Implementing organic viticulture as a business strategy: A case study

Maximilian Iselborn
Geisenheim University, Germany
University of Gießen, Germany
Szent István University, Hungary
Maximilian.Iselborn@hs-gm.d e

Gergely Szolnoki
Geisenheim University, Germany
Gergely.Szolnoki@hs-gm.de

Zoltán Szabó
Szent István University, Hungary
Szabo.Zoltan@gtk.szie.hu

Purpose - The study aimed to observe organic viticulture as a business strategy from an entrepreneurial perspective. Research analysed both quantitative and qualitative data.

Design/methodology/approach - A comparative case study approach was used with respect to HAK AND DUL (2009). Enterprises were observed by using annual financial statements over a five-year period. Statistical analysis was conducted to compare key figures that examine impacts of organic farming compared to conventional farming practices. Moreover, content analysis was drawn to examine impacts of organic viticulture from an entrepreneur's point of view. Results from quantitative and qualitative data was combined to test propositions that were derived from literature.

Findings - The study reveals that small-sized wineries have to take several strategic actions due to successful organic farming. Observed data showed several impacts that were linked to organic farming. A strong information asymmetry is given between producer and consumer that might lead to less additional value added for producer. Furthermore, organic farming is more or less self-realization rather than part of an elaborated business strategy.

Practical implications - Organic producer should implement strong communication activities to increase the awareness of production processes from a consumer point of view as well as willingness to pay to compensate increasing costs and to raise value added.

Keywords: Organic viticulture, entrepreneurship, business management, strategy

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1. Introduction

Within the last decade several studies have forced examining the overall green trend in industrialised countries. Consumers become more and more conscious, since information about green production has increased. While green utility for meat and crops are relatively easy to catch for consumers and thus bear value added for producers, wine is still a complex semi luxury good with high search and information costs. Yet, little research has been done to examine the impacts of organic farming from a producer point of view in the wine business. Thus, it is unclear whether producer do benefit by implementing organic strategies or whether they pay the bill of an ongoing transition that is driven by policy makers, traders and confused consumers. We try to fill this research gap by *examining what has to be done for successful implementation of organic farming as part of a differentiation strategy within wine entrepreneurship*. With respect to SZOLNOKI (2013), who found that the terms organic, biodynamic and sustainability are often mixed up, we review literature that is linked to organic, biodynamic, environmental and sustainable issues in the wine industry.

BRUGAROLAS MOLLÁ-BAUZÁ ET AL. (2005) investigated the price premium for organic wines with respect to conventional wines by surveying 400 Spanish wine consumer. Environmental and health-conscious consumers were willing to pay a price premium. STOLZ AND SCHMID (2008) conducted a qualitative study in Italy, France, Germany, and Switzerland to investigate consumer's attitude and expectations concerning organic wine. 158 consumers were analysed through 16 focus groups. Consumers saw organic wines as more healthy, but lack of quality, since consumers did not understand organic production processes. REMAUD ET AL. (2008) displayed that organic wine is less valued through 756 Australian wine consumers. Nevertheless, a few consumers that could be drawn from segmentation were willing to pay a price permium of $4.99 for wines greater $12.50. MUELLER AND REMAUD (2010) replicated the study of REMAUD ET AL. (2008) to consider robustness of Australian consumer preferences towards organic and environmentally friendly claims over time. Output indicates that valuating organic claims had slidely increased over time from 0.2% to 2%. Moreover, environmentally conscious consumers paid a price premium for the claim 'environmentally responsible'. BAZOCHE ET AL. (2008) undertook an experimental auction with 193 participants in Paris to examine willingness to pay for environmental characteristics. Though the sample was divided into two groups and information was shared unequally through both groups, willingness to pay remained similar. Consumers did not value environmental effects through environmental triggers. BARBER ET AL. (2009) revealed that consumers with strong attitudes towards environmental issues are more willing to purchase environmentally friendly wine. FORBES ET AL. (2009) measured consumer attitudes and willingness to pay regarding environmental sustainable produced wines during the wine shopping process of 109 retail shoppers in New Zealand. Buyers stated preferences for environmentally friendly labelled wines. 80% of the sample were willing to pay a markup for organic farming, since interviewees thought organic wines were more expensive. Furthermore, 50.3% stated organic farming rises quality. ZUCCA ET AL (2009) observed 300 US wine consumers regarding sustainable viticulture, winemaking and willingness to pay for sustainable practices. 52% were familiar with the term sustainability, 10% knew sustainable processors, 90% thought sustainable farming was important for viticulture and would buy such products. However, 7% had deeper knowledge about sustainable farming practices. SIRIEIX AND REMAUD (2010) used a perceptual mapping approach to link given attributes to

conventional, biodynamic, organic and preservative-free wines. Outcomes reveal that organic and biodynamic wines are associated with several attributes, but respondents partly delivered confusing results through the term biodynamic. MANN ET AL. (2011) examined 404 Swiss wine consumers through bio as a wine attribute with respect to other wine attributes. Conventional produced wines were preferred compared to organic wines. Social image and health issues contributed most to organic wine consumption. However, region of origin and price were mainly attributed. OLSEN ET AL. (2011) analysed the relationships between environmental and hedonic values in organic wine purchasing process by an online survey with 321 US wine drinkers. US wine drinker showed that environmental protection and hedonistic lifestyle contributed to organic wine purchasing decision. Thus, environmental valuing consumers were willing to self-sacrifice and to pay a markup for organic wines. SCHMIT ET AL. (2013) conducted an experimental auction with 196 US wine consumers. Results indicate that willingness to pay for environmental attributes was only realised if sensory expectations were fulfilled. Quality remained the main trigger for a price premium. Furthermore, researchers stated that price premium has to cover increased production costs of organic farming. DELMAS AND GRANT (2014) tested the effect of eco-certification and labelling practices on wine prices in the US. 13,400 wine characteristics such as wine price, quality rating, variety, vintage, and quantity were examined between 1998 and 2005. Research distinguished between certified organic and organic labelling effects. Outcome displays that certified organic increased price by 13%, while eco-labelling reduced prices by 20%, because of negative associations towards eco-labelled wines.

Besides the demand for organic wine, some studies were drawn from a producer side. HOUGH AND NELL (2003) examined production costs and revenues of organic farmers by a one-shot case study approach of a South African farm. Research focused weather conventional or organic farming is beneficial for wine producer. Results indicate that the attainable price premium determines if organic farming is beneficial or not, since yield per ha was lower and costs slidely higher. ZILBER ET AL. (2010) examined the potential of organic and biodynamic farming for an Argentinian winery. Information was collected from secondary data and a single interview with the general manager of the firm. The study displayed that organic or biodynamic wine prodution can be used as alternative business strategy in developing countries. Nevertheless, organic farming should be used for differentiation rather than cost orientation, as production costs rise through labor intensity by organic farming. BOUZDINE-CHAMEEVA (2011) analysed organic wine producers in France and Italy to observe consumer motivation, producer motivation, production approaches and marketing strategies. 17 Italian and 15 French wine producers were interviewed through semi-structured interviews. Producer motivations are quite various. Furthermore, organic was seen as an ambivalent approach recognized by risk and quality loss as well as by the lack of international recognizable quality certification. Authours conclude heterogeneity in motivation for organic farming is driven by EU rules and organic should be linked to quality to avoid reputation and quality loss. SANTINI ET AL. (2011) did a case study within the Montalcino area in Italy by analyzing the role of entrepreneurial mindset and values in defining successful strategy for organic and biodynamic certified wineries. Outcomes showed that farming organically is not a strategy itself for successful product differentiation. CORSI AND STRØM (2013) surveyed 171 organic farmers from Piedmont, Italy, to observe if organic wines benefit from a price premium. Overall 304 organic wines and 85 conventional wines were collected and compared. Region of origin and the grape variety obtained a price premium, while organic quality did not add to price premium, but modified the impact of other variables and commanded higher wine prices. CASTELLINI ET AL. (2014) surveyed 183 Italian wine

producers to research the main characteristics of the organic wine sector before the inforcement of EU regulation 203/2012. The top three reasons why producers follow organic production are ethical reasons (88.5%), higher product quality (53.8%) and product differentiation (23.1%).

Similar to LOCKSHIN AND CORSI (2012), we conclude that the importance for organic wine is present but strongly heterogeneous and restricted. Several studies have shown that having a positive attitude towards green issues and a healthy lifestyle provides the necessary condition for valuing organic and a price premium (FATOPOULOS ET AL., 2003; BRUGAROLAS MOLLÁ-BAUZÁ ET AL., 2005; BARBER ET AL., 2009; OLSEN ET AL., 2011). High involved consumers who have a tendency for green consumption mainly state positive regarding organic wines and a price markup. However, organic bears confusion regarding content in terms of quality, processing and labelling (STOLZ AND SCHMID, 2008; BAZOCHE ET AL., 2008; ZUCCA ET AL., 2009; SIRIEIX AND REMAUD, 2010; DELMAS AND GRANT, 2014) and inferring is double-edged by positive and negative associations. Nevertheless, quality, price and grape variety stay the main attribute for a purchasing decision (CORSI AND STRØM, 2013; SCHMIT ET AL, 2013). Overall, previous studies reveal that homogenous communication and the link between organic and quality could increase demand for organic wines (BRUGAROLAS MOLLÁ-BAUZÁ ET AL., 2005; REMAUD ET AL., 2008; SIRIEIX AND REMAUD, 2010; MANN ET AL., 2011; OLSEN ET AL., 2011; BOUZDINE-CHAMEEVA, 2011). Yet, most producer studies are limited through one-shot case studies (HOUGH AND NELL, 2003; ZILBER ET AL., 2010; SANTINI ET AL., 2011) which are incomparable regarding company structure and location. We fill the existing research gap by using **comparative case study approach** to examine, whether organic benefits as a business strategy from a producer point of view. We therefore sum up, that based on the analysed literature, organic as a successful business strategy has to focus on the implementation of the following strategy actions: *(a) a price premium has to be commanded, (b) expenditures have to remain constant, (c) a price premium has to exceed increased expenditures, (d) yield has to remain stable, (e) heavy marketing activities in terms of quality and environmental friendly communication have to be adapted*.

2. Methodology

The paper aims to test the propositions a) – e) to examine whether organic entrepreneurs do implement strategic actions to benefit from organic farming. We use *comparative case study* (DUL/HAK, 2008a) approach as a research strategy, since the research […] investigates a contemporary phenomenon within its real-life context […] (YIN, 2003). Case studies are appropriate when analyzing complex issues (PERRY, 1998; DUL/HAK, 2008). Comparative case studies use replication logic for hypothesis testing (EISENHARDT, 1989a; EISENHARDT/GRAEBNER, 2007). Case study was designed by using quantitative and qualitative data and thus following triangulation (EISENHARDT, 1989b). Quantitative data was drawn from 940 financial statements of wine businesses through several growing regions in Germany over a five-year period (08/09 – 12/13). Sample included 170 conventional and 18 organic-farming direct selling wineries. Key figures were counted as mean from financial statements over a five-year period. Mean and standard deviation was calculated over all estates and selected figures. Two groups were built (organic vs. non-organic farmer) and compared through non-parametric Mann-Whitney-U-Test and Spearman's Rho correlation analysis. Qualitative data was collected by a content analysis scheme with respect to

MAYRING (2010). 18 organic wineries were asked through a semi-structured questionnaire regarding the impacts of organic farming on several variables. Both groups were analysed through comparative case study approach with respect to HAK AND DUL (2009).

3. Results and Discussion

Table 1 displays descriptive statistics for the analysed data through mean and standard deviation. Standard deviation shows high dispersion within the observed groups. The size of the wineries (ha) and labor equipment is nearly similar. Both samples almost had the same (family) labor endowment per ha. The organic sample shows lower revenues per ha (org: €38,231.49; conv: €40,899.77) and nearly equal expenditures per ha. While personnel expenditures are more or less equal, material expenditures are slidely lower in the organic sample. Logically, expenditures for crop protection was lower (org: €356.66; conv: €519.29), since organic crop protection is basically managed by copper and sulphur. Organic wineries had slidely lower expenditures for fertilizer (org: €166.00; €187.38). Furthermore, expenditures for fertilizer underly a high volatility per year, since manure is not used regularly. Results reveal findings of HOUGH AND NELL (2003) who also found less expenditure for organic manure. The lower profits per ha (org: €6,686.98; conv: €9,249.46) are based on lower yield that might be attained by organic farming (org: 61.79; conv: 74.51), since revenues per litre exceed conventional wines by €0.64. Thus, results accentuate the argumentation of SCHMIT ET AL. (2013) who argued that price premium has to overcompensate production costs. Resulting, efficency differs between farming methods. Mann-Whitney-U-Test (p-value < 0.05) reveals significant differences through *profit per ha**, *yield in hl per ha** and *efficiency** between both samples.

Table 1
Descriptive comparison of selected key figures by mean and standard deviation

Figures	Organic (n = 18)	Conventional (n = 170)
Size of the wineries (ha)	12.54 (σ = 7.93)	12.64 (σ = 7.69)
Labor per ha	0.46 (σ = 0.12)	0.47 (σ = 0.17)
Family labor per ha	0.20 (σ = 0.12)	0.19 (σ = 0.12)
Revenues per ha	€38,231.49 (σ = 8,404.25)	€40,899.77 (σ = 14,095.07)
Expenditures per ha	€31,544.51 (σ = 7,570.18)	€31,650.31 (σ = 12,547.43)
Personnel expenditures per ha	€5,331.61 (σ = 3,102.57)	€5,508.17(σ = 4,400.37)
Material expenditures per ha	€14,460.82 (σ = 4,678.11)	€15,036.75 (σ = 7,184.80)
Crop potection expenditures per ha	€356.66 (σ = 271.38)	€519.29 (σ = 472.28)
Expenditures for fertilizer	€166.00 (σ = 250.26)	€187.38 (σ = 254.94)
Profit per ha	€6,686.98 (σ = 3,634.91)*	€9,249.46 (σ = 5,642.77)*
Revenues per litre	€5.70 (σ = 1.67)	€5.06 (σ = 1.67)
Yield in hl per ha	61.79 (σ = 13.97)*	74.51 (σ = 17.41)*
Labor intensity in h per ha	924.40 (σ = 273.86)	933.08 (σ = 346.75)
Efficiency (Expend./Rev.)	0.83 (σ = 0.08)*	0.77 (σ = 0.11)*

*p-value < 0.05

Nevertheless, lower yield, which turns out as the main influencing variable, might be also caused by quality orientation rather than organic impact. Since strong quality orientation is accompanied by a reciprocal relation between quality (price) and yield, correlation analysis is suitable to measure quality orientation within both groups. Table 2 displays results. The organic sample reveals high negative significant correlation between yield per ha and price per litre, while the conventional shows lower correlation. Deriving from table 1, the sample

was again divided through the critierion yield per ha < 61.79. Again, table 2 shows a reciprocal relationship between observed variables. Compared to the correlation of conventional estates (n = 40), organic estates (n = 11) indicate stronger relationship between yield per ha and price per litre. Conclusive, businesses with high quality focus implemented through lower yield per ha are less influenced by yield impact through organic farming.

Table 2
Correlation analysis between yield per ha and revenues per litre

Yield per ha / revenues per litre	Spearman-Rho
Organic (n = 18)	-.715**
Conventional (n = 170)	-.507**
Organic < 61.79 hl/ha (n = 11)	-.536
Conventional < 61.79 hl/ha (n = 40)	-.180

**p-value < 0.01

Table 3 summarizes the qualitative interviews by cross-case analysis through the propositions a) - e) and thus follows replication logic (DUL/HAK, 2009). Positive statements that were drawn from the interview scheme through MAYRING (2010) obtained a score of 1, while negative statements 0. Sum was built per column to test hypotheses a) – e). Results are discussed below.

Table 3
Cross-case analysis with respect to HAK AND DUL, 2009

Cases	(a) Price premium	(b) Constant Expenditures	(c) Price premium > expenditures	(d) Stable yield	(e) Marketing communication
Case 1	1	0	0	0	0
Case 2	0	0	0	0	0
Case 3	0	0	0	0	0
Case 4	0	0	0	0	0
Case 5	0	0	0	0	0
Case 6	0	0	0	0	0
Case 7	0	0	0	0	0
Case 8	0	0	0	0	0
Case 9	0	0	0	0	0
Case 10	0	0	0	0	0
Case 11	0	0	0	0	0
Case 12	0	0	0	0	0
Case 13	0	1	0	1	0
Case 14	0	1	0	1	0
Case 15	0	1	0	1	0
Case 16	0	1	0	1	0
Case 17	0	1	0	1	1
Case 18	0	1	0	1	1
Scores	**1**	**6**	**0**	**6**	**2**

Overall, the interviewees showed a strong attitude towards green issues and explained that organic plays a role in their private life. Particularly, healthy food, sustainability and change of generations was mentioned as drivers for organic farming. Thus, the overall motivation and decision for organic viticulture is driven by producer conviction and self-realization. a) 17 out of 18 organic farming entrepreneurs stated that organic does not bear a price premium and consumers are not willing to pay a markup, since organic bears less additionally utility for wine consumer. This is related to the fact that price premium is mainly built on wine quality and the producer-customer-relationship. b) 12 out of 18 producers explained that expenditures have increased by organic farming methods. However, 7 out of 18 respondents

stated that material expenditures have decreased, while personnel expenditures have increased. Additional expenditures are related to a more labor intensive cultivation (more frequent plant protection, intensive phytosanitary operations). Nevertheless, Table 1 displays contradictory results derived from the financial statements and additional questions about labor intensity and personnel expenditures. However, personnel expenditures might remain more or less constant, since entrepreneurs do not produce financial expenditures within the investigated data source. Thus, entrepreneurs in personal companies and partnerships are compensated through residual profits. Consequently, increasing expenditures might be overcompensated by additional work of the entrepreneurial family rather than additional employees. c) Though one respondent collected a price premium (a), all other respondents (c) did not collect a price premium that overcompensates increasing expenditures. d) Consistent to Table 1, 12 out of 18 stated that yield is influenced by organic farming. Furthermore 3 out of 12 explained that lower yield is linked to quality management rather than organic farming. e) Merely, 2 out of 18 organic farming entrepreneurs communicate organic actively within their marketing strategy, since they think that other wine attributes are more beneficial for their customer. Conclusive, overall results reject propositions a) to e), as organic farmers do not integrate comprehensive strategic actions within their business stratey.

4. Conclusions

The paper summarized wine related literature towards organic farming from a consumer and producer point of view. A comparative case study approach was used to observe strategic implementation of organic farming by combining data from finanical statements and semi-structured interviews of organic wine businesses. Results indicate that organic farming does not benefit as a wine business strategy from an economic point of view, since there is a gap in the implementation of strategy actions. Conclusive, consumers are not able to develop a comprehensive understanding about organic farming methods and are willing to pay a price premium. Since producers think there is no additional utility for consumer and a price premium that might lead to value added for producer, communication activities are restrained. Nevertheless, as aforementioned by BRUGAROLAS MOLLÁ-BAUZÁ ET AL., 2005, REMAUD ET AL., 2008, SIRIEIX AND REMAUD, 2010, MANN ET AL., 2011, OLSEN ET AL., 2011, and BOUZDINE-CHAMEEVA, 2011, a transparent communication between supplier and consumer is necessary to increase importance of organic viticulture from a consumer point of view. Furthermore, producer should link organic to quality and implement both attributes within a quality oriented strategy. Thereby, organic marketing activities might contribute to consumer awareness and a price premium. Concluding from this study, the data that was used is limited, because financial statements and the size of the sample is not representative. Further research should focus on a multi-country study from a producer point of view to elaborate a communication strategy that might lead to a potential price premium.

5. Literature

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