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The importance of websites for organic agri-food producers

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ABSTRACT

Spanish agri-food producers, particularly organic producers, have faced commercial problems for years. Websites are able to combine informative, relational and transactional functions. This ability makes them attractive sales channels in sectors such as the organic agri-food sector, which has traditionally had major commercial shortcomings in these three areas. This study is built on this premise. The study explored whether organic agri-food producers and conventional producers differ in terms of their use of websites as a sales channel and their degree of interaction with users. The extended model of Internet commerce adoption (eMICA) and fuzzy-set qualitative comparative analysis (fsQCA) were used. Other statistical techniques were also used. The fieldwork began with a sample of 998 producers (239 organic and 759 conventional). The results reveal differences between organic and conventional olive oil producers regarding website adoption and use. In terms of attracting website visits, the results also reveal the relevance of being an organic producer and having a capitalist or cooperative company structure.

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1. Introduction

The relentless advance of technology and its spread throughout society in recent decades has promoted online transactions and made the Internet a powerful competitive weapon (Kaplan & Haenlein, 2010) in domestic and international markets. According to Internet World Stats (2018),[1] more than 55% of the world's population had access to the Internet in 2017. The potential of the online market has not gone unnoticed by firms. In fact, in the EU28, the percentage of firms that sold their goods or services online increased by 5 percentage points between 2010 and 2017. One in five European firms sold their goods or services online in 2017 (Eurostat, 2018). A decisive contribution to

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this evolution is the surge in the use of social media and associated tools (social networks, blogs, wikis, etc.) to enhance corporate reputation and the image of the firm's products or services. Indeed, approximately 39% of firms in the EU28 used social media in 2017.

Today, websites offer an essential tool for firms to secure a strong online position by combining the informative, relational and transactional functions associated with online commerce (Meroño & Arcas, 2006). The shift of the Internet towards a more active and collaborative community has rendered static websites obsolete. Internet users have shown greater willingness to participate by sharing reviews and experiences and by publishing and posting information from other websites. Interactive services and platforms that enable communication and the exchange of information between users of these media are therefore becoming increasingly necessary. This integration occurs on websites, and firms should meet quality standards and offer suitable content to successfully achieve a competitive advantage (Brinck, Gergle, & Wood, 2001).

Websites are able to combine informative, relational and transactional functions. This ability makes them an attractive sales channel in sectors such as the organic agri-food sector, which has traditionally had major commercial shortcomings in these three areas. Scholars have cited poorly informed consumers, a lack of promotion of organic products, scarce and scattered points of sale, and the excessive price difference with respect to conventional products as reasons for the low demand for organic products (Vega, Torres, Murgado, & Parras, 2014). These factors, coupled with consumers' greater thirst for information to make purchase decisions (Lee & Yun, 2015), have led some authors to stress the need for this sector to establish an online presence through corporate websites (Bernal, Mozas, Fernández, & Medina, 2017).

In light of these arguments, we studied the Spanish olive oil sector to identify possible differences between organic and conventional producers in three areas of their online activity: online presence through a corporate website, the adoption of e-commerce and the intensity of customer interaction on the website. We also studied whether having certified organic status and belonging to the social economy are factors. Finally, we considered whether the content, quality and structure of websites affect their ability to attract online customers. Thus, this study fills the gap in the literature on the crucial role of technology in the development of the organic sector. The study also addresses the gap regarding the varying penetration of these technologies amongst organic and conventional producers.

This paper has the following structure. Section 2 presents the research hypotheses and provides theoretical support for these hypotheses. Section 3 describes the method and data. Section 4 presents the results of the study. Finally, Section 5 sets forth the conclusions.

2. Theoretical framework and hypotheses

Over the last decade, the organic food market has grown steadily around the world (Willer & Lernoud, 2018).[2] On the demand side, the main reasons for this growth tend to be similar across countries (Thøgersen, Barcellos, Perin, & Zhou, 2015).

Growing awareness of environmental problems, food safety and social concern for healthy food are the main reasons for growth in the consumption of organic products (Scalvedi & Saba, 2018). Similarly, the factors that hinder the development of this market are also the same in different countries (Başaran, Konyali, & Oraman, 2018). These include a poorly informed public, a lack of proximity to end consumers and an excessive price difference between organic and non-organic products (Tsakiridou, Boutsouki, Zotos, & Mattas, 2008; Buder, Feldmann, & Hamm, 2014).

The literature highlights the key role of innovations such as the Internet and its array of applications in business activity as ways of tackling these problems (Bernal, Mozas, Medina, & Fernández, 2018; Mozas, Bernal, Fernández, & Medina, 2018). Indeed, in response to the problems facing the organic food sector, online sales channels offer firms a new, low-cost way of communicating (Gunelius, 2011), enhancing trust and interaction with consumers (Lai, Tong, & Lai, 2011) and improving firms' competitive position (Wei, Zhang, & Sutanto, 2013; Fernández, Bernal, Mozas, Medina, & Moral, 2015). These solutions are particularly relevant to products that have typically been ignored by traditional sales channels (Wei et al., 2013), which is the case of organic products. The key role of innovation in organisational and regional growth and development is noteworthy (Ribeiro-Soriano, 2017).

Of the aforementioned factors, customer trust is an essential component of purchase intention, especially amongst consumers of organic products (Teng & Wang, 2015). Websites offer a powerful tool to forge customer loyalty (Laroche, Habibi, & Richard, 2013) because websites are where much of the communication between the company and its customers takes place and where information about the company's product offering is provided. Through corporate websites, companies can engage in customer relations, promotion and sales; websites represent a key element for the development of relational marketing strategies (Wang & Fesenmaier, 2006). The interactive and connective elements that are embedded in websites and the databases generated by the records of transactions enable firms to personalise their product offerings; this personalisation is one of the main aims of relational marketing.

Numerous scholars have reported a positive relationship between an organisation's commitment to sustainable development through, for example, organic production (Smith, 2006) and a predisposition towards innovation. Schaltegger and Wagner (2011) justified this positive relationship using innovation's major contribution to sustainability. Similarly, Smith (2006) reported that actors in novel sectors such as the organic food sector engage in more radical practices and tend to adopt more innovative solutions than other organisations. Accordingly, the social concern for sustainability tends to be addressed by organisations with a greater propensity for change and innovation. Here, change and innovation are understood not only as the creation of new products but also as the development of new ways of doing business (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2016). Based on these arguments, we propose the following hypothesis:

H1. Corporate websites are more prevalent amongst certified organic olive oil producers than amongst conventional olive oil producers.

Websites with high user ratings for layout and content can provide companies with a source of competitive advantage in their business activities (Evans & Wurster,

1997). Crucially, websites represent the first point of contact with the firm for many potential customers, employees and investors. They therefore constitute the first reference these individuals will draw upon to form an image of the firm (Chen & Macredie, 2005). Websites are where current users (suppliers, customers, shareholders, employees, etc.) can familiarise themselves with the firm and gather information on the firm's origin, location, production methods, commitment to the environment and so on (Yang, Cai, Zhou, & Zhou, 2005).

Many studies of website quality are based on the technology acceptance model (TAM; Lee, Kozar, & Larsen, 2003). This theoretical model posits that the acceptance to use a certain information system depends on the existence of a positive prior attitude towards use of that system. Moreover, this attitude is closely linked to users' perceptions of its usefulness and ease of use.[3] The causal relationship between these variables receives considerable empirical support in the literature (Davis, 1989; Devaraj, Fan, & Kohli, 2002). Despite the lack of consensus regarding the fundamental external variables that positively influence perceived usefulness and ease of use (Heinze & Hu, 2006), scholars almost unanimously accept that the amount and variety of information available in virtual environments are positively related to user satisfaction (Szymanski & Hise, 2000). Heinze and Hu (2006) suggested that a high level of information, interactivity and services on websites are the most important elements of users' perceived usefulness and ease of use.[4,5,6] Sabiote, Frías, and Castañeda (2012) presented perceived quality as a multidimensional construct consisting of website layout, customer service, security and order handling and suggested that such perceptions affect customer satisfaction and loyalty.

Enhancing each of the dimensions of website quality (i.e. information, interactivity and service) is particularly important in the organic food sector. This relatively high importance is because these products are experiential in the sense that elements that enable intensive information exchange—not only tangible but also intangible (symbols, tradition, culture, tourism, gastronomy, etc.)—can significantly enhance consumers' perceived value (Stricker, Mueller, & Sumner, 2007). In addition, a website's ability to reduce transaction costs (of information, negotiation and security) makes websites particularly attractive in sectors such as the organic agri-food sector, which faces major commercial hurdles in relation to the scarcity of points of sale and poorly informed consumers (Tsakiridou et al., 2008). These hurdles may be overcome using corporate websites with mechanisms that enable information exchange (e.g. social networks) or that remove the large physical distances that often separate supply and demand (e.g. online stores; Bernal et al., 2017). For these reasons, we expect companies that sell organic products to make the greatest efforts to endow their corporate websites with the elements and tools that enable greater market orientation. We therefore propose the following hypothesis:

H2. The websites of certified organic olive oil producers provide more information and are of a higher quality than those of conventional olive oil producers.

Today, the Internet is an essential tool to search for information during the process of purchasing food (Kuttschreuter et al., 2014), especially food from certified organic producers. As explained earlier, poorly informed consumers constitute a major barrier to the consumption of organic products. This barrier is particularly

relevant because consumers of organic products need more information than consumers of conventional products (Lee & Yun, 2015). Yet traditional sales channels have proved incapable of meeting this greater demand for information (Roitner, Darnhofer, Somsook, & Vogl, 2008). Notably, this lack of awareness of the characteristics of certified organic products negatively affects the purchase decision process (Hilverda, Kuttschreuter, & Giebels, 2017). This effect is partly because consumers are unable to perceive the additional value that justifies the higher price of these products (Vega et al., 2014).

The profile of organic food consumers makes them more willing to search for information online because of the high degree of similarities between these consumers and Internet users. Consumers who use the Internet to make purchase decisions have a higher level of education, higher income and a lifestyle that is more assertive, innovative and willing to accept new trends (Moon, 2004) than the average consumer. This consumer profile has numerous similarities with that of organic food consumers (Álvarez, López, & González, 2015). Hence, consumers of organic products should be more willing than consumers of conventional products to use websites to gather information before making purchase decisions (Bernal et al., 2018).

Websites with high user ratings for layout and content may provide organisations with a source of competitive advantage (Chen & Macredie, 2005). Accordingly, a company's online business success relies on the ability of the company's corporate website to positively influence users' impressions of the company (Van der Heijden, Verhagen, & Creemers, 2003). These impressions are influenced by the amount of information, connectivity, information quality and interactivity, which is useful to strengthen the engagement and popularity of a website (Chiu, Hsieh, & Kao, 2005). Thus, better website development in terms of visual appeal, information and ease of use acts as a stimulus for users to visit and recommend a website (Loureiro, 2015).

Website stickiness is one aspect that has been studied as a determinant of website visits and as a key to success in e-commerce. Website stickiness is the ability to retain online customers and extend the duration of each visit (Lin, 2007). Greater website stickiness not only means that Internet users stay for longer but also encourages them to return more frequently (Jones & Kim, 2010). Therefore, a website that has more information and content and that is more entertaining and enjoyable encourages customers to stay online for longer, return more frequently and even recommend the website to other users (Loureiro, 2015). Thus, returning to a website and visiting the website for longer are linked to user loyalty to the website, which is considered relevant to consumers' purchase intentions (Kabadayi & Gupta, 2005). Accordingly, we hypothesise that a website that causes greater pleasure attracts longer visits, leading to more visits through returning and recommendations.

Another factor that should be considered in relation to the agri-food sector, particularly the olive oil sector, is the prevalence of social economy companies (OSCAE, 2017). In general, olive oil cooperatives are characterised by a disassociation with the end market. This disassociation is a serious problem for the profitability of the sector, where the bulk of the business activity centres on storage and personal consumption (Fernández et al., 2015). Despite technological development and the penetration of information and communication technologies (ICTs) amongst firms in the olive oil

sector, agri-food cooperatives lag behind in their adoption of these technologies. This late adoption forces these social economy companies to pursue innovation and the exploitation of Internet-based tools (Cristóbal, Montegut, & Daries, 2017). The literature shows that ICT adoption for commercial purposes by cooperatives is lower than adoption by capitalist firms. There is also a gulf in the use and exploitation of these technologies with respect to capitalist companies (Fernández et al., 2015). We therefore formulate the following hypotheses:

H3. The number of visits to a website is positively influenced by the fact that the company is an organic producer, subject to certain contextual conditions.

H3.1. The number of visits to a website is positively related to website quality.

H3.2. The number of visits to a website is positively related to users' information needs, measured in terms of the duration of visits to the website.

H3.3. The number of visits to a website is negatively affected by the fact that the company is a cooperative.

3. Data and method

3.1. Data

The target population of the study was Spanish olive oil producers. Spain is the biggest olive oil producer in the world. The census by the Spanish Agency for Information and Food Control (AICA, 2017) provided records on 1,747 Spanish olive oil producers for the year 2017. We contacted the local public agencies responsible for overseeing, regulating and managing organic production to identify certified organic olive oil producers. We identified 440 organic olive oil producers. Thus, the population comprised 1,307 non-organic olive oil producers.

The fieldwork began with a sample of 998 producers (239 organic and 759 conventional). Google and Yahoo search engines were used to determine whether these producers had a website. Simple random sampling was used. This sampling method was representative for the population and each subpopulation (organic producers and conventional producers) with a confidence level of 95%.[7] The number of analysed producers with websites was 533.

3.2. Method

The method had multiple stages, and several techniques and statistical methods were applied. The primary data were gathered from the Internet directly from corporate websites with the help of specially designed tools for website analysis. We obtained the data on monthly visits using the online tool SimilarWeb. A literature review was also performed.

The analysis of website quality or degree of adoption of e-commerce was performed using the extended model of Internet commerce adoption (eMICA; Burgess & Cooper, 1998, 2000). The eMICA is one of the most widely used models to analyse e-commerce adoption and has provided the method for studies in a range of sectors (Burgess & Cooper, 1998; Platania, 2014; Cristóbal et al., 2017). The eMICA can be

Table 1. Items used for website analysis under the eMICA.

Stage 1: Promotion	Layer 1: Basic information	Company contact details
		Physical address
		Information on company activities
	Layer 2: Rich information	Email address or contact form
		Information on oil varieties and quality
		Information on events or shows
		Availability of website content in several languages
		Information on quality standards
		News
		Information on online purchase promotions
Stage 2: Provision or interactivity	Layer 1: Low interactivity	Price and basic product information
		Links to further information
		Recipes and cooking tips
		Information on visits
		Promotions
		Sitemap
		Website sharing
	Layer 2: Medium interactivity	Link to download brochure or photos
		Privacy policy
		FAQs
		Keyword search
		Online shop (storefront)
	Layer 3: High interactivity	Exclusive area for customers or members
		Multimedia applications
		Blogs, forums, or chatrooms
		Newsletter
		Access to company's social network profiles
		Ability to receive customer feedback
		Ability for customers to leave reviews
		Satisfaction with products
		Virtual tour of the company
		Mobile version
Stage 3: Processing		Full purchase process
		Secure online transactions
		Interaction with corporate server

The variables in this table refer to items that measure the quality of a website in terms of integrating e-commerce. In this study, the presence or absence of these indicators was verified for the websites of the sampled organisations. *Source*: Adapted from Cristóbal et al. (2017).

used to classify websites based on their adoption of e-commerce or direct market orientation by identifying three progressive stages of adoption of e-commerce and, accordingly, website quality. These stages are promotion (information), provision or interactivity (dynamic information) and processing (related to the quantity and quality of transactions). Each stage and layer has several items. We adapted Burgess and Cooper (2000) original model to the specific features of the target population following the indications of other authors (Cristóbal et al., 2017). The items are described in Table 1.

We also used fuzzy-set qualitative comparative analysis (fsQCA). Based on Boolean algebra, fsQCA combines the features of qualitative and quantitative analysis and can be used to identify causal conditions in complex situations (Rihoux & Ragin, 2009). It enables systematic analysis of a set of cases by identifying relationships between subsets of conditions. Thus, causal patterns are determined in the form of relationships of necessity and sufficiency (Schneider & Wagemann, 2010). The main branches of qualitative comparative analysis (QCA) are crisp-set QCA (csQCA), fuzzy-set QCA (fsQCA) and multi-value QCA (mvQCA; Rihoux & Ragin, 2009). The most widely used is fsQCA, which addresses one of the main criticisms of csQCA, namely its

Table 2. Outcome and conditions in the fsQCA.

Outcome	Description	Type
Visits	Number of website visits	Continuous
Condition	Description	Type
Org	Organic producer	Dichotomous
Stage_1	Stage 1 in eMICA	Continuous
Stage_2	Stage 2 in eMICA	Continuous
Stage_3	Stage 3 in eMICA	Continuous
Duration	Average duration of website visits	Continuous
Coop	Cooperative producer	Dichotomous

This table shows the dependent variable, which is the number of visits to the producer's website. The eMICA stages and other key variables were used as explanatory variables.
Source: Compiled by the authors.

Table 3. Website penetration by type of company.

	Conventional		Organic		Total
Company Website	N	%	N	%	%
Yes	354	46.64	179	74.90	53.40
No	405	53.36	60	25.10	46.60

Source: Compiled by the authors.

strictly dichotomous approach. We followed the steps outlined by Schneider and Wagemann (2010) to ensure the effective application of this technique: first calibration, then analysis of necessity and finally analysis of sufficiency.

Table 2 shows the conditions and outcome used in this analysis. Both the outcome and the conditions were calibrated using fs/QCA software. Dichotomous conditions were calibrated by assigning a value of 1 to social economy companies or organic producers, and 0 otherwise.

4. Results

Table 3 shows the comparison between organic and non-organic producers with respect to the presence of a corporate website. On average, 53.41% of all olive oil producers had websites. This average hides the vast gulf between organic and non-organic producers. Whereas 74.90% of organic producers had a website, only 46.64% of conventional olive oil producers did, equating to a difference of nearly 30 percentage points.

We used the Pearson's chi-squared test,[8] taking the nominal variables to be existence of a website and type of producer (organic or non-organic). The results indicated that the null hypothesis of no relationship between these two variables should be rejected (58,315, sig. 0.000). This finding implies that there is a significant direct relationship between having a website and being an organic producer. We thereby validated H1 by reporting greater website penetration amongst certified organic olive oil producers than amongst conventional olive oil producers.

After applying the eMICA (Table 4), we observed the generally low quality of websites and e-commerce adoption of the studied firms. Table 4 shows that organic firms had higher quality websites than non-organic firms in terms of e-commerce adoption.

After confirming that organic olive oil producers had higher quality websites in terms of e-commerce adoption, we applied the Mann–Whitney U test to identify statistically significant differences. This test showed the existence of differences between

Table 4. Results of the eMICA analysis by type of company.

Stage/level in eMICA	Organic		Conventional		Total	
	N	%	N	%	N	%
Level 0	26	14.52	10	2.82	36	6.75
S1: L1	77	43.02	246	69.49	323	60.60
S1: L2	46	25.70	60	16.95	106	19.89
Stage 1	123	68.72	306	86.44	429	80.49
S2: L1	1	0.56	3	0.85	4	0.75
S2: L2	11	6.14	6	1.69	17	3.19
S2: L3	0	0.00	0	0.00	0	0.00
Stage 2	12	6.70	9	2.54	21	3.94
Stage 3	18	10.06	29	8.19	47	8.82
Total	179	100.00	354	100.00	533	100.00

This table shows the number and percentage of conventional and organic producers in different stages of the eMICA, according to the presence of items regarding the quality of the website and its incorporation of e-commerce.
Source: Compiled by the authors.

Table 5. Results of the fsQCA.

Causal configuration	Raw coverage	Unique coverage	Consistency
org*duration*stage2*stage3	0.274784	0.105557	0.805897
org*stage1*stage2*stage3*∼coop	0.211114	0.0829378	0.805112
org*duration*stage1*stage2*∼coop	0.193521	0.065345	0.92277
org*duration*stage1*stage3*∼coop	0.15303	0.0248534	0.895425
org*duration*∼stage1*∼stage2*coop	0.083217	0.042167	0.900302
∼org*duration*∼stage2*∼stage3*∼coop	0.0404915	0.404915	0.878788
Solution coverage:		0.625524	
Solution consistency:		0.836133	

Note: org—Organic producer; stage1—Stage 1 in eMICA; stage2—Stage 2 in eMICA; stage3—Stage 3 in eMICA; duration—Average duration of website visits; coop—cooperative producer.
Source: Compiled by the authors.

the degree of adoption of e-commerce by organic producers and conventional producers at the 90% confidence level (28,893, sig. 0.096). This analysis was confirmed by the Spearman's Rho correlation coefficient, which indicated a direct relationship between website quality and the organic or non-organic nature of the producer at the 90% confidence level (0.072, sig. 0.096). Therefore, we may accept H2 that e-commerce adoption is greater amongst certified organic olive oil producers than amongst non-organic producers.

We then tested for differences in the number of monthly visits to the corporate website based on type of production (organic or conventional), legal form (capitalist or social economy) and the degree of interest elicited by the website, measured in terms of the average duration of the visit and the quality of the website or degree of e-commerce adoption. We used fsQCA to test for these differences. The intermediate solution is shown in Table 5. First, we performed an analysis of necessary conditions to check that no individual condition exceeded the recommended limit of 0.9 established by Ragin (2006).

The first causal configurations, which have the highest raw coverage, indicate the existence of a direct relationship between a high number of website visits and combinations of conditions including the organic status of the producer (Table 5). Other conditions are website development measured in terms of the three stages of the eMICA (H3.1 accepted), average visit length (H3.2 accepted) and the fact that the producer is not a cooperative (H3.3 accepted). These results lead to the overall acceptance of H3.

5. Conclusions

Websites provide a channel for firms to communicate with customers in a range of ways. Websites also offer a new sales channel that reduces the physical distances separating sellers and buyers. Websites are therefore an especially attractive sales channel in sectors such as the organic agri-food sector, which has traditionally faced major commercial problems primarily associated with a lack of information and the scarcity of points of sale. The aim of this study was to test whether organic agri-food producers and conventional producers differ in two key areas related to online business activity: the extent to which they exploit websites as a sales channel and the level of interaction with users.

The results suggest that organisations with certified organic status are aware of the importance of websites for their business. This conclusion may be deduced from their greater willingness to use corporate websites and their greater adoption of e-commerce than that of non-organic producers. The results also reveal significant differences between organic and non-organic producers in relation to customers' thirst for information provided online. As the literature suggests, consumers of organic products demand more information to make their purchase decisions and are more willing to use online channels. This assertion is supported by the positive relationship between the monthly number of visits to the websites of organic producers. Furthermore, the number of website visits appears to be positively affected by website quality and the duration of the visit, which is an indication of the greater information needs of consumers of these products. Similarly, the results highlight an inverse relationship between number of visits and being a cooperative producer. This finding is consistent with results in the literature on the delay with which cooperatives embrace ICTs.

The results contribute to a better understanding of the organic food market and the contribution of new technologies to the development of this market, especially in a commercial sense. Few studies have explored these issues together. The results of this study may therefore prove useful to raise organic producers' awareness of the importance of using the Internet to market these products. These results also provide rural and local development policymakers with fresh evidence of the advantages of promoting two value generators, namely ecology and ICT.

Finally, this study has certain limitations that should be noted. First, the study focused on a specific sector, namely the organic olive oil sector. Although the literature indicates that this sector shares many of the commercial problems associated with organic products in general, it would nonetheless be worthwhile to compare the situation in this sector with the situation in other sectors. Also, the geographical focus of the study was limited to Spain. Although Spain has a prominent position in organic production at the global level, it would be of interest to compare its situation with that of other olive oil producing countries.

Notes

1. Estimated data for 2018 available at https://www.internetworldstats.com/stats.htm.
2. In this study, European regulations provided the basis for the terminology and denomination of organic producers. Organic producers follow the current organic

agricultural regulations and are eligible for certified organic status by meeting certain criteria. Further details are available at https://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture.

3. Ease of use is understood as the degree to which a future user expects not to have to make additional effort to make a purchase; usefulness refers to the subjective view a potential user has of the probability that using a particular system will improve his or her job performance within an organisational context.
4. The ease of understanding and the ease of finding information have a major influence on the perceived ease of use, and the quality of this information has a major influence on the perceived usefulness of the website.
5. The ability to interact with a website to purchase products, exchange product information with the company or other users, and choose the method of payment increases user satisfaction.
6. Aspects such as providing user support services, the presence of FAQs and the online provision of user manuals also increase perceived usefulness, according to studies of online consumers.
7. The assumed sampling error for the total population was 2.1%. For the population of organic producers, the sampling error was 4.3%. For the population of conventional producers, the sampling error was 2.3%.
8. The data in this study did not meet the assumption of normality, so non-parametric testing was used (sig. < 0.05 for the Kolmogorov–Smirnov test).

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