ACTA SCIENTIARUM POLONORUM *Oeconomia 10 (3) 2011, 83–95*

INTELLECTUAL CAPITAL IN AGRICULTURE – MEASUREMENT AND DETERMINANTS

Magdalena Kozera
Poznań University of Life Sciences

Abstract. The article presents the basic premises and particular determinants of measuring intellectual capital in farms. It discusses the assumptions of the measurementand the framework of the research method. It presents the assertions describing the particular elements of intellectual capital, i.e. human capital, organisational capital and market capital. Key issues relating to each of these are characterised. The paper also includes a hint that intellectual capital is strictly linked with the local environment as well as the broadly understood quality of human capital in rural areas.

Key words: intellectual capital, human capital, organisational capital, market capital, farming business

INTRODUCTION

It was in the middle of the 20th century that analysts of companies' market positions, measured by the classic indices of the efficiency of the use of economic resources, started to notice that organisational working order and economic effectiveness could vary a lot among economic subjects even if the value and structure of their assets are quite similar. It is also expressed by the positive value of the difference between a company's market value and its accounting value resulting from skilfull management and the quality of the engaged human resources. The fact that the human resource factor exists and cannot be separated from people is not challenged by anyone today. The resource has been called 'intellectual capital' and assigned a decisive role in building a company's competitive advantage. A vast part of works touching on intellectual capital concerns services and companies using advanced technology. Apart from describing its nature and complexity, they also include proper and useful-in their authors' views- methods of measuring the resource [Edvinsson, Malone 2001; Kasiewicz, Rogowski, Kicińska, 2006; Mroziewski 2008; Ujwary–Gil 2009; and others]. In spite of the natural

Corresponding author – Adres do korespondencji: Magdalena Kozera, Katedra Ekonomiki Przedsiębiorstw Agrobiznesu, Uniwersytet Przyrodniczy w Poznaniu, ul. Wojska Polskiego 28, 60-637 Poznań, e-mail: mkozera@up.poznan.pl

impediments of automation in agricultural production, the progress of innovations entering real life naturally influences farming businesses, causing changes in understanding the notions of farming and farmers. Contemporary agriculture cannot be limited to land and classic production factors, but must comprise advanced technologies and quality standards, requiring higher than ever human involvement and in particular, their knowledge, experience, skills and competences. The main concept in agriculture, like other sectors of economy, is not merely production, but the ability to sell goods and services of highest standards. Therefore, initiating research into intellectual capital in agriculture, understood as the outcome of knowledge and the ability to apply it and preparing a tool for its complex assessment in farming businesses seem to be even more important. Such tool should not only allow to quantify the resources of human capital and characterize its elements, but also enable it to compare economic subjects in time and space. In both cases, creating a comprehensible and practical system is the most important challenge connected with the search for an optimal measurement method. Therefore, the ultimate determiner of the excellence of the measurement method is the possibility of its common use and acceptance in practice.

The aim of the paper is to outline the methodological assumptions of analysing intellectual capital in agricultural businesses by means of selected methods of strategic analysis, i.e. the method of key factors of success and the method of weighted discrete assessment. The main idea of the research is not merely to create a measurement tool, but also commencing the collection of assessments in order to build up a database for further comparisons.

THE NATURE OF INTELLECTUAL CAPITAL

Although intellectual capital has only recently become the subject of scientific considerations, it has been present in practice for ages, by means of common sense. In this sense, intellectual capital can be defined as the human's ability to make right decisions, which marks their intelligence and whose results contribute to the improvement of life and the effectiveness of the undertaken actions [Czechowska-Świtaj 2005]. Intellectual capital also happens to be called a means to an end with regard to future targets. It is also called knowledge capital [Pomiar kapitału intelektualnego… 2005]. It is the knowledge which allows its users to process materials so that they become more valuable. Intellectual capital comprises the talents and skills of particular people, groups of people, technological and social networks, including software and cultural environment, which joins it; these are also intellectual properties such as patents, copyrights, methods, procedures, etc. Most researchers agree that the base for all considerations concerning intellectual capital the difference between a company's market value and its accounting value [Dobija 2003]. The difference most frequently results from the involvement of intangible assets in the structure of the value of the company. These assets, integrated with human resources, financial means, technologies and information, contribute to the creation of key competences, allowing the economic subject to reach tangible economic benefits.

Whatever the way of defining intellectual capital is, researchers agree that what impedes its identification is heterogeneity, complexity, possibilities of measurement and the

internal relations between its constituents. In spite of the mentioned impediments, it can be stated that:

- it is created by a number of categories, of ten of different character or nature,
- its basic component is knowledge,
- it results in the growth in company value,
- it increases the company's competitive advantage and
- it fills the gap between the company's market value and its financial capital [Kasiewicz, Rogowski, Kicińska 2006].

Intellectual capital (Figure 1) can be divided into:

1. human capital,
2. structural capital, which can be divided into organisational capital and market capital.

Its components, i.e. human capital, organizational capital and market capital, remain in mutual relations, interact with each other and, as a result, contribute to the creation of new values. The relations are peculiar for each subject of the market, which means they also exist in farming businesses. What needs to be emphasized is the role of the feedback between the human capital, which remains of primary meaning, and structural capital (organizational and market capital). It results from the fact of relatively greater role of human in the processes taking place in the economic subjects in question.

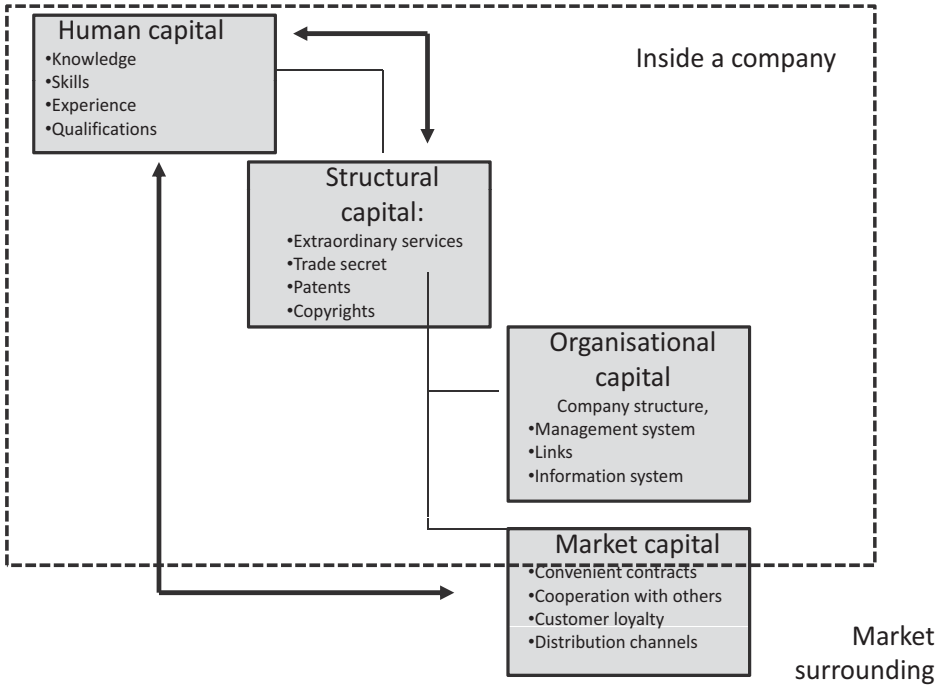

Fig. 1. The structure of intellectual capital in farming
Rys. 1. Struktura kapitału intelektualnego przedsiębiorstwa rolnego

Source: Author's elaboration based on [Edvinsson, Malone 2001].
Źródło: opracowanie własne na podstawie [Edvinsson, Malone 2001].

THE DETERMINANTS OF INTELLECTUAL CAPITAL IN AGRICULTURE

As regards the considerations of intellectual capital of farms, it is essential to emphasise their connections with the environment. People, who constitute the most important pillar of intellectual capital, belong to the local society, shape their behaviours and form attitudes according to their own system of norms and values. In this respect, human capital is a component of intellectual capital of local character. The direct effect is a strong integration of the business with the local community, which also automatically results in the fulfillment of Edvinsson and Malone postulate [2001] concerning the external foundations of intellectual capital [Mroziewski 2008]. Such close connection between the intellectual capital creates the resultant of three factors, i.e. the quality of external educational institutions, equipping people with knowledge and skills, shaping attitudes and providing the rules of social life (formal education, agricultural consulting, trainings, adult education etc.), skills which are vital in shaping and using intellectual capital of a company [Mroziewski 2008]. Bearing in mind the recurring issues of improving the quality of human capital in Poland's rural areas, defined as improvements to the level of formal education [Adamowicz 2008, Czerna-Grygiel 2008, Poczta, Mrówczyńska-Kamińska 2008, Wysocki, Kołodziejczak 2007, and others] and the issues of accumulating the social capital as an endogenous factor of its development [Kozera 2006, Społeczno-ekonomiczne aspekty… 2007], it seems highly reasonable to measure intellectual capital as a resource integrating all separately analysed people-related components with their actions.

Although the notion of competitiveness started to be emphasized in the very study of agricultural economics in the 1990s and researchers started to point out the urgent and justified necessity to build and maintain it, competitive advantages used to be associated with the possessed assets, economies of scale or technological developments. The roles of two elements with social overtones, i.e. creating producer groups (horizontal integration) and building relatively stable trade agreements with the processing industry (vertical integration) [Kozera, Gołaś 2008].

The activities proved a vital role of the human factor in building the competitive advantage of farms, their scale and effectiveness depending on it. Research into intellectual capital allows to consider particular features, properties and predispositions of the people employed on farms, not only as a source of innovations, but also the creator of decisions which, through rational actions, can lead to generating economic profits. Their setting in the technical-and-organisational reality of farms, within the frames of the so-called structural capital, enabling companies to function effectively, is an issue of equal importance. Structural capital reflects human activities focusing on, among others, ensuring efficient internal communication, the flow of information, but it also has its material dimension, e.g. as obtained licenses, franchises, etc. and it can also be subject to market turnover [Pomiar kapitału intelektualnego… 2005]. Analysing this component of intellectual capital seems even more important as the problemsof information barrier, increasing the difficulties of accessing the market by farmers, technological backlog of the Polish countryside or numerous infrastructural imperfections have been emphasized a number of times [Woś 2004]. Functioning in the reality of dynamically changing market, severe competition, the pressure of quality demands and the standarisation of products makes farming bu-

sinesses adapt to market requirements as there is always the threat of being eliminated from the market. Measuring the intellectual capital of households also allows to evaluate this aspect of their operating, described as market capital. Although the present literature involve sa number of works on some peculiar disproportions of market participants on the part of both demand and supply, where supply is represented by farming businesses and demand is represented by strong economic leaders – there is no doubt that the way of perceiving the market and reacting to its changeability become key factors of success in managing the businesses.

ECONOMIC ASSUMPTIONS OF MEASURING INTELLECTUAL CAPITAL

Researching quality features other than formal education is strictly connected with the problem of getting proper information. Data appropriateness, i.e. the degree to which it meets the information demands of the research, also causes that it has to be available, accurate and up-to-date. In the case of farming businesses, the gathering of data fulfilling the above criteria is largely impeded or even impossible in a number of cases. It is connected with the character and destination of the information generated by companies. The information connected with everyday production-related decisions is generally largely informal, as it includes notes, records or single fragmentary calculations. Another type of data, whose construction and merit range result from the formal-and-legal systematic requirements (tax record system) or the requirements of the banking system (data necessary to be granted credit). In both cases, the data concerns the area of real processes taking place in companies, not reflecting the quality-related matters connected with possessing intangible assets. The methodology of social science assumes that the survey is the right tool used to study social and economic phenomena and that it's particularly true for qualitative measures [Bieniok et al: 1997, Brzozowski, Kopczyński, Przeczniczka 2001]. This comprehensive and standarised tool seems to be useful also in the case of gathering information for the sake of measuring intellectual capital in farming businesses, particularly when studying all phenomena which are difficult to measure or weakly structurised.

Assumptions of two diagnostic methods have been used in designing the diagnostic questionnaire: the method of weighted discrete assessment and the method of key factors of success. Both of these methods have been known for a number of years in strategic management of companies and they were used in the research of P. Wachowiak and A. Sopińska [2005], J. Paliszkiewicz [2005 and 2007] or M. Kozera, Z. Gołaś [2009] and others. The discreet method lies in the assumption that it is possible to develop a list which would allow to identify the differences between economic subjects and, at the same time, describe their attractiveness. A list constructed in this way allows to make comparisons between subjects basing on a freely chosen criterion. In order to increase the objectiveness of the assessment and, at the same time, to enable the comparisons between subjects with respect to all elements, the method of weighted discreet assessment is used, as different criteria can have different meaning in the evaluation of different subjects [Gierszewska, Romanowska 1995]. The other method used to prepare the diagnostic questionnaire was the method of key factors of success. Key factors of success comprise a number of criteria which are supposed to be the most important, determining the compe-

titive position of a company and its chances of development [Gierszewska, Romanowska 1995]. The method can be used effectively if the prepared list of criteria is complete, i.e. it takes into account all the major factors of the areas in which the company operates.

As specialists suggest, in order to build the system of key competences (factors of success), it is necessary to build a bank of information, using surveys, interviews or studies in groups of focus. [Metody organizacji i zarządzania… 2006]. The starting point for the assessment can be both the competitors from the sector and the subjects working in it. This results in the assessment becoming more relative.

There is a possibility to refer the outcomes of the assessment to a single subject, marked as standard for a given sector. The technique is called benchmarking [Gierszewska, Romanowska 1995]. It is methodologically correct to compare a given subject to the ideal profile of key factors of success. As a result, a more objective assessment can be made and there is a possibility to prepare a ranking list of subjects, from the best to the weakest. It also enables a precise, discrete description of the distance which there is between the given subject and its particular competitors.

With no doubt, the qualitative description of reality has to take into account the diversity and complexity of the phenomena, the more so as intellectual capital is a heterogeneous resource. However, it is assumed that it consists of three components, according to literature, i.e. human capital, structural capital and market capital. The particular areas can be decomposed and described, each in 15 statements.

The method of weighted discrete assessment and assessment profile, elaborated by Polish authors, P. Wachowiak and A. Sopińska [2008] can serve as an example. Analysing the method and attempting to apply it directly in farming businesses has confirmed the existence of intellectual capital in the researched subjects of the sector, however, it has proved to be too far from the reality of the subjects of this sector [Kozera, Gołaś 2008; Kozera, Gołaś 2009; Kozera 2010]. The following step was to define the scale of assessment, i.e. the range of points granted in course of assessment to each of the solutions, depending on the degree to which it meets a given criterion.The statements were given appropriate weights, related to the usefulness of a given statement in describing the actual situation of a given subject. The list of statements was then subject to theoretical-and-empirical verification in a focus group.

The first part of the created diagnostic questionnaire concerned human capital. The initial stage of the research procedure required a list of statements describing, among others, the existing and postulated state of qualifications, competences, experiences, attempts and behaviours of the people running the businesses (Table 1). The statements concerning human capital were based on the assumptions resulting from the so-called strategy of natural evolution of farming businesses, described by Woś [2004] and the classical product life cycle, present in marketing literature and strategic management. What results is that the farming business is whose periodicity is described by generative changes over generations. Grabowski [1996] advances further, assuming that the classical product life cycle lasts for two generations. In both cases, the changes over generations are connected with re-organisation of the business, prolonging its maturity phase and the period of its activity on the market. Therefore, the construction of the diagnostic questionnaire included questions indirectly characterising the phase of the development cycle of the particular business. The questions include those relating to the age of acquiring the

Table 1. Characteristics describing human capital
Tabela 1. Twierdzenia opisujące kapitał ludzki

Lp.	Human capital/Kapitał ludzki
1	Age of farm acquirement/take-over Wiek nabycia/przejęcia gospodarstwa
2	Time of farm keeping Czas prowadzenia gospodarstwa
3	Use of experience Korzystanie z doświadczeń
4	Professional knowledge resources Źródła wiedzy zawodowej
5	Project of farm future Plany przyszłości gospodarstwa
6	Sources of economic knowledge Źródła wiedzy ekonomicznej
7	Exterior commitment Zaangażowanie zewnętrzne
8	Mode of enterprising attitude Typ zachowań przedsiębiorczych
9	Introduction of innovations Wprowadzanie innowacji
10	Way of decision-making Sposób podejmowania decyzji
11	Time of additional training Czas dokształcania (dni w roku)
12	Money spent for additional training Środki finansowe przeznaczane na dokształcanie
13	Computer skills Umiejętność pracy z komputerem
14	Knowledge of foreign languages Znajomość języków obcych
15	Formal education Wykształcenie formalne

Source: Own elaboration.
Źródło: Opracowanie własne.

business or taking it over, the time of running it and future plans. What follows as a natural consequence of the assumption of the life cycle is the link with the experiences of the older generation, but on the other hand, two issues of similar overtones have been raised – knowledge management, understood as planned and conscious completion of the essential skills and competences of the person running the business and/or their family (mainly the successors) and the way of making decisions (self-reliant, authoritative – which is usually associated with farmers or collective – understood as consulting decisions with family members, and particularly with the successor and possibly involving the participation of consulting institutions).

The character of managing resources in farming and, in particular, its social conditioning, have become a premise to include a question concerning the relations with the social environment in the diagnostic questionnaire. The relations include active participation

not merely in market organizations (such as producer groups, collective use of machines, associations of breeders, etc.), as these have become the subject of considerations in the area of market capital, but first of all, the relations resulting in the improvement of social-and-economic conditions of the local environment of the farmer. The further part of the questionnaire concerns the widely described matter of improving the quality of human capital in agriculture. The defined research questions aim to describe the state of formal and practical knowledge of the farmer and, at the same time, they link these with its sources (divided into sources of economic and professional knowledge). Another aspect which was emphasized was continual education, perceived as an essential factor in the development of the Polish countryside. The area includes questions concerning the time allocated to trainings and related expenses. The competences which constitute the challenges of the present open economy, i.e. foreign language skills and the efficiency of computer use were also diagnosed. The last feature included in the part of the questionnaire concerning human capital was innovativeness, understood as the speed of reacting to changes due to market situation in both technical-and-organisational aspect and technological aspect.

As the subject literature includes discussions of specifying the notion of running a farming business and the view that a farmer cannot make all decisions on their own, but usually runs the business with a spouse [Paszkowski 2006], and also involves seasonal workers in the production process, the questions include three possible levels of answers, related to the farmer, their family members and seasonal workers.

Part two of the diagnostic sheet concerns organizational capital. The resource can be related to "everything which supports employees in doing work" [Pomiar kapitału… 2005]. Therefore, it is the outcome of people's purposeful activities including trainings, extending the workshop, improvements in innovativeness, modifications aiming to improve the flow if information, gathering and using knowledge. These aspects are relatively difficult to measure in a farming business, but an attempt was made to define them and assign values to the most important areas resulting from the technical-and-organisational conditioning of the businesses and market pressure (Table 2).

Taking into account the specifics of running a farming production business, and, in particular, its variety visible in, on the one hand, a possibility to specialize in a certain area and, on the other hand, its multidimensionality, the organizational complexityof the farming business has been selected as an essential characteristic of organizational capital. Making its assessment, three variations were assumed as possible: traditional, describing multi-purpose businesses, two-dimensional, having two parallel directions and modern – understood as a specialist business, with one dominant production dimension. The issues of the applied technologies have become the next part of the considerations of the organizational complexity of farming businesses. They were included in the statements concerning the use of procedures in course of running the business, but also meeting the quality requirements and the resulting standarisation of production. These subjects were completed with questions concerning financial expenses on purchasing new technologies. The activity of the person running a business in this respect is expressed in this respect in questions covering the future vision of the company's functioning and development, but also its particular manifestations, i.e. planned investments and realized investments. Complementarily, a statement was made to

Table 2. Characteristics describing organizational capital
Tabela 2. Twierdzenia opisujące kapitał organizacyjny

Lp.	Organizational capital/Kapitał organizacyjny
16	Processes requiring Osage of procedures Procesy wymagające stosowania procedur
17	Businessplan preparation Przygotowanie biznes planu
18	Organizational complexity of farm Złożoność organizacyjna gospodarstwa
19	Knowledge management on farm Zarządzanie wiedzą w gospodarstwie
20	Way of defining the objectivesw Sposób sformułowania celu działania
21	Outlay for technologies Nakłady finansowe na technologie
22	Scope of development projection Zasięg wizji rozwoju
23	Collection of suppliers and purchasers data Gromadzenie informacji o dostawcach i odbiorcach
24	Way of market participation Sposób uczestnictwa w rynku
25	Number of planned/reported investment Ilość planowanych/zgłoszonych do realizacji inwestycji
26	Number of implemented investment Ilość zrealizowanych inwestycji
27	Outlay for informatical infrastructure Nakłady finansowe na infrastrukturę informatyczną
28	Cooperation in extent of counseling Współpraca w zakresie doradztwa
29	Quality control Przestrzeganie standardów jakości
30	Level of informatisation Poziom informatyzacji

Source: Own elaboration.
Źródło: Opracowanie własne.

describe business plans (NB assessment was made basing on their amount and range, i.e. for a single investment or for a farming company as a whole). The issues of both the very method of formulating the aim of the farming business (survive, survive and extend or extend and succeed) and the time horizon of the undertaken actions (the range of development vision) have proved to be essential. In the planning context, what was considered essential was the issue of managing knowledge in farming businesses, understood as undertaking any activities aiming to increase the level of knowledge in the company through its gaining from the environment [Pomiar kapitału… 2005]. Apart from knowledge management, it was assumed that there were possibilities of its enrichment through the cooperation with broadly understood consulting in farming, however, on weighting the assessments, there was an assumption made about using the opinions of specialist centres other than Centres of Consulting in Farming or Chambers

of Farming, especially special units of consulting companies on the farming market and representing the processing industry. As regards the organisational capital considerations, the way of participating in the market proved to be a key issue. Three options of its evaluation were taken into account, i.e. passive participation, active participation including a degree of commercialization of activities and the third option, assuming not merely active participation in the market, but also full involvement in creating collective forms of operating with regard to production and sales, but also collective use of machines. Active participation in the market requires the creation in a business a kind of infrastructural background, which is expressed by, among others, possessing a computer and using proper software and making expenses on these. Independently from the degree of informatisation, the way of gathering and storing information about suppliers and customers is the manifestation of organizational capital in companies, the more so as independently from the degree of specialization and modernity, there a number of cases where the farmer remains a traditionalist, emotionally connected with a given customer or supplier.

The third part of the diagnostic sheet concerns market capital. It describes the relations between the business and other market participants (Table 3). The statements describing this element of intellectual capital contain key, from the point of view of market processes, issues of perceiving the market and the final consumer. Weighting in this respect consisted in describing the degree of market changeability, i.e. stable market with a standard product, changeable market divided into segments of different requirements and very dynamic market, varied, of changeable needs. A complementation of the market perception can be the knowledge of consumer behaviour, whose purchasing motivations were described as the buying obligation, a choice of one of a number of offers and the demand to meet the demands in a situation which allows to make a choice of one of the available options. Placing these issues on the diagnostic sheet, an assumption was made that the understanding of the market and customer behaviour has direct influence on the production-related decisions of companies.

Market contacts involve the very interesting question of product recognition. As regards farming businesses producing raw materials for further processing, the brand is identified on the basis of the renown of the farm and its perception by potential customers. It is important from the point of view of the durability of corporate links on the market. With regard to assessing the relations and links connecting a farming business with its customers and suppliers, part of the diagnostic questionnaire questions was devoted to evaluating them, forms of contact and cooperation. The fact of producers' integration into groups of both formal and informal, ad hoc, character, has also been taken into account. The statements describing market capital include such which reflect the degree of customer satisfaction and loyalty and economic activity of the business in gaining new customers or suppliers. They add up to the overall picture of relations resulting from a deep emergence of companies in the socio-economic reality

The created diagnostic questionnaire was subject to preliminary empiric verification in the focus group, consisting of nine farms of different production types. The verification confirmed the majority of the research hypotheses. It also pointed to the assumptions of insufficient degree of certainty, requiring further specification or complementation. The opinions gained from farmers in the consultation process also pointed at the necessity to

Table 3. Characteristics describing market capital
Tabela 3. Twierdzenia opisujące kapitał rynkowy

Lp.	Market capital/Kapitał rynkowy
31	Connection with regular customers Kontakty ze stałymi klientami
32	Level of brand knowledge Zasięg znajomości marki
33	Range of production- trade cooperation Zakres współpracy produkcyjno-handlowej
34	Database of consumers/contractor Istnienie baz klientów/kontrahentów
35	Customers' satisfaction Zadowolenie klientów
36	Acquisition of new customers Działania na rzecz pozyskiwania nowych klientów
37	Loyalty of customers Lojalność klientów
38	Suppliers' cooperation mode Formy współpracy z dostawcami
39	Expectation of final consumers Wyobrażenie o konsumencie finalnym
40	Market expectation Wyobrażenie o rynku
41	Availability for customers Dostępność dla klientów
42	Cooperation forms with competitors Formy współpracy z konkurentami
43	Consumers contact Formy kontaktu z odbiorcami
44	Scale of contractor Wielkość kontrahenta
45	Level of productions processing Stopień przetworzenia produkcji

Source: Own elaboration.
Źródło: Opracowanie własne.

differentiate the diagnostic sheet depending on the type of production activity. It mostly concerned the part devoted to market capital and links with customers. However, the outcomes of the research allow to claim that the built diagnostic questionnaire has a considerable cognitive value and allows to assess the resource of intellectual capital in its three dimensions, i.e. human capital, organizational capital and market capital.

SUMMARY AND CONCLUSIONS

Without doubt, intellectual capital constitutes a unique resource for each business. Whether conscious or not, the existence of the resource contributes to their success and allows businesses to become unique among a number of similar subjects. Agricultural

market and its business units are subject to the same processes which happen in the entire economy and all its subjects. They are also subject to pressure of market competition and demands of consumers' market. In this situation, the processes of knowledge absorption and its transfer to reality become particularly important. They become possible owing to the personal entrepreneurship of a farmer whose expression is intellectual capital. This capital influences other traditional resources of the business, contributing, as a result, to creating new value.

The concept of measuring human capital presented in this paper allows to identify a number of specific conditions in which a farming business operates. They include issues related with the time of running the business and its passing to the successor or links with the local environment in the social sphere, creating corporate networks with customers and quite substantial degree of delay in the areas of technical and IT infrastructure development. However, the defined issues characterizing the particular elements of intellectual capital allow to assess its resource as a whole and the analysis of its components. They also create a possibility to compare agricultural businesses with each other and to rank the elements of this kind of capital from the most to the least precious.

REFERENCES

Adamowicz M., 2008. Społeczność lokalna, organizacje pozarządowe i społeczeństwo obywatelskie jako środowisko i przejaw kapitału społecznego na obszarach wiejskich. [in:] Rozwój zasobów kapitału ludzkiego obszarów wiejskich. Studia i Prace Wydziału Nauk Ekonomicznych, Uniwersytet Szczeciński, Szczecin 2008, s. 9–22.

Bieniok. H et. al., 1997. Wprowadzenie do teorii organizacji i zarządzania. Wyd. Toruńska Szkoła Zarządzania, Toruń.

Brzozowski M., Kopczyński T., Przeniczka J., 2001. Metody organizacji i zarządzania. Wyd. Akademii Ekonomicznej w Poznaniu, Poznań.

Czechowska-Świtaj T., 2005. Zarządzanie kapitałem intelektualnym organizacji. Wyd. Oficyna Wydawnicza WSM, Warszawa.

Czerna-Grygiel J., 2008. Podstawowe uwarunkowania rozwoju kapitału ludzkiego i społecznego na obszarach wiejskich w Polsce. [in:] Rozwój zasobów kapitału ludzkiego obszarów wiejskich. Studia i Prace Wydziału Nauk Ekonomicznych, Uniwersytet Szczeciński, Szczecin 2008, s. 55–60.

Dobija D., 2003. Pomiar i sprawozdawczość kapitału intelektualnego przedsiębiorstwa. Wyd. Wyższa Szkoła Przedsiębiorczości i Zarządzania im. Leona Koźmińskiego, Warszawa.

Edvinsson L., Malone M.S., 2001. Kapitał intelektualny, PWN, Warszawa.

Gierszewska G., Romanowska M., 1995. Analiza strategiczna przedsiębiorstwa. Wyd. PWE, Warszawa.

Kasiewicz S., Rogowski W., Kicińska M., 2006. Kapitał intelektualny spojrzenie z perspektywy interesariusze. Wyd. Oficyna Ekonomiczna, Kraków.

Kozera M., 2006. Potencjał ludzki jako wewnętrzny czynnik rozwoju lokalnego. Wyniki badań. [w:] Samorządy i społeczności lokalne w zrównoważonym rozwoju obszarów wiejskich. Wydawnictwo SGGW, Wydział Ekonomiczno-Rolniczy, Katedra Polityki Agrarnej i Marketingu, Prace Naukowe Nr 40, Warszawa 2006, s. 119–128.

Kozera M., Gołaś Z., 2008. Istota kapitału intelektualnego, jako potencjalnego czynnika konkurencyjności agrobiznesu. RN SERiA, T. X, Zeszyt 1, Warszawa – Poznań – Lublin, 186–201.

Kozera M., Gołaś Z., 2009. Pomiar kapitału intelektualnego przedsiębiorstwa rolniczego z wykorzystaniem metody oceny punktowej ważonej oraz profilu oceny. RN SERiA tom XI, zeszyt 5, Warszawa – Poznań – Olsztyn 2009, s. 166–171.
Kozera M., 2010. Kapitał intelektualny agrobiznesu. Ekonomika i organizacja Przedsiębiorstwa Nr 8 (727) sierpień 2010, s. 17–24.
Blaszczyk W. (ed.), 2006. Kształtowanie relacji organizacyjnych. Wyd. Naukowe PWN, s. 37.
Blaszczyk W. (ed.), 2006. Metody organizacji i zarządzania. Kształtowanie relacji organizacyjnych. red. nauk. W. Błaszczyk, PWN Warszawa, 2006, s. 38.
Mroziewski M., 2008. Kapitał intelektualny współczesnego przedsiębiorstwa. Koncepcje, metody wartościowania i warunki jego rozwoju. Wyd. Difin, Warszawa.
Paliszkiewicz J.O., 2005. Rozwój organizacji poprzez zarządzanie kapitałem intelektualnym. Wyd. Profesjonalne Alpha pro, Ostrołęka.
Paliszkiewicz J.O., 2007. Zarządzanie wiedzą w małych i średnich przedsiębiorstwach – koncepcja oceny i modele. Wyd. SGGW, Warszawa.
Paszkowski S., 2006. Renty strukturalne w rolnictwie. Instytucjonalne uwarunkowania transformacji gospodarstw rolnych w Polsce. Wyd. Instytut Rozwoju Wsi i Rolnictwa PAN, Warszawa.
Poczta W., Mrówczyńska-Kamińska A., 2008. Regionalne zróżnicowanie wykorzystania kapitału ludzkiego w rolnictwie polskim [in:] Rozwój zasobów kapitału ludzkiego obszarów wiejskich. Studia i Prace Wydziału Nauk Ekonomicznych, Uniwersytet Szczeciński, Szczecin 2008, s. 309–316.
Wachowiak P. (ed.), 2005. Pomiar kapitału intelektualnego przedsiębiorstwa. wyd. SGH, Warszawa.
Ujwary-Gil A., 2009: Kapitał intelektualny a wartość rynkowa przedsiębiorstwa; Wyd. C.H. BECK, Warszawa.
Społeczno-ekonomiczne aspekty rozwoju polskiej wsi. 2007: praca zbior. pod red. M. Błąd i D. Klepackiej-Kołodziejskiej, Wyd. Instytut Rozwoju Wsi i Rolnictwa Polskiej Akademii Nauk, Warszawa.
Woś A., 2004. W poszukiwaniu rozwoju polskiego rolnictwa; IERiGŻ, Warszawa.
Wysocki F., Kołodziejczak W., 2007. Aktywność ekonomiczna ludności wiejskiej w Polsce. Wyd. Akademii Rolniczej w Poznaniu, Poznań.

KAPITAŁ INTELEKTUALNY W ROLNICTWIE – UWARUNKOWANIA I POMIAR

Streszczenie. W artykule zaprezentowano podstawowe przesłanki oraz szczególne uwarunkowania pomiaru kapitału intelektualnego w gospodarstwach rolnych. Omówiono założenia pomiaru oraz konstrukcję metody badawczej. Zaprezentowano twierdzenia opisujące poszczególne składowe kapitału intelektualnego tj. kapitał ludzki, organizacyjny i rynkowy. Scharakteryzowano w obrębie każdego z nich kwestie o wiodącym znaczeniu. Wskazano też na zakorzenienie kapitału intelektualnego w środowisku lokalnym oraz jego związek z szeroko rozumianą problematyką jakości kapitału ludzkiego obszarów wiejskich.

Słowa kluczowe: kapitał intelektualny, kapitał ludzki, kapitał organizacyjny, kapitał rynkowy, gospodarstwa rolne

Accepted for print – Zaakceptowano do druku 12.08.2011