Information and Communication Technology (ICT) and adjustment of the marketing strategy in the agri-food system in Italy[1]

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Abstract. The achievement of Information Communication Technology (ICT) as a new ground for economic competition is deeply affecting the trade organization in many merchant sectors. For Italian agrifood products it is of absolute importance Internet marketing to be undertaken and to foresee the consequent scenarios.
The aim of this research is to exactly assess the opportunities and problems of the distribution circuit based on the virtual scenario, with a methodological and empirical approach, working on the analysis of experiences already begun by agrifood companies established in Italy and engaged in "business to consumer" and "business to business". The ICT is configured as a phenomenon in continuous and rapid evolution, which makes it necessary for companies to continually adapt to it and to the habits of web-consumers. This means that it is necessary to effectively enter the network of agrifood firms, and to strategically revise marketing methods focusing on the market place.

Keywords: Knowledge age, webmarketing, e-commerce, electronic channels, web-site, typical products.

1 Introduction

At the end of XX century two huge phenomena revolutionized economy and everyday life: *globalization* which brought more and more interdependence among world's economies and, *technological revolution* with Internet and ICTs, *Information and Communication Technologies.*

Characteristics of the *Knowledge Age* reflect everywhere on today's society. ICTs, Internet protocols, spreading of new electronic services have been affecting every sector of our life deeply changing settled habits and systems. In latest years much has

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been invested in terms of energy and funds to develop and promote new technologies in order to catch opportunities and teach society how to follow changes[2].

Development of digital technology and spreading of computer networks have transformed production processes, access to, transfer and use of information. Communication technologies allow the easiest access to knowledge and the easiest way to create it due to the simple sharing of information – from e-mails to forums to *social networks* – with the consequent reduction of space-time barriers.

A shift, then, has occurred from *the society of communication and information* to *the society of knowledge*, that is, from a *build-up of information* to the *elaboration and comprehension of information*.

ICTs opened new lands to economic competition which is deeply affecting trade in different sectors and in some cases also altering the very competition rules themselves.

Cultural aspects, safety and health of products represent obstacles to the diffusion of ICTs and web tools within the agrifood sectors, as well as the lack of quality of web sites and the scarce attention paid to the "interactivity" with web-consumers, which is fundamental instead for web-marketing. Besides, there is a poor level of standardization for these sector products and several difficulties to manage the quality by e-commerce (among works of literature we mention – in order of the year of publication - a few concerning farms and agrifood SMEs in Italy and abroad: Sturiale L., 2000; Sturiale, Scuderi, 2001; Bucca, Scuderi, Sturiale, 2006; Canavari, Pignatti, Spadoni, 2008, Brush, McIntosh, 2010, Neilson, Madill, Haines jr, 2010).

Target of this paper is to shortly trace the role of ICTs within the Italian economic system, in particular in the agrifood one, and then to present the results of our research, still in progress, which has allowed us to reveal how agrifood companies have exploited the new technologies and how they have adapted to it (or will) after more than a decade since the beginning of the *digital revolution*. In particular, we focused on the way *e-commerce* has spread into the market and the *web-marketing* strategies, by means of specific surveys carried out by field operators and the analysis of sample web sites of agrifood companies and producers of local products, supported by the special *model of 7Cs* (Sturiale, Scuderi, 2001).

2 Scenario of ICTs spreading in Italy

ICTs applied to medicine, education, politics, economy deeply changing settled habits and so starting the so-called *digital revolution*, which has caused democratization of decisional processes, immateriality of culture, open mindedness and freedom. Those aspects can be framed, then, in a perspective of worldwide social development and improvement of man's welfare. It is clear that such a phenomenon

[2] According to Netcomm and Assinform researches, in 2008 the average percentage of GDP destined to invest in ICTs in Europe amounted to 23.0 %; Germany, France and United Kingdom with 28.0% and Italy with 19.0%.

has not had the same effects everywhere. In fact, the mass media talk of *digital divide*[3], which may worse affect the deep social inequalities of each country. In particular, according to the "*Connectivity scorecard*"[4], which monitors the web impact on the national economy (London Business School), among 25 industrialized countries, Italy was 22nd. Sweden, United States, Norway and Denmark, are at the top of the list, while Hungary, Poland and Greece, are behind Italy. It is important to highlight the e-commerce gap. As far as web-consumers is concerned, in fact, in Italy, in 2010, only 12.0% of citizens bought on line once, while in the United Kingdom the percentage was 66.0%, in Germany 56.0% and in France 54.0%.

Within the new virtual scenario, e-commerce is one of the most important and dynamic aspects of the bigger process called *e-business* (Sturiale L., 2000).

Internet, although maintaining the basic rules of economy, enlarged the information revolution (Porter, Millar, 1985), still on, not only at company level, by forcing them to transform their business processes, but also at sector level, influencing structures and dynamics of competition (Vescovi, Issepon, 2002; OECD, 2008[5]).

Companies are internalizing the new market and technologies' culture by modifying their business models in different steps: from *e-trade*, to *e-commerce*, to *e-business*[6].

In the last few years Internet started its third-phase of life, as the result of a new relational paradigm between merchants and customers where the engagement of the latter is part of the trading process but of the product too[7].

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[3] *Digital Divide* refers to the gap between those who can access and use the tools of the Knowledge Age and those who are cut out for different reasons: age, location, economical status, internet access. At global level, developing countries experience a bigger gap, followed by emerging ones, while E.U. countries are delaying such as Italy, Spain, Portugal and Eastern Countries.

[4] The *Connectivity Scorecard* estimates the use of wire technologies – optic fiber, telephones and PCs – made by governments, companies and consumers, in order to boost the economy and improve social life, the so-called "*useful connectivity*". Italy has got a low score in all categories here analyzed – the use of the web made by citizens, governments and companies in a country – so to be behind all other G7 countries. The lowest score is that for the use of e-Banking service and e-commerce; while companies have unsafe servers and PCs. This means they do not rely on e-commerce and people do not buy or sell on line (www.connectivityscorecard.org).

[5] OECD published a specific report on ICT effects on macro economy, at sector and company level. See OECD, 2008 for more information.

[6] In detail, the *"e-trade"* is intended as the electronic channel complementary to the traditional ones; the *"e-commerce"* is one of the ways that allow to interact with the market to understand the demand and meet it; the *"e-business"* includes the technologic lever within the internal and external process of a company to obtain a long-lasting competitive advantage (cfr: Scott, Murtula, Stecco (by), 1999).

[7] The first phase was characterized by the presence of the very *players*, who created new business models that ate away physical market shares, Amazon for example, with young, well-educated and technologically-advanced customers. The second phase, more recently, experienced the arrival of web technicians, on which Italian companies of Made-in-Italy and large-scale retail trade are investing to recover the competitive gap. Multichannel customers

IT systems are engaging tools and space for more interaction to meet the new needs of companies and consumers. For example, Web 2.0 tools, which include *social networks* first of all, are a global phenomenon which is changing e-business. *Social networks*, in fact, are deemed as a real support for the company strategy, because they offer a *media mix* approach that works in synergy with different channels and tools (CRM, CSM[8], e-mail, intranet) besides being always and everywhere present with one main goal: listening to customers and their needs.

Worldwide today there are 1.5 billion people connected, potential customers who, on the web, look for information and then to buy. In Italy there are 18 million web-surfers that look for information and compare products and services offered, the so-called info-commerce. Only 6 millions, then, really buy on line. This is the real shopping potential of the web, still unexpressed. 6.5 billion euros, in fact, represent 1.0% of the whole sale turnover to final consumers, with a big difference compared to the rest of Europe where B2C value is on average equal to 4.0%[9] (Eurostat, 2010). It is important to specify that in Europe e-commerce includes grocery, home goods, furniture, do-it-yourself, while Italy does not, as well as it does not include modern retail trade (e-commerce Observatory B2C, 2010). Among the reasons for this gap there are the structural limits of our country (Internet access and broadband, costs of distribution logistics), Italians' habits (fear to use credit card on line, do not like buying on distance), and the difficulty to sell on line certain typologies of products, including agrifood ones. Not to forget the offer system, that barely renovates. International companies dominate the web market, still, together with Italian service companies, but neither Made-in-Italy nor agrifood ones.

ICTs could be interesting opportunities of development especially for the Made-in-Italy and, in particular, for companies of the agrifood sector. We refer to *e-commerce B2C*, which may open exportation for Italian agrifood products, well-known worldwide for their tipicity and exclusivity; *e-commerce* is a valid integration of traditional trade channels to improve customer service and renovates the offer. But also *web-marketing* and *Web 2.0* tools for the promotion.

Italian companies should catch the opportunities offered by *social networks* considering that 2/3 of the Italian internet users (more than 12 millions) belong to a *social network*[10]. It may be a privileged tool for a privileged relation with customers[11].

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are much more transversal than those of first phase, more aware, informed, watchful for prices and services (e-commerce Observatory B2C, 2010).

8 CRM stands for Customer Relationship Management; CSM is Content Management System, a software installed on a server that makes management of web sites' content easier.

9 According to Eurostat sources, against the European average share of the total retail turnover of 4.0% of e-commerce, Ireland got 10.0%. followed by United Kingdom with 6.0%, Spain and Germany with 5.0%.

10 According to the Facebook Observatory, after 7 years of life Facebook counts 600 million members. Italy is ninth at global level with 18 million Italian users (about 32.0% of the residing population), while 12 millions are those who use it daily. Other sources report different figures, but Facebook is for sure a huge social phenomenon that started *social advertising.*

11 In particular, considering the characteristics of the most familiar *social networks*, it is possible to match each one with a specific marketing function: Facebook is the most suitable

3 Survey Method

In order to highlight the delay for agrifood sector to adopt ICTs at National level and the consequent company adjustment, (Baskerville R., Dulipovici A., 2006) after ten years of web-revolution a survey was carried out in two phases.

The first phase drew a short picture of the relationship between the agrifood sector and ICTs, presenting the results of surveys of big Italian companies of the sector and modern retail trade.

The second one consisted in and empiric analysis of the web sites of a sample of a small group of agrifood SMEs in order to analyze the use of Internet for marketing and communication, to understand on one side which are the strategic goals of on-line companies and on the other to verify the efficacy of a web site for marketing (Fritz M et al., 2004).

Survey was carried out by visiting the web sites, analyzing the aspects that may drive consumers' choice and improve web-marketing (Ferrandina A., 2002) by adopting the *7C model* (Sturiale, Scuderi, 2001; Bucca, Scuderi, Sturiale, 2006). The identification of the main parameters that characterize a web site was carried out by means of an ad-hoc layout, which allowed obtaining information on the different aspects that help characterizing its image. In particular: *Content* – site size, updating frequency, graphic quality; *Context* – type and site function, market typology; *Choice* – products offered, product range, characterization of the offer; *Comfort* – access, surf-worthiness, languages, way of purchase and payment methods, shipment and costs, delivery time; *Convenience* – shipment costs; *Customer service and support* – product information, services offered, shipment traceability, customer satisfaction, payment security; *Community* – links, customer relation. For each category we considered micro-variables for each point.

Quality variables were evaluated with a parametric scale from 0 (absence) to 5 (excellent)[12].

This survey was carried out in 2010 and included 100 representative web sites of companies that were selected through the main National search engines as well as through other web information sources like specific and institutional links. A guided sampling and not a probable one was chosen due to the lack of a defined sample framework as well as the impossibility of knowing the choice probability of each company. Companies analyzed were specialized in different typology of agrifood products: cereals, meat, fruits and vegetables, oil, wines, beverages, including all sub-products. However, only companies' private web sites were analyzed and not virtual malls, due to the specificity of the survey.

The survey included a final questionnaire to point out the company's internet plans and targets.

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tool to develop customer relations; Twitter allows a direct contact with sensitive customers (one-to-one-to-many marketing); YouTube is for emotional marketing.

[12] In particular, 1 very bad, 2 scarce, 3 medium, 4 good, 5 excellent.

4 Results

Our research allowed obtaining information and data, here shortly summarized, by means of which it was possible to outline today's relation between ICTs and the agrifood sector, especially focusing on *e-commerce* and *web-marketing* integration within company marketing strategy.

4.1 ICTs and Italian agrifood system: opportunities, limits and success.

Surveys, which involved some big Italian agrifood companies and some of modern retail trade, allowed pointing out opportunities and limits of ICT application within the system, especially with reference to the adoption of e-commerce B2C and web-marketing strategies to intensify customer relation.

The agrifood system, in the last ten years, has joined the virtual scenario, at the beginning with a progressive spreading of web sites, about which some big historical failure was registered concerning the creation of informative-group portal, followed by the spreading of on-line sale of some imperishable products, such as wines.

Despite such approaches we assisted to companies joining the web with strategically unclear modalities, and Internet, instead of being a competitive advantage, is used as a completion of the company's competitive strategies. SMEs use Internet more for image than as an instrument to relate and interact with customers and suppliers. Potentially, Italian companies could make a better use of web opportunities.

Probably, at the beginning, when many web sites appeared, the error was that of considering Internet as a sale channel, while now companies are discovering its strategic potential as an information tool. In fact, it may activate *interactive marketing* that perfectly meets web-consumer needs, by creating a close one-to-one relation.

The survey revealed that in Italy people restrain from purchasing food products on the web because of skepticism. Overall turnover of this sector has been estimated around 200 million euros in 2010[13] and despite being higher than previous years, it's behind other Countries, as said before. Wine, beer, biscuits, tea and coffee cover almost 60.0% of on line sales, even if the global network offers Italian niche products (such as excellent wines and pine nut oil), while fresh products are poorly represented such as fruits and vegetables, that people prefer to buy personally.

More than 90.0% of modern retail trade companies are not involved in any *e-commerce* project. Actually, there is only one big company at National level, which is successfully investing in it: Esselunga; together with some interesting local ones such as Basko, Prontospesa, Spesaon line[14]. Reasons why so few invest in e-commerce is the lack of competence and structures within the company to start a

[13] Estimated figures as reported by CIA – Confederazione Italiana Agricoltori – farmers Italian association, according to ISTAT and ICE data.

[14] One case is experimental: that of "driveAuchan" in Turin, where the customer can order on line and then pick the goods up from the closest Auchan.

correct e-commerce project; fear of cannibalizing the traditional sale channel; or, in case the e-commerce is already active, the lack of boosting the on-line channel. Besides, there are difficulties in arranging a logistic-operative process allowing cost control – order execution, delivery, etc…

E-commerce could represent an important lever to export Made in Italy worldwide, as demonstrated by the results obtained so far by those companies that well interpreted and exploited the on-line channel[15].

In the last ten years, however, there has been a reduction of the number of shop-window-like sites and an increase of web sites aiming at developing *direct marketing* and more recently *conversational marketing*.

Marketing has changed adapting to the new characteristics of the new tool and focused on the "information" as a resource for the company and the company-customer relation, in an integrated version that may increase the value. Recently, according to a research carried out by Netcomm/Contactlab[16], *social networks* have gained the power to steer on-line purchase choice.

Within the marketing strategy, customer-company relation becomes central both because it starts a privileged information channel and because it is a base for customer retention. In a competitive and strongly dynamic environment, immaterial factors become basic sources of the competitive advantage since they make companies evolve, meet consumers' demand and foresee changes (Di Vittorio, 2002).

Our survey pointed out some case histories of agrifood companies that catch the opportunities offered by Internet and *social networks*. In fact, several brands chose to establish a company-customer relation so that customers turn from simple user of contents to author of contents and experiences.

Targets of the web-marketing strategy, then, are those of building up, involve and widen company-customer relation by means of the web; of increasing the brand awareness; of acquiring more and more information to develop a targeted communication and activate e-commerce. Many companies have different institutional sites, according to the different targets, and sites for prize contests. Many other create communities based on the principle of Internet and Social Media, that is, that of sharing. In some cases the site was visited by many people, 50.0% of which were foreigners with average-age 28. Other joined the web with Web 2.0 tools such as Facebook and Twitter aiming at starting a specific relation with customers, making them feel author, co-author and user of their know-how.

[15] Among which is the experience of Esperya, an online shop born in 1998 as dotcom with the only aim of selling at National and International level food-and-wine traditional Italian products. In September 2007, Esperya started its first shop in Milan selling high quality food products where customers may also taste. Esperya has more and more foreign customers: from 16.0% in 2006 to more than 30.0% in 2010. Another experience based on the use of ICTs is that of Fratelli Carli, whose project OlioCarli.it was born in 1996 to join tradition and technologic innovation. E-commerce in this case, positively affected the turnover and customer retention together with an on-line strategy of integrated multichannel operators.

[16] Observatory Netcomm/Contactlab, www.contactlab.com/e-commercereport.

4.2 Analysis of web sites of the sample of agrifood companies

Information acquired by analyzing a sample of web sites opened a quite articulated scenario concerning both the company presentation and the services offered to consumers by using ICTs.

Out of all data gathered according to the *7C model*, we here present only the most important results to point out the strong and sore points characterizing the web-marketing of our sample agrifood companies.

The analysis of the first C, ***Content***, in particular of the "size of the site", showed that most of web sites include 8-15 pages, while few have 16-25 pages. Less visited are those sites with a lower or higher number of pages. The overall score was 3.8, which is positive. As far as "updating" is concerned, deemed one of the most important element for customer retention, 90.0% of web sites do not mention it, while 4.3% update their site weekly and 2.7% daily. The remaining percentage does it monthly. However, data obtained from documents' dates, showed an overall updating frequency which was very low, with a score of 1.9. Graphic quality, instead, varies a lot, with excellent sites and home-made ones, for an overall score of 2.6.

The analysis of the ***Context*** divided the web sites into two categories: institutional and commercial. Based on their different function, the institutional ones are better articulated with a score of 4.3, while the commercial ones have a score of 2.3 with limit cases of 0.4. As far as the "market typology" is concerned, almost 63.0% of the web sites belong to B2C, 7.1% to B2B, the remaining share to both.

Among the aspects considered concerning the ***Choice*** parameter, the most important results are those related to the "typology of commercialized products". The most favorite ones are those certified DOP, IGP, organic with 42.0%, and those bound to specific territories. Web sites for their range of products got a score of 3.2, which is good, while 2.2 was assigned to the characterization and description of each product due to the limited information presented.

The ***Comfort*** includes many interesting elements. For convenience we included here just a few. Accessibility got a score of 3.9 since it is quite easy to find the web sites, but once entered it is difficult to visit most of the sites even to open pages. 60.0% of the web sites have language limitations, which prevent internationalization,

offering only Italian or at most English. Score: 1.1, meaning that this is one of the most important points to work on to recover the gap with the rest of the world.

The ***Convenience*** parameter is different for each site. In general, however, the on-line offer is huge. The "on-line offer" was then scored 2.7 according to what said above and for the shop-window function adopted by many companies. However, the advantages compared to the traditional channel are not pointed out, if not completely absent. The score in this case is 1.2.

Careless was the approach to ***Customer Service and Support***, which is very important for web marketing strategies, instead, in virtue of the specific characteristics of e-commerce interactivity compared to the traditional one. In fact, except for the information system, which got the score of 3.9, the rest of parameters such as traceability, claims, customer satisfaction and payment security, the score ranged from 1.1 to 2.1.

Least but not last, the ***Community,*** on which on-line companies have focused most. In fact, all such companies meant their presence on line to establish an interaction with customers, besides carrying out market research, spreading technical information and targeted communication. However, the score obtained by this factor was 1.8 due to the wrong policy adopted that prevents customer retention.

Overall, the analysis of results pointed out that on line companies aim at spreading their brand name without focusing on customer retention or product sale (Table 1).

Table 1. 7C evaluation scale from 0 to 5

Categories	Mean value
Content	
Site size	3,8
Updating frequency	1,9
Graphic quality	2,6
Context	
Institutional site	4,3
Commercial size	2,3
Choice	
Product range	3,2
Offer characterization	2,2
Comfort	
Accessibility	3,9
Surf-worthiness	2,1
Languages	1,1
Offer typology	1,6
Convenience	
Offer range	2,7
Advantages compared to the traditional	1,2
Customer service and support	
Information	3,9
Traceability	2,1
Claims	1,4
Customer satisfaction	1,2
Payment security	1,1
Community	
Customer retention	1,8
Links	2,9
Entertainment	3,4
Source: our processing out of direct survey	

5. Conclusions

Internet has created a quick selection mechanism of the offer, cutting out unprofessional competitors. For a successful competition in this new area of market it is necessary, based on the result of the realized search, at least to play attention and to promote some essential initiatives a) to invest on site visibility, by means of advertisement and offline promotion, as many companies are already doing with good turnover; b) to target the right customers to better meet their needs by using internet to know and put them into the right category; c) create a community customers can share together with strategic partners, by integrating activities and supply chain[17].

In order to exploit the web it is necessary flexibility from all people involved, included politics, especially in such a period characterized by this economic global crisis against which it is very important to show courage by investing in innovative sectors such as ICTs. This to reduce the cultural and structural gap typical of Italian companies, southern SMEs above all, which include agrifood ones.

For this it will be fundamental to refer to an active and interactive on line model to analyze and revise the company's business structure on its whole, to take into account the company's characteristics, in our case the specificity of agrifood products and the local size of it. In this way it will be created a source of competitive advantages within a global context.

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[17] In this regard we remind that communities are a social phenomenon before being an economic one and can be useful from two points of view: the *social one*, based on shared values and one main explanation; the *economic one* based on a business model that may take the economic value out of the relational one (Mandelli, 1998).

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