E-COMMERCE IN SICILY: SICILIAN OIL AND WINE

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The expectations about the growth of e-commerce are often discrepant, because it's not easy to qualify the importance of such a fast developing phenomenon. Beside estimations in which the number of the e-trading sites is constantly growing, we witnessed the failure of many successful companies that were trading by the web (dotcom crash). According to the recent report made by the Tagliacarne Institute about the level of information technologies of Italian small and medium sized enterprises, Sicily is first due to the percentage of companies owning Internet sites and used e-commerce.

Our purpose was essentially to "record" the "state of e-commerce" concerning some agri-food products in a certain period of time, both between Sicilian enterprises and in a wider context in which Sicilian products can be sold.

We operated directly through a simulation on the web, identifying ourselves with a potential user endowed with average capabilities.

This study pointed out a cautious and gradual approach by those enterprises operating in the agri-food system respect the new economy.

1. FINALITY

The expectations about the growth of e-commerce are often discrepant, because it's not easy to qualify the importance of such a fast developing phenomenon. Beside estimations[1] in which the number of the e-trading sites are constantly growing, we witnessed the failure of many successful companies that were trading by the web[2] (dotcom crash); in fact growth doesn't mean necessarily success.

According to a recent report made by the Tagliacarne Institute[3] about the level of information technology of small and medium sized Italian enterprises, Sicily reaches the first place due to the percentage of companies owning Internet sites and using e-commerce. In macro-distribution sectors the one concerning the e-commerce of food products is the most representative, at least for the number of active sites[4].

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[1] In a recent Report of the European Commission we read that e-commerce in E.U. will have a gross sales of about 2,7 billion dollars in 2005, with the estimation of 25.000 operative sites in the commerce sector, 1.000 – 1.500 of which will be pertinent to rural and agro-food sectors. It estimates that the number of the sites, B2C and B2B, in the past few years is increasing with rates higher than 100%.

[2] The phenomenon, known as "dotcom crash", point out the business failure of enterprises born and grown up in the new economy.

[3] "*Rapporto sul posizionamento competitivo e le dinamiche dello sviluppo a livello regionale*", Istituto G. Tagliacarne 2001.

[4] We need to determine how the degree of market concentration is setting high: concerning to SMAU Observatory, the 65% of the total sales of the Italian firms comes from the former most important 20 sites in the information technology and financial services sectors.

From this point of view it seems interesting to examine the presence of corporate-sites commercializing Sicilian agro-food products. Our purpose was essentially to "record" the "state of e-commerce" concerning some agro-food products in a certain period of time, both between Sicilian enterprises and in a wider context in which Sicilian products can be sold.

To simplify the study we kept our attention on two among main[5] Sicilian agro-food products: oil and wine; these products have in common some peculiar characteristics. They are:

- high representative products of Sicilian economics;
- tipical regional food products;
- bottled products;
- middle/long conservation products;
- high quality products;
- high added value products.

After some methodological notes, we will illustrate the results of this research on the sites by which it's possible to buy Sicilian oil and wine, useful to check:

- consistence
- web visibility
- main technical and commercial features

In the second time, we contacted the firms by the e-mail and we asked few questions about the possibility to collaborate with our Department and to establish external-relations with other firms and form a digital district (B2B and B2C).

2. METHODOLOGY

So we operated directly through a simulation on the web, identifying ourselves with a potential user endowed with average capabilities[6]. We ascribed to this potential user a wish to buy[7] one or both the products; to satisfy this wish he decided to post a query through six search-engines[8], using two keywords: "olio siciliano" and "vino siciliano".

This query was performed with and without Boolean operators[9] or other practices useful to narrow the research range.

Due to the high birth and death-rate of web sites, we decided to bound the research to a short period of time (July 2001). Starting from the gathered data we produced a first report including both commercial sites, promotional sites and incongruous ones[10]. After the arrangement by typologies, we proceeded studying and estimating each site[11]. With this

[5] Sicily is the region with the higher viticultural stock (ISTAT 1998) and, in the same year, wine is the second exported regional product. Concerning to the presence of CDO wines in Sicily, in September 2000 they are 17. Even concerning to PDO olive oil, Sicily counts 3 productions.
[6] With the term of "average user" we mean an user with a slight knowledge of the information technologies instruments.
[7] We imagined this potential user living outside the production area with no chance to find the products through the traditional channels of trade.
[8] The choice of the search-engines was due to their popularity both in Italy and abroad (Altavista, Arianna, Yahoo, Google, Lycos, Virgilio).
[9] With the term "Boolean" we mean a particular kind of algebraic structure through which it's possible to represent logical relations. Boolean operators permit to do complex researches. Most common ones are AND, OR, NOT; they are used to improve the query in all the search-engines.
[10] Incongruous sites are those sites without any relation with the products subject of the study. The high number of the incongruous sites is one of the limits of any web research.
[11] We bound the analysis field only to those sites which really practice on-line sell.

intention we prepared a sheet useful to gather all the informations and evaluations about the characteristics of the sites and of the firms.

Concerning to the characteristics of the site, we point out:

- the way by which we reach that site,
- the search-engine[12] that gave us the result,
- the keyword we used,
- the presence of a registered first level domain,
- the number of languages used in that site,
- the presence of the compulsoriness of user's registration to access the site or to have informations,
- the photographic documentation, the corporate history, the territorial context,
- the require of a purchase minimum amount,
- the methods of payment,
- the ways, methods and time of delivery,
- the site evaluation about accessibility, surfness, interactivity and design.

Concerning to the characteristics of the firm, we point out:

- if it is a production firm or not,
- if it makes aggregate supply[13],
- if it is mono or multi-product,
- if it is mono or multi-brand,
- if it sells in the traditional sales channels too,
- if there are marks of protection and marks of quality, and which they are (PDO, PGI, ISO, etc.).

The whole of these compiled sheets gave us the opportunity to realize a second report, in which the sites are gathered together and compared using the characteristics above mentioned. So we proceeded drawing out the informations which results are shown in the next section.

3. DISCUSSION ABOUT THE RESULTS

The web research through those search-engines and those two keywords allows us to analyze the setting and the management of the electronic points of sale, activated by agro-food firms, malls[14] or portals, assigned to the offer and promotion of Sicilian oil and wine, in order to check their consistence, web visibility and main technical characteristics.

3.1. Sites consistence

The six search-engines, consulted with the keyword "olio siciliano", found 65 sites which are selling this product on-line; only 2 of them are traced by each search-engine, while 28 sites are traced by only one search-engine between those six (the sites pointed out by the

[12] This characteristic even concerns the presence of the site in more than one search-engine.

[13] Aggregate offer occurs when a firm trades other firm's products too.

[14] The Mall is a virtual trading centre in which there are many enterprises; their offer may be completed with complementary activities (entertainments, news, etc.) in order to make it more attractive. These virtual stores offer free spaces to the firms which pay transaction costs, so limiting the operating expenses due to a personal site.

six search-engines, are 139 on the whole). Moreover, those six search-engines found 90 promotional sites and 3.862 incongruous sites.

Through the keyword “vino siciliano” we found 81 sites which are selling this product on-line; 3 of them are traced by each search-engine, while 38 sites are traced by only one search-engine between those six 176 on the whole). In this case, the search-engines found 99 promotional sites and 5.046 incongruous sites. The big number of incongruous sites doesn’t have to deceive, because just one search-engine (Lycos) produced misleading results, with 4.780 incongruous sites over 8.908, that corresponds to a rate of 53,6%. The search-engine with the lower presence of incongruous sites is, for both oil and wine, Virgilio (tabs. 1 – 2).

Tab. 1

Sicilian oil: recapitulation of the data obteined through Internet subdivided in search-engine, keyword and typology (with duplicates)

Search-engines	Altavista		Arianna		Yahoo		Google		Lycos		Virgilio		**Total**	
	sites n.	%	sites n.	%	sites n.	%	sites n.	%	sites n.	%	sites n.	%	**sites n.**	**%**
E-commerce sites	19	9,5	17	3,1	22	3,3	24	4,8	26	1,2	31	41,3	**139**	**3,4**
Promotional sites	10	5,0	31	5,6	9	1,3	10	2,0	12	0,6	18	24,0	**90**	**2,2**
Incongruous sites	171	85,5	504	91,3	645	95,4	466	93,2	2.050	98,2	26	34,7	**3.862**	**94,4**
Total	**200**	**100**	**552**	**100**	**676**	**100**	**500**	**100**	**2088**	**100**	**75**	**100**	**4091**	**100**

Source: our elaboration on data obteined through *Internet*

Tab. 2

Sicilian wine:recapitulation of the data obteined through Internet subdivided in search-engine, keyword and typology (with duplicates)

Search-engines	Altavista		Arianna		Yahoo		Google		Lycos		Virgilio		**Total**	
	sites n.	%	sites n.	%	sites n.	%	sites n.	%	sites n.	%	sites n.	%	**sites n.**	**%**
E-commerce sites	25	13,0	9	1,3	30	3,9	34	4,1	27	1,0	51	41,3	**176**	**3,3**
Promotional sites	14	7,3	8	1,2	20	2,6	19	2,3	9	0,3	29	24,0	**99**	**1,9**
Incongruous sites	154	79,8	653	97,5	716	93,5	778	93,6	2.730	98,7	15	34,7	**5.046**	**94,8**
Total	**193**	**100**	**670**	**100**	**766**	**100**	**831**	**100**	**2.766**	**100**	**95**	**100**	**5.321**	**100**

Source: our elaboration on data obteined through *Internet*

So we reduced the research just to the sites which are selling on-line; they are 110, including 33 production firms (tab. 3), 73 malls or portals, 4 unclassifiable sites.

3.2. Visibility

We choose the recurrence in the six search-engines and the presence of a registered first level domain as visibility indicator.

Concerning the first indicator, we pointed out the presence of each site with on-line sales in every search engine and we found out that very few sites have a recurrence between 4 and 6 search-engines, despite the fact that entering any search-engine is absolutely free; instead the majority of them have a recurrence between 1 and 3 search-engines. About the distribution of the sites traced by just one search-engine, it’s useful to remark the predominance of Virgilio’s registered sites (62% both for oil and wine), while Yahoo and Arianna didn’t have any site registered only on them.

Tab. 3

	Firms of production
1	Abbazia Santa Anastasia
2	Agripantel
3	Azienda agricola e vinicola biologica
4	Azienda agricola Fazio
5	Azienda agricola Giordano
6	Azienda agricola Gulisano
7	Azienda agricola La Torre
8	Azienda agricola Madonia
9	Azienda agricola Palari
10	Azienda agricola Miceli
11	Calatrasi
12	Cantina Sociale "Alto Belice"
13	Cantina Sociale Birgi
14	Don Cesarino
15	Fattoria Scirinda
16	Fattoria Titone
17	Mediterranea
18	Midalà
19	Natura Vera
20	Navobi
21	Oleifici di Noto
22	Oleifici SITE srl (lilibeo)
23	Oleificio Gianbanco
24	Oleificio La Torre
25	Olii Meo (cities on-line)
26	Olio Borgisi
27	Olio Latino
28	Olio Li Bassi
29	Paone Vini
30	Società cooperativa Salamita
31	Sole Nascente
32	Vini Rudinì (Enoagricola Pachino)
33	Zeus

Source: our elaboration on data obtained through Internet

Regarding to the second indicator, the 83% of the sites have a registered first level domain, while the remaining 17% have long and difficult internet addresses.

3.3. Technical characteristics

This research shows as well some technical aspects by which it’s possible to illustrate and point out those choices that have immediate effects on the activities.

By classifying the sites according to the number of languages, we registered a good presence of English as second language; instead short is the presence of French, German and Spanish.

Through the analysis of the tools applied to communicate with the users, we saw that more than 90% of the sites uses the “corporate presentation” provided with a very attractive photographic documentation, with a description of the owners, of the manufacturing plant and/or cellars; the reference to the territorial context is less present. Sometimes beside the graphics and the photos we found animation too, but the use of a sophisticated technology can be counter-productive as it can slow down the surf, discouraging the user to visit the site and, of course, to buy.

The Web allows the firms to offer many typologies of products: gastronomy, agri-turism, cultural informations, etc. Concerning to the commercialized product assortment, according to the range of wideness and depth[15], it is possible subdivide the sites in two macro-categories: mono-multi product and mono-multi brand. Through this subdivision we saw a good diversification of products and brands. Regarding to wine, the range depth is higher than oil, due to the higher number of brands.

Relating to firm typology, the study showed a prevailing number of firms which provide aggregate supply (66%).

Besides it showed a satisfactory presence of sites (more than $\frac{1}{3}$) offering products warrantee by marks of protection and marks of quality (PDO, PGI, ISO, etc.), than liable to check and certificate process.

We also saw the almost total lack of the duty to purchase a minimum amount (only 12% of sites).

An interesting data was about the typology of the firms pointed out: almost all of them (88%) practise B2C, while a moderate percentage practises B2B.

Concerning to the offer presentation, a good percentage of the sites provides the products catalogue (66%), such as the automatic filling order (63%). Sometimes a presentation sheet is available with general descriptions, main organoleptic characteristics, gastronomic coupling, conservation procedures, best uses and every other information. The products catalogue is the main part of on-line sale.

The methods of payment more used are the off-line ones, with economic transaction out of the web: cash on delivery (32%), bank transfer (41%), post bill (9%) and other methods less used; the on-line use of credit card is permitted by 43% of sites.

The section about shipping costs is often uncertain, and in most cases (55%) they are charged on the purchaser.

Regarding to the delivery methods, 49% of the sites delivers the goods by express courier, by post (9%), or by unclassified methods; the delivery times are indicated in 38% of the cases, while 62% of the sites gives uncertain informations.

At last, the user's registration is requested in few cases (5% to get informations, 18% for the purchase).

4. FURTHER CONSIDERATIONS

Through this research we identified a certain number of enterprises, then we proceeded trying to contact them and get their willing to provide informations through interviews (supplied by e-mail) (tab.4).

[15] The wideness refers to the high number of line of products (wine, oil, etc.) that are offered by the firm; the depth refers to the high number of brands for every line of products.

Tab. 4

Results of e-commerce interview mailing

Addressee	M.D.S.		N.		P. A.		N. A.		W. A.	
	N.	%	N.	%	N.	%	N.	%	N.	%
108	7	6,5	19	17,6	23	21,3	2	1,9	57	52,8

M.D.S.= mail delivery sub-system
N.= notifications
P.A.= positive answers
N.A.= negative answers
W.A.= without answer

These informations let us know something about computerization level and, in the meantime, the willing to accede to a “digital” district (tab. 5).

Tab. 5

Informations about "positive answers"

Questions	*Yes*	*No*
Are you satisfied by your e-commerce activity?	8	15
Do you have any B2B relation?	6	17
Have you any contact with other traders for B2C activity?	4	19
Should you be disposed to aggregate with other traders for e-commerce activity?	10	13
Should you be disposed to collaborate with our Department for future researches?	23	0

The answers showed a complicated scenario from which we get some suggestions, but in this moment we are interested in their disposal to collaborate with us.

The gathered informations are preliminary mention to subjects which need longer and deeper investigations. We traced an useful relationship between applied research and productive reality.

5. CONCLUSIONS

This investigation evidenced the consistence of e-commerce activities for agro-food products, in this case for Sicilian oil and wine; it also permitted to observe these activities in order to trace the lines for further researches.

By analyzing gathered informations we saw that the firms are inclined to have an inaccurate approach this kind of innovation; from the point of view of visibility, some important factors, like subscription[16] (which is free) in all search-engines, are inaccurate, while the registered first level domain (which is on payment) is more considerated.

Between positive technical and commercial characteristics we counted all those actions through which it is possible to reduce the existing “gap” between physical good and virtual good, for example the descriptive characteristics of the firm, of the territorial context and of the on-sale product. The high presence of marks of protection and marks of quality is positive. One last consideration refers to the overcoming of territorial and cultural locations, through the use of some foreign languages.

This contribution, even if partial, is a starting point for the monitoring of those firms which use the information technology. In fact those firms may be part of a “digital” district[17], so obtaining the opportunity to get over regional structural limits. This research can be considered a preliminary analysis, so we pass further investigations on following researches.

[16] Search-engines trace only those sites enclosed in their data-base, even if they are supposed to trace sites globally in the web.
[17] With “digital district” we usually mean aggregative economics referring exclusively services sector. Those economics are totally free from the territory although they remain active party of the productive reality.

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