies it more broadly as a concept that can strengthen democratic and economic prosperity. In *Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America* (1995), Putnam makes a correlation between social trust and civic engagement. Generally, the more people interact, the more they trust each other, and vice versa. Accumulated trust and civic engagement are prerequisites for better standards of living, consisting of faster economic growth, more effective government, safer streets, better schools, and healthier lives. Like Coleman, Putnam also discusses human capital and finds that it is closely related with social capital. According to Putnam, education is the strongest correlate to civic engagement. When incorporating factors like income, social status and education

to evaluate levels of trust and membership, education still has the strongest influence.

Putnam identifies six dimensions of social capital: 1) formality, including both formal and informal types of engagement, 2) purpose, some associations are private-regarding while others are public-regarding, 3) bridging includes bonds of trust and reciprocity bringing like-minded people together (similar to homophily), 4) immediacy is the trust developed from face-to-face connections versus anonymous bonds, 5) strandedness and intensity consist of bonds formed from overlapping networks, and 6) social location describes social capital that is geographically based (Putnam 2000). While Rogers does not state these dimensions within diffusion theory, many of the discussions around Rogers' diffusion of innovation were be similar to the discussions of Putnam's six dimensions.

APPLYING SOCIAL CAPITAL TO THE WINE INDUSTRY

Coleman's functional definition of social capital contains two parts: an aspect of social structures and the ability to facilitate certain actions within the structure. Both of these components are evident in the Okanagan wine industry. There are a variety of social structures, both formal and informal, with different and occasionally related goals that facilitate actions within these structures. As previously discussed, the British Columbia Wine Institute (BCWI), the Vintners Quality Alliance (VQA), and the Okanagan Wine Festival Society are three formal organizations. The establishment of these formal organizations have collectively worked the industry towards being internationally competitive. Without such organization such actions may not have been possible, or as successful. The VQA, for example, has become a recognized label of particular standards and quality. Without this formal organization, it would be harder for consumers to trust in the quality now expected from B.C. wines.

The informal groups in the Okanagan wine industry are more difficult to define. However, from the interviews conducted in the wine industry (Hickton & Padmore, 2004), it is clear there are several kinds of informal linkages in the wine industry. Some groups are connected through the nature of their location in the Okanagan Valley. Wineries who are neighbours to other wineries sometimes

build trusting relationships with each other. Those wineries with a longer history have good relationships with many other wineries. Some wineries (large and small) share common employees such as winemakers or consultants to develop and produce wine. Some of the informal networks are illustrated in the diagram previously discussed in the communication structure element of diffusion of innovation and as illustrated visually in Figure 1. The figures are a composite diagram that show all the linkages among winemakers. Each arrow indicates a “go-to” relationship, with information flowing back to the tail of the arrow. It was obvious from the interviews that most relationships involve two-way flows.

To further elaborate on the social capital evident in the wine industry, we apply Putnam’s definition of social capital and the six dimensions. The first is formality which encompasses formal and informal types of civic engagement. As illustrated above in the discussion of Coleman’s definition of social capital as it applies to the wine industry, there are formal and informal associations in the industry each with different objectives and outcomes.

The second dimension is purpose, where some associations are public-regarding and others are private-regarding. The annual wine festival in the Okanagan would be more public-regarding because it includes wineries from B.C. located outside the Okanagan and invites people from all over the world to attend the festival. Destination Naramata is an organization that is private-regarding because of its restricted interests in Naramata-related tourism. The

focus of Destination Naramata is to bring tourists to Naramata and while the efforts of this association could also benefit the rest of the wine industry, based on the interviews, membership is limited to those tourist related operations in Naramata. Discussion of this second dimension, purpose, sheds light on the structure of some associations within the wine industry. It pales in comparison to the detail on associations in the discussion of social structure in diffusion of innovation.

In his discussion of bridging, Putnam says that some types of social capital enable people to “get by” while other types assist people to “get ahead.” The latter form is bridging social capital. In this form, members are more outward-looking and will include people across different social divides. In contrast, bonding social capital consists of connectedness based on likeness between people. Bonding is typically more inward-looking and emphasizes already established identities (Putnam, 2000 and Smith 2001). Bridging, as applied to the wine industry would include the industry as a whole because each individual has a unique background and education. The wine festival includes a variety of businesses, accommodations, restaurants, and wineries who work together, in each case, towards a collective benefit. This would also be an example of bridging that uses the diversity of individuals and organizations to the advantage of the organization and industry to “get ahead.” Without sponsorship and support from accommodations and restaurants the wine festival would not be as successful as it has become. Bridging is seen to be more valuable than

bonding social capital because bonding is inward looking. The discussion of bridging social capital can indicate the degree of collaboration and ties between people of different backgrounds. However, the existence of bridging or bonding social capital does little to indicate the actions that are derived from these types of social capital. Far deeper descriptions of relationships and action stemming from the relationships is given with Rogers' communication structure, especially homophily.

Immediacy is the fourth dimension and includes social capital based on face-to-face interactions as compared to general anonymous bonds. One of the more obvious examples in the wine industry is the frequency with which individuals meet owing to their memberships in different industry organizations and their geographic proximity. With overlapping memberships, many individuals see each other more frequently in meetings and collaborative work projects. Some winemakers will visit other local wineries to help or borrow equipment. This dimension was a portion of the discussion in Rogers' second element of diffusion of innovation, communication channels. In that discussion, the focus was on the purpose of sharing information which showed a descriptive understanding of the relationships within the industry.

The fifth dimension of intensity is found in the Okanagan wine industry through many of the same people being involved with several different associations. The result of this is overlapping connections among individuals thus

strengthening the bond and amplifying the durability. As discussed in Rogers' communication channels, the key organizations with which most wineries are involved include: B.C. Wine Institute, Okanagan Wine Festival Society, Wine Information Centre, and Pacific Agri-Food Research Centre. It is common for individuals to be involved in more than one association either as a member, or as a leader. The multiple memberships allows for frequent interaction with several wineries which serves to strengthen bonds. The focus of Rogers' diffusion of innovation as it relates to Putnam's fifth dimension of intensity is centred around the communication of new information which reveals that many individuals have multiple memberships. However, Putnam's fifth dimension is focused on overlapping bonds and does not point to how social capital based on intensity works to benefit an individual or a group.

Finally, social location is an aspect of Putnam's theory of social capital that resonates strongly with winemakers in the Okanagan Valley. With some exceptions, winemakers who work close to other winemakers generally interact more frequently and build stronger trust and more stable relationships. There are some natural geographic divisions within the Okanagan. Some of the wineries in the northern valley do not report many connections to the networks in the valley and describe themselves as "off the beaten path" (Schreiner 2003, 62). Hans Nevrkla at Larch Hills winery in Salmon Arm, 130 km north of Kelowna, says "we don't even get to hear all the gossip that goes on down there," gesturing south towards the Okanagan (Schreiner 2003, 62). Social location is not explicitly

included in the definition of Rogers' elements, but it does surface in the element of time and in greater detail in the element of communication structure. One of the most obvious ways in which location is demonstrated as an important factor in relationships is visually through the maps drawn by the interview participants.

Family

From another perspective, family life is alleged to be the foundation of social capital. Putnam (1993, 1995, 2000), Bourdieu (1986), Fukuyama (1995) and Newton (1997) all assert the importance of family. However, there is a lack of detail and explanation for these assertions. The literature tends to understate the role of families in constructing social capital, either within the family structure or outside in the community (Winter, 2000). There are two different approaches to discussing social capital and family. One method takes families as the main focus of the argument, while the second, a decentred approach, acknowledges families as a significant part of social capital, but does not focus on families.

In Coleman's conceptualization of social capital, family is placed at the forefront as a "primordial organization" (Coleman, 1991, p.1) where relationships are created by childbirth. He identifies social capital as a resource within the family structure, and singles out the importance of relationships between parents and their children. Parents support and invest in their children so that later in life, according to Coleman, the children can support them. The rationale for this resource gives the children the opportunity to increase their human capital and

consequently gain greater economic rewards. As previously mentioned in the family section above, family relationships hold great value to the wine industry because the knowledge can be passed on through generations in a field where learned lessons of the trade can be more valuable than schooling. Children who did go on to do more schooling often had built on knowledge gained from growing up on the winery or learning from their parents. The environment in which they were raised required a constant closeness between the children and the parents which allowed for direct learning.

The three key elements of Coleman's definition of social capital (structure of norms, trust and obligations and supply of information) become significantly richer when there are strong ties within the family that link with strong ties outside the family. Coleman terms this "intergenerational closure". The quantity of social capital is enhanced when parents have overlapping relationships in the community. For example, parents who are neighbours, co-workers and are active in the same social groups develop a boosted process of social capital by the overlapping relations. As discussed on several occasions, there are many individuals in the wine industry who have several overlapping relationships with others because of multiple memberships. Some of these individuals are the parents or grandparents of others involved in the wine making business. These relationships can work for or against the offspring. One example given previously was the three-generation winery Grey Monk where the relationships of the grandparents benefited all generations at the winery.

Coleman acknowledges there are features of family life that can undermine social capital within and outside the family. While many of these features are not predominant in the wine industry, it is important to recognize them. Coleman identifies single-parent families, consumption-based society, current day-care provision, and regional mobility as factors that can contribute to the degrading of social capital within and outside the family.

In contrast to Coleman's theory, Putnam decentres families in his arguments of social capital. This view is focused on social capital as a structural feature of larger groups such as communities and nations, as opposed to families and individuals. Regardless, Putnam accepts that families are a crucial element of social capital.

Research in the wine industry reveals the importance and frequency of family in the Okanagan. A benefit to using social capital theory in the analysis of the wine industry is the special mention of family and recognition of its significance. Diffusion of innovation theory does not acknowledge the effect or influence of family relationships on the communication process of diffusion.

Coleman's "intergenerational closure" of overlapping relationships of parents within the community is very similar to the discussion of formality, intensity, and immediacy of social capital in the wine industry. As explored in the

next section, the discussion of family social capital labels a relationship already mentioned with a new category, rather than providing new descriptive analysis within a network.

COMPARISON BETWEEN DIFFUSION OF INNOVATION AND SOCIAL CAPITAL

The primary difference between the theoretical framework of the diffusion of innovation and social capital is the approach. The diffusion of innovation is dictated by the objective of exchanging innovation through communication channels over time within a social system. Social capital, through an ambiguous theoretical framework, attempts to measure social relations that influence action. The benefit of using the theoretical framework of the diffusion of innovation is the method which uses a specific and tangible objective and in the process exposes and details the character of the system's structure. The intended use of diffusion of innovation within this paper is not to uncover innovation within the wine industry, but to have a framework upon which to begin open discussion about the structure of the industry. While the characteristics of social capital may be applicable to the wine industry, the theoretical framework still leaves a lot to be desired. Instead, I would argue that social capital provides more of a checklist of types of relationships that function towards a common "good". What seems problematic with social capital is that the checklist often repeats relationships, where an already described relationship can be categorized under two or more types of social capital. For example, the structure and purpose of the associations within the Okanagan wine industry, such as the B.C. Wine Institute

and the VQA program, are classified under three of the six dimensions of Putnam's social capital (formality, immediacy and intensity), and Coleman's "intergenerational closure" of family social capital. These associations are vital to the industry, however, describing them under three types of social capital proves to be more repetitive than informative.

While the diffusion of innovation theory does apply well to the wine industry and is an effective method of describing the structure and relationships of the industry, this theory has not always been well defined or received. In the 1980s, Rogers revisited his theory critically. The main complaint was that the theory was too mathematical and disregarded context. He proposed to redefine it using communication as a process of information sharing and replaced the former diffusionist model with a 'communication network analysis' (Rogers and Kincaid, 1981).

The new model of network emphasized individuals connected to one another by patterned communication flows. The analysis of communication structure requires defining and gaining a deeper understanding of the main communication subsystems. The new model of research includes identifying *cliques* (defined as a subsystem whose elements interact with each other more frequently than with other members of the communication system); (2) identifying specialized communication roles such as *liaisons* (an individual linking two or more cliques in a system, but who is not affiliated to any clique), *bridges* (an

individual linking two or more cliques from his position as a member of one of the cliques) and *isolates*; and (3) measuring communication structural indexes (such as communication connectedness) for individuals, dyads, personal networks, cliques or entire systems. Although Rogers continued to work on better defining the model of research, one factor remained consistent: the model was restricted to the question of adopting innovations (Mattelart & Mattelart pg.129-131).

Rogers' research was improved upon since its conception and it was given legitimacy by references to Gregory Bateson's ecology of mind, Georg Simmel's ideas on the web of group-affiliations and the sociometry of Jacob L. Morena. However, the research experienced controversy in the U.S. and was not warmly received by the academia (Mattelart & Mattelart 1998, pg.129-131).

CONCLUSION

While social capital may not be the best way to articulate or discuss the relationships or the network in the Okanagan wine industry, I would still advocate that the Okanagan is rich with social capital. I would suggest that academics and researchers need to work together to come to a more descriptive definition, which may occur naturally with more case studies and practical analysis. The limitation of using diffusion of innovation is its dependency on innovation. While the study and discussion of innovation was applicable to the wine industry, there are environments where studying the diffusion of innovation may not be practical or possible.

The interviews used for this paper come from those on the inside of the industry and generally paints a very optimistic picture of the potential of the industry. There has been a similar kind of optimism that has gotten the industry through many challenges and difficult times. Their belief in the future of the industry is supported by their heavy investment in land, equipment, time, formal and informal education and labour. Furthermore, the aspects of the industry examined in this paper, such as the strength of relationships and the frequency of family, present a positive depiction of where the industry stands today. Given these aspects, a few key questions come to mind: What will happen to the

industry in the future? How will relationships be impacted if the industry continues to grow? Will the new structural change of the Liquor Distribution Branch bring about positive change for the industry that will contribute to its growth and development? Will this structural change affect the communication network?

These questions will only be answered with time, and regardless of the outcome, the wine industry would be worthwhile coming back to for further research. The key feature of the industry explored in this paper, relationships, is not an original concept. Although it is not a simple concept to study or measure, it is one that can be applied to everyday life. There are a variety of workplaces, industries, and social situations where strong trusting relationships can make a significant difference on the desired outcome.

In using diffusion of innovation theory to uncover the way the wine industry operates, it is apparent that the relationships described in this paper are critical for the individuals who make up the industry. With an increased number of wineries popping up in the Okanagan, and more awards won internationally, the future of the wine industry looks very promising. It is a particularly exciting time to study it and understand its structure both internally and externally. These relationships have been key to making the industry what it is today and they could also be key to help the industry grow more successful. However, there is the possibility that these relationships will only exist in the industry at its present size, and that further growth in the industry could destroy the established

relationships. What will be the future of the industry? Could these relationships be its saving grace? Many social capital theorists argue this makes all the difference in one's success. Will the wine industry prove them right?

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APPENDIX 1: INNOVATION SYSTEMS RESEARCH NETWORK INTERVIEW GUIDE - AMENDED VERSION FOR OKANAGAN INTERVIEWS

Part A: Company Background

1. What events stimulated the founding of this company? Who were the individuals and organizations inside and outside the company who played a key role in its development?
2. Are there any other companies in this region and/or province that your company is associated with, such as a strategic partnership? Have you spun-off any companies from your firm? This question refers to common ownership, now or in the past; a group of ex-employees; or significant IP or product relationships.
3. Why is your company located in this region and this specific location? Would you ever consider relocating, and why?

Part B: Research Strategy and Innovation

4. During the last three years, did your company offer new or significantly improved products (goods or services) to your clients, or introduce new or significantly improved production/manufacturing processes? Please provide a brief description of your **most important** new or significantly improved product or production manufacturing process during the last three years.
5. Was this most important innovation
 - " a world first?
 - " a first in Canada?
 - " a first for your firm?
6. What is the relative importance of the following sources of innovative ideas for your product, service and process development [1=not important, 5=very important]

R&D unit (in-house)
Marketing department
Suppliers

Production engineering staff
Management
Customers

Competitors' products
Fed or Prov. Agencies or research institutes
Venture capitalists or other financial services

University researchers
Consultants (academic or professional)

7. Which of these sources are local?
8. Where did you learn viticulture techniques? Winemaking?
9. How would you describe your winemaking style.
10. Do you consider yourself innovative mainly in technical processes or mainly in business processes (marketing, financing, training, distribution, etc)? Explain.
11. Please indicate on the photocopied map of the valley the other organizations (wineries, other businesses, institutions) with which you have the **most important and fruitful exchanges** of ideas, knowledge and know-how that have helped you innovate.

Part C: Relationships, Suppliers and Customers

12. Where are your key customers located – locally (within 100 km), in the rest of the country, North America or the world? How important is it for you to be located close to them?
13. What are the most important inputs to your company (resources, raw materials, components, services)? Are your key suppliers (e.g. of grapes, crushers, presses, corks) located locally (within 100 km) or non-locally? How important is it for you to be located close to them?
14. Who are your primary competitors and where are they located? What is their comparative size and market share? Is it important for you to be located close to them as well?
15. How does your company keep track of competitive products, services or process innovations?

Part D: Locational and Human Resource Factors

16. What are the most important factors in the local/regional economy that contribute to the growth of your firm? What factors inhibit your firm's growth?
17. Where do you get your employees and what type of training and experience do they have? Which employees got their specialized training outside the region?
18. Tell us about employees who have left your company within the last three years; how many have been employed by other firms within your region/locality? (Prompt: competitors, partners, other firms within your industry sector). If your key employees were to quit, how easily could you replace them from within your

local region?

Part E: Role of Research Institutes/Technology Transfer Centres

19. How frequently do you or others in your company interact with public research institutes or technology transfer centres (local or non/local), including federal or provincial government institutes, universities and colleges to gain access to new sources of knowledge?

20. What types of knowledge exchange are you (or others in your company) involved with?

21. What primary benefits do you derive from these relationships?

Part F: Local Cluster Characteristics/Social Capital

22. Do you consider your company to be part of a network of interacting and related firms in your region/locality, ie. a cluster? Explain.

23. Are there any associations, key business, community, or government leaders who played an important role in the development of your local industry or cluster? If yes, explain.

25. Does your company employ specialized service providers (such as law firms, accounting firms, business or technical consultants)? Where are they located?

26. Does your company (or key individuals in it) belong to any formal or informal associations at the local and regional level? If yes, which are the most valuable and why? If no, why not? Are there any significant networking events that you attend regularly?

27. Did any of your present relationships with suppliers, customers, collaborators, research institutes develop from your participation in associations, conferences, trade fairs, *festivals* etc.?

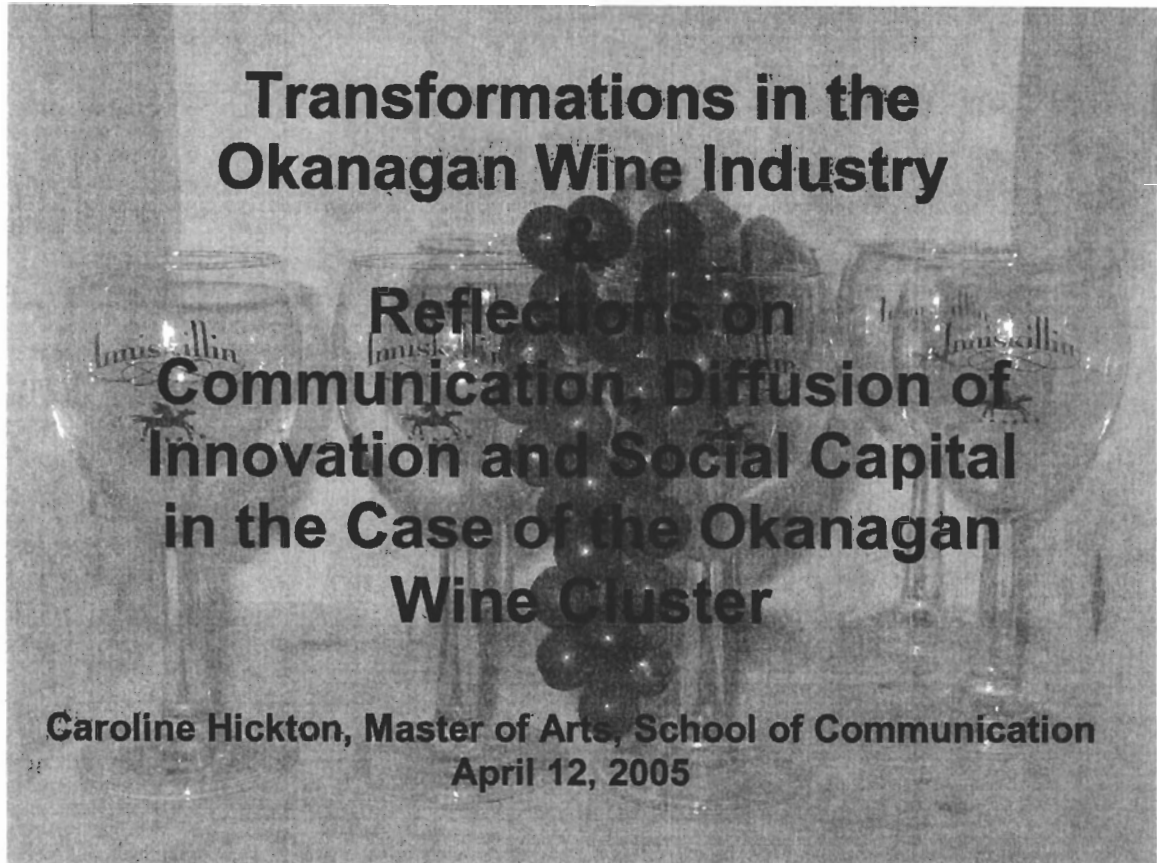
Part G: Future

28. What are the key trends (challenges or opportunities) that will most influence the success of your business in the next five years? How do you define success?

29. What can government do to support the industry in the future? What can the industry do collectively to help itself?

30. Of the linkages that you identified on the map, are there any that you would say have been or will be critical to the success of your firm? Explain.

**APPENDIX 2:
POWER POINT PRESENTATION OF ESSAYS**



NOTES:

I will outline the key point in my two essays:

- Transformations in the Okanagan Wine Industry &
- Reflections on Communication, Diffusion of Innovation and Social Capital in the Case of the Okanagan Wine Cluster

RESEARCH

- Innovation Systems Research Network (ISRN)
- Study importance of cluster-driven innovation in Canada
- Two wine making clusters in Canada
- Interview Guide

A cluster is defined as “a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities”. Bramwell, A., Nelles, J. & Wolfe, D. (2004)

NOTES:

This paper deals with data that was collected through a major research initiative. The research conducted was part of a larger Social Science and Humanities Research Council of Canada grant, under the umbrella of the Innovation Systems Research Network. The work was funded as a three-year collaborative research initiative to study the impact and importance of cluster-driven innovation in Canada. The first of its kind in Canada, this research will study how local networks of firms interact to spark economic growth.

This research includes more than 20 clusters[1] across the country in emerging knowledge-intensive areas (such as biomedical and wireless industries) and in traditional sectors (such as food and beverage, manufacturing, and wood products)(October 2004 www.utoronto.ca/isrn/clusters.htm). Within the food and beverage sector, the is research in two wine making clusters, one in the Okanagan Valley in British Columbia led by Tim Padmore and the other in the Niagara Peninsula in Ontario led by Lynn Mytelka.

The Innovation Systems Research Network developed an interview guide to maintain consistency across sectors across the country. Although the focus of the interview guide is on innovation, collaboratively the answers to each of these sections provide a general overview of how the industry functions and touches on the challenges and opportunities. This presentation is not to present the results of that study but my own analysis.

HISTORY OF WINE INDUSTRY

- 1859 Father Charles Pandosy
- 1930s commercial wine production
- 1960s worldwide transformation
- 1970s businessmen led changes
- 1988 North American Free Trade Agreement

“FTA made us a lot smarter about business, but the transition was radical with 2 years of declining sales”

Vinifera varieties include Chardonnay, Riesling, Sauvignon Blanc, Pinot Gris, Gewurztraminer, Pinot Noir, Cabernet Sauvignon, Merlot, Cabernet Franc.)

NOTES:

In 1859 a French Oblate priest, Father Charles Pandosy established a mission on one of the banks near the middle of Lake Okanagan. Although the purpose of planting the vines was for sacramental wine, he has been named the father of the British Columbia wine industry (Schreiner, 2003).

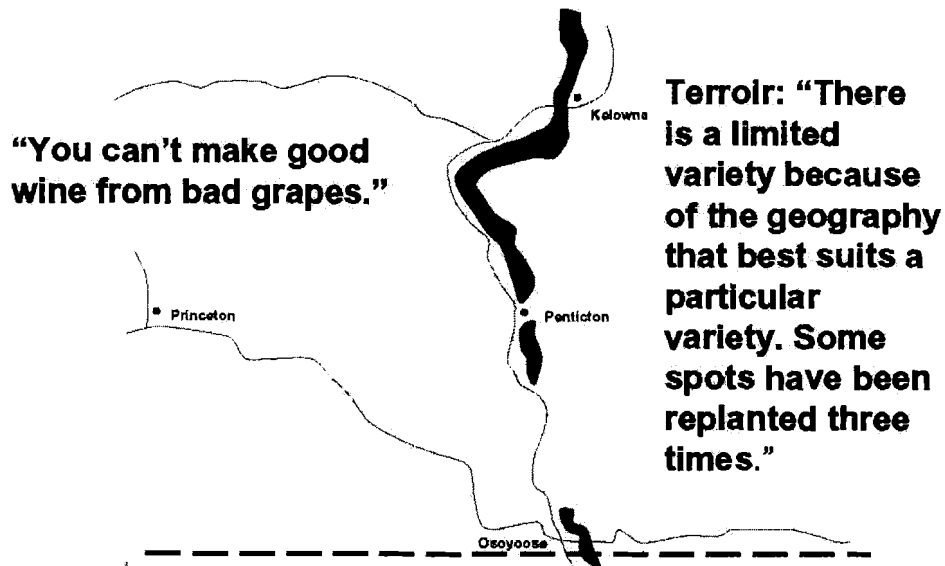
The 1930s marked the start of commercial wine production in British Columbia. At this time most wine was made from Labrusca grapes and the industry was focused on making dessert and fortified wines.

In the 1960s the industry transitioned away from fortified wines and towards “Baby Duck Champagne” from hybrid grapes. Over time, the tastes of worldwide wine drinkers became more sophisticated. Tastes at this time shifted to more complex European styles of wines. Some Canadian winemakers began to change their focus away from local Labrusca grapes to European Vinifera.

In the 1970s in Ontario and British Columbia, it was the foresight of a few businessmen who were able to persuade their governments to welcome smaller more creative players into the industry.

With the North American Free Trade Agreement (NAFTA), the Canadian wine industry lost its price advantage: preferential retail markups were phased out over 10 years. Price competition pushed the industry to lower costs and increase quality. The federal government helped the industry by giving one-time cash grants to adjust to NAFTA. The industry chose to spend the money on pulling out old vines. It was unclear whether B.C. could make good wine, but many believed it was possible. The leaders rallied a consensus and the industry committed its future to Vinifera grapes in B.C. Ontario faced the same adjustment but chose a different path. In British Columbia, unlike Ontario, there was almost 100 per cent switch to new varieties in a few short years.

GEOGRAPHY



NOTES:

For the purposes of analysis this essay focuses on the wineries in the Okanagan Valley which is defined here as stretching between Winfield, a community 30 km north of Kelowna, to Osoyoos, which borders on the USA. This is not to say that the only B.C. wineries are to be found in this region. Indeed, there are over 100 wineries in the province with close to two dozen wineries on Vancouver Island and in the Lower Fraser Valley. There are links between the Island, Fraser Valley and the Okanagan but Vancouver Island and the Fraser Valley wineries are not strongly connected with the Okanagan (Schreiner, 2003). Furthermore, many of the Island and Fraser Valley wineries buy grapes from the Okanagan. Beyond these factors, connections between the regions as they relate to wine production are not particularly strong.

Another aspect of the geography that is unique to the Okanagan, is the land, and specifically: arid climate, warm weather, large lakes, soils, bench-lands, vistas.

There is a motto that was heard repeatedly in several interviews: “you can’t make good wine from bad grapes”. This really demonstrates the importance of the land to make good grapes, requiring all the right variables, or terroir as it is called.

PEOPLE & EDUCATION

- Variety of people from all over the world
- Okanagan Valley
- Families
- Education:
 - Formal and hands-on training

NOTES:

Given the snapshot of the Okanagan as seen through this research, there are people from across the country and all over the world found in the Okanagan Valley. Each with their own reasons for coming to the Okanagan, with different backgrounds, and different types of education in viticulture.

Some wanted to try a new challenge and came looking to buy a vineyard or establish one. George Heiss and his wife were talented hairdressers in Edmonton with clients who booked three months in advance. "I'd seen too many old hairdressers," George Heiss describes his jump to the wine making business, "and I didn't want to be one of them" (Schreiner, 2003 pg. 85).

Others had more romantic notions and wanted to get away from the busy city-life and decided to move to a gentler environment.

There are some families or individuals who came to the Okanagan early enough that it was a more affordable way of life for them. Josef and Margrit Zuppiger and their winemaking son Manuel came to Canada in 1986 from Switzerland. "We were just born framers," says Josef Zuppiger. "Here in Canada we could afford a large farm" (Schreiner, 2003 pg. 86).

Others lived in the Okanagan or had family who lived there, inherited Okanagan property and decided to start a winery. Elephant Island winery in Naramata was originally purchased in the early 1970s as property investment by Paul Wisnicki and his wife Catherine. In 2001, Elephant Island fruit winery was opened by Miranda, grand-daughter of Paul and Catherine, with her husband Del.

The frequency of kin relations within the Okanagan wine industry is remarkable. There are a total of sixty wineries in the Okanagan and forty of those are run by families. Many wineries were established in the last 15 years by husbands and wives. Of those sixty wineries, twenty have children involved in the running of the business (derived from information published by Schreiner, 2003).

EDUCATION: Formal: University of Davis in California, Brock University in Ontario (St. Catherines), and OUC in B.C.

Informal and hands-on: continuous, many wineries do R&D therefore always trying new techniques and learn what works best to produce the results they desire. Given all the variables of the terroir (previous slide), hands-on training is a highly valued method of learning because it is specific to the land where the grapes are. This is where a hint of the science and art of winemaking come to light.

WINE SALES

- Distribution in British Columbia:
 - Retail at winery
 - Wine stores
 - Retail in pubs and hotels
 - Government liquor stores
 - restaurants

NOTES:

Today, there are a half dozen distinct channels for distributing wine.

The most appealing form of sale is direct retail at the winery. This outlet is important because it allows for maximum unit profit and wineries have control of shelf space and promotional strategies. An industry survey (KPMG, 2001) reports retail sales at wineries in 2000 at \$22 million of which an exceptional \$6 million was at the smallest wineries. For small wineries, most of whom struggle for profitability and are regionally focused, these sales remain the most lucrative (BC Wine Industry Final Report KPMG, 2001, pg. 38).

There are some sales outside of B.C. Two of the most frequently mentioned provinces are Alberta and Ontario, however the challenges to export out of B.C. are felt by the wineries with some frustration.

There are some exports out of the country for Canadian wine products, mostly to Asia for our ice wine. However, some countries don't realize that Canada can make wine. There is a need to educate these countries about our wine making abilities...how can we do this? One method is through our industry associations (next slide).

INDUSTRY ASSOCIATIONS

- British Columbia Wine Institute
- Vintners Quality Alliance
- Okanagan Wine Festival Society
- Pacific Agri-Food Research Centre

“Because the industry is so small, there are some people who wear more than one hat...”

NOTES:

There are several industry associations and groups in the Okanagan Valley. These four are included in this presentation because they are the most frequently mentioned associations, with a wide membership base (almost all inclusive of the wineries). The B.C. Wine Institute has two primary functions critical to the industry: marketing and research. Its mission is to promote the interests of the British Columbia grape and wine industry.

Shortly after the creation of the B.C. Wine Institute in 1990, a program known as the Vintners Quality Alliance (VQA) was implemented. This program became the cornerstone of the wine certification and marketing strategy for the B.C. Wine Institute. The VQA label on wine bottles certifies that wine categories, quality standards and labeling regulations are followed.

In 1980 a group of wineries and tourism operators saw an opportunity to expand the draw of wineries by attracting tourists to the Okanagan region. They came up with the idea of creating an annual festival to develop tourism around the wineries. As the wine industry grew, so did the festival. In fact, the wine festival has been so successful that there are now three annual festivals: spring, summer and fall.

The mandate of the Pacific Agri-Food Research Centre, located in Summerland (centre of Okanagan Valley) is to provide technology for tree fruit research and value-added food research. Now, there is a new scientist, a graduate from the University of California at Davis, who is supported by collaborative researchers, visiting scientists and students. Given the size of the industry, there are many active participants in several associations.

DIFFUSION OF INNOVATION

- Four main elements:
 - Innovation
 - Communication Channels
 - Time
 - Social System

“I don’t have any innovation...wine making has been going on for hundreds of years”

NOTES:

Given the short summary of the industry thus far, we will look at two theories and apply them to the wine industry. Process of Diffusion is new idea being exchanged through communication channels over time within social system.

INNOVATION: many definitions: Rogers (1983): idea, practice or object that is new to an individual or unit.

Examples in wine industry:

technique (new methods of pruning, harvesting, irrigation)

business (new marketing, financing or distribution, eg. Adopt-a row)

COMMUNICATION CHANNELS: means by which messages are relayed

Examples in wine industry:

formal (meetings, conferences, BCWI newsletters)

Informal (winemakers visit neighbours) shows trust, collaboration, lack of “competitive” view

TIME: discussed in relation to innovation – decision process and rate of adoption

Not focus of this work on innovation, thus not major issue. However, should this research be repeated in the future, time may become more significant.

SOCIAL SYSTEM: group of interrelated units engaged in problem solving to accomplish common goal.

Examples in wine industry: BCWI were a group who saw a need for wine quality standards and regulated labeling which resulted in the VQA program (previous slide on industry associations).

SOCIAL CAPITAL

- Coleman
 - educational success of high school children
- Putnam
 - *Bowling Alone: the Collapse and Revival of American Community*

“We hear a lot through social channels and gossip.”

NOTES:

Given the level of trust and collaboration demonstrated in the wine industry (as discussed on previous slide), many researchers and academics believe that social capital is a perfect theory to apply to the wine industry.

Social capital is gaining popularity, especially in the last few decades and while it has its merits, I personally, am not convinced that it is sufficient as a theoretical framework for the wine industry.

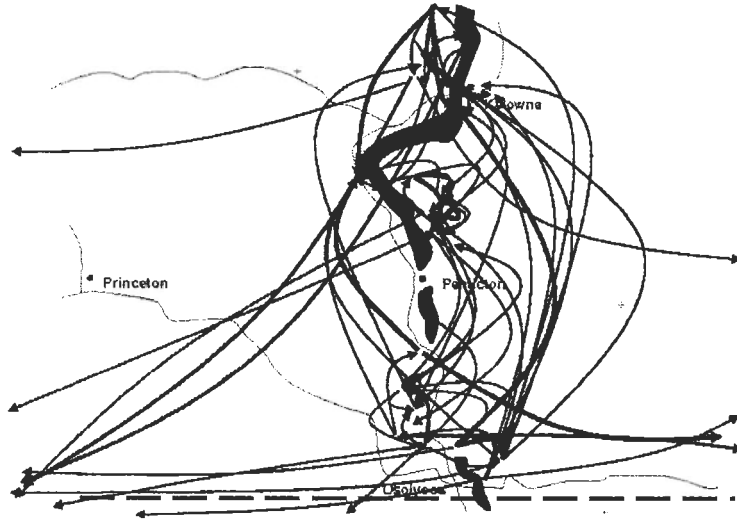
Social capital, according to James Coleman, is defined by its function. It consists of two parts, an aspect of social structures and the ability to facilitate certain actions within the structure.

Robert Putnam, known for published *Bowling Alone: the Collapse and Revival of American Community*. Putnam derives his definition of social capital from Coleman, but applies it more broadly as a concept that can strengthen democratic and economic prosperity.

Putnam (2000) identifies six dimensions of social capital:

- 1) formality, including both formal and informal types of engagement EXAMPLE: visiting winemakers and PARC conferences
- 2) purpose, some associations are private-regarding while others are public-regarding EXAMPLE: Okanagan wine festivals, group “Destination Naramata”
- 3) bridging includes bonds of trust and reciprocity bringing like-minded people together (similar to homophily) EXAMPLE: wine festival because of sponsors and different businesses coming together
- 4) immediacy is the trust developed from face-to-face connections versus anonymous bonds EXAMPLE: visiting wine makers
- 5) strandedness and intensity consist of bonds formed from overlapping networks EXAMPLE: people wearing many hats ie. Belonging to several associations
- 6) social location describes social capital that is geographically based EXAMPLE: visiting wine makers

Peer to Peer Linkages



NOTES:

Whatever framework is used, what seemed to jump off the page when all the data was analyzed was the strong network between different industry players (wineries, research institutions, and industry associations). Here the networks are represented visually.

The arrows are approximate to maintain confidentiality.

These arrows are a result of the question asking participants to identify on a map the location of sources of ideas and knowledge that help them innovate.

Some arrows are thicker demonstrating a very important link. It is clear that the arrows do go off the map to Vancouver, U.S.A., and across Canada and the Pacific Ocean, however, most of the arrows remain within the Okanagan Valley. Furthermore, there are three distinct clusters of arrows. One near the top of the page around Kelowna, another in the centre of the Okanagan near Summerland (above Penticton), and another cluster in Southern Okanagan above Osoyoos.

Comparison Between Theories

- Approach of different theories as applied to the wine industry
- Critique of theories

NOTES:

The primary difference between the theoretical framework of the diffusion of innovation and social capital is the approach. The diffusion of innovation is dictated by the objective of exchanging innovation through communication channels over time within a social system. This theory uses something very concrete and tangeable as a method of application of the wine industry. The intended use of diffusion of innovation is not to uncover innovation within the wine industry, but to have a framework upon which to begin open discussion about the structure of the industry.

Social capital, through an ambiguous theoretical framework, attempts to measure social relations that influence action. While the characteristics of social capital may be true and applicable to the wine industry, the theory is less tangible and harder to apply to this case study of the wine industry.

While the diffusion of innovation theory does apply well to the wine industry and is an effective method of describing the structure and relationships of the industry, this theory has not always been well defined or received. The most significant criticism is its bias of innovation, implying that all innovation is good and should be diffused without rejection or re-invention.

A criticism of both theories is that neither handles the concept of family very well.

FINAL THOUGHTS

- Will these networks of social capital sustain the economic growth of the industry? Or will the social capital networks as they are now become a barrier for the growth?
- Do wineries with family social capital have a competitive advantage over other wineries in the cluster?
- With 2010 Olympics coming, will there be a noticeable increase in sales and tourism infrastructure?



Thank You

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