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Micro and small business innovation in a traditional industry

Abstract

Purpose - The purpose of this study is to explore innovation among micro and small business operators in Italy's wine industry. Moreover, in adopting the theory of innovation, the study examines winery operators' perceptions on innovation, ways in which wineries are innovating, and whether participants' responses vary based on demographic characteristics.

Design/methodology/approach - An online questionnaire designed for this study gathered the responses of 211 participants, composed by owners, winemakers, directors, and business partners.

Findings - Innovation is fundamentally associated with minimising ecological footprint, investments, making improvements in the winery, adapting to trends and new consumer demands, and importantly, with maintaining traditions while enhancing the quality of the wines. Further, participants primarily agree with involvement in wine tourism and adoption of social media as predominant forms of innovating. Several inter-group differences, particularly based on levels of wine production and size of the winery emerged. Overall, the findings align with the dimensions of the theory of innovation, namely, benefits, costs, resources, and discounting factors.

Originality/value – Despite the significance of Italy's wine industry, in terms of exports and consumption on a global scale, academic research focusing on this industry's innovative practices has been limited. Similarly, there is scant research on innovation among micro and small firms, or on industries relevant to countries' socio-economic capital. This exploratory study provides an element of originality and value, exploring, and contributing to the literature on these under-researched areas.

Keywords: Micro and small firms, innovation, theory of innovation, Italy, wine industry

Introduction

While no widely accepted definition of innovation appears to exist (e.g., Baregheh, Rowley, and Sambrook, 2009; Goswami and Mathew, 2005), earlier and contemporary academic contributions have attempted to define this domain (e.g., O'Dwyer, Gilmore, and Carson 2009; Kanter, 1983; Nonaka and Kenney, 1991). This study adopts propositions by Kanter (1983), who refers to innovation as bringing into use any problem-solving or new idea. Accordingly, ideas for improving communication, reorganising, introducing new budgeting systems or cutting costs (Kanter, 1983) are also part of the definition. Furthermore, innovation is the acceptance, generation and implementation of new products, services, processes, or ideas, as well as the capacity to adapt or change (Kanter, 1983). Moreover, application and implementation are central elements in defining innovation (Kanter, 1983).

Although innovation activities can be risky and outcomes uncertain (Leiponen and Helfat, 2010; Nelson and Winter, 1977), and not all firms do benefit from innovation (Kafouros, Buckley, Sharp, and Wang, 2008), the benefits, and the crucial necessity for firms to innovate have also been discussed (e.g., Agarwal, Erramilli, and Dev, 2003; De Jong and Vermeulen, 2006; Lee, Park, Yoon, and Park, 2010; Nieto and Santamaría 2010; Oksanen and Rilla, 2009; Soosay, Hyland, and Ferrer, 2008). For example, studies underline production and transaction cost savings, improved efficiencies, avoiding errors, strengthening business relationships, or

enhancing the quantity and quality of information (e.g., Banduchi and Smart, 2010; Banduchi, Weisshaar, and Smart, 2011). Concerning smaller firms, a relevant group in the present study, earlier research (e.g., Freel and Robson, 2004) identifies that ‘novel’ innovation is positively related to employment growth.

Traditionally, micro and small firms have been overlooked in innovation studies (De Jong and Marsili, 2006; de Mel, McKenzie, and Woodruff, 2009). This dearth of knowledge is the more surprising as this group of firms represents the majority of businesses in numerous countries (de Mel, McKenzie, and Woodruff, 2009). Similarly, research discussing innovation capacity (Forsman, 2011), or innovation development among small businesses (Forsman and Rantanen, 2011) has been very limited, with studies primarily focusing on medium to large firms (Forsman, 2011).

Mirroring the limited body of research, studies focusing on micro and small firm innovation in historic/traditional European industries have been scant, including in the wine industry. More generally, Cusin and Passebois-Ducros (2015) explain that “... no research to date has focused on innovative projects in traditional and conservative sectors with a strong historical legacy, such as the wine industry in the city of Bordeaux.” (p. 342). Along these lines, Doloreux, Chamberlin, and Ben-Amor (2013) posit that, presently, there is no published research examining different ways of innovation in the wine industry. A similar limitation is identified in other historic/traditional wine producing regions and countries.

This exploratory study addresses some of the above research gaps, and contributes to the literature on innovation among micro and small firms. At the same time, by focusing on Italy, the world’s second wine producing country (Wine Institute, 2015), a contribution to research on innovation in historic/traditional wine countries is made. The following research questions (RQs) are investigated:

RQ1: How do micro and small winery operators define innovation in regards to their winery business?

RQ2: To what extent do winery operators agree with various proposed forms of innovating?

RQ3: To what extent does the level of innovation vary according to participants’/wineries’ demographic characteristics? For example, do perceptions change based on wineries’ volume of production?

Apart from contributions to the extant literature, examining the above questions could help increase knowledge about micro and small business innovation, and wine businesses in several ways. First, new insights emerging from this exploration could better inform the industry and researchers on innovative perspectives and practices. Second, given the various knowledge gaps identified in the literature (e.g., de Mel, McKenzie, and Woodruff, 2009; Doloreux, Chamberlin, and Ben-Amor, 2013), the study could also provide a foundation for future research to build upon. Third, to guide understanding of the themes under investigation, the literature discussing the theory of innovation literature (Downs and Mohr, 1976, 1979) is adopted. This adoption is absent from wine research; thus, this study provides an element of originality, which could be potentially replicated in micro and small business research in the wine or in other industries.

Literature Review

The theory of innovation

Nelson and Winter (1977) conceptualise a theory as “a reasonably coherent intellectual framework” (p. 36) integrating current knowledge, and enabling predictions that extend from “what actually has been observed” (p. 36). Associated with this conceptualisation, over the decades, the work of various authors has led to the development of the foundation of the theory of innovation (e.g., Barras, 1986; Downs and Mohr, 1976, 1979; Lundvall, 1992; Nelson and Winter, 1977; Schumpeter, 1934; Sundbo, 1988).

Downs and Mohr’s (1979) contribution to the theory’s development is central to this exploratory study. These authors conceptualise innovation as a measured dimension of behaviour, and explain that, while organisations could be agents undertaking the behaviour, the theoretical approach to be presented needs to apply to individuals as a subgroup. Furthermore, Downs and Mohr (1976) propose a number of dimensions primarily based on a benefit-cost model, recognising that, while descriptive, the model is beneficial, especially given that “innovation is instrumental...supposed to achieve a better state” (p. 392). These dimensions are discussed in the following paragraphs in association with this study’s central theme and wine business research:

Benefits: While numerous benefits can be achieved by adopting innovation, invariably these benefits are captured in three categories:

Programmatic: Often referred to as profits in the private sector, this type of benefits underlines increased efficiencies or effectiveness in achieving “externally related goals” (Downs and Mohr, 1979, p. 394). In the context of the wine industry, arguably, being profitable is an ultimate goal among winery operators, and innovation could contribute to this and other benefits in a variety of ways. For example, Aylward (2004) identified a positive relationship between effectiveness of innovation among wine clusters and export linkages.

Prestige: Approval and recognition can accrue to organisations and their members when they are, for instance, early adopters of new technologies and programs (Downs and Mohr, 1979). Aylward’s (2004) findings underline that innovative activities within a wine cluster can lead to different forms of competitive advantage, including product differentiation and branding. Giuliani and Bell (2005) explain that, under recent innovation processes, specialised professionals, including agronomists and oenologists with university-based scientific knowledge can help boost technological changes.

Structural: Based internally, within the organisation, and illustrated by improved internal relationships or higher levels of staff satisfaction. Gunday, Ulusoy, Kilic, and Alpan (2011), for instance, refer to organisational innovation practices, including training programs for staff, that could, among other outcomes, lead to improved employee retention. Among wineries, such improvements could be in the form of technologies facilitating tedious or physically demanding activities, such as bottling wines, or moving wine cases. These improvements could speed up task completion, and even allow staff to contribute in other, more creative ways. Research in the services industry (Agarwal et al., 2003) identifies the role of innovation as critical in improving judgmental performance, which can enhance objective performance, with positive implications for both customer and employee satisfaction.

In some cases, the above categories may be interconnected to certain innovations (Downs and Mohr, 1979). In the case of wineries, improved efficiencies are arguably associated with more

recognition, including stronger or enhanced brand image, which then cascade into more revenues and/or profits, positively affecting wineries' ownership and staff.

Costs, divided into the two following general types:

1) Decision costs: The notion that arriving at decisions as to whether or not to implement a certain innovation represents costs (Downs and Mohr, 1979). Similarly, should the organisation decide on an innovation, the rate or extent of such innovation would create costs, including managerial or technical skill time, and costs of collecting information. Decisions processes, whereby meetings, voting or consensus may be required could be a source of costs for wineries, particularly in the case of cooperatives or medium to large-size firms.

2) Implementation: Costs related to executing innovations, which is associated to various sub-categories, including manpower, or equipment costs (Downs and Mohr, 1979). Regardless of the size of the winery, the need for more efficient processes may demand significant investments; in fact, these investments sometimes could be in the form of imported equipment.

Resources: While numerous authors have acknowledged the key role of resources in models exploring factors of innovation, much is still to be learned about the relative significance of various resources (Downs and Mohr, 1979). Several types of resources prescribed by Downs and Mohr (1979) merit inclusion: wealth, equipment, information, staff tolerance for change, and manpower. At least three of these resources, equipment, manpower, and information, may have significant impact on wineries' approach to innovation, with implications for future competitive advantage.

Discounting factors: Those factors playing a key role in influencing utility functions among organisations' decision makers concerning resources, costs, and benefits, identified by Downs and Mohr (1979) as:

Risk: Level of concern over the possibility of disastrous outcomes.

Average cost of discontinuance: Average costs related to the cancellation of an innovation.

Uncertainty: Lacking confidence within an organisation in benefit-cost calculations, between no adoption (0%) and the fair-trial-point, or the degree of usage at which adopters have sufficient experience with innovations to assess benefits or costs accurately (Downs and Mohr, 1979).

Instability in the future stream of benefits: Fears that benefit-cost ratios might unexpectedly decline beyond fair-trial-point because of obsolescence or depreciation.

Venturesomeness: Tendencies among organisations' decision makers to ignore uncertainty or risks (Downs and Mohr, 1979).

Some of these factors could significantly affect innovative practices among wineries. For example, uncertainty of the usefulness or overall impact of new technologies, machinery and equipment, systems, or strategies could negatively affect decisions to innovate. Similarly, the perceived risk that a certain technology may malfunction, or that an inadequate strategy may be chosen could lead to devastating consequences, including damage of the vineyards, or of wines production process and quality.

Innovation in the wine industry

According to Hojman (2015), “Innovation is one of the most fascinating subjects in wine research” (p. 40). A body of literature investigating innovation in the wine industry has predominantly focused on ‘New World’ wine countries/regions (e.g., Aylward, 2004; Doloreux et al., 2013; Taplin, 2012). Aylward’s (2004) investigation of Australian wine clusters identifies research services, collaborative activities, new product development, and improvement of production processes as specific indicators of innovation among wine clusters (Aylward, 2004).

Doloreux et al.’s (2013) study highlights differences among four examined winery clusters concerning adoption of innovation. Cluster 1, for instance, innovated through significantly improved production and growing techniques, externalizing innovation by acquiring software, equipment, and machinery, as well as external knowledge, including from other firms and organisations. Cluster 2 exhibited more intensive innovation practices, particularly through new marketing strategies and product innovations; these firms’ management also perceive clients’ information essential for innovation (Doloreux et al., 2013). In contrast, Cluster 3’ level of innovation practices was low, and mainly innovated through commercialization, marketing, and training activities. Similarly, Cluster 4 wineries’ involvement in innovation is low, primarily concentrating on internalizing innovation activities; contacts “with external sources of knowledge” (Doloreux et al., 2013, p. 18) was very limited.

In comparing wineries in Tuscany and California, Gilinsky, Santini, Lazzeretti, and Eyer (2008) found no particular tendencies between the two groups towards innovation. Moreover, participants’ willingness to engage in innovative practices, for instance, changing products, processes, or market orientation, “tended to be subordinated to how an individual company [winery management] perceived the internal and external pressures, i.e. the task environment” (Gilinsky et al., 2008, p. 315). Another study of New and Old World small and micro wineries involved in niche markets (Duarte Alonso and Bressan, 2014) identified adoption of technology and modern equipment, followed by involvement in wine tourism and exports as predominant forms of innovating.

An extensive literature review identified no research studies adopting the theory of innovation in wine business research. This study considers the usefulness of the theory to examine winery operators’ perceptions and level of involvement in innovative practices. The study also compares inter-group differences among various groups based on winery or participants’ characteristics.

Italy’s wine industry

Apart from its relevance as a major wine producer and exporter (Wine Institute, 2015), Italy is also considered “an ‘old’ traditional producer” (Giuliani et al., 2010, p. 751), having established a very long and significant wine tradition (Bernetti, Casini, and Marinelli, 2006). Numerous Italian wine producers have traditionally favoured domestic grape varieties suitable for the location, including Barbera, Dolcetto, Nebbiolo, and Sangiovese (Cholette, Castaldi, and Fredrick, 2005). Historically, grapes were grown side-by-side other crops meant to be consumed at people’s table (Cholette et al., 2005). Thus, the tradition of wine production is also reflected in consumption; indeed, wine consumption is strongly engrained in Italian culture. Moreover, Italy’s gastronomic culture has developed around wine consumption during mealtimes (Cholette et al., 2005). The average Italian consumer, for instance, drinks wine with meals almost daily, though, in comparison to French, German, or British

consumers, the chosen wines are cheaper and consumed in small amounts (Bernetti et al., 2006).

In the last decades, Italy's wine industry has experienced major changes, with domestic consumption declining, a shift indicating a preference for quality wines, and increased competition, including from 'New World' wine producers (Giuliani et al., 2010). As a result of these changes, many wineries had implemented new strategies, for instance, seeking to achieve more cost efficiency in production, while at the same time focusing on quality (Giuliani et al., 2010). In addition, globalisation and internationalisation have also led to the establishment of foreign wine companies in Italy, or overseas investments in joint wine ventures (Cholette et al., 2005). The above developments, as well as resulting changes and strategies have clear implications for the consideration and adoption of different forms of innovation.

Methods

The present study is fundamentally concerned with exploring innovation among micro and small firms operating in a historic/traditional industry, thereby contributing to the extant literature. In addition, the study seeks to address several knowledge gaps identified in contemporary research. One major gap relates to micro and small firms' involvement in innovative practices (e.g., Doloreux et al., 2013; Forsman and Rantanen, 2011), while a second is the lack of research on innovative practices in traditional industries (Cusin and Passebois-Ducros, 2015). The country choice for this study is mainly based on Italy's history, tradition, and significance as a wine producing, exporting, and consuming country. This choice is further complemented by the research team's background knowledge of Italy's wine industry, previous experience researching some of Italy's wineries, as well as other industries, and knowledge of the language and culture.

Aligned with previous studies (e.g., Johnson and Bruwer, 2007; McCutcheon, Bruwer and Li, 2009), an online questionnaire was designed to gather data from winery operators. This medium was considered the most appropriate in view of the size of the research team, and lacking financial, time, and other resources to conduct a comprehensive qualitative study of hundreds of wineries. However, the limitations of collecting data via online questionnaires discussed in the literature (e.g., Hardigan, Succar, and Fleisher, 2012) are acknowledged. For this study, the questionnaire was divided into three sections. Section 1 gathered demographic information from participants and the winery. Section 2 provided a text box for participants to define innovation as it relates to their winery operation in their own words.

Finally, Section 3 sought to assess participants' agreement with seven Likert-type scaled items. These items were prepared using a number of sources, including contemporary wine research examining winery innovation (e.g., Doloreux et al., 2013; Duarte Alonso and Bressan, 2014; Gilinsky et al., 2008). To complement these sources, Kanter's (1983) work defining innovation as the generation, implementation, and acceptance of new processes, ideas, services or products was considered. Finally, Sundbo's (1988) contribution was also incorporated. This author explains that, apart from technology, innovation can be part of other categories, including new services or products, new production processes, or new forms "of marketing or overall behaviour on the market" (p. 21).

While Section 3 is limited in terms of items, importantly, by collecting verbatim comments through participants' definitions of innovation, Section 2 added an important qualitative

component to the study, identifying additional ways of innovation winery operators may be undertaking.

A search in various Italian winery associations helped identify 2,150 email winery addresses nationwide. These wineries were then sent a message in May of 2015 explaining the goals of the study, and formally inviting operators to partake in the study. A URL link included in the message directed participants to the online questionnaire. Of the total number sent, 152 or 7.1% of messages bounced back. As many as three reminders were sent to the remaining 1,998 wineries in the following weeks; 214 valid responses were obtained. Closer examination identified that three wineries were medium-size, or employing over 50 individuals, while all other participants indicated less than 50 employees, corresponding to small and micro enterprises (European Commission, 2015).

Thus, the three responses were excluded, and therefore 211 valid responses, or a 10.6% response rate (211/1998) was achieved. This modest response rate is also in line with earlier wine business studies (Johnson and Bruwer, 2007; McCutcheon et al., 2009, where, for instance, online response rates below six percent were reported. The low response rate in the present study also illustrates the challenging nature of gathering data from small businesses. In this regard, Macpherson and Wilson (2003) explain “that it is notoriously difficult to engage SMEs [small and medium enterprises] in research” (p. 172), while Dennis (2003) underlines the “notoriously low response rates” (p. 278) of questionnaires sent to small business owners.

SPSS was used to analyse the numerical data, and independent samples t-tests and one way ANOVA (Scheffé post hoc) were run to test any inter-group differences. The data collected in Section 2 was analysed using word association (Roininen, Arvola, and Lähteenmäki, 2006), and qualitative content analysis (Schreier, 2012). These data were managed using NVivo version 9. Finally, selected participants’ verbatim comments provided in the following sections to illustrate key points were labelled using abbreviations such as P1 for Participant 1, P2 for Participant 2 and so forth.

Demographic characteristics of participants and wineries

Nearly two-thirds of the participants are owners or both winemakers/owners, and 59.2% produce 100,000 bottles or less (Table 1). While as previously mentioned all the 211 participating wineries fall under the categories of micro and small-sized enterprises, the large majority (77.8%) are micro in size (i.e. fewer than 10 employees). Over half of the wineries are over three decades old and only 9.5% 10 or fewer years old. An almost 3:1 split was noticed regarding participants’ genders, with a clear predominance of male operators. Further, 68.7% have worked at the winery for at least 11 years, and the large majority of the wineries export their wines and are open to the public.

Table 1 Here

Results

RQ1: How winery operators define innovation in their industry

Using word association and content analysis, keywords and themes emerging from the verbatim comments not only identified definitions of innovation, but also suggested ways in which winery operators were actually innovating. Expectedly, given the number of

participants, definitions of innovation varied significantly; despite such fragmentation, participants' perceptions underlined the significance of seven distinct areas (Table 2). Caring/respecting the environment, such as not using or limiting the use of pesticides in the vineyards, or limited/no use of sulphites in wine production was the most indicated aspect participants associated with innovative practices:

P1: Grape production based on rigorous environmental practices. Transformations with maximum use of available technologies with least environmental impact.

P2: Increasingly, more attention paid to the environment, be it in vineyard practices, during vinification, or during the bottling of the wines.

P3: Eco-sustainability; more attention paid to the health of the ecosystem and that of people (consumers).

Table 2 Here

Gilinsky et al. (2008) briefly referred to environmentally friendly practices as increasingly important. More recently, Gilinsky, Newton, and Fuentes Vega (2016) present four cases of wineries' environmental sustainability, illustrating the fulfilment of one of the industry's priorities: "leaving the land in better shape for the next generation" (p. 46). Another study (Gilinsky et al., 2015) on environmental practices among wineries in three countries underlined that eliminating or reducing toxicity of chemicals was perceived as an important benefit, particularly among United States and Italian winery operators. Also recently, Staci, Muscio, Nardone, and Seccia's (2016) study confirmed "the hypothesis that voluntary environmental certification" (p. 296) is related to wineries' innovative profile.

Investments, improvements, adaptation, gained efficiencies, and research emerged as most indicated forms of innovating. These findings also align with previous research studies on winery innovation (e.g., Aylward, 2004; Doloreux et al., 2013; Duarte Alonso and Bressan, 2014; Stasi et al., 2016). Of interest is the definition of maintaining traditions, especially through the preservation of local/typical grape varieties, or experimentation with varieties on the verge of extinction, while at the same time seeking to improve wines' quality:

P4: Seeking to evolve, also in vinification and cultivation, trying to 'innovate old traditions'...

P5: Maintaining traditions by improving critical aspects [of wine production].

P6: Achieving more global efficiencies, in our case by rigorously maintaining approaches and methods of traditional wine production.

P7: A product that can dazzle consumers and create new tendencies, while at the same time 'innovating the tradition', respecting it.

RQ2: Winery operators' agreement with various proposed forms of innovation

The analysis of participants' level of agreement with the list of items (Table 3) is partly aligned with various keywords representing definitions of innovation (Table 2). Further, the analysis demonstrates that, even when rating a specific, small number of items, participants' level of agreement is rather modest. Only four items scored a mean of 3.5 or above, namely, involvement in wine tourism, adoption social media, translating bottles into foreign languages, and purchasing/building new facilities, for instance, to expand production.

At the other end, the development of new harvesting techniques, which, for instance, also implies using technology, knowledge, training, and external support (e.g., experts) to identify more ideal ripening times was very marginally considered. Comments left in this section further emphasised the meaning and operationalisation of innovation:

P8: *Our area has recently become UNESCO listed... we decided to open on Sundays to provide a reference point for wine tourists... this year we also opened our Facebook page to have more visibility...*

P9: *We are equipped with photovoltaic panels that allow a total autonomy to the energy level...*

P10: *We are equipped with a bottling line capable of handling various formatting of bottles, caps (both screw cap cork), labels ... In 2009, we decided to invest in a line to bottle the Bag- in-box.*

Table 3 Here

Arguably, the results (Table 3) suggest marginal involvement or interest in innovative strategies, and may be due to several factors related to the limitations of small firms in pursuing innovation. For example, Laforet's (2008) study noticed that small firms are 'defenders', or reactors to the market place, while medium-sized firms are 'prospectors', or opportunity-seeking. Importantly, prospectors also appeared to be more innovative than defenders (Laforet, 2008). The above findings are also aligned with recent research (Barzi, Cortelezzi, Marseguerra, and Zoia, 2015) indicating that, typically, Italian businesses are characterised by low levels of innovation. One cause associated with limited innovation, especially among smaller firms, are costs (Madrid-Guijarro, Garcia, and Van Auken, 2009). Another study conducted among employees and managers of micro and small firms (Gumusluoglu and Ilsev, 2009) found that external financial and technical support could be essential in increasing innovation as opposed to "an innovation-supporting internal climate" (p. 264). Thus, the authors recommend that managers of particularly micro and small firms should develop external relationships, in particular, with institutions providing those forms of support. Given that the vast majority of the participating firms are currently exporting wines, the above findings are also partly in contrast with Agarwal et al.'s (2003) conclusion that "firms that are less market-oriented are less likely to consider innovation" (p. 78-79).

RQ3: Exploring inter-group differences

Running one way ANOVA (Scheffé post hoc), participants from wineries producing more than 100,000 bottles (Table 4) clearly agreed more concerning four of the seven items presented in Table 2. Close to level of agreement was noticed regarding purchasing new equipment/machinery, and purchasing/building new facilities. Similarly, participants from the 'older' wineries also agreed more than those from the more recently established wineries concerning these two items.

Table 4 Here

A potential generational divide was identified in the last comparison, in that the later participants had joined the winery, the more they agreed with usage/adoption of social media at the winery compared to other all other groups who had joined the winery earlier. In fact, the modest means scored by participants with 30 or more years' experience at the winery

illustrates marginal involvement in innovating through new technologies, particularly to capture some customer groups.

The independent-samples t-test run revealed statistically significant differences among three demographic groups. Mirroring past research recognising smaller firms' limited resources (Beck, Demirgüç-Kunt, and Maksimovic, 2005), clearly, participants representing small firms agreed significantly more concerning six of the seven items (Table 5). This finding suggests that participants representing the 'larger' firms of the studied sample, in this case small-size firms, may have more resources, and therefore the capability to become involved in innovative practices, especially purchasing new equipment/machinery, purchasing/building new facilities, adopting social media, and translating wine bottle labels into other languages.

Table 5 Here

Although clearly numerically apart, comparisons between participants from exporting and non-exporting firms yielded various differences, with the first group clearly agreeing more with involvement in wine tourism, and translating wine bottle labels into other languages. Plausible justifications for these results include a) the prevalence of more investments in innovating practices among exporting firms, and b) perceptions that those investments are well justified by potential returns. In all four statistically significant differences, links between the four items are evident, particularly the link between purchasing/building new facilities, which may also include a cellar door, and involvement in wine tourism. Finally, in two cases, gender differences were identified, with females clearly agreeing more with involvement in wine tourism as an innovative strategy.

Discussion

The theory of innovation and the study's findings

In agreement with Nelson and Winter (1977), the 'current knowledge' gathered from the study's findings may help facilitate predictions from actual observations and insights. Figure 1 illustrates a conceptualisation of the findings as they relate to the theory of innovation, based on Down and Mohr's (1979) contribution. All four dimensions proposed by Downs and Mohr (1979) are applicable to the context of the findings, and, based on these, a number of predictions can be suggested.

Figure 1 Here

Fundamentally, the variety of benefits that can result from innovative practices is reflected in participants' acknowledgment of what innovation means to them. For example, programmatic benefits are understood through participants' reflections of the significance of minimising ecological footprint on the fields (vineyards), as well as during wine production. These reflections also suggest partial involvement in such environmentally sound practices (e.g., P1). The 'better state' (Downs and Mohr, 1979) is reflected by the winery operator's philosophy to address environmental and consumer concerns, moving towards sustainable practices.

The predictive element emerges in that these practices originating both from government/industry regulations and from operators' proactiveness and initiative could be communicated to end consumers, potentially leading to a range of benefits, including

financial gains through more sales/exports. Similarly, prestige benefits could be materialised or accentuated by improvements in quality resting on innovative practices or technological innovation. Further, while structural benefits may typically lead to healthier internal relationships (Downs and Mohr, 1979), improvements and increased efficiencies gained from involvement in innovative practices could result in less physically demanding, and/or more fulfilling working experiences for operators and their staff. The ‘better state’ Downs and Mohr (1979) emphasise in their model also relates to prestige and structural benefits.

The significance of the costs dimension is also documented in the findings, and allows for making predictions. Whether only the owner(s) operate the winery, or have employees, both deciding on and implementing innovation and innovative practices, four key demands are proposed (Figure 1). Time is required to reflect, discuss, or make final decisions; finances are needed to communicate or incurred in the form of ‘opportunity costs.’ Effort is invested when discussing, meeting, and facing internal issues, including resistance or misconceptions about innovation. Effort is also required externally, attending meetings, finding appropriate information about a certain innovation, making offers, counter-offers, or bargaining with suppliers. Emotions are invested in decisions and implementation processes. Emotional capital, for instance, is composed of various resources (emotional competencies) inherent to an individual, and useful for social, organisational, professional, and personal development (Gendron, 2004). Moreover, emotional capital is defined as emotionally valued skills or assets, expenditure of time, care, concern, and attention (Allatt, 1993), suggesting patience, commitment, and support (Zembylas, 2007).

The resources dimension is also very helpful in facilitating understanding, and in predicting the adoption of innovation. As with the costs dimension, the resources needed to innovate, enable, or execute innovative strategies also place significant demands on the firm. In the case of wineries, these demands are clearly financial (wealth), information (time/effort to gather), manpower (e.g., to operate new equipment) and equipment related (to facilitate innovation). The data illustrated in Table 3, particularly the increased use of technology, conducting research, improvements, making investments, and even the apparent stronger environmental care are a reflection of all initiatives demanding winery resources. Finally, and although participants were not queried about any challenges and issues associated with discounting factors, some of these, such as risk, uncertainty, and venturesomeness are intrinsically part of winery management’s concerns. Furthermore, these factors may play a key role in decision making process, especially concerning benefit-cost assessments.

Conclusions

While the entrepreneurship and innovation literature highlights crucial benefits for firms engaging in innovative practices, a number of knowledge gaps remain. Fundamentally, and for the most part, research on small firms’ innovation is very limited. Another innovation related area poorly addressed among authors concerns businesses involved in conservative/traditional sectors, including the wine industry. The present study contributed to both bodies of literature, examining innovation in the context of micro and small Italian wineries, gathering the perspectives of 211 operators, and adopting the theory of innovation.

A variety of definitions of innovation emerged from participants’ answers and comments, many aligned to businesses’ actual innovative practices, including minimising ecological footprint, investments, improvements, and adapting to new consumer requirements and trends. Importantly, innovation is also perceived as maintaining traditional processes and

ways, while at the same time improving wines' quality. From a list of items representing ways of innovating (Table 3), participants' level of agreement was highest with regard to involvement in wine tourism and social media communication. Through testing this list against demographic characteristics of participants and wineries various statistically significant differences were noticed. Participants from small wineries, as opposed to micro-size wineries, those from exporting wineries, and from wineries producing more than 100,000 bottles exhibited higher levels of agreement.

The findings revealed the usefulness of the different dimensions of the theory of innovation proposed by Downs and Mohr (1979), enabling a more in-depth understanding of innovation among micro and small wineries. First, sub-dimensions concerning programmatic, prestige, and structural benefits are associated with the definitions of innovation (Table 2). These sub-dimensions also represent a useful framework for making predictions of benefits acquired through innovative practices and initiatives. Second, the significance of costs was also highlighted. In fact, decision corresponds to the assessment, and subsequent investment, both in tangible and intangible ways. Implementation entails the experience of learning, adapting to innovation, or addressing potential issues such as faults or misunderstandings disrupting operational procedures. As with decision costs, implementation may involve a variety of tangible or intangible investments.

Third, and linked to decision and implementation, resources, such as equipment, manpower, or acquiring information are clearly aligned with some of the findings (e.g., Table 2, Table 3). The resources dimension underlines involvement in innovative practices, and the corresponding extent of investments. Fourth and finally, part of the findings are also related to discounting factors. Furthermore, while the operationalisation of innovative practices could have significant positive impacts for firms, these practices may be accompanied by a certain degree of uncertainty or risk.

Implications

From a practical perspective, the findings (Table 2, Table 3) reveal critical innovation-related aspects, including the benefits of engaging in innovative initiatives. These aspects could be valuable to wineries, wine associations, government agencies responsible for business and rural development, and consumers. For example, the focus on quality, improvements, adaptation through innovative practices, as well as involvement in social media and wine tourism could be appealing to consumers. Similarly, participants' acknowledged environmental concerns, and involvement in environmentally sustainable practices could have positive implications, including for those consumers who value such efforts and philosophies, or have an interest or concerns about foods' traceability.

Furthermore, investments, maintaining traditions, conducting research, applying technical knowledge, or developing new production techniques could have implications. Indeed, through policies, development, training and educational initiatives, particularly for generations of future wine entrepreneurs, government, chambers of commerce, and European Union development agencies could help support new knowledge. This knowledge could then cascade down into greater involvement in innovation among winery entrepreneurs, and contribute both directly and indirectly to improvements in the wine industry. Together, innovation and resulting improvements could lead to a consistent growing appeal and appreciation of Italian wines both nationally and internationally, potentially increasing exports, and enhancing the prospects of the wine industry's long-term sustainability.

The four dimensions proposed by Downs and Mohr (1979) provide a path illuminating the 'better state' that could ensue as a result of innovative practices and initiatives. Thus, one fundamental implication is that adopting these dimensions could not only be invaluable in facilitating knowledge and guiding research, but also in their predicting potential, thus, extending from actual observations (Nelson and Winter, 1977). As previously discussed, these valuable dimensions were mainly illustrated in the benefit-cost related analysis Downs and Mohr (1979) present when these were adopted to study micro and small wineries. While overall all four dimensions are intrinsically associated with the findings, the programmatic and prestige benefits, decision and implementation costs, and resources appeared to be particularly applicable and revealing. The evidence from this study also implies that the framework could be adapted and help predict observations in the wine, as well as in other industries where micro and small firms are predominant.

Limitations and Future Research

Several limitations are recognised in this research. Apart from only 211 participants, a modest number compared with the thousands of existing Italian wineries, which prevents from regional comparisons, the study also only focuses on one country, and does not include medium or large wineries. For these reasons, the overall findings must be treated with caution regarding any country, industry, or firm-size related generalisations. These limitations identify future research opportunities, for example, seeking for more responses regionally, nationally, or even internationally. This line of research could allow for comparing two or more regions, or several countries; similarly, the inclusion of medium- or large-size wineries could also enhance the possibility of making useful comparisons for practitioners, government representatives, and academics to reflect on and identify appropriate implications.

The further consideration and adoption of the theory of innovation could add rigour and depth to future investigations, and underline aspects that could contribute to theory development. Given the various research gaps identified in contemporary research, overall, the further study of both innovation related dimensions among smaller firms, including those involved in traditional industries, and theoretical engagement could produce useful practical and theoretical insights for various stakeholder groups.

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