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AGRICULTURAL INFORMATION AS AN EXAMPLE OF INTANGIBLE RESOURCES IN THE SELECTED GROUP OF AGRICULTURAL PRODUCERS¹

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ABSTRACT

The paper makes an attempt to characterize intangible resources and determine effectiveness of their management in farms grouped in the producers' group. The paper covered 15 plant farms associated in the agricultural producers' group. The research was carried out in the form of a guided survey. Source data from the production year 2013/2014 were analysed. Agricultural information, which as a resource, influences the value of the enterprise and determines the possibility of obtaining competitive advantage, is an example of intangible resources. Agricultural information is a source of knowledge on inter alia market situation, production sources or technical progress. It is also a source of knowledge for a farmer. The investigated farmers expanded their knowledge and skills taking part in various types of trainings, both those carried out by a group and other entities. As much as 80% of the respondents participated in the training on "Crop protection compliant with the integrated production principles". The second was the training on the use of crop protection substances with the use of a sprayer with 33% of respondents taking part therein. The fact that more than half of the surveyed farmers participated in more than one training and one took part in three different trainings should be emphasised. All trainings aimed mainly at raising the farmers' knowledge to realize the most important tasks of the group - production of high quality products with the proper use of intangible resources.

Introduction

The associations formed by agricultural producers aim at maintenance of effective business activity. Producers' groups aim both at the competitive force increase as well as ensure a more advantageous position with regard to producers and enterprises. Producers' groups ensure access to cheaper production means, indispensable services and limit the risk and uncertainty, maintaining at the same time a family character of agriculture (Domagalska-

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Grędys, 2010; Grzywińska-Rapca, 2003). An increased access to the newest agricultural information, resulting from a higher number of persons, who search for information and acting in the so-called "common issue" (Szeląg-Sikora, 2010; Cupiał and Sikora 2014) is an advantage.

Poland's accession to the European Union in 2004 initiated new possibilities of development of agriculture and other fields of economy. Farmers, as manufacturers of farm and food products were covered by common agricultural policy (Sikora, 2009). Acting independently, they were partially supplanted by more experienced and competent farm producers associated in producers' groups. This solution is more advantageous because production depends both on the market demand as well as on technological requirements (Jeżyńska, 2008). Thanks to the Poland's accession to the European Union, the Polish agriculture faced the chance of progress with the aid of the European Union funds. On the other hand, it carries with it a great free market competition, with which Poland has to cope. Intensification of competitive processes forces farmers to search for new, unique solutions (Szeląg-Sikora, 2011). Gaining advantage on the market is related to the farmers striving for the possibly best use of assets in the form of intangible resources. Having knowledge on formation and development of intangible resources is an essential factor, which decides on the effective functioning on the market.

A characteristic feature of intangible resources is a problem with an explicit definition of their nature. Theories and models concerning knowledge management use many concepts of the discussed resources. The following concepts are used: intellectual capital, knowledge capital, invisible assets, intellectual potential, non-material market assets, information assets and critical non-material resources. Non-material resources as an element of the enterprise property have market value, thus they affect shaping of the value of the entire enterprise. Resources, which may be selected from an enterprise and which do not infringe their structure, have market value (Murawska, 2008). Intangible resources in literature are defined also as each production factor in an enterprise, which is used in the process of production, exchange and consumption (Urbanek, 2000). Intangible resources may be defined as such that are not physical, they are unique elements of the property, which are integrated with real assets, may be an object of strategic management (Murawska, 2008). Agricultural information, which as a resource influences the value of the enterprise and determines the possibility of obtaining competitive advantage, is an example of intangible resources.

Methods of research

It was concluded after Murawska (2008) that intangible resources are elements of the property, which do not have a physical form, which, when used appropriately cause that a farm becomes successful.

Knowledge is a basis of intangible resources. It is hidden in the employees' minds, who are creators and owners of intangible resources. Knowledge is a resource, thanks to which it is possible to obtain a competitive advantage on the market. In case of a farm, it is important to have technological knowledge, which enables preparation and execution of the production process pursuant to the business activity trend (Kozera, 2010). Trainings are one of the basic methods of obtaining knowledge in agriculture. Thanks to trainings, participants

learn new techniques and solutions, the use of which may increase effectiveness of production, improve the quality of products or outstrip the competition.

Information, next to knowledge is considered as the most crucial intangible resource, which serves for building up a competitive advantage. Information is indispensable for agricultural producers, manufacturers, suppliers of production means and recipients of agricultural products (Szeląg-Sikora and Cupiał, 2010). Obtaining high-quality products requires the use of modern methods of use of information and information management. IT technologies may facilitate this. Sources of information, which should include complete information, accurate, present and for affordable price, play an important role in management. No information or partial information negatively affects the management process (Cupiał, 2005).

Based on the collected data during a guided survey, intangible resources including information as one of decisive elements were identified. During realization of research, authors tried to obtain source data, inter alia, on the access to information, sources of knowledge and information. The scope of research covered a producers' group consisting of 15 members, who specialize in vegetables and fruit production. Average area of a farm was 8.40 ha.

Research results

Agricultural information is a source of knowledge on the market situation, production means or technical progress. It is also a source of knowledge for a farmer. Therefore, access to present, thorough and full information, which will allow farmers to make accurate decisions is significant. Presently, access to the Internet and the possessed IT infrastructure are very important in obtaining information. All the investigated farmers had computers in their farms; only one of them did not have access to Internet. 73 percent of the surveyed farmers answered that they use a computer and Internet in their farms. Farmers checked in the Internet the current prices of vegetables on the market, traced information related to agricultural activity and information concerning the size of demand. Moreover, the Internet served also for reviewing offers related to purchase or sale of agricultural machines and information on new principles and methods of agricultural production. One farmer obtained information concerning invasion of insects. Two farms used a computer for writing invoices and keeping data bases. 27% of the respondents answered that they do not use a computer or Internet in their agricultural activity and the equipment they have is used mainly by their children.

The investigated farmers answered the questions concerning the information source on the sale prices of products, purchase of production means, loans, requirements concerning EU, available funds and indicated a preferred information source. Respondents' answers allowed determination of the best source of information in their opinion. The following table presents farmers' answers on the information source on the sales prices of products, purchase of production means and preferential loans.

Table 1
Sources of information on the sales prices of products, purchase of production means and preferential loans

Farm no.	General press	Agricultural journal	Television	Radio	Internet	Hotline	Advisers	Brochures and guides	Neighbours and friends	Fairs and collection centres	ODR	ARiMR
I			1,3		1,2,3					1		
II			1,2,3	1,2	1	1	1	1	1,3	1,2		2,3
II	1		1,2		1,2					1		
IV												
V	1		1,2	1,2	1,2		3	2	1,2	1		
VI	1		1,2	1,2	1,2	2	3	2	1,2	1		
VII		2	1,2,3	1,2	1,2			1	3			
VIII		1	1,2	1,2	1,2		3		1	1,2		2,3
IX		1,2	1,2,3	1,2,3	1,2,3		2,3	2	1			1,2,3
X		1,2	1,2	1,2	1,2		1,2,3	1,2,3	1,2		1,2	1,2
XI			2,3	2	1,2,3		1		1			1,2,3
XII			1,2,3	1,2	1,2		2	2	1			
XIII			1,2,3	1,2	1,2		2,3			1,2		1,2,3
XIV			1		1,3				1	1		
XV	2		1,2	2	1,2		3		1	1		

where: 1. Sources of information on the sale prices of products; 2. Sources of information on the purchase prices of products; 3. Sources of information on preferential loans

Farmers indicated that the Internet is the most popular source of information on the sales prices of products. 93% of respondents gave such answer. Television was on the second position – 86.7%. 66.7% of farmers obtain such information on fairs and in collection centres. Hotline and Agricultural Advisory Centres were the least popular – 6.7% of responders used this source of information.

Television and Internet are also the most popular source of obtaining information on the purchase prices of production means. 80% of respondents gave such answer. Radio – 73.3% and Agency for Restructuring and Modernisation of Agriculture [*Polish: ARiMR*]-40% were on the subsequent positions. Similarly to the above case, the least number of respondents (6.7%) indicated the hotline and Agricultural Advisory Centres as well as general press – 6.67%.

Farmers recognized television and information obtained from advisers (46.7%) as the best method of obtaining information on preferential loans. Another most often declared source of information, indicated by 33% of the respondents, was the Agency for Restructuring and Modernisation of Agriculture. Many farmers looked for such information in the

Internet (27%). According to data presented in table 1, no farmer has mentioned press and agricultural journal, hotline, fairs and collection centres and the Agricultural Advisory Centres as a source of obtaining information on loans. Majority of mass media, i.e. television and Internet results from greater possibilities of transferring information.

After Poland's accession to the European Union, Polish farmers obtained access to the financial support systems. Farmers, who decided to obtain aid, must have met specific requirements of the EU. Therefore, they searched for information concerning obligatory requirements of the EU and sources of information on available EU funds. Table 2 presents answers given by the investigated farmers on the methods of obtaining information on the above mentioned subject.

Table 2
Obtaining information on obligatory requirements with regard to EU and sources of information on available EU funds

Farm no.	General press	Agricultural journal	Television	Radio	Internet	Hotline	Advisers	Brochures and guides	Neighbours and friends	Fairs and collection centres	ODR	ARiMR
I	1.2		1.2		2		1					
II			1	1.2	1.2							1.2
II	1.2		2	2	1.2		1.2		1.2			
IV			2		2							
V			1.2	1.2	1.2		1					1
VI			1.2	1.2	1.2		1.2		2		1	
VII			1.2	1	1.2		2		2			2
VIII			1.2				1					1.2
IX			1.2	1.2	1.2	1			1			1.2
X			2		1.2			1			2	2
XI			2	1	1.2		1		1			1.2
XII			2		2	1	1					
XIII			2				1.2		2			2
XIV			1		2							
XV			1.2		2		1					1.2

where: 1. Obtaining information on obligatory EU requirements towards farms; 2. Source of information on available EU funds; 3. Sources of information on preferential loans

The data collected in table 2 show that the respondents decided that television and advisers are the best method of obtaining information – 60%. Internet (53% of respondents) was on the second position and radio and ARiMR (40%) were on the subsequent positions. On the other hand, no respondent indicated agricultural journal, fairs or collection centres. Moreover, brochures, guides and Agricultural Advisory Centres, indicated by respectively

6.6% and 6.7% of respondents were not popular. Once more, farmers indicated mass media on the first position. The fact that farmers trust advisers with regard to the EU obligatory requirements should be noted.

The investigated farmers eagerly used financial aid from the EU. Asked for the sources of information concerning the EU funds they give not varied answers. Also in this case, respondents used mainly mass media, which is presented in table 2.87% of farmers answered that television and Internet is the best source of information on the EU funds. Over half of the respondents used information obtained from the Agency for Restructuring and Modernisation of Agriculture. It is influenced by the fact that this institution implements financial aid instruments from the European Union. Among other sources concerning available funds, respondents indicated radio, agricultural advisers, information obtained from neighbours and friends and general press. Moreover, the respondents un-animously answered that they use agricultural journals, hotline, brochures and guides as well as fairs and collection centres.

During the guided survey they were asked to provide preferred information sources, which they would like to use. The obtained answers were presented in the following table.

Table 3
Preferred sources of information

Farm no.	General press	Agricultural journal	Television	Radio	Internet	Hotline	Advisers	Brochures and guides	Neighbours and friends	Fairs and collection centres	ODR	ARiMR
I	x		x				x					
II			x						x			x
II	x		x		x		x					
IV			x		x							
V			x	x	x		x		x		x	x
VI			x	x	x		x		x			
VII			x								x	
VIII			x	x	x							x
IX			x		x		x		x			x
X			x		x							x
XI			x	x	x		x		x			x
XII			x		x				x			
XIII			x	x	x							x
XIV					x							
XV			x		x		x					x

Analysis of data from table 3 shows that the most preferred source of agricultural information is television. 93% of the respondents obtained information in this form. The answers given on the sources of obtaining information show the advantage of television due to greater possibilities of information transfer. Internet was the second preferred carrier of

information indicated by 80% of respondents. Great popularity of this form of providing information results from the fact that each farm has a computer and the Internet. A chance to obtain financial aid from the EU places ARiMR on the third position among the preferred sources of information (53% of respondents). 46% of respondents would like to obtain information from advisers, while 40% would eagerly exchange information with neighbours and friends. Radio, was a little less popular. 33% of farmers would like to obtain information from this source. 13% of respondents would like to read general press; the same number would like to use information from the Agricultural Advisory Centres. The fact that no farmers would like to read agricultural journals, which contain numerous branch information, is puzzling. During the research, information on farmers' activity in expanding their knowledge, as another example of non-material resources, was collected. Respondents expanded their knowledge and skills by participation in trainings carried out by a producers' group and other entities. Participation in trainings is an element of management over intangible resources i.e. human resources. In the investigated producers' group, integrated production principles were introduced, which obliged their members to obtain suitable certificates. Thus, a training organized by the Agricultural Advisory Centre was carried out. The training titled "Crop protection pursuant to the Integrated Production principles" lasted 15 hours and was free. 80% of respondents declared their participation in this training. The second popular training was on the use of crop protection substances with the use of a sprayer with 33% of respondents. The cost of the 8-hour training amounting to PLN 80 was incurred by farmers. Besides the above-mentioned trainings, farmers obtained knowledge on cultivation of vegetables and testing 1st class toxic substances. Both these trainings were free and were carried out by authorized institutions. One farmer took part in the training titled: „Raising knowledge on operation of an agricultural cooperative including, in particular, management over a cooperative and running financial and marketing activity. The fact that more than half of the surveyed farmers participated in more than one training and one took part in three different trainings should be emphasised. All these trainings aimed mainly at raising farmers' knowledge on cultivation pursuant to the integrated production principles, which includes protection of natural environment and raising the quality of products through a specialistic cultivation technology, suitable techniques of harvesting and storing as well as preparation of products for sale.

Conclusion

Great activity of farmers in trainings and conscious searching for professional agricultural information in various available sources prove that intensive strategy of managing non-material resources was carried out in the investigated farms associated in the producers' group. 80% of respondents participated in the training titled "Crop protection compliant with the integrated production principles". The second was the training on the use of crop protection substances with the use of a sprayer with 33% of respondents. The fact that more than half of the farmers participated in more than one training and one took part in three different trainings should be emphasised. The collected information prove that the best method of obtaining information according to respondents is television and advisers, the second one - Internet and the following – radio and ARiMR. Brochures, guides and Agricultural Advisory Centres were not popular. No farmer provided agricultural journals, fairs

and collection centres. The research proved that television is the most preferred source of information. As much as 93% of respondents would like to obtain information through television. The Internet was the second preferred carrier of information indicated by 80% of respondents.

The surveyed farmers know that due to proper use and management of the possessed intangible resources could obtain a great advantage over competition. Building up competitiveness of farms was based on the resource approach in the investigated farms.

References

- Cupał, M. (2005). Informacja techniczna w rolnictwie Małopolski. *Inżynieria Rolnicza* 3(63), 119-124.
- Cupał, M., Szelań-Sikora, A. (2014). *Komputerowe wspomaganie zarządzania w gospodarstwach ekologicznych*. Kraków, PTIR, ISBN 978-83-64377-11-2.
- Domagalska-Grędyś, M. (2012). Grupy producenckie jako przykład rozwoju przedsiębiorczości wspierany funduszami UE na obszarach wiejskich. *Zarządzanie i Finanse, Journal of Management and Finance. Rok 10, nr 1, cz. 2*, 257-268.
- Grzywińska-Rapca, M. (2003). *Poprawa efektywności gospodarowania w wyniku przystąpienia do grupy producenckiej*. Prace Naukowe AE we Wrocławiu, nr 983, 226.
- Jeżyńska, B. (2008). *Producent rolny jako przedsiębiorca*. Lublin. Wydawnictwo Marii Curie-Skłodowskiej. ISBN 83-2272-8794.
- Kozera, M. (2010). Zasoby kapitału ludzkiego i intelektualnego gospodarstw rolnych – aspekt teoretyczny oraz wybrane implikacje praktyczne. *Zeszyty Naukowe SGGW w Warszawie, Ekonomika i Organizacja Gospodarki Żywnościowej. Z. 84*, 5-12.
- Murawska, M. (2008). *Zarządzanie strategiczne niematerialnymi zasobami przedsiębiorstwa*. Rozprawa doktorska. Warszawa. ISBN 978-83-927446-3-4.
- Sikora, J. (2009). Analiza zmian potencjału technicznych środków produkcji gospodarstw rolnych w gminach Polski południowej. *Infrastruktura i Ekologia Terenów Wiejskich*, 09, 21
- Szelań-Sikora, A. (2010). Efektywność produkcji gospodarstw indywidualnych zrzeszonych w sadowniczej grupie producenckiej. *Inżynieria Rolnicza* 5(123), 267-273.
- Szelań-Sikora, A. (2011). Uwarunkowania subwencjonowania rolniczej produkcji ekologicznej w okresie akcesyjnym 2007-2013. *Inżynieria Rolnicza* 7(132), 163-169.
- Szelań-Sikora, A., Cupał, M. (2010). Pozyskiwanie informacji rolniczej a poziom wykorzystania funduszy unijnych na inwestycje techniczne w gospodarstwach rolniczych. *Inżynieria Rolnicza*, 2(120), 193-200.

INFORMACJA ROLNICZA JAKO PRZYKŁAD ZASOBÓW NIEMATERIALNYCH W WYBRANEJ GRUPIE PRODUCENTÓW ROLNYCH

Streszczenie. W pracy podjęto próbę scharakteryzowania zasobów niematerialnych oraz określenia efektywności zarządzania nimi, w gospodarstwach zrzeszonych w grupie producenckiej. Zakresem pracy objęto 15 gospodarstw rolnych ukierunkowane na produkcję roślinną, zrzeszonych w grupie producentów rolnych. Badania przeprowadzono w formie wywiadu kierowanego. Analizie poddano dane źródłowe z roku produkcyjnego 2013/2014. Przykładem zasobów niematerialnych jest informacja rolnicza, która jako zasób wpływa na wartość przedsiębiorstwa, determinując możliwość uzyskania przewagi konkurencyjnej. Informacja rolnicza jest źródłem poznania m.in. o sytuacji rynkowej, środkach produkcji czy postępie technicznym. Jest też sposobem zdobywania wiedzy dla rolnika. Badani rolnicy poszerzali swoją wiedzę i umiejętności uczestnicząc w różnego rodzaju szkoleniach, zarówno tych przeprowadzanych przez grupę oraz inne jednostki. Aż 80% ankietowanych wzięło udział w szkoleniu nt. „Ochrona roślin zgodna z zasadami integrowanej produkcji”. Na drugim miejscu znalazło się szkolenie z zakresu stosowania środków ochrony roślin przy użyciu opryskiwacza, w którym uczestniczyło 33% ankietowanych. Na uwagę zasługuje fakt, że ponad połowa badanych rolników brała udział w więcej niż jednym szkoleniu, zaś jeden z nich uczestniczył w trzech różnych szkoleniach. Wszystkie szkolenia miały na celu głównie podniesienie wiedzy rolników, aby przy właściwym wykorzystaniu zasobów niematerialnych zrealizować najważniejsze zadanie grupy, jakim było produkowanie wysokiej jakości produktów.

Słowa kluczowe: grupa producentów rolnych, zasoby niematerialne, wiedza, informacja rolnicza