Community Colleges, Clusters, and Competition: A Case from Washington Wine Country

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VELLUZZI N. D. Community colleges, clusters, and competition: a case from Washington wine country, Regional Studies. This paper investigates the role of community colleges in shaping the competitiveness of industry clusters. The following analysis presents a case study on the role of the Walla Walla Community College Center for Enology and Viticulture (the Center) cluster-based economic development strategy. The case study examines the ways the Center – which is in Washington State – operates as an intermediary that influences both local labour supply and the social foundations underpinning the production system. Based on case study evidence, it is concluded that the Center's cluster strategy can be understood as a process of 'institutional thickening' that enhances the competitiveness and performance of the localized wine industry.

Community college Regional economic development Clusters Wine industry Walla Walla (Washington State)

VELLUZZI N. D. Les centres universitaires, les regroupements et la concurrence: une étude de cas du paysage vinicole de Washington, Regional Studies. Cet article cherche à examiner le rôle des centres universitaires dans la compétitivité des regroupements industriels. L’analyse présente une étude de cas du rôle de la stratégie du Centre d’oenologie et de viticulture à Walla Walla en faveur du développement économique basé sur la notion de regroupement. L’étude de cas examine la manière dont le Centre – situé dans l’État de Washington – fonctionne en tant qu’un intermédiaire qui influe à la fois sur l’offre d’emploi locale et les fondements sociaux qui émaient le système de production. À partir des preuves provenant de l’étude de cas, on conclut que la stratégie du Centre peut être considérée un processus ‘d’épaississement institutionnel’ qui augmente la compétitivité et la performance de l’industrie vinicole locale.

Centre universitaire Développement économique régional Regroupements Industrie vinicole Walla Walla (Etat de Washington)


Staatliche Hochschule Regionale Wirtschaftsentwicklung Cluster Weinindustrie Walla Walla (Staat Washington)

VELLUZZI N. D. Universidades públicas, aglomeraciones y competición: el caso de las regiones vinícolas en Washington, Regional Studies. En este artículo se investiga qué papel desempeñan las universidades públicas a la hora de modelar la competitividad de las aglomeraciones de la industria. En el siguiente análisis se muestra un estudio de caso en cuanto al papel que desempeña el Centro Walla Walla de la Universidad Pública de Enología y Viticultura (el Centro) en la estrategia de desarrollo económico basada en las
aglomeraciones. En este estudio de caso examino de qué modo el Centro – situado en el Estado de Washington – funciona como un intermediario que influye tanto en el suministro laboral a nivel local como en las bases sociales que apoyan el sistema de producción. Basándome en el ejemplo de un estudio de caso, llego a la conclusión de que la estrategia de aglomeración del Centro puede entenderse como un proceso de ‘concentración institucional’ que mejora la competitividad y el rendimiento de la industria vitícola localizada.

Universidad pública Desarrollo económico regional Aglomeraciones Industria vitícola Walla Walla (Estado de Washington)

JEL classifications: L66, R11

INTRODUCTION

This paper investigates the role of the community college in shaping the competitiveness of industry clusters. The mission of community colleges in the United States encompasses local workforce and economic development, which provides them with the institutional flexibility to couple or align the goals and objectives of each programme. This is important because predominant practice maintains the separation of workforce and economic development, where the former is typically subsumed within the field of social work and the latter within activities of business-related ‘deal-making’ and incentives. Through a case study of the Walla Walla Community College Center for Enology and Viticulture (the Center), located in Walla Walla, Washington State, an attempt is made to demonstrate the ways in which the Center functions as an institutional arrangement that increases the competitiveness of the wine cluster. Specifically, the article examines the ways in which the Center operates the supply and demand sides of the labour market. On the supply side, it is argued that the Center functions as a labour market intermediary (LMI) primarily by delivering vocational education and training and connecting job seekers with employers. On the demand side, the Center works to improve cluster performance in a variety of ways, which include offering short courses and workshops designed to increase the cognitive capabilities of producers, coordinating industry relationships, formally brokering networks, providing informal outreach and extension service, fostering entrepreneurialism, and offering on-site laboratory services via a third party. The specialized nature of the Center and its strategy of integrating workforce and economic development to increase the competitiveness of the wine cluster provides insight into the process of local institution building, or what may be referred to as ‘institutional thickening’ (AMIN and THRIFT, 1994). The case study conclusions suggest the Center is effective primarily because it is non-competitive and has the trust of cluster producers.

The remainder of this paper consists of four sections. The next section situates the Center within the extant literature on labour market intermediaries and regional development in the United States and Western Europe. The second section seeks to place the community college within the literature on research universities and regional economic development. The purpose is to identify what can be understood as a ‘division of labour’ between these two types of higher education institutions and carve out a place for the community college as a key institutional arrangement in regional economic development. The third section is a case study that examines in detail the role of the Center in increasing the competitiveness of the Walla Walla wine cluster. The case study primarily draws from seventy semi-structured interviews conducted between May 2006 and February 2007. Interview participants include the Walla Walla Community College President, Center faculty, members of the Center Advisory Board, wine producers, vineyard owners and managers, and students who had already graduated or were close to graduating from the Center’s programme in enology and viticulture. The concluding section offers reflections on the role of community colleges in mediating regional economic development.

LABOUR MARKET INTERMEDIARIES AND INTERMEDIATION

Labour market intermediaries (LMIs) take many forms. Broadly, they are ‘mechanisms or institutions that intercede between job seekers and employers’ (AUTOR, 2004, p. 1). Following SPULBER’S (1996) work on economic intermediation, the function of the LMI is to coordinate and improve the efficiency of open labour market transactions and operations. Their primary purpose is to facilitate the flow of information about job vacancies and job-seekers and reduce producers’ long-term liabilities to workers (HARRINGTON and VELLuzzi, 2008). Hence, LMIs add value through risk absorption and providing high-quality labour market information that reduces search costs and eases the job-matching process.

LMIs are not new organizational actors, but have long histories of job matching that extend back to union hiring halls, staffing firms, and public sector agencies (GONOS, 1997). However, their proliferation in contemporary capitalism indicates an institutional response to the restructuring of labour markets and
employment relations (Osterman, 1999; Kazis, 2004), broadly characterized by the increase of contingent (for example, temporary and part-time) work and project-based work organization (Benner, 2002; Theodore and Peck, 2002; Carré et al., 2003).

The operation of LMIs is wide ranging and highly variegated, depending on their purpose and location in specific labour markets. Due to the complex roles of LMIs in contemporary capitalism, a number of scholars have developed typologies that attempt to capture the operation of LMIs in a variety of economic contexts (Kazis, 1998; Osterman, 1999; Benner, 2002; Fitzgerald, 2004; Harrington and Velluzzi, 2008).

Benner’s (2003) research in Silicon Valley, California, demonstrated the role of labour market intermediaries in labour market adjustment through reducing transactions costs, building networks, and managing risk. Harrington and Velluzzi (2008) produce a general typology of labour market intermediation activity based on the relationship between risk and uncertainty. It is maintained that a reduction in uncertainty is a form of risk reduction in order to demonstrate the ways risk can be absorbed or transferred among labour market actors in a variety of economic spaces. Fitzgerald (2004) addresses the potential of community colleges to function as progressive intermediaries, or what is commonly referred to as workforce intermediaries. Labour market intermediation is typified by job matching and placement. Workforce intermediation is distinguished from those forms of labour market intermediation by job matching and placement. Workforce intermediation is typified by hard and soft skills (for example, workplace etiquette, interviewing skills, etc.) training, transportation and childcare assistance, and perhaps, most importantly, provide a bridging function in a network that links job seekers to potential employers. Serving both sides of the labour market gives workforce intermediaries a ‘dual customer’ orientation and increases their ability to address economic development problems by encouraging ‘strong’ competition among producers through the lens of work organization and employment. Here, strong competition refers to providing incentives to employers to make the high skill–high wage choice.

In a context of policy devolution workforce intermediaries, community-based organizations and community colleges have been the primary innovators in shaping workforce intermediation. Given the restructuring of the United States workforce development system, community colleges appear to be better positioned than community-based organizations to become the key institutional arrangements to address workforce and economic development because most states appropriate funds to community colleges under the Workforce Investment Act (WIA) to develop Welfare-to-Work programmes (Fitzgerald, 2004; Melendez et al., 2004; Chaplin, 2006). Even though community colleges may be best situated to operate as workforce intermediaries, their ability to do so is contingent upon a combination of two factors. The first is the structure of state policy governing its community college system (for example, do state regulations allow for innovation and flexibility among the colleges?) and the second is the quality of leadership at the top of each college.

In Washington State, the Walla Walla Community College has an established reputation as an innovative institution led by a creative and entrepreneurial president. The college is one of Washington’s ‘Centers of Excellence’ whose role is to operate as a ‘one-stop’ hub in a broader network of workforce and economic development organizations. Each Center of Excellence is oriented to the sector(s) driving economic development in their region and the Walla Walla Community College is oriented toward agriculture. The college is a partner on the local workforce investment board (WIB) and provides training for all the workforce needs in the region. In the late 1990s representatives of the local wine industry established a strategic partnership with the Walla Walla Community College to address a projected labour shortfall in the wine industry. The partnership resulted in the creation of the Center for Enology and Viticulture and established a technical degree and two certificate programmes. The strong ties between the college and the wine industry are the cornerstone of the programme and arguably help explain its success thus far providing vocational education and training and increasing the competitiveness of the industry (Table 1). This dynamic will be explored in more detail below.

**Table 1. Typology of labour market intermediaries**

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<thead>
<tr>
<th>Type of labour market intermediary</th>
<th>Labour market function</th>
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<tr>
<td>Connector</td>
<td>Job matching</td>
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<tr>
<td>Placement agency</td>
<td>Job matching, basic skills provision, social service support</td>
</tr>
<tr>
<td>Progressive labour market</td>
<td>Dual-customer approach, improve the quality of the labour supply, enhance producer capacity</td>
</tr>
<tr>
<td>intermediary or workforce</td>
<td></td>
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<tr>
<td>intermediary</td>
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Source: Based on Fitzgerald (2004).
research university. Early research on this subject was largely concerned with the impact HEIs have on the local and regional economy. Much of this work focused on measuring the structural value of an HEI and its impact on economic growth (THANKI, 1999). Contemporary research has placed HEIs, primarily the research university, firmly within the ‘new’ economic geography approach that draws from institutional and evolutionary economics where more attention is paid to the relationship between HEIs and economic development, such as its contribution to regional learning, building social cohesion, and operating as a source of local–global interaction (BOUCHER et al., 2003; BENNEWORTH and HOSPERS, 2007; VAN DER STEEN and ENDERS, 2008). Much of this research has examined the horizontal and vertical linkages between basic research in technology-producing fields, growth in patents and commercialization of new technologies, entrepreneurialism and local firm creation, and its impact on complementary firms located in the region. In this regard, the research university is understood as a key actor within a regional system of innovation from which newly created knowledge and talent flow into the regional economy (BOUCHER et al., 2003; STERNBERG, 2007).

Like research universities, community and technical colleges can be significant contributors to local and regional development. Much of this work complements recent studies that address the role of universities in third-wave industrial policy (BENNEWORTH and HOSPERS, 2007) and regional systems of innovation (STERNBERG, 2007). STROTHER et al. (2004) conducted a study of Metropolitan College in Louisville, Kentucky, that showed how the college played a key role in altering local factors of production by building human capital while attending to local economic development needs. In response to a threat that the United Parcel Service (UPS) was leaving the region because they were unable to find an adequate supply of workers to staff the graveyard shift, Metropolitan College devised a training programme where non-traditional students earned college credit during the day and were employed part-time at UPS on the graveyard shift. The programme effectively changed local factors of production by creating a workforce willing to work late nights at UPS. As a result, the perception UPS had of Louisville as an undesirable location shifted as it decided to remain in the region.

The state of North Carolina has devised a sectoral strategy to anchor biomedical firms within its boundaries (LOWE, 2007). A key component of that strategy expands traditional approaches to workforce intermediation by preparing and providing disadvantaged job-seekers employment opportunities in the knowledge-based economy. Furthermore, and perhaps most importantly, it provides a concrete example of how to integrate vocational education and training effectively within a broader strategy of industrial upgrading.

ROSENFELD (2000) examined the way two-year colleges in the United States and Western Europe (Ireland and Denmark) have developed specialized programmes in response to the needs of local industry clusters. Notwithstanding the differences between United States and European environment, such as the role of United States colleges in delivering workforce training or the greater validity and marketability of credentialing among European employers, Rosenfeld came up with a set of findings that were consistent across case studies. First, all four colleges were embedded in the local cluster, which provided the college with the social resources to build an effective programme. Second, the colleges incorporated workplace learning into the curriculum, which enabled students to apply classroom learning on the job. Third, networks involving firms and the college faculty served as a source of labour market information for students and connected students to jobs. Lastly, the supply of trained labour functioned as a locational advantage for employers. All four cases demonstrate that embedding the college in the cluster influenced curricula, attracted resources to the cluster and the college, and positively impacted the development of the cluster.

Knowledge creation and human capital development is at the core of these examples of HEIs and regional economic development. This is not new as there is wide acknowledgement that human capital and knowledge are key factors in economic development (NEALE, 1984; LUCAS, 1988; MATHUR, 1999). Nevertheless, it is important to distinguish the research university from two-year community and technical colleges in order to improve one’s theoretical understanding of non-research HEIs and place them within regional development theory.

Though the research university and community college do not share the same purpose, their missions overlap in the area of economic development (MOODIE, 2002). The research university is located on the frontier of innovation and technical change, and follows an agenda driven by a combination of independent knowledge creation and strategic partnerships with the public and private sector. In the United States, community and technical colleges are not concerned primarily with creating knowledge through advanced basic research. Since the first community college was founded in 1901, one of their primary mission goals has been to respond to the needs of the local community (DOUGHERTY and TOWNSHEND, 2006). The community college agenda is shaped by the needs of the community within which it is embedded. In this regard, the community college is a place-based organization whose strategies and programmes are driven by local circumstances. In many cases those needs fall within the domain of workforce and economic development. This purpose has been reinforced by the structure of the United States workforce development system and federal welfare reform, where community and technical colleges are key
recipients of federal funds granted to states to formulate and deliver job training (Meléndez et al., 2004).1

As the empirical literature on HEIs demonstrates, each type of HEI effectively contributes to regional economic development when embedded primarily in local, but also extra-local networks. Though the literature on non-research HEIs is empirically rich, the role of community and technical colleges in regional development is under-theorized. The next section presents a case study on the Walla Walla Community College Center for Enology and Viticulture where an attempt is made to make a modest theoretical contribution toward integrating non-research HEIs within a broader framework of regional development.

CASE STUDY: THE CENTER FOR ENOLOGY AND VITICULTURE AND CLUSTER-BASED ECONOMIC DEVELOPMENT

Background

The roots of the Washington State wine industry date back to the agricultural research efforts of Walter J. Clore in the late 1930s and the commercial bonding of Associated Vintners (now Columbia Winery) in the 1960s as the first winery to emphasize output based on quality (Irvine and Clore, 1997). However, it was not until the 1970s that the industry experienced concerted growth in vineyards and new winery start-ups. The rate of investment in the industry would remain slow, however steady, until the late 1990s when it took off exponentially (Gregutt, 2007).

In 1977, Leonetti Cellar was bonded as the Walla Walla Valley’s first commercial winery. Fig. 1 presents the cumulative growth of new wineries in the Walla Walla Valley over a thirty-year period. Until 1991, there were only six wineries operating in the Valley. At the end of the 1990s, the number of wineries had increased to twenty-three. In 2000, the population of wineries began to take off, and by early 2007, thirty years after the bonding of Leonetti Cellar, there were more than ninety commercial wineries operating in the Valley. Table 2 presents a similar growth pattern in the expansion of planted vineyard acres. For example, in 1984 there were approximately 80 acres dedicated to cultivating wine grapes. In 2006, the planted vineyard acreage amounted to more than 1500 acres, with an additional 1000 acres prepared for planting in 2007.

Employment growth presents a pattern similar to that of winery growth. Because of data-availability issues, employment figures for the Walla Walla wine cluster are not published by census-recording agencies. A recently published report estimates the cluster accounts for approximately 1000 direct jobs, which includes employment in the local hospitality sector (Economic Modeling Specialists, Inc., 2007). Drawing from the same report, in 1999 cluster employment was fewer than 200 hundred jobs.

Although growth has been exponential since the turn of the century, the Walla Walla wine cluster (and the Washington wine industry) remains comparatively immature, where producers are largely dependent on importing inputs (cf. Porter and Bond, 2006). Nevertheless, the rapid expansion of the wine industry in the Walla Walla Valley since 2000 is an

Fig. 1. Cumulative growth of wineries in the Walla Walla Valley American Viticultural Area (AVA), 1977–March 2007
indication of the success and reputation quality producers have gained in the market despite its location on the rural periphery (Fig. 2). More precisely, the arrival of Walla Walla as a ‘world class’ wine producer can be understood as a process of building local institutions that enabled the region to ‘catch up’ to other top wine-producing regions across the globe. As Lindkvist and Sánchez (2008) demonstrated, localized natural resource-based industries do not guarantee dynamism and development, but that development is an outcome of institutional innovations that alter or create new conventions underpinning already existing regional production systems. With regard to the current case, what is the role of the Center for Enology and Viticulture in enhancing the competitiveness of the cluster? In what ways does the Center function as a labour market intermediary? How does it affect performance among producers? In what ways does the Center add to one’s understanding of non-research HEIs in regional development?

THE FORMATION OF THE CENTER FOR ENOLOGY AND VITICULTURE

In response to the rapid growth of wineries in the late 1990s, local industry leaders became concerned that the industry’s expansion would be hampered by the lack of skilled labour. Although the wineries were generally small in size, producing an average of 5000 cases annually, producers were already experiencing a shortage of labour, especially during the fall harvest and crush, when labour demand temporarily spikes. Due to Walla Walla’s isolation in combination with an anticipation of labour demand, industry representatives and the community college formed a partnership from which they created the Center, which offered a vocational certificate and a degree programme in enology and viticulture. The establishment of the Center in 2000 illustrates agents’ strategic response to sectoral change and attempts to influence the development process by creating cluster-focused institutional arrangement.

Table 2. Walla Walla Valley American Viticultural Area (AVA) planted vineyard acreage in Washington State and Oregon

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<tbody>
<tr>
<td>Washington State</td>
<td>–</td>
<td>–</td>
<td>44</td>
<td>585</td>
<td>164</td>
<td>170</td>
<td>18</td>
</tr>
<tr>
<td>Oregon</td>
<td>67</td>
<td>72</td>
<td>69</td>
<td>192.6</td>
<td>413</td>
<td>428.5</td>
<td>466</td>
</tr>
<tr>
<td>Total planted acres</td>
<td>67</td>
<td>72</td>
<td>113</td>
<td>822</td>
<td>1206</td>
<td>1392</td>
<td>1447</td>
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Source: National Agricultural Statistics Service (NASS), United States Department of Agriculture (USDA), Washington, DC.

Fig. 2. Automobile travel time from Walla Walla to proximate metropolitan regions
The Center has three primary objectives: provide vocational education and training; facilitate alliances among producers; and promote the economic development of the wine industry. Each objective identifies three primary entry points or modes of interaction for the cluster. The certificate and degree programs have received a strong response from prospective students. Consequently, a waiting list was created to track those seeking admission into the program, and prerequisite admission requirements were established to ensure students entering the program had a certain aptitude and fluency in general science.

COMMUNITY COLLEGE AND INDUSTRY LINKAGES

Much of the Center’s effectiveness can be attributed to the strong network ties between local producers in the wine cluster and the Center. Strong ties are maintained among actors through frequent social interaction enabled by geographic proximity. Center and cluster interactions occur through the Center’s Advisory Board and individual faculty and producers, which helps establish the Center as a resource for local producers. Those network ties embed the Center within the institutions of the wine cluster and facilitate social proximity, or the establishment of trust, mutual expectations, and shared norms, among network members.

For the purpose of strategic planning and direction, the Center receives input from an appointed Advisory Board. The Advisory Board consists of representatives from the region’s wineries, many of whom have extensive experience in the industry. There are currently nine seats on the Advisory Board, one of which includes representation from the Walla Walla Valley Wine Alliance (the local industry association). The Advisory Board serves as a vehicle through which the industry can systematically evaluate and submit feedback on the enology and viticulture program curriculum and influence its future direction. The Advisory Board keeps the Center aware of current developments in the industry (such as emerging technologies, new techniques, and market trends) so that the curriculum can be adjusted to ensure students acquire skills that are current and relevant to the needs of local producers. Through interactions of this kind, the industry helps shape the planning and strategic direction of the Center in the interest of ensuring an appropriately trained labor supply, which also enhances the overall competitiveness of the cluster.

Strong ties between Center faculty and local producers provide another illustration of the types of embedded interactions that are sustained through the Center. The basis of these interactions derives from faculty industry histories, through which they have accumulated relational capital over the years and are highly respected throughout the industry. For example, the Center’s founding Director is an owner of a successful commercial winery and is viewed as a local leader in the industry (he was key founder of the industry association in the mid-1990s). The former Associate Director’s career consisted of a variety of jobs for a number of the state’s producers and played a key role in planting some of the oldest vineyards throughout the state. Their histories and roles at the Center provide the basis for a high frequency of formal and informal interactions with local producers in Walla Walla and throughout Washington State. For example, the leveraging of social capital by faculty is illustrated by the creation and maintenance of four student internships at one of the region’s larger wineries, and acquiring fruit from the state’s top vineyards for College Cellars. College Cellars is a creation of the Walla Walla Community College and is the first student-run, non-profit commercial teaching winery in the United States. The article will return to the importance of College Cellars below. Outside their role at the Center, faculty members circulate in the industry as consultants, produce wine commercially, and are active participants in industry associations.

VOCATIONAL EDUCATION AND TRAINING AND WINE CLUSTER CONNECTIONS

As a workforce intermediary, the Center can be understood as a central node in a local network where it takes on an intermediating role between students and producers. As a network coordinator, the Center’s key role is to provide vocational education and training that boosts labor supply and prepares individuals for employment in the wine cluster. Simultaneously, the Center operates as a source of labor market information that connects students with local producers. As previously mentioned, students can earn a technical certificate or two-year degree in enology and viticulture. Courses are dedicated to a range of topics, including fermentation, irrigation, and vineyard and winery Spanish.

As illustrated elsewhere, effective workforce training typically includes a mix of classroom and experiential or workplace learning (ROSENFELD, 2000; FITZGERALD, 2006). The value of combining these learning processes is to provide students with opportunities to apply theory on the job. Classroom training provides students with a foundation in explicit enology and viticulture knowledge. Experiential learning is beneficial for students because it provides a real-life mode of acquiring skills that are not easily communicated in a classroom setting. It acknowledges the role of tacit knowledge in preparing workforce trainees for the labor market. For example, students learn about vineyard installation, irrigation, and vine maintenance in the classroom. However, the faculty acknowledges the limits to a textbook approach to...
pruning vines to maximize their output. The teaching vineyard was designed to fulfill this role. Here, students are responsible to maintain a row of vines over the course of a year. With the help of fellow classmates and the input of faculty, students learn (by doing) what (and what not) to do.

The establishment of College Cellars is another example of campus-based experiential learning. Like working in the vineyard, College Cellars is a student-operated commercial teaching winery that produces approximately 12,000 cases of wine per year. Working at the campus winery exposes students to all aspects of running a small winery. They are engaged in the wine-making process from start to finish, learn basic management and accounting skills, and get exposure to hospitality and sales by working in the tasting room.

Though College Cellars makes a point not to compete with the cluster’s wineries (no funds are allocated toward advertising and the wines are only sold on-site and via the web), the novelty of a student-run winery attracts wine tourists to the Center. In addition to these in-house experiential learning opportunities, local producers provide ample opportunities for students to acquire experience in the workplace. In this regard, experiential learning enables students to establish local contacts and build a social network that can lead to future job opportunities.

When the programme began in the 2000–2001 academic year, the building that would eventually house the Center was under construction. Local producers supported the programme by opening up their facilities for the purpose of providing classroom space for enology and viticulture courses. For example, local wineries provided laboratory space, product samples for wine chemistry courses, and excess productive capacity that enabled College Cellars to produce its first commercial vintage. A corollary effect of these arrangements created opportunities for students to interact closely with producers and expose them to the institutional practices of actors embedded in the wine industry. After the completion of the Center classes were taught on campus. The nature of Center/cluster interaction evolved as the college was no longer reliant on the industry for off-site teaching space. However, the campus-based facilities have not resulted in less field-based interaction as experiential learning and facilitating student interaction with local producers remains a key component of the programme.

All twenty-six students who were interviewed stressed the value and importance of hands-on training and consider it one of the major strengths of the programme. Many students noted how practicum and internship credit provides opportunities to learn in a commercial setting and establish relationships with producers throughout the Valley. One student insightfully stated that industry support for hands-on learning provides opportunities they otherwise would not have had.

Based upon the interview data, individual students gain experience at an average of three and a quarter wineries or vineyards while in the degree programme. The range of individual winery experience extends from one to six facilities. In emphasizing the importance of hands-on learning, a former student-cum-winery owner stated, ‘You can meet twenty winemakers and learn nineteen ways to accomplish the same task.’ Another student stated that the winery experience increased his awareness not only about ‘what to do, but also what not to do’ when trying to produce a high-quality product. The experience students gain through workplace learning exposes them to idiosyncratic forms of knowledge, increases their overall competence, and serves as a social bridge by providing access to industry contacts and networks.

Local producers expressed a similar sentiment regarding the benefits students gained through experiencing the variety of approaches to the work. Producers unanimously stated that the best way to learn about operating a commercial winery is by ‘getting out there and doing the work under guidance and supervision’. Interviews with producers indicate that they see themselves in a division of labour, where the role of the Center is to provide students with foundational knowledge and they complement that knowledge with opportunities for students to get hands-on experience. As one producer stated, they do not expect students to ‘come into the winery knowing everything, but they should be able to hit the ground running’. Helping students gain industry-specific skills on the crush pad or in the wine cellar is a key aspect to enhancing their job-readiness in preparing to enter the labour market. Most producers are also quick to recognize that access to readily available labour is an upshot they derive from this arrangement, which allows them to screen potential employees and minimize their labour market search costs.

Both students and producers view the Center as playing a key role in mediating the boundary of labour supply and demand in ways that are mutually beneficial to all parties. On the one hand, the Center connects students to producers by placing them in situations where they enhance their competences through experience. Under most circumstances, this arrangement provides students with the means to build a local network from which they can source labour market information about future employment opportunities. Of course, this could work in reverse, where a student establishes a negative reputation that could preclude them from securing a job in the Valley. In addition to screening potential employees, producers gain ready access to an inexpensive pool of labour to tap into when there are short-term spikes in labour demand, such as crush and bottling, which minimizes labour market search costs. Producers also gain the opportunity to screen potential permanent employees.
ATTRACTION TALENT

Through the provision of enology and viticulture training, the Center has acquired a national and international reputation and evolved into a ‘pole of attraction’ (Scott, 2006) that draws individuals from outside the region into Walla Walla seeking to acquire the skills required to enter the wine industry. Although many students are local, the specialized nature of the programme has earned it a reputation that stretches far beyond the originally intended service region and has affected the geographic extent from which it draws students. According to Walla Walla Community College data, enquiries of interest have come from individuals in twenty-nine states, Puerto Rico, Australia, Greece, and Spain.

Sixteen, or 72%, of students interviewed are identified as newcomers, having migrated into Walla Walla for the sole purpose of enrolling in the enology and viticulture programme. Many of those students also indicated that relocating to Walla Walla entailed an early or mid-career shift, having been previously employed in a diversity of occupational fields such as healthcare, civil engineering, high-technology, and eco-tourism. Due to life circumstances, a number of students said that enrolling in a leading four-year university enology and viticulture programme was not a viable option. Others noted that Walla Walla was appealing because the costs of living were lower in comparison with California. Former students/newcomers operating their own wineries stated that an additional draw to Walla Walla derived from a perception that the barriers to entry in the Washington State wine industry were considerably lower than in California, that it was much easier to carve out a place in a comparatively immature economic context. Notwithstanding the significant capital expenditures required to enter the industry, interviewees indicated an ‘openness’ and ‘sense of community’ among producers in the Walla Walla Valley as an attractive locational attribute. In the author’s interviews with producers, it was stated repeatedly that there was a collective interest to see co-located competitors produce quality product and do well, because everyone was part of the Valley and ‘what’s good for the Valley is good for me’.

Students repeatedly acknowledged that the Center provided a bridge that enabled them to build local contacts and access industry networks. As mentioned above, this can be attributed to the experiential learning component of the curriculum and temporary work opportunities. However, student access to cluster-related resources, such as information about work opportunities, is also facilitated by their affiliation with the Center and specifically the faculty, through whom information from the industry flows to students. Due to the embedded nature of these interactions, the Center does not have a formal job placement programme. Some students were slightly displeased with the ‘informal’ nature of acquiring labour market information because the faculty held the power to share that information, leading them to raise questions concerning fairness and transparency in the process. Nevertheless, the author’s interviews revealed this is especially important for students who are newcomers to the region and lack local social ties. As one student succinctly stated, ‘If I just came to Walla Walla without enrolling in the program, I’m sure it would have been more difficult to break into the industry ... being in the program certainly opened doors to me [in Walla Walla].’ In the same vein, newcomers communicated that they would not be in Walla Walla or even in the wine industry if the Center did not exist. In other words, their life choices were shaped by the range of possibilities perceived to be associated with the Center and the wine cluster. The importance of social networks in the cluster is also revealed by the role of word-of-mouth labour market information about job openings and opportunities. The circulation of labour market information suggests the spatial extent of the labour market is highly localized and informal, where ‘being there’ (Gertler, 2004) is necessary to secure employment.

Attracting newcomers to the programme is important because they are key components of entrepreneurial-led development in the region. A number of graduates have launched wineries and many students indicated that it is their goal to do so as well. The next subsection examines the role of the Center in supporting entrepreneurial efforts among both graduates and individuals not affiliated with the college.

FOSTERING ENTREPRENEURIALISM

The point has been made that the institutions within which the Center is embedded shape the way training occurs in the cluster. The Center’s Advisory Board applies its knowledge to evaluate the curriculum and influence the direction of the programme, which derives from members’ cumulative experiences as producers in the industry. Through this relational dynamic the entrepreneurial nature of the cluster becomes embedded within the enology and viticulture programme. Though aspects of small winery management are part of the enology and viticulture curriculum, entrepreneurialism is not. Students can learn entrepreneurialism through close interaction with local producers and by being socialized into the local production system.

The Walla Walla wine cluster is comprised of small and medium-sized firms and has gained a reputation for producing high-quality, limited-production wines. Those wineries model entrepreneurial behaviour, which in effect broadens student learning from the
acquisition of industry-specific skills and job readiness to do ‘what it takes’ to own and operate a small winery. The appeal of starting a winery is compounded by the lack of production jobs in the cluster. Interviews conducted with producers confirm that the creation of winery jobs occurs primarily in business management and marketing. Production jobs are added according to increases in output (Table 3). According to a report from the Washington State University Extension Service (FICKLE et al., 2005), a unit of production labour is added when output reaches approximately 2000–2500 cases, and then at 10 000 cases. Approximately 65% of the Walla Walla wineries produce at least 2000 cases. According to the Walla Walla Valley Wine Alliance, the average annual output among local wineries is about 5000 cases. Consequently, newly trained job-seekers have a limited range of employment options in the Walla Walla region. Employment opportunities that offer a sense of security and job attachment in wine production are scarce. Graduates indicated difficulty securing full-time work for which they are trained and many have become frustrated by the situation. Many parse their options to staying in the region and seeking production or non-production work at an established winery, starting a new winery in Walla Walla, staying in Walla Walla and seeking employment outside of the wine industry, or migrating to an alternative wine region in search of career opportunities.

Not working in a wine-production job lacks appeal among current and former students. After all, individuals invested in specialty skill acquisition for the purpose of pursuing a career in winemaking, not small business management. Interviews with students expecting to graduate in June 2007 revealed the tension between leaving and staying in Walla Walla upon graduation. One student was considering seeking employment in either wine sales or marketing and possibly operating a small winery on the side with a current classmate. Another individual unambiguously stated that since the chance of finding production work was so low, she was planning to start a winery. This individual, who is in the midst of a mid-career shift and possibly operating a small winery on the side, is anticipating producing her first commercial vintage in the fall of 2007.

Upon completing the programme, a number of students have pursued entrepreneurial ventures and started their own wineries. Five Star Cellars, Couvillon, Ensemble Cellars, Trio Vintners, and Tertulia Cellars are a few examples of wineries founded by former students of the enology and viticulture programme. It is worth noting that Walla Walla has not experienced any notable increases in population. According to United States Census data prepared by the Port of Walla Walla, change in population for Walla Walla County from 1998 to 2006 amounts to 0.70%. However, the author’s research indicates that newcomers to the region are enrolling in the enology and viticulture programme or starting wineries or wine cluster-related businesses. Though the absolute numbers of population influx are negligible, the type of population migrating to Walla Walla is significant in terms of its direct impact on the wine cluster and the regional economy. This dynamic is an indication of the role of the Center as an institutional arrangement extending the boundaries of workforce intermediation to creating the context or conditions that attract entrepreneurial talent to the region.

### INTERMEDIATING CLUSTER PERFORMANCE

On the demand side, the Center is engaged in a range of activities designed to build capacity among local producers and ultimately enhance the performance of the cluster. Those activities include offering continuing education workshops and short courses for producers and incumbent workers, incubating new wineries and supporting entrepreneurs, informally providing technical assistance, coordinating industry relationships and informally broker networks, and providing the use of building facilities for wine industry meetings and events.

As previously mentioned, the Center’s credit courses are open to incumbent workers and producers. Additionally, non-credit short courses and workshops are designed in response to needs expressed by local producers. In the past, those courses covered wine

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**Table 3. Winery labour force requirements**

<table>
<thead>
<tr>
<th>Case output</th>
<th>General Manager</th>
<th>Winemaker</th>
<th>Assistant Winemaker</th>
<th>Cellerman</th>
<th>Warehouse</th>
<th>Public relations</th>
<th>Sales Manager</th>
<th>Office Manager</th>
<th>Clerical</th>
<th>Customer Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.5</td>
<td>0.5</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0.5</td>
</tr>
<tr>
<td>5000</td>
<td>1.0</td>
<td>1.0</td>
<td>–</td>
<td>–</td>
<td>1.0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1.0</td>
</tr>
<tr>
<td>10 000</td>
<td>1.0</td>
<td>1.0</td>
<td>–</td>
<td>1.0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1.0</td>
<td>–</td>
</tr>
<tr>
<td>15 000</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>20 000</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**Total full-time equivalent**

Source: Adapted from FICKLE et al. (2005).
marketing, sensory evaluation, filtration, tannins, corks, and regulatory compliance. The provision of these services is extremely important because the Walla Walla wine cluster is comprised of small firms with limited resources. The author’s interviews with producers suggest there will always be a demand for non-credit workshops because many of them are self-taught and acquired their skills on-the-job. Their formal education may be limited to short courses or seminars at the Center or at the University of California – Davis. As a result, producers are seeking to backfill their knowledge, or enhance their absorptive capacity (COHEN and LEVINTHAL, 1990), while staying on top of new developments and techniques that are being applied in the wine industry. Many producers noted that ‘there is always more to learn’ about enology and viticulture in areas such as fermentation and yeast. One producer stated the workshops ‘make the Valley better by broadening the knowledge base of the winemakers’. Many winemakers who lack training in viticulture have expressed an interest in increasing their knowledge in that field. As one informally trained winemaker stated, ‘making wine is easy, growing quality fruit is the hard part’. By offering non-credit courses that cater to the needs of the cluster, the Center achieves economies of scale and builds capabilities among producers. Through participating, producers and incumbent workers realize collective efficiencies, acquire knowledge, and capture positive network externalities though knowledge sharing and joint problem-solving.

The operations of the Center extend into supporting entrepreneurs by incubating the start up of new wineries. In the wine cluster, it is quite common for new wineries to be started through incubation. Incubation in this context refers to a process where newly formed wineries rent productive capacity from an established winery. In this scenario, existing wineries are able to recoup the costs of their capital investments quickly and new wineries can defer those costs while releasing vintages and establishing a market for their product. Since these are typically small producers, a further advantage is that the parties involved can lower costs by increasing the volume of purchases and pooling operating and variable costs. In the case of the Center, there are a number of situations where the excess capacity of College Cellars was made available rent-free to winery start-ups. Access to the campus facilities enabled the young wineries to crush, ferment, age, and bottle a vintage prior to moving into an independent site. In one case, the winemakers had very limited winery experience, and producing their first commercial vintage at College Cellars gave them ready access to on-site faculty expertise.

The Center faculty provides informal technical assistance to those who need it. The assistance comes in many forms, such as planning and designing wineries, vineyard consultations, advice on yeasts for certain varieties, and solving wine-making problems, such as stuck fermentation. By providing that type of assistance, the Center is identified not only as a place where one can attend courses, but also as a resource that will provide specialized assistance to those who need it. The Center staff indicated that they typically assist those who are least experienced and lack the social resources that are often used to solve production-related problems. The co-location of third-party laboratory services on campus is another technical benefit the Center has provided to the cluster. Laboratory analysis is a critical component of wine production that requires skill, but is also costly for small organizations to internalize. Prior to the location-based ETS Laboratories on campus, most producers sent their samples to California. Now winemakers have greater opportunity to interact with laboratory technicians to learn more about chemical analysis and purchase the services at a lower cost.

Much has been mentioned already about the way the Center participates in and facilitates the formation of social networks. On the demand side, this article has already touched upon the value derived through the Center’s Advisory Board. Additionally, the Center is an active member in local and state wine industry associations and works in coordination with the regional Workforce Investment Board (WIB). As an HEI, the Center provides a formal mechanism to coordinate interactions with peer institutions in other parts of the world. For example, while conducting this research, a delegation from a two-year college in South Africa was on site exchanging information with Center faculty each school’s enology and viticulture programme. Informally, short courses provide opportunities for producers to build their networks. The Center also mediates networks by connecting buyers and sellers of capital equipment on the secondary market, such as fermentation tanks and destemmers. By participating in networks and facilitating their formation among producers, the Center deepens it relations and ties within the cluster while simultaneously strengthening the social foundations of the production system.

Once constructed, the building that houses the Center became a focal point for the Walla Walla wine cluster. A majority of those interviewed for this project stated that the Center always opens its doors to the industry when a facility is needed for a meeting or event. For example, in 2005–2006 the Center hosted approximately seventy events that were oriented toward supporting the wine industry. These included but are not limited to continuing education seminars, wine tastings, receptions, and industry association meetings. Here, the Center’s infrastructure operates as a vehicle that reinforces the potential value of bringing individuals together to share knowledge, information, and build informal associations. The Center functions as a nucleus of information exchange and interaction for the cluster, which is greatly enhanced by its non-productive and non-competitive position in relation
to other producers and associations. It is a neutral organization whose mission is to respond to the needs of the cluster.

The level of visibility that the Center generates for the Walla Walla Valley and Washington State is an intangible benefit that affects the local cluster. When student newcomers were asked how they became aware of the Center, many noted reading about it in the wine press, newspapers, or other online sources. By investing in human capital and industry competences, Walla Walla Community College and Washington State attract new students to the wine cluster. On the demand side, the Center increases the skills and absorptive capacity of producers, supports entrepreneurial efforts, and facilitates the formation of local networks. The case study evidence seeks to demonstrate how the Center functions as an intermediary to enhance the competitiveness of the cluster. How does it do this? Why is the Center effective?

The case study evidence leads the author to conclude that the mission and neutrality of the Center enable cluster members to place trust in its actions and intend more easily than if it were another producer. This is due, in large part, to origins of the enology and viticulture programme and the strong mix of institutional and interpersonal ties within the cluster. It is also an outcome of the reputation the Center has established as an organization committed to facilitating the economic development of the industry. Its position within the cluster’s institutional fabric provides social and organizational infrastructure that brings producers together, builds competencies, and creates an environment conducive to network-building. In this sense the Center is not only an institutional arrangement, but also an organizational arrangement that provides ‘hard’ infrastructure support while simultaneously bridging connections and encouraging social interaction among producers. Furthermore, examining the way the Center deepens its connections within the cluster provides insight into endogenously driven economic development and the way institutional arrangements can facilitate a process of ‘institutional thickening’ by building, or developing, the social foundations underpinning the cluster’s performance and competitive capabilities. Though the creation of the Center in 2000 correlates with the exponential growth of the Walla Walla wine cluster, it is important to state that the Center did not cause the growth of the industry. Rather, this case study offers insight into the ways the Center played a key role in managing the rapidly growing industry by leveraging its social relationships for the purpose of identifying and addressing issues that can affect or hamper the cluster’s competitiveness. This is important in the context of ultra-premium wine production, where output is limited and competition is based on quality, consistency, and producer and regional reputation. Given this dynamic, the interaction between the Center and the production system is recursive and mutually beneficial where industry representatives act to improve the Center, which responds by seeking to improve the cluster’s competitiveness.

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NOTES

1. Federal policies underwent a radical restructuring with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. A significant component of welfare reform has been welfare-to-work, which grants federal funds to states to manage the transition of welfare recipients into the workplace. Those grants target Temporary Assistance to Needy Families (TANF) recipients, who are considered the most disadvantaged because of lack of education, substance abuse problems, or lack of work history. Welfare-to-work has been criticized for its goal of moving people into jobs quickly with little emphasis on the quality of those jobs and opportunities for advancement (Fitzgerald and Leigh, 2002; Trudeau and Cope, 2003).

2. ‘Inexpensive’ is chosen to signify labour costs in these circumstances because the basis of exchange for work varies from no pay, where students earn practicum credit, to barter for wine, and cash wages. A number of students indicated that the wages paid in the industry were so low that they were better off working for wine. In fact, many preferred this mode of exchange over conventional wages because the market value in wine exceeded the value of what they would be paid by conventional standards. One student chose to work in a
restaurant for wages while working for wine on the side because the wages in restaurant work exceed those in the winery.

3. The author distinguishes between entrepreneurship and small-business management. Entrepreneurship is used to connote innovation, resourcefulness, and risk-taking. Small business management refers to directing and coordinating ongoing business activities. Though these concepts can overlap, they entail different skill sets, which justify their analytical distinction (Martinelli, 1994; Rae, 2004; Taylor and Thorpe, 2004).

4. Wine cluster-related businesses include amenities that cater to wine tourism, such as eating and drinking establishments.

5. Aggregating purchases and sharing production costs are not an incubator-specific dynamic. For example, many producers pool resources in order to get lower unit costs on production inputs.

6. ETS Laboratories maintains four locations located in St. Helena and Greenfield, California, in McMinnville, Oregon, and in Walla Walla, Washington. ETS has also provided laboratory training for producers and incumbent workers at its Walla Walla Community College site.

REFERENCES


