



THE ROLE OF INTERNET IN ENABLING PERFORMANCE FOR FARMERS

Ioana TEODORESCU

Product Manager at Rentrop & Straton - Publishing and Business Consulting Group and Member of the Research Center for Business Administration, Faculty of Commerce, Bucharest University of Economic Studies, E-mail: ioanna.teodorescu@gmail.com

Abstract This research analyzes the importance of online agribusiness on the Romanian agricultural market and how Internet can help the Romanian farmers to develop their business. Withal, this study will assess in what way the use of Internet increases the company's standing on the market. The questionnaire was applied on subscribers to AgroRomania (www.agroromania.ro), an online portal dedicated to agricultural market. There were selected five important criteria to reveal the need of the Internet for Romanian farmers: target groups of farmers using the Internet, sources of information used by farmers, business level, profession and level of education.

Key words:

Internet, entrepreneurship, online business, agribusiness, e-commerce

JEL Codes:

L81, L26, Q13

1. Introduction

Like all the other industries and professions agriculture has become closely related and connected to the Internet, therefore it is based and focused on technologies. For farmers and producers over the country, agriculture of the future is to use Internet, to be an account and to be visible on the platforms, to be familiar with the use of e-commerce.

In Romania, especially in the rural areas the internet connection is a problem, in 2014 there are estimated over 1500 rural localities without internet connection and for those farmers and producers will be away too difficult to promote their products, to buy new machines and equipments but also to access EU funds.

In the latest years accessing the EU funds has become a way to obtain a financial security for the business, but also a way to develop new branches of the business, for example the organic products and the ecological agriculture.

Using the internet, it also helps the Romanian farmers and producers to find new ways and methods to increase their production of the field crops, organic farming, poultry, viticulture, forestry or fishery so they can rival with competitors from abroad. Likewise, they can increase their level of education, assimilate and learn information much faster and in a much easier way, communicate to each other and exchange ideas and opinions.

In the era of information and technology, it is vital to have an internet connection, to know how to use platforms of e-commerce and to be visible on the online market. Accordingly, Romanian farmers and producers must be taught how to use and to access them.

2. Literature review

The use of web is an effective mean for agribusiness actors either sell input supplies to agricultural producers or offer manufacturers the opportunity to sell output to others. Agricultural commerce is quantified by four directions: „(1) the ability of the Internet and digital measurement technologies to allow for product differentiation and identity preservation through the increased flow of information on product attributes and related information in the agri-food supply chain, (2) the structure and business development of firms providing Internet commerce applications, (3) the ability of individual producers and agribusinesses to adopt information technologies and use them in ways that improve the capacity for coordination in the areas of production, logistics, and marketing, and (4) the regulatory environment that emerges to monitor electronic commerce”.(W. Parker Wheatley *et al*, 2001: 5)

As a communication tool, the internet is very useful to small producers and their needs in a digital economy market defining an „e-business model as adaptation of an organisation's business model to the internet”. (C.Combe, 2006)

From this point of view, it is fundamental for farmers to find new opportunities to reduce costs and improve performance passing through online business. The Internet of Things (IoT) is the solution for a sustainable agriculture. This application would provide support to farmers in meliorating agronomy practices to „satisfy local biodiversity requirements and natural resource limitations”. (P.T. Kidd, 2012:67)

In the e-business context farmers would emphasize „examining and evaluating user experience (expectations, perceptions, satisfaction)”. (C.K. Georgiadis and P. Y. K. Chau, 2013:185).

To add value to their business, farmers also need „new farm management and marketing skills so they can successfully produce and market new types of high-value products”.(B. E. Swanson and R.Rajalahti, 2013:4)

3. Methodology of research

The questionnaire was applied on 14 000 subjects, subscribers to AgroRomania (www.agroromania.ro), an online portal dedicated to agricultural market, part of Rentrop & Straton - Publishing and Business Consulting Group. AgroRomania is an European project valuable indexed as a „navigation site” (C.B. Onete, 2010) for the online community of farmers throughout the quality of information, the number of users and the marketing campaigns that promoted the brand among Romanian farmers. In this category, AgroRomania has second best ranking, ahead portals in the domain. The target group of subscribers consists on farmers, farm managers in companies, contractors, manufacturers, distributors and agricultural entrepreneurs.

There were selected five important criteria to reveal the need of the Internet for Romanian farmers: target groups of farmers using the Internet, sources of information used by farmers, business level, profession and level of education. Each criterion was noted properly by the respondents and the final mark represented the percentage number given by the formula: $\Delta / 14\ 000 = \% / 100$

4. Results

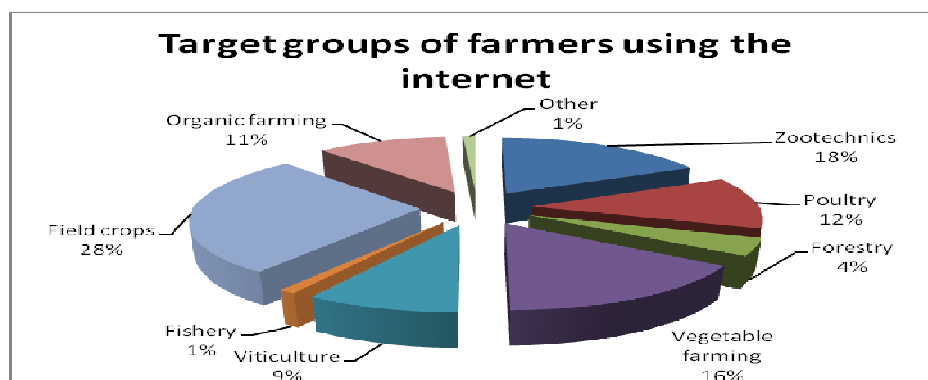
Agriculture is based and was focused in recent years in technologies. For producers in the country, agriculture of future is to use internet. In rural areas, it is not sufficient just to produce, but also to market and to sell the production obtained. In 2014, there are estimated over 1500 rural localities without an internet connection by the National Agency for Management and Regulation in Communications (ANCOM).

The investments will regard the construction or the upgrading of access for electronic communications networks in several rural areas. These have a specific name: *last mile* that connects the subscriber to the Internet in this case. The construction of the distribution network (telecommunications network called *backhaul*) makes the connection between: *last mile*, end- user, and global Internet access points. The ultimate goal is to ensure the functionality of the local loop. This measure is part of the National Rural Development Programme under the entitling *Investments broadband infrastructure in rural areas*. European funding for internet access is included in Axis III - Improving the quality of life in rural areas and diversification of the rural economy.

The measure is part of a plan called "Investments broadband infrastructure in rural areas", part of the National Rural Development Programme (RDP) 2007-2013. The program is organized along several lines, Internet funding is included in Axis III - "Improving the quality of life in rural areas and diversification of the rural economy.

40% of Romanian has never used the internet, many in rural areas. However, Romania is the second country in the world in terms of Internet speed. The potential exists, but there is a large part of the population that has never used this tool.

Graphic 1. Target groups of farmers using the internet



In rural areas, it is not sufficient to produce, but also to know how to sell, and the internet is a very important way to do this. As it can be seen, farmers in field crops area use daily the internet as a main source of information.

In terms of e-commerce, more than half answered they plan to purchase online new equipment from abroad for field work, 10% want to buy used machines, while only 3% think that the most convenient option is to buy new equipment from Romania.

In field farming, participants in this survey use their own agricultural equipment; meanwhile 27% of them rely on services provided by specialised companies or large farmers. As expected, the most used tools are: the drill, the disc plow, the combiner, the cultivator and the sprayer machines, while the disc harrow, the ripper and the roller are least used.

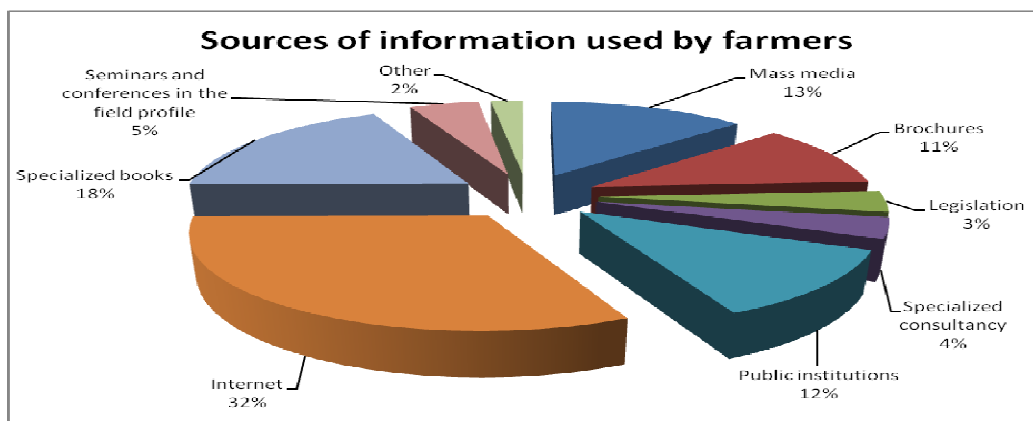
SMEs specialised in organic farming access in proportion of 11% virtual environment in order to develop a strategy to promote quality products and to form a network of customers in online communities. On the second place come the farmers from livestock sector who are interested in news on subsidies provided by the state and accessing European funds. Farmers will enter mandatory into the digital age because the applications for European funds need to be submitted online. The National Rural Development Programme being approved by the European Commission for 2014-2020, online submission for the

first session of projects will be implemented on the website of the Paying Agency for Rural Development and Fishery.

Potential candidates for European funds will complete online with specific information a set of identification data and will upload electronic the grant application form with all attachments that will be automatically sent to the management authority.

The implementation of online submission of applications is considered to be a strategy to eliminate bureaucracy for farmers to access EU funds and to facilitate investments in agriculture. Also, it is an important step to adjust the absorption of funds for agriculture at national level. In this way the beneficiaries will avoid expenditures. The online system is the clue to have more accuracy for the filing and the recording of projects. Using internet simplifies completing the application form file, but also its filing.

Graphic 2. Sources of information used by farmers



The other categories of farmers that use a internet connection include: 11% organic farming, 12% poultry sector, 16% vegetable crops, 9% viticulture area, 4% forestry and 1% fishery and other linked with agriculture.

According to the survey dedicated to Agroromania subscribers, 5% of the respondents checked as source of information the seminars and conferences in the field profile. Young entrepreneurs see it as opportunity to attract new customers by participating at fairs, events and conferences on agribusiness, where they can do their business known.

This proceeding creates direct relationship with the customer and spread to dialogue with the market. These are solutions to help small producers to get out of anonymity. In parallel, participating constantly to workshops on agriculture or entrepreneurship can conduct a small business to a social impact developing its strategy and objectives.

But still the use of internet remains the main source of information. By, using electronic resources, 32% of farmers have established with experience and knowledge the promotion strategy and created a logo and a website. Thus, business befriends with the internet and arouses interest in expanding the project. Social media has a significant impact on SMEs in agriculture. Quantifying the likes on a Facebook page for agricultural e-commerce, we discover that is a record for many small agricultural businesses. This new method with Facebook pages reaches friends, thousands becoming new clients that can merchandise online and have either home delivery or pick up groceries from different points.

4% of participants of the survey are farmers who have no experience in the field and seek a specialized firm or ask for some specialised consultancy if there is a lack of inspiration to find the idea that best describes their work and products.

12% of respondents request specialised information to public institution like: Ministry of Agriculture and Rural Development, Agency for Payments and Intervention in Agriculture or Paying Agency for Rural Development and Fishery. 13% of farmers are receptive to information campaigns co-financed from EU funds in the media. This type of information mainly covers evolution and the major benefits of the Common Agricultural Policy (CAP), rural development policy challenges, countryside conservation, sustainable development and land use planning concepts. Also, these campaigns debate major issues: trends in food security and food production processes, meaning notions of bio and eco, challenges of climate change and tourism development in the context of preserving the rural landscape.

A part of 18% farmers study themes of strict necessity with the help of specialised books and practical work in vegetable field, cattle breeding and exploitation. Also,

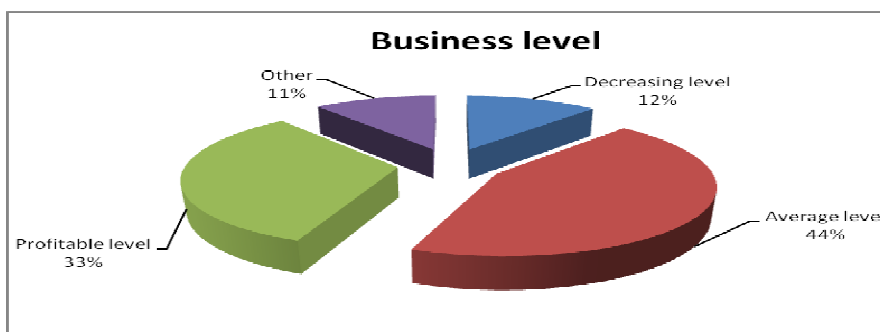
3% are interested to keep up with all changes in national and European legislation.

There is an amount of 11% SMEs that use brochures and catalogs as a method of advertising.

Regarding business level, most of subscribers reach breakeven point in agribusiness. Closer are the 33% who invest in agricultural business and make profit. 12% are farmers who didn't succeed with business ideas and didn't turn them into opportunities. According to statistics, the most profitable farms are based on:

- growing organic vegetables
- growing mushrooms
- cultivate medicinal and aromatic plants
- growing shrubs
- leeches and bee farm
- raising Japanese quails
- pauwlonia and energy willow plantations
- cultivate goji, cranberries, aronia or seabuckthorn
- farms with organic chickens for eggs and meat.

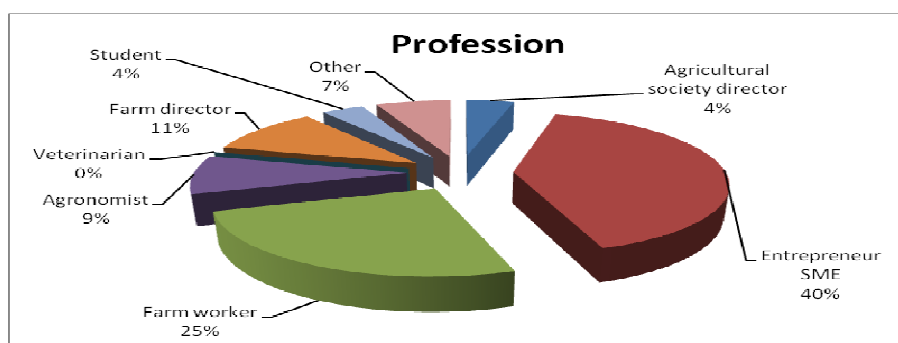
Graphic 3. Business level



A high intake which brings performance to Romanian agriculture is given by 40% of SMEs entrepreneurs. Also in livestock, vegetable and field crops are employed over 25% of farm workers. Only 11% hold a middle management position as chief farm and 4% run a company as director of an agricultural society. A small percentage of 9% have specialized studies in research and development of agriculture.

Most of farmers who use internet as primary source of information have a high level of education. 50% of respondents went to college. Romanian agriculture needs solid insertion economic studies for the agricultural sciences specialist. Modernization of agriculture in recent year reflects in the evolution of how Romanian farmers begin to tackle their job as they start to invest in training and professional development.

Graphic 4. Profession



5. Conclusions

It can be concluded that Romanian farmers accustomed to technology.

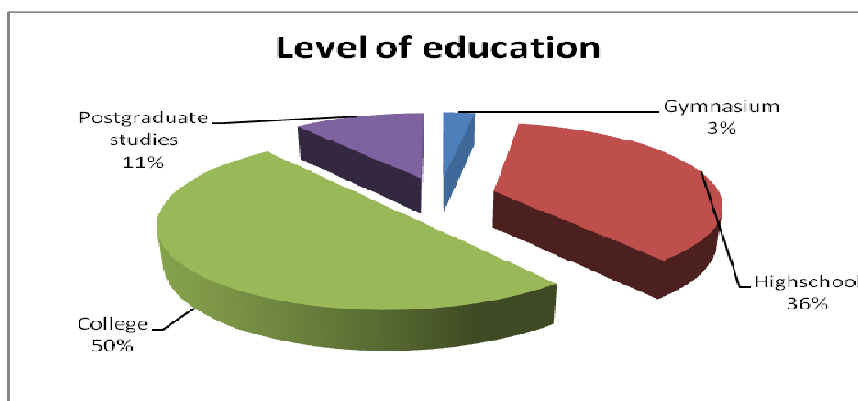
The increased interest of Romanian farmers to the benefits of information technology leads them to:

- the exchange of information and/or ideas and facilities to discuss them;
- easier collaboration and/or access to peers, other farmers and experts;
- a ranked list of useful information such as updated market lists,
- weather information,
- plant protection regulations, r

- recommendations and products,
- news,
- bulletins, and more.

Thus, a farmer reduces time consumption, human resources and supplies in the activity. Most of them use internet for farm information. Although Romania as other EU members went through a transition seen as an explosion of ag-related websites as farm magazines, agribusinesses, farm groups, conservation agencies and organizations and other entities that have increased Internet presence and content, still remains a problem the lack of internet connection in several rural areas.

Graphic 5. Level of education



6. References

- Combe, C. (2006) *Introduction to E-business Management and strategy*, Burlington: Butterworth-Heinemann imprint of Elsevier
- Georgiadis, C. K., Chau, P. Y. K. (2013) „Introduction to the special issue on User Experience in e-Business Environments”, *Information Systems and e-Business Management*, Volume 11, Issue 2, pp 185-188
- Kidd, P. T. (2012) „The role of the internet of things in enabling sustainable agriculture in Europe”, available on-line at <http://iospress.metapress.com/content/clr2w267756j1h74/>
- Onete, C. B. (2011) *Modeling in science goods*, Academy of Economic Studies Publishing House, Bucharest
- Parker Wheatley, W., Buhr, B., DiPietre, D. (2001) „E-Commerce In Agriculture: Development, Strategy, and Market Implications”, available on-line at <http://purl.umn.edu/13938>
- Swanson, B. E., Rajalahti, R. (2010) „Strengthening Agricultural Extension and Advisory Systems: Procedures for Assessing, Transforming, and Evaluating Extension Systems” available on-line at http://www.g-fras.org/fileadmin/UserFiles/Documents/Frames-and-guidelines/M_E/Strengthening-Agricultural-Extension-and-AS.pdf