Assessing Flexibility of Organizations for Strategic Development of Agricultural Business Projects

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Abstract

This paper investigates the flexibility of organizations for the strategic development of agricultural business projects. The suggested probit model provides organizations to evaluate and forecast the development of new agricultural business projects based on modeling the flexible business practice. The probit model also informs the investors and partners about the alleged success of projects based on flexibility or the ability to ensure their stable financial condition. The research is founded on the following methods: a systematic and deductive approach to the study of strategic development of agricultural business projects and systematization of factors that affects the flexibility of organizations; regression analysis to disclose the details of creating the probit model of the influence of factors on the flexibility of organizations. A probit model method is proposed in which the flexibility of organizations is defined as a correlation of the factors. A probit model affirms that the level and quality of innovative solutions, staff expertise, and net income per employee are important markers that reflect the organization's flexibility. On the basis of the probit model, leaders will have a chance to select flexibility and successful agricultural business projects.

Keywords [1]

Organizations, Flexibility, Strategic development, Model, Probit Regression Analysis, Agricultural Business Projects

1. Introduction

In the face of increasing global competition and globalization processes, modern organizations are forced to meet the requirements of innovation, adaptability, and responsiveness to the latest challenges. The ability to restructure one's own business, organizational structure, and operational or production processes in a short time is a consequence of this situation. This situation requires organizations to make instant management decisions, which are due to appropriate information support.

The economic crisis in Ukraine, caused by hostilities in the country and the COVID-19 pandemic, has created unusual problems for businesses. This has led to increased risks for organizations. Scientists and practitioners who have previously tried to anticipate such threats have considered them locally, within individual countries.

Reality forces organizations to live and work according to new patterns. The needs of the markets are constantly changing. The business is in the process of transformation. Flexibility and adaptability move from temporary measures (for the period of reorientation of production, business processes, or

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implementation of innovations, and changes) to permanent ones. Flexibility and adaptability are becoming a system and culture of business management. Choosing the right business development management model can be a starting point for survival and growth.

Businesses must be able to respond to the transformation of the external environment through changes -in organization structure and management model. At the same time, the main parameters of business development should remain within acceptable limits. Also, organizations must be able to quickly adjust the production of goods and services, taking into account the parameters specified by the customer. Reconfiguration costs should not lead to significant changes in business results.

The dynamic component of development allows organizations to reproduce and build capacity, and adapt to global and domestic transformations. Innovation and adaptability are the foundation for successful business development management and strategic development of agricultural business projects.

It is important not only to make products but also to turn an idea into a working project. Agricultural business projects take into account the value of the product or service, consumer segment, sales channels, customer interaction, identified key activities, resources, and partners. The most important issue is the creation of agricultural business projects by professionals, and innovators seeking to realize their potential. It is important in this process to strictly follow the principles of doing business, taking into account the operation of basic economic laws, the presence of a new idea, and the staff team.

Innovation-technological and personnel factors are important for Ukrainian organizations. These factors consist of a certain group of subordinates. An important result of a business is its flexibility. The approach to the assessment of flexibility is based on the use of the following important factors:

- level and quality of adopted innovative decisions (as an element of innovation and technological factor),
- staff expertise (as an element of the personnel factor),
- net income per employee (the ratio of profit or loss from sales to staff) as an indicator that characterizes the financial and economic condition of business development.

Today, there is a realistic understanding of finding methods to influence flexibility in order to better the strategic development of new agricultural business projects.

The proposed probit model provides organizations to evaluate and forecast the development of new agricultural business projects based on modeling the flexible business practice.

The probit model also informs the investors and partners about the alleged success of projects based on flexibility or the ability to ensure their stable financial condition.

The theoretical and methodological basis of the study is an exploratory work of foreign and domestic researchers, which demonstrate the issues of the flexibility of organizations, and strategic development of new agricultural business projects.

The research is founded on the following methods: a systematic and deductive approach to the study of strategic development of agricultural business projects and systematization of factors that affects the flexibility of organizations; regression analysis to disclose the details of creating the probit model of the influence of factors on the flexibility of organizations.

2. Related Works

Analysis of the factors of strategic development of agricultural business is a prerequisite for the study of the flexibility of organizations. Assessment of the flexibility of the organization and factors of strategic development of agricultural business is of great importance for the formation and selection of agricultural business projects.

The relevance of research on the flexibility of organizations is validated by a number of extensive studies [1-3]. The flexibility of organizations is considered a source of competitiveness, yet the flexibility of organizations for the strategic development of agricultural business projects is not well studied.

Bamel [1] contributes to flexibility scientific literature by studying and evaluating the linkage of business resources with strategic flexibility with the help proposed by the author of the tools of the knowledge management process. He suggests that business resources are positively and significantly

related to flexibility, and knowledge management process capability is involved in revealed relationships.

Nowak [2] explore under what organizational and economic conditions business flexibility can lead to increased organizational effectiveness. Flexibility is a decisive importance because it allows organizations to better adjust to new changes in the consumer market.

Nowak [3] in the study reveals that variety in cognitive resources and empowerment at the workplace can support and contribute to business performance through flexibility. The author used the method of structural equation modeling (SEM) for statistical data processing. The paper confirms that a favorable effect can take place because the indicators enable organizations to find better applications for reliable and current information, which makes it possible to reorganize the resources, and reserves in a way that contributes to the improvement of business performance.

Chantal [4] considered factors affecting the effectiveness of rural agricultural projects with a focus on the financial products, clients, agricultural environment, and financial institutions. The results showed that there was a considerable and positive relationship between factors influencing financial issues of business and the successful development of rural agricultural projects.

Wauton, Odinwa, and Ekeogu [5] examined various agricultural projects. Analysis of variance (ANOVA) was applied to test the hypotheses at the significance level of an event and probability. Lack of insurance practices by farmers, when the farmers are not involved in the planning of the project, weak government policies/leap services in agriculture, when the projects are not guided by the needs of farmers, inadequate agricultural credits, lack of incentives for farmers and when projects are gender-specific, among many other factors add up to the most serious challenges in successful adopting effective agricultural projects [5].

Our article took into account the concepts of scientists who highlight the significance of the influence of factors (level and quality of innovative solutions, staff expertise, net income per employee) on the flexibility of the organization.

3. Methods

The methodology of research of the problem is based on the use of the tool of economic and mathematical modeling (probit-regression analysis). The calculations were performed using the statistical analysis package STATISTICA.

Probit regression analysis was used to make management decisions to implement successful business management models by establishing a relationship between the flexibility or inflexibility of the organizations and other factors. Both qualitative and quantitative indicators were considered in the organization's flexibility modeling process.

Indicators of organization flexibility or inflexibility can have only two values, 1 and 0. Therefore, we have the opportunity to form a probit regression model to predict the value of binary variables and identify the flexibility of organizations in the short term.

Data for the model were obtained through a survey conducted in 2021. The methodology is based on the involvement of 62 national experts who are actively working or have worked in the agricultural industry. All indicators that characterize the quality of the study meet the regulations (coefficients of competence are within [0.57; 0.80], and the concordance coefficient is 0.70).

Tables 1 and 2 provide data for a probit model for estimating the flexibility of organizations in the agricultural industry. The described sample included 41 agricultural industry organizations.

Table 1

Input data for the probit model for assessing the flexibility of organizations in the agricultural industry (high flexibility)

№	Agricultural company	The level and quality of innovative solutions (x_1)	Net income per employee (x_3)	Staff expertise (x_2)	Flexibility of organizations (y)
1	ATB-Market	10	138,451	9	1

2	Kernel	9	65,263	8	1
3	Fozzy Group	8	210,062	7	1
4	MHP	9	151,327	8	1
5	Epicenter Agro	10	45,829	9	1
6	Nibulon	8	93,325	8	1
7	Roshen	8	262,906	7	1
8	ADM Ukraine	9	139,288	7	1
9	Suntrade	9	129,582	9	1
10	Eridon	9	52,504	10	1
11	Kargil	9	142,568	8	1
12	Glencor Agriculture Ukraine	8	175,101	8	1
13	Nestle	9	151,133	8	1
14	Sandora	10	44,817	9	1
15	Louis Dreyfus Company Ukraine	9	104,106	10	1
16	Optimus Agro Trade	9	91,114	8	1
17	Ostchem	8	160,064	9	1
18	Dniproazot	8	105,561	9	1
19	Coca-Cola Beverages	8	132,346	7	1
20	Delta Wilmar Ukraine	9	129,214	9	1
21	Astarta	10	48,861	10	1

Source: compiled by the authors based on the survey

The level and quality of innovative decisions and staff expertise were determined by checking between 0 and 10 (maximum 10). The flexibility of organizations was defined as 0 (lack of flexibility) or 1 (flexible business). Quantitative data (profit or loss from sales to staff) on the financial activities of the business were obtained from surveys. These data can be used to calculate net income per employee.

Table 2

Input data for the probit model for estimating the flexibility of organizations in the agricultural industry (low flexibility)

№	Agricultural company	The level and quality of innovative solutions (x_1)	Net income per employee (x_3)	Staff expertise (x_2)	Flexibility of organizations (y)
1	Mriya Agroholding	5	-38,668	7	0
2	Spasky	2	1,581	5	0
3	Artem	3	7,499	5	0
4	Askania-Nova	5	-39,092	3	0
5	Guldas	4	-35,288	4	0
6	Agro-Garant-Sukor	3	-19,573	6	0
7	Oblagrotechservice	3	25,002	6	0
8	Panceve	3	4,247	5	0
9	Novostavtsi	5	-40,001	4	0
10	Kakhovka Protein Agro	4	-13,886	4	0
11	Khersonagrolis	5	-23,104	5	0
12	Novotroitsky elevator	3	1,529	4	0
13	Genicheskagrobud	4	-39,257	5	0
14	Berezivske	2	1,798	3	0

15	Oberig	4	-43,871	6	0
16	Artemiv	3	2,495	4	0
17	Makiiv	1	1,956	5	0
18	Kotikivka	5	22,498	5	0
19	Bread of Ukraine	6	-36,672	5	0
20	Land Fund	2	4,004	3	0

Source: compiled by the authors based on the survey

Probit-regression model allows for determining the group of flexibility in the agricultural industry organizations. Probit-regression model provides an opportunity to study the probability that the business will be assigned to a particular group of flexibility. This makes the probit regression tool unique for assessing business flexibility.

Initially, we investigated the impact of the level and quality of innovative solutions on business flexibility. To do this, different values of the level and quality of innovative solutions were used, while other factors remained unchanged.

Then we investigated the impact of other factors on the flexibility of organizations. And the level and quality of innovative solutions remained unchanged. These options include several combinations of different factors.

The probit model looks like this [6]:

$$p(x) = P(Y = 1 | X = x) = \Phi(xTb), \quad (1)$$

$$\Phi(u) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{u} e^{-\frac{z^2}{2}} dz,$$

where Φ is the integral distribution function of the standard normal distribution, and b is the unknown parameters that should be estimated [6].

The likelihood function is the groundwork of the method and expresses the possible density of the synchronous appearance of the sample results $Y1, Y2, \dots, Yn$ [7]:

$$L(Y1, Y2, \dots, Yk; \Theta) = p(Y1; \Theta) \cdot \dots \cdot p(Yn; \Theta) \quad (2)$$

According to the maximum likelihood method, the value of $\Theta = \Theta(Y1, Y2, \dots, Yn)$ that maximizes the function L is accepted to be in the estimation of an unknown parameter. The calculation process is simplified by maximizing not the function L, but the natural logarithm $\ln(L)$. It has to do with the fact that the maximum of both functions is achieved with identical values of Θ [6]:

$$L * (Y; \Theta) = \ln(L(Y; \Theta)) \to \max \quad (3)$$

Now, the next action is that we get a binary independent variable thanks to the probit model. That's why we point out the probability of appearance of 1 ($Pi = \text{Prob}(Yi = 1)$) by Pi. This probability will depend on X_i where X_i, is the row of the regressors' matrix, $\mathbf{W}$ is the vector of regression coefficients [6]:

$$P_i = \Phi(X_i), \ \Phi(u) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{u} e^{-\frac{z^2}{2}} dz \quad (4)$$

In this case, the log-likelihood function takes the form [6]:

$$L(\boldsymbol{Y}, \mathbf{W}) = \prod_{y_i=1}^{n} \Phi(\boldsymbol{X_i W})^{Y_i} [\mathbf{1} - \Phi(\boldsymbol{X_i W})]^{1-Y_i} \quad (5)$$

$\text{Ln}(L)$ was used in the simulation, and the L function was replaced. The content of our task has not changed, but we have simplified the work and avoided multiplication [7]:

$$L^* = \ln L = \sum_{i=1}^{n} \boldsymbol{Y_i} \ln \Phi(\boldsymbol{X_i W}) + (\mathbf{1} - \boldsymbol{Y_i}) \ln(\mathbf{1} - \Phi(\boldsymbol{X_i W})) \quad (6)$$

Therefore, we must use the next symbols [7]*:*

$$\boldsymbol{W} = (W_0, W_1, \dots, W_m)^T,$$
$$\boldsymbol{X}_i = (1, X_{i1}, \dots, X_{im}), \quad (7)$$
$$\boldsymbol{X}_i \boldsymbol{W} = W_0 + W_1 X_{i1} + W_2 X_{i1} + \dots + W_m X_{im}$$

We used an approach called the Newton-Raphson method to maximize the L. The iteration method was used to solve the problem [6]:

$$\boldsymbol{W}_{t+1} = \boldsymbol{W}_t - \frac{\partial \ln L(\boldsymbol{W}_t)}{\partial \boldsymbol{W}} \left[\frac{\partial^2 \ln L(\boldsymbol{W}_t)}{\partial \boldsymbol{W}\, \partial \mathbf{W}'}\right]^{-1} \quad (8)$$

where

$$\frac{\partial \ln L(\boldsymbol{W})}{\partial \boldsymbol{W}} = \left(f_0(\boldsymbol{W}),\, f_1(\boldsymbol{W}), \ldots,\, f_m(\boldsymbol{W})\right)$$

$$f_0(\boldsymbol{W}) = \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W}) - \sum_{\{i:Y_i=1\}}^{n} 1 \quad (9)$$

$$f_j(\boldsymbol{W}) = \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W}) X_{ij} - \sum_{\{i:Y_i=1\}}^{n} X_{ij}\,,\ j = 1,2,\ldots,m \quad (10)$$

$$\frac{\partial^2 \ln L(\boldsymbol{W}_t)}{\partial \boldsymbol{W}\, \partial \mathbf{W}'} = \begin{pmatrix} \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})(1 - \Phi(\boldsymbol{X_i W}))\,, & \ldots & \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})\left(1 - \Phi(\boldsymbol{X_i W})\right) X_{im}, \\ \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})\left(1 - \Phi(\boldsymbol{X_i W})\right) X_{i1}, & \ldots & \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})\left(1 - \Phi(\boldsymbol{X_i W})\right) X_{im} X_{i1}, \\ \ldots\ \ldots\ \ldots & & \ldots \\ \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})\left(1 - \Phi(\boldsymbol{X_i W})\right) X_{im}, & \ldots & \sum_{i=1}^{n} \Phi(\boldsymbol{X_i W})\left(1 - \Phi(\boldsymbol{X_i W})\right) X_{im} X_{im} \end{pmatrix}$$

The following initial values had been defined as the direction of the linear regression options [6]:

$$\boldsymbol{W}^{(\mathrm{st})} = (\boldsymbol{X}^T \boldsymbol{X})^{-1} \boldsymbol{X}^T \boldsymbol{Y} \quad (11)$$

It was significant that the final stage of the research is an activation of the conjugate gradient method.

4. Experiment, results, and discussion

The following indicators were used to assess the flexibility of organizations in the agricultural industry:

x_1 – level and quality of innovative solutions,

x_2 – staff expertise,

x_3 – net income per employee.

The parameters of the obtained probit model in the STATISTICA environment are as follows (figure 1).

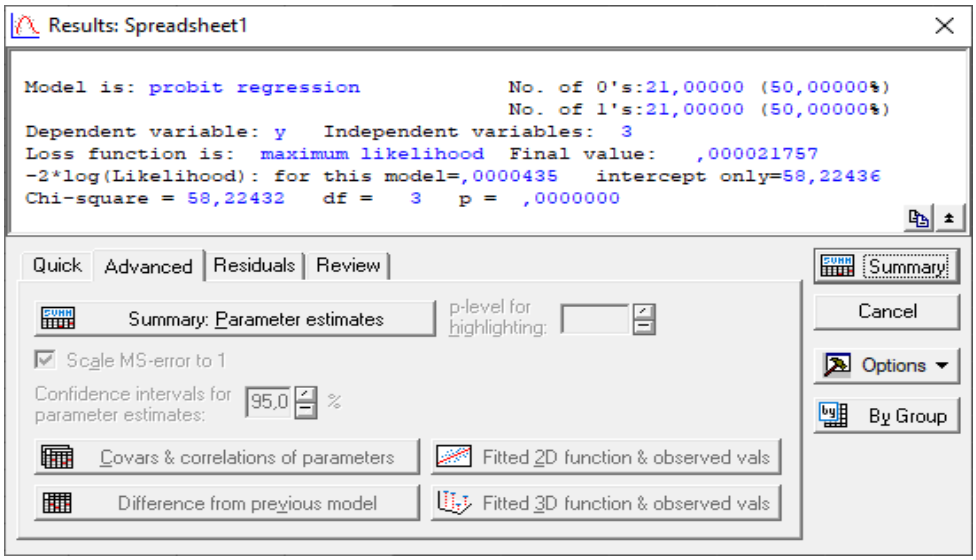

Figure 1: Parameters of the obtained probit model in the STATISTICA environment
Source: compiled by the authors

As can be seen from figure 1, the three-factor probit model provides high reliability, which is confirmed by the calculated value of the chi-square (χ^2-distribution), which is equal to 58.2 and almost zero probability not to reject the null hypothesis.

The three-factor probit model is as follows:

$$P(y_i = 1|x_i) = \Phi(40 - 2{,}3x_1 - 3{,}5x_2 - 0{,}009x_3) \quad (12)$$

The resulting expression can be used to assess the flexibility of organizations, taking into account the factors described above.

Figure 2 shows the dependence of the studied indicator of the flexibility in terms of changing the factor x_3 (net income per employee) for certain values of the factor x_1 (level and quality of innovative solutions) and the fixed value of the factor x_2 ($x_2 = 6$). That is, the growth of net income per employee for different values of the level and quality of innovative solutions and fixed values of staff expertise leads to an increase the flexibility of organizations.

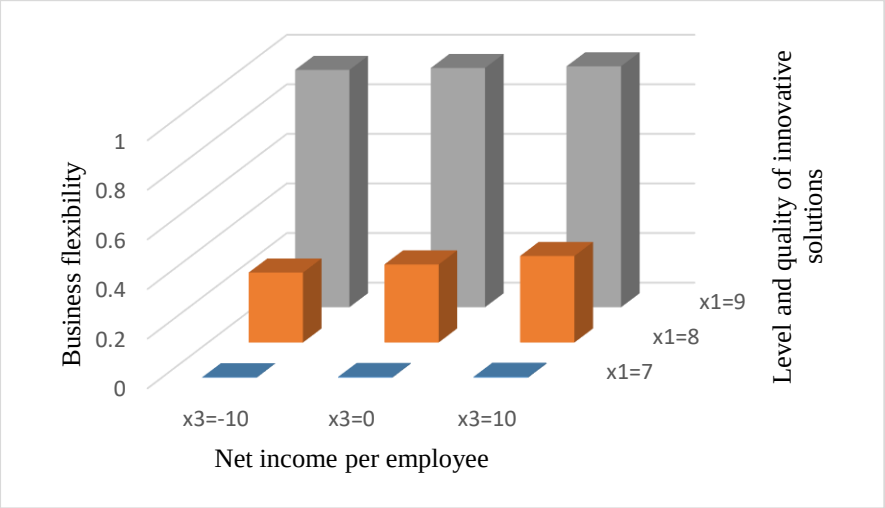

Figure 2: Graph of the impact of net income per employee on the flexibility of organizations
Source: compiled by the authors

Net income per employee is one of the important financial categories [8]. This indicator reflects the attractive financial result of the business, and outlines the success of its operation, the efficiency of production processes, and the situation with productivity. The business must be profitable, operate successfully, increase its value, and bring income to its owners and employees.

The economic meaning of net income per employee is to disclose the core business. Business profitability is one of the most important indicators that characterize the financial and economic condition of the business and sets the purpose of its activities.

Managers can more effectively manage a business, create a management model and development strategy, determine the optimal course of action, and increase profits by analyzing profitability. This provides information on when the business will start to make a profit, when the business will repay the loans, and what investments will bring measurable financial benefits. High profitability will increase the value of the business. With the correct application of profitability analysis, it is possible to effectively correct management errors, choose an effective investment and innovation strategy for the development of new agricultubased onral business projects and increase revenue.

The higher the level of net income per employee, the better. However, there is no optimal level of this ratio that would reflect different levels of profitability. Therefore, the results should be interpreted on the basis of changes in the indicator over time. As the level of net income increases, financial security, business development opportunities and adaptation to dynamic environmental conditions increase. Growth also means that a business has a competitive advantage due to a specific product, a patented technology or a unique brand.

Today, business is interested in generating income and maximizing it. Thus, it is important for business to address issues of effective profitability management. The amount of income received is extremely important for strategic business development and implementation of agricultural business projects.

Profitability has an impact on the formation of financial resources, growth of market value of business, efficiency and effectiveness of organizations [9]. Therefore, the importance of profitability in

business development determines the feasibility of studying the formation and implementation of an effective system of business profitability management.

Business is forced to form a structure of financial resources that will increase the efficiency of financial and economic activities, financial stability, solvency and minimize possible financial risks. In modern conditions in the process of forming the financial resources of the business increases the importance of profitability, profit, depreciation and borrowed funds [7]. The main goal of the business profitability management system is to find the best sources of income generation, areas of distribution and use of income to ensure business development and increase competitiveness. Implementation of the business profitability management system involves solving the following tasks: planning the degree of profitability, establishing reserves to increase profitability and the level of riskiness of activities, providing a system of control and monitoring the distribution and use of income.

Figure 3 shows the dependence of the studied indicator when changing the factor x_1 (level and quality of innovative solutions) for certain values of the factor x_2 (staff expertise) and the fixed value of the factor x_3 ($x_3 = 0$). That is, increasing the level and quality of innovative solutions for different values of staff expertise and fixed values of net income per employee leads to increase the flexibility of organizations.

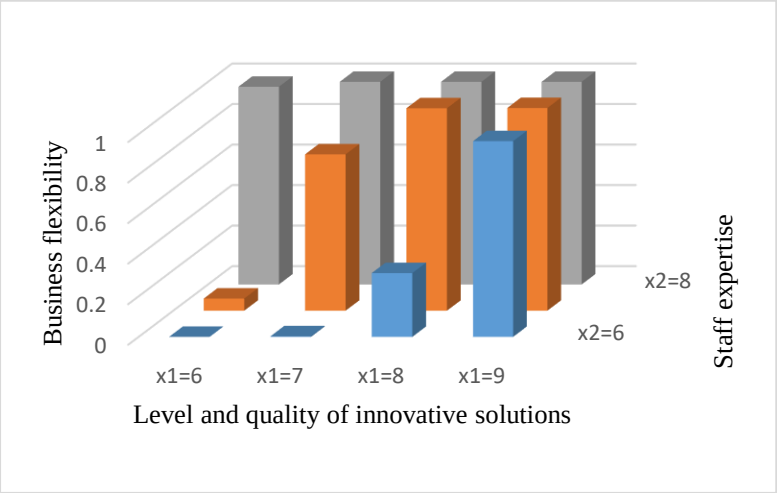

Figure 3: Graph of the impact of the level and quality of innovative solutions on the flexibility
Source: compiled by the authors

Researchers who adhere to the institutional concept of economic growth [10] believe that the adoption of innovative decisions by managers contributes to positive results for organizations and the country.

Creation of managerial innovations involves the search for new solutions, management methods, innovation in the business process. Innovation management aims to develop business through the introduction of changes, new management practices, improvement of processes or structures in breakthrough areas of business. Firstly, it depends on the innovative thinking of managers, their ability to produce and implement new solutions to implement the new agricultural business projects.

Successful operation and development of business requires an arsenal of various management tools, reactions and the ability to anticipate events in a high level of unpredictability of the environment [11, c. 3]. Management innovations can be one of the key factors influencing the performance and development of modern organizations [12].

Management innovations have a significant impact on the flexibility, adaptability, efficiency, competitiveness of the business: unexpectedness, uncertainty of the result (most innovative management decisions are difficult to predict and test in advance, and after implementation errors can be too significant and fatal for organizations); creativity as the basis of innovative management decisions (manager must have the appropriate competencies, intelligence, skills, form and implement effective solutions); clash of operational and innovative goals and objectives to synchronize the implementation of operational and strategic business development; the cost of working time and the cost of agricultural business projects are too high, and the economic effect will be stretched over time,

the costs and consequences of innovation are unevenly distributed in time, the payback period of implemented management innovation solutions is long; the existence of a sufficient number of obstacles in the implementation of management decisions and changes, due to the creation of conflicts of interest in the process of managing business development.

Management of agricultural business projects needs to consider certain conditions to increase the effectiveness of innovative solutions:

- managers must support innovation for success of organizations in the market and strive for progress, encourage creative and active employees;
- managers should contribute to the creation of a climate of organizational culture that encourages innovation and change;
- managers should be open to suggestions for technical and technological improvements, break stereotypes;
- managers must cultivate the creativity of employees, get rid of conservatives and passive people.

The introduction of an innovative model of development in Ukrainian enterprises involves a radical restructuring of their economic activities on the basis of the latest management paradigm. This paradigm requires the implementation of new technologies in business, prompt and preventive response to the transformation of business conditions. The high level of turbulence in the market environment encourages business to develop competitive advantages, to form innovative management decisions. This is due to the fact that traditional management tools do not provide the ability of business to adapt to new market conditions [11, c. 3].

Figure 4 shows the dependence of the studied indicator when changing the factor x_2 (staff expertise) for certain values of the factor x_3 (net income per employee) and the fixed value of the factor x_1 (x_1 = 5). That is, increasing the level of staff expertise for different values of net income per employee and fixed values of the level and quality of innovative solutions leads to increase the flexibility of organizations.

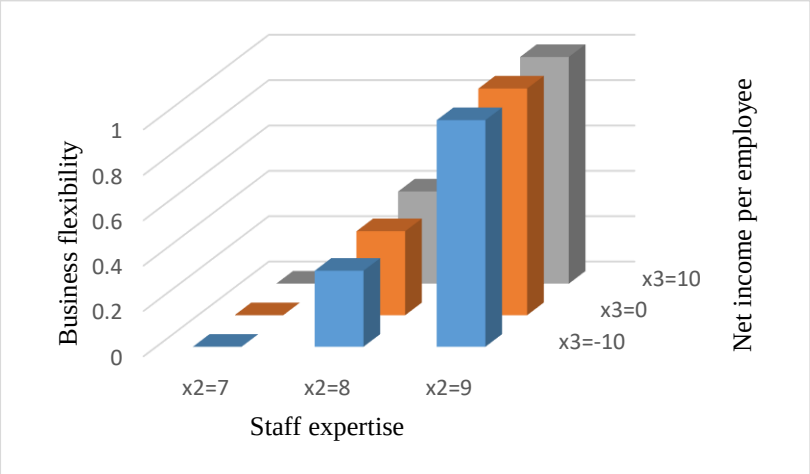

Figure 4: Graph of the impact of staff expertise on the flexibility
Source: compiled by the authors

Successful business development is manifested in the implementation of various types of agricultural business projects. This is due to the staff expertise, their skills and abilities, competencies that contribute to the formation of human capital in business.

Factors that determine the flexibility of organizations, the efficiency of operation and development of the business depend on the competence of the staff. Staff expertise allows getting an idea of the quality and effectiveness of organizations in the environment.

Personnel management strengthens the connection between employees and the flexibility of any organizations. Businesses need to make sure that staff have the necessary opportunities to increase efficiency of organizations. Personnel development management is one of the main concepts of personnel management. Management based on staff expertise takes into account educational competencies, skills, potential, as well as behavior that affects staff skills [14].

In the joint decision-making process, the team of employees must know the elements of the business system. The marketing department should have information about customers and business activities. This allows you to look for new solutions and agricultural business projects, to achieve a common goal.

An alternative to staff replacement is training and retraining of employees. It is important to research the needs of employees so that investment in staff does not become a loss for the business. To do this, it is necessary to conduct an analysis, taking into account the knowledge and skills of employees, expectations for further development. Any form of employee competence development should be closely linked to business strategy and have an impact on the development of flexibility. Investments in the employee form in him a sense of stability of work, a sense of need for skills and experience.

According to a survey conducted in 2020 in Polish companies, it was found that 82% of respondents believe that changing the system of employee education is important or very important for organizations. 5% of respondents stated that their company is fully or partially ready for this. 53% of women and 58% of men say that their immediate supervisor is aware of their professional ambitions [14].

Employee participation in a variety of trainings and training courses benefits the business and the employee. An employee can improve their competencies and develop many skills, increase self-esteem. Employee training and development is directly embodied in business success [13]. Every employer should take care of this aspect in their business. Employees who are satisfied and confident in their qualifications will be happy to use the acquired experience and skills in their professional work. And this is the main advantage of business. Expansion of practical skills and exchange of experience in the professional sphere provide an opportunity to receive challenges, change business, influence the level of flexibility, increase competitiveness. It is important to regularly evaluate the results of work, a clear presentation of career paths and career prospects.

Now we need to evaluate the flexibility of a new projects of creation of organizations (business) with a probit model. Information on the flexibility of a further agricultural business project is presented in the table below.

Table 3.
Information for modelling of an assessments of the flexibility of a further agricultural business project

№	The level and quality of innovative solutions	Staff expertise	Net income per employee
	x_1	x_2	x_3
1	5	9	5
2	7	7	30
3	5	8	20

The outcome of the settlement on the flexibility of a further agricultural business project are presented below:

$$P(y_1 = 1) = \Phi(40 - 2{,}3 \cdot 5 - 3{,}5 \cdot 9 - 0{,}009 \cdot 5) = 0{,}999$$
$$P(y_2 = 1) = \Phi(40 - 2{,}3 \cdot 7 - 3{,}5 \cdot 7 - 0{,}009 \cdot 30) = 0{,}85$$
$$P(y_3 = 1) = \Phi(40 - 2{,}3 \cdot 5 - 3{,}5 \cdot 8 - 0{,}009 \cdot 20) = 0{,}44$$

The outcome illustrates that the first and second project is the best flexibility. This may entail engaging internal and external stakeholders extensively in the strategic development of new agricultural business projects and business processes.

5. Conclusions

Reduced flexibility of organizations is an indication to implement measures for strategic development of various agricultural business projects. The flexibility of any organization is an important way for managing the strategic development of projects.

For high flexibility, a probit regression modelling way to predict the future development of the organization and to consistently link factors influencing flexibility is essential. It has also been found that the assessment of the flexibility of organizations gives a new insight into behavior of projects.

This information is also an essential for contributors of investment market, and other financial institutions or individuals who want to develop a business environment and take profits from investments. However, supplementary research projects are expected to further a realization of obstacles to predicting the level of flexibility of organizations.

An examination of the concept of flexibility has been done, showing the attendance of both negative and positive sides of factors and flexibility of organizations.

6. Referenses

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