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SYNERGIES IN FARMER'S PROCUREMENT, PRODUCTION AND DISTRIBUTION TASKS THROUGH COMMON MARKET ACTIONS

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Abstract: Aim of this paper is to introduce a model, which provides effective solutions and support for establishment of the agricultural input and output market systems. Input used in agriculture are mostly technical systems, chemical materials and biological products. The output are the crops, livestock products and energy. Consequently, profit of agriculture is extremely low and production enlargement is not possible. Possibility to change this situation can be the online-marketplace, which can be created at the input or/and output side. These fields could improve procurement and distribution conditions of agriculture and imply chances to enlarge production through better profit. The system should foster the producers, should foster more successful production, and must not restrain them. Hence it should provide market advantages at all the elements of the production (regardless the size of property and production system). Therefore, a real solution could be made for practical development of agriculture by increase of suppliers' competition situations.

Key words: *Farm management, online-marketplace, procurement, distribution, production management.*

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INTRODUCTION

In Hungary the former system, which worked intensively has been the “production systems” based on big factories, [1], [2]. These systems have been established along production paths, [3], [4]. The system administrators have provided the input, they have worked up the production experience, and hence a “self-learning” system has been made. They have taken expectations of the market that time into consideration. For the time being the production structure and the market have been altered and we have not found the production system that could meet the challenges, [5], [6].

Changing of the present European Common Agricultural Policy (CAP) can be expected, [7], [8]. Decreasing the deforming impact of the supporting system the role of innovation is more and more important, [9]. Our model supports it effectively in many areas (e.g. optimization of invests and operation, reducing of production costs, increase of the research efficiency). Our unique agricultural possibilities are capitalized using the planned up-to-date information system, making competitive advantage for farmers and food industry. In addition, the system will be advantageous for inputs production, mostly for agricultural machine industry, [10], [11].

In a small-scale farm environment significant savings can be achieved by the common utilisation of the machines and by the employing professional machine works both in the investments and the machine operation, [12], [13]. Those beneficial machine service and collaboration forms are used worldwide, especially in the agriculture of the developed countries, [14], [15]. In past years status quo analyses and the evaluation of experience showed that there is need for the farmers cooperation in the East European countries including Hungary for the rational utilisation of resources and to improve the efficiency of assets and to minimize costs, [16]. However, the organizations, structures, schemes, models and frames of standard forms has not been formed as yet, so that the utilisation of the advantageous solutions is on quite a low level, [17], [18].

The successful formulation of machine utilisation and business supporting forms decisively depend on the conditions and the appropriate knowledge about the properties of the different forms, [19]. It is highly important that all the factors and characteristics should be discovered for the benefits and disadvantages of forms from the organisational, operational, economical, and all the other points of view in order to determine and declare the criteria of introduction for each economy circles of farmers, [20], [21], [22].

MATERIAL AND METHOD

As estimated, in Hungary the turnover of the input could approach a several billion EUR annually. It is supposed that the input side pressure is indicated in 15-20 % of extra profit from traders towards producers, which means that producers’ profit possibilities are reduced by this rate in the rate of utility. On the other hand, annual sponsored limits of agriculture have been realized to a great extent by purchasers of produced materials through the pressured purchase price.

The relationship between producers and input providers is quite determined in the field, [23]. It means that input users are connected tightly by the agency of manufacturers and traders and their relationship is determined by traders' profit maximisation. In this relationship a producer has hardly any possibility to compare complete supply portfolios and validate suppliers' most favourable proposals (minimal procurement price, the best quality, etc.)

Aims of this model are:

- establishment of competition situation among input providers,
 - enlargement of supply side,
 - discontinue inflexible trade structures.
- in order the most favourable procurement conditions could be made.

The system enables the producers' common tender announcement. This could be resulted in a more favourable position in the tender announcement through quantity increase of claims arisen in one transaction by competing the participants in the supply position.

The information system, which substitutes effects of large-scale plant and the self-learning structure provide that the solutions described in our model provide an intensive development path for the agriculture.

The alteration in the online-marketplace and interests could be seen on Figure 1.

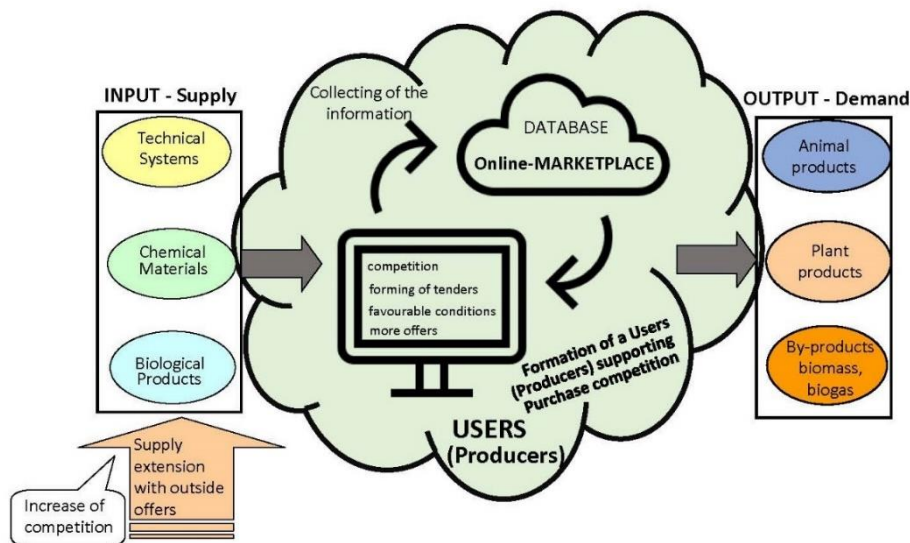


Fig. 1. The online-marketplace and interests (Magó and Fenyvesi, 2009, own editing)

RESULTS AND DISCUSION

Elaboration of the procurement and sales competition supporting producers

Central element of development is the database, which is the basis of the online-market place. For users (producers) the market field collects proposals as well as helps to write procurement tenders and sales tenders, hence it fosters competition of suppliers and purchasers. Producers can achieve more favourable positions by this system in terms of procurement price level, quality and other product qualities regarding their input materials (technical systems, chemical materials, biological products).

Despite the fact that participants in the supply market will compete with each other, they will have also advantages since supply market of the input products provided by them will be more transparent also for them and can be planned in an easier way and specification of participants in the market will be more simply. Therefore, efficiency of their trade will increase.

Number of participants in the supply can gradually increase since the system expects new members. As a consequence, competition can increase, number of products in supply can increase and their quality features improve.

Advantages realized by participants of the online-marketplace

By using the “online-marketplace”, it will be the producers on the first place who will have advantages since their agriculture can be planned in an easier way and can be transparent. Besides the faster information flow, they can achieve decrease in their cost. Quality assurance and standardization guarantee utility and marketing of quality products.

By inducing this system, cooperation among producers will be fostered. Creation of common utility forms of machines and machine types can increase efficiency regarding machine procurement and utility of machines.

Cooperational solutions foster use of results achieved due to modern technological solutions. Apart from production devices, access to money assets can be improved. The method how to obtain market information can be developed, as well. Also, common logistical solutions could be improved.

Table 1. Advantages realized by participants of the online-marketplace

Benefits		
from the viewpoint of distributors	Plannable input claim, demand supply balance	
	More efficient trade	
from the viewpoint of farming	Plannability	
	Transparency	
	Cost reduction	
	From the view of input output quality assurance, standardisation	
	Fast information flow	
stimulation of cooperation	Forming of common machine usage forms, machine circles	
	Development of modern technological solutions, introduction	
	More efficient appearance into loan offices' direction	
	Global market information	
	Common logistical solutions	
from the viewpoint of concerned authorities, government, market players, experts, R&D&I	Forming of a regional informational system	Accurate data from the use of the inputs (qualitative, quantitative features, temporal)
		Statistics to the subsidy-, aid systems, market forecasts, (crop estimation based on inputs and a sowing construction
	Registration of expenditures, realizations	
	Optimisation of EU and national subsidies	

Besides producers and distributors, the system provides advantages also for the government, authorities, experts and other participants of the R+D+I market.

A field informatics system can be accomplished by which we could get an exact picture and data about utility and time-quality-quantity features of inputs. Collection of data can be provided for the supportive market forecast systems (estimation of production on the basis of structure of inputs and products). It can contribute to optimization of the national and the EU subsidies.

Structure of costs and marketing can be monitored at traders and producers implied in the system.

On the Table 1., we can follow the benefits of the usage of online-marketplace.

Structure of participants in the market field

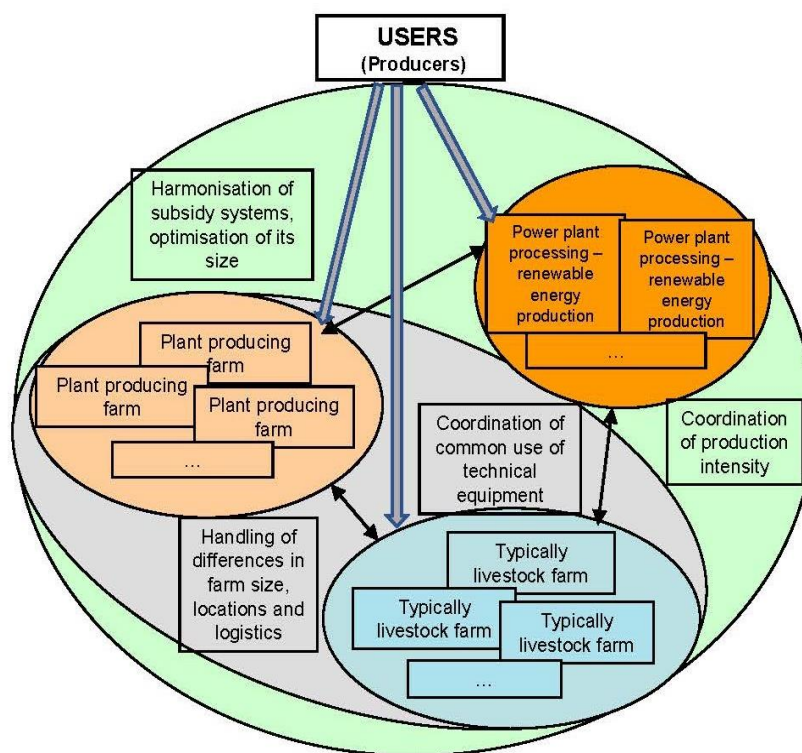


Fig. 2. Structure of participants in the online-marketplace (Magó and Fenyvesi, 2009, own editing)

Considering structure of users (producers), they can belong to different branches. Plant production and livestock farms can be emphasized (these can be also mixed plant production and livestock farms). The energy plant process factories using products of plant production agriculture produces energy out of agricultural renewable materials. By using the system, these factories can enter by their claims regarding input materials for procurement while they are interconnected no matter where they are located or how big or small they are. Cooperation can extend to harmony concerning common utility of technical devices as well as accomplishment of a more effective access to money assets. Coordination of intensity regarding production can be accomplished on a higher, more comprehensive level by participation of more producers. Moreover, harmony of supportive systems and their optimization in accordance with their different stimulating measures could be more accurate and deeper professionally. (Figure 2.)

The system covering participants of the online marketplace

The information system that is going to be established stimulate users (producers) to cooperate with each other. It provides conditions of effective information flow by covering all of the users. It provides a common base for application of innovation systems. Coordination of R+D+I tasks can be accomplished mutually by covering a bigger production structure.

CONCLUSIONS AND RECOMMENDATIONS

Agricultural production is largely carried out by small and medium-sized enterprises and farmers. These enterprises and farmers can accomplish concentration necessary for obtainment of market advantages very hard. Therefore, such a system is necessary, which can coordinate and keep in touch with producers and is self-assertive in an effective way.

By the model of a marketplace, which can be considered a trade and production system in agriculture and its aims to take the following stipulations into consideration, so the characteristics of users in the market field should be [24]:

- We consider producers autonomous and equal farmers/organizations, which could have the best situations to make decisions. We do not restrict their decisions about production.
- Market relations are essential, and activities as well as production must meet the requirements set by the market.
- The system must comply with the market and all the requirements that arise during its operation, such as environmental regulations and subsidies. It is these requirements that determine the conditions of operation, not the functioning of the scheme.

The system should foster the producers, should foster more successful production and must not restrain them. Hence it should provide market advantages at all of the elements of the production (regardless the size of property and production system). As a consequence, a real solution could be made for practical development of agriculture by increase of suppliers' competition situations.

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**SINERGIJA POLJOPRIVREDNIKA U POSLOVIMA
NABAVKE, PROIZVODNJE I DISTRIBUCIJE
KROZ ZAJEDNIČKE TRŽIŠNE AKCIJE**

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Abstrakt: Cilj ovog rada je da predstavi model koji obezbeđuje efikasna rešenja i podršku za uspostavljanje sistema tržišta inputa i proizvoda u poljoprivredi. Input koji se koristi u poljoprivredi su uglavnom tehnički sistemi, hemijski materijali i biološki proizvodi. Rezultat su usevi, stočni proizvodi i energija.

Shodno tome, profit poljoprivrede je izuzetno nizak i povećanje proizvodnje nije moguće. Mogućnost da se ova situacija promeni može biti online tržište, koje se može kreirati na ulaznoj i/ili izlaznoj strani.

Ove oblasti bi mogle da poboljšaju uslove nabavke i distribucije u poljoprivredi i da impliciraju šanse za povećanje proizvodnje kroz bolji profit.

Sistem treba da neguje proizvođače, da neguje uspešnijiu proizvodnju, a ne sme da ih ograničava.

Zato treba da se obezbede tržišne prednosti u svim elementima proizvodnje (bez obzira na veličinu imovine i proizvodnog sistema).

Stoga bi se moglo napraviti pravo rešenje za praktičan razvoj poljoprivrede povećanjem konkurentskih situacija dobavljača.

Ključne reči: *Upravljanje farmom, onlajn pijaca, nabavka, distribucija,
upravljanje proizvodnjom*

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