

EXPANDED ABSTRACT

Quality of web sites in the organic agro-food sector and its explanatory factors: the role of cooperativism

Websites whose content and design is positively evaluated by users, regardless of whether they are end consumers or companies, provide firms with a source of competitive advantage. The role of the website as an information and sales channel is especially important in sectors such as the organic produce sector, where products are marketed in a strong connotative context (Evans & Wurster, 1999) and where consumers demand a large amount of information when making purchase decisions. Information on corporate social responsibility (CSR) is particularly well received by consumers of organic produce, in the sense that these users are more concerned with issues related to the quality and authenticity of such products than with price-related issues (Morley et al., 2000; Brunso et al., 1996).

Numerous scholars have examined the metrics that influence the effectiveness of websites as a sales channel. The technology acceptance model (TAM), proposed by Davis (1989), is the most widely adopted. According to this model, the user's perception of the utility and ease of use of the website is what conditions the effectiveness of the website. Despite a lack of consensus on the definition of the key elements of perceived utility and ease of use (Heinze & Hu, 2006), several scholars, such as DeLone and Mclean (1992), Seddon (1997) and Yang et al. (2005), have cited quality of the system and quality of the information provided as the two main determinants. This is the perspective adopted in this study.

There is also empirical evidence of the positive relationship between website quality and firm performance (Meroño & Soto, 2007; Moral, Mozas, Bernal, & Medina, 2015). Moreover, Moral et al. (2015) showed that organisational characteristics such as the size, legal form and age of the firm play a role as determinants of the degree of website implementation.

Based on these arguments, the goal of this study is to analyse the extent to which Spanish organic agri-food enterprises, more specifically, organic olive oil producers, exploit the potential of the Internet as a sales channel. This goal is addressed by analysing the quality of these firms' websites, with a particular focus on the CSR information provided on these websites. The influence of certain organisational and financial variables on website quality is also studied. Accordingly, five hypotheses are stated and tested:

- H1. The size of organic agri-food enterprises directly influences the overall quality of their websites.*
- H2. The cooperative legal form has a negative influence on the overall quality of the websites of organic agri-food enterprises.*
- H3. The age of organic agri-food enterprises has a significant influence on the overall quality of their websites.*
- H4. Website quality positively influences the performance of organic agri-food producers.*
- H5. The quality of CSR information has a greater influence than does general information on the performance of organic agri-food producers.*

The study covered all Spanish organic extra virgin olive oil producers with active websites (116 of 259 firms in the sector). Companies that did not provide information on the target organisational and financial variables were removed from the study. Thus, the websites of 99 companies were analysed.

Based on the factors cited in the literature as essential for a high-quality website, an index of overall website quality comprising 52 indicators was developed. This index provided a quantitative measure of website quality. This index was formed of two partial indices: an index of information quality and an index of system quality. The index of information quality comprised 35 indicators (67.31% of all indicators) divided among indicators of general information and indicators of CSR information. The index of system quality comprised 17 indicators (32.6% of all indicators).

Data were collected in July 2016. Each indicator was assigned a score of either 1 (presence) or 0 (absence) based on the availability of each analysed aspect. A weighted score out of 10 was calculated to compute the indices, providing a simple measure that ranged from 0 to 10. Because the two partial indices did not consist of the same number of indicators, they were weighted by their relative contribution to the index of overall website quality to compute this overall index.

The data were analysed using several methods: descriptive statistical analysis, fuzzy-set qualitative comparative analysis (fsQCA), and Pearson correlation analysis. The fsQCA technique was used to overcome the limitation of other methods as regards the use of a small sample. The results show whether the organisational variables under study (age of the company in years, number of employees working at the company offices, company size in terms of turnover and the legal form of the company) are antecedents or causal conditions of website quality.

The results of the descriptive analysis show that the average score for the index of overall website quality was 3.73 out of 10, with a maximum value of 7.05 and a minimum value of 1.15. The values of the partial indices show that the websites of organic producers had greater system quality (index of system quality = 3.89) than information quality (index of information quality = 3.65), although both indices had scores of less than 4 out of 10. The websites lacked quality in terms of

usability and privacy, although they were kept updated, with a score for the index of utility of 9.19 out of 10. In partial terms, organic producers used the Internet as a means of providing general information on the firm and its products (index of general information = 5.90), although they did not use the Internet to deliver this information in an attractive way (interactivity = 4.46). In contrast, the use of the website as a means of transparency and CSR reporting was low (CSR index = 2.10). Environmental issues represented the area for which most information was provided (2.87) because of the relationship between the environment and this type of sustainable firm.

Thus, it appears that organic producers generally use the Internet with a low level of quality. Furthermore, this level of quality is greater in terms of system quality than in terms of information quality.

The results of the fsQCA reveal the existence of two sufficient causal configurations: 1) firm size combined with absence of the cooperative legal form and 2) a young business age combined with a high number of employees. These configurations partially explain the quality of organic olive oil producers' websites. The results indicate that the parsimonious solution for this model had a coverage score of 0.5821. This level of coverage means that this set of sufficient causal configurations explains nearly 60% of the results of the model, with a consistency score of 0.7924.

Analysis of the main causal configurations shows an inverse relationship between the age of a company and its status as a cooperative and the quality of its website. Similarly, the analysis reveals a positive relationship between the quality of the website and the size of the company, in this case measured by the European Commission's (2006) classification of organisation size as well as the number of employees.

The coverage of these two causal configurations was 0.3746 and 0.3564. Therefore, these causal models explain approximately 40% of the quality of the analysed companies' websites. These findings lead to the weak acceptance of the first three hypotheses, without ruling out the possible existence of other organisational and structural variables that act as determinants of website quality.

Finally, the analysis of the Pearson correlation coefficient shows the existence of a positive relationship between the indices of website quality and the companies' operating income as a measure of performance. The analysis shows a significant correlation between operating income and the overall index of quality as well as the two partial indices of quality (information quality index and system quality index). The correlation was strongest in the case of the information quality index. Therefore, the fourth hypothesis may be accepted. Notably, of the quality of the information provided on the website, the CSR information had the strongest relationship with business performance (0.301; sig. = 0.009). There was no significant relationship in the case of general information. This finding leads to the acceptance of the fifth hypothesis.

In conclusion, Spanish organic olive oil producers face serious issues in terms of the quality of their websites. This study did not show the existence of strong relationships between website quality and organisational variables (age, size and legal form). However, the results do indicate the existence of a significant relationship between the operating income and the partial indices of quality, more specifically, the CSR information reported on the website.

KEYWORDS: Ecological agriculture, olive oil, quality of web site, Corporate Social Responsibility, fsQCA.

1. Introducción

La creciente sensibilización de los consumidores hacia el deterioro medioambiental (European Commission, 1999) y hacia una alimentación sana se ha visto reflejada en sus decisiones de compra y hábitos de consumo durante las dos últimas décadas y, por el lado de la oferta, se ha reflejado en un crecimiento exponencial de la producción ecológica que ha situado al sector en uno de los más dinámicos en el ámbito agroalimentario en la actualidad.

Centrándonos en el ámbito europeo, una de las características que está definiendo el crecimiento de este mercado es su desigual distribución regional, de forma que la demanda se concentra principalmente en los países de centro y norte de Europa, mientras los mediterráneos se han especializado en la producción y posterior exportación. De esta forma, poniendo como ejemplo el caso de España, la extensión de superficie certificada dedicada a la agricultura ecológica ocupa el primer lugar en el ranking europeo y el quinto a nivel mundial (Willer y Lernoud, 2018) y muestra, además, un importante ritmo de crecimiento de la superficie dedicada a la agricultura ecológica, pasando de 11 a 43,7 millones de hectáreas en el periodo 1999-2014 (Willer y Lernoud, 2018). Sin embargo, esta situación contrasta con la que existe por el lado de la demanda: en España destaca el reducido consumo de productos ecológicos, aproximadamente 21 euros per cápita/año. Esto representa apenas un 1% en la cesta de la compra del consumidor español (MAGRAMA, 2015). El resultado de esta situación es que más del 70 por ciento de la producción ecológica española se dirige a los mercados exteriores, principalmente a Alemania, Holanda, Francia y Reino Unido (MAGRAMA, 2012).

Son numerosos los autores que han intentado encontrar una explicación a la situación anterior. En líneas generales, existe consenso en aceptar que los principales factores inhibidores de la demanda de alimentos ecológicos en España –al igual que en otros países– son el diferencial de precios existentes entre los alimentos ecológicos y sus homónimos convencionales, la deficiente distribución –escasez de puntos de venta y de variedad de la oferta– y, por último, el desconocimiento y confusión que muestra el consumidor en torno a este tipo de alimentos y que, en ocasiones, se convierte en