

AGRICULTURAL UNIVERSITY OF PLOVDIV  
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**STRATEGIC HUMAN RESOURCES MANAGEMENT IN THE ORGANIZATION  
OF PRODUCTION PROCESSES IN AGRICULTURE**

ABSTRACT

for awarding the educational and scientific degree of "doctor"  
scientific specialty "Organization and Management"

Scientific supervisor:  
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The dissertation consists of 111 pages, of which 106 pages are an abstract, 12 tables and 10 figures. 26 literary sources are used.

The dissertation work has been discussed and directed for defense by the Department of Management and Marketing at the Agricultural University - Plovdiv.

The defense of the dissertation will take place on .....year at .....hours in hall ..... of the Agricultural University of Plovdiv.

The materials for the defense are available to those interested in the library of the University of Plovdiv.

## **I. GENERAL CHARACTERISTICS OF THE DISSERTATION**

### **1. Topic relevance**

Bulgarian agriculture is experiencing difficulties related to providing production processes with labor resources. The agricultural sector is not attractive for professional realization and it is difficult to find personnel with the necessary knowledge and skills. In this context, Bulgarian agricultural producers are looking for various approaches to address the difficulties.

### **2. Purpose and objectives of the dissertation**

The aim of this dissertation is to establish the influence of strategic human resources management on production processes in agriculture.

In order to achieve the set goal, the following tasks will be solved:

1. The place and importance of strategic human resource management in business organizations is clarified.

2. The essence of the agricultural production processes.

3. A research methodology has been developed of human resource management in agriculture.

4. The impact of human resources on the results of the production activity on the researched objects.

5. Recommendations for improvement have been made of human resource management in agricultural holdings based on a strategic approach.

6. It was developed a model for strategic human resource management in agriculture.

### **3. Subject and object of the dissertation work**

The object of the scientific research are agricultural holdings, with varying degrees of specialization and located throughout the territory of the Republic of Bulgaria.

The subject of the scientific research is the management activities in planning, organizing, motivating and controlling human resources in agricultural holdings.

### **4. Thesis of the dissertation**

The strategic approach to human resource management in modern times these market conditions is a prerequisite for ensuring production processes and improving their results in agricultural holdings.

### **5. Leading subtheses in the study**

Leading subtheses in the study are:

- Strategic human resource management is a management process. The implementation of this process requires taking into account the specifics of the organizational culture of business organizations.

- Production processes in agriculture are heterogeneous and diverse factors are taken into account in their implementation.

- There is potential for stimulating human resources in Bulgarian agriculture.

- The implementation of strategic human resource management requires coordination and centralization of activities and the aim is to improve the financial results of agricultural holdings.

### **6. Research methods**

When conducting the study, the systematic approach, retrospective analysis, situational analysis, comparative analysis, statistical methods, diagnostic analysis, prognostic analysis, etc. were applied.

## **7. Work structure**

The dissertation consists of an introduction, an exposition in three sections, a conclusion, and a list of references – a total of 111 standard typewritten pages.

In accordance with the main tasks set in the research, the presentation in the dissertation is developed according to the following structure:

## **CONTENT**

Introduction

Chapter One Theoretical and methodological foundations of strategic human resource management

- 1.1 Essence of strategic human resource management. Approaches, models and principles
- 1.2. Relationship between strategic management and organizational effectiveness
- 1.3. Specifics of human resources management in the agricultural sector.
- 1.4. Main characteristics of agricultural production. Production structure and technologies
- 1.5. Influence of the human factor on production results. Problems and challenges in the sector

Conclusions from Chapter One

**CHAPTER TWO ANALYSIS OF HUMAN RESOURCE MANAGEMENT PRACTICES IN AGRICULTURAL FARMS**

- 2.1. Presentation of the surveyed enterprises/regions
- 2.2. Organizational structure and HR strategies
- 2.3. Identified good practices and problem areas
- 2.4 Analysis of strategic factors

**CHAPTER THREE MODEL FOR STRATEGIC HUMAN RESOURCES MANAGEMENT IN AGRICULTURE**

- 3.1. Justification of the need for a model
- 3.2. Elements of the proposed model
- 3.3. Approaches for implementation in a real production environment
- 3.4. Expected benefits and risks

**CONCLUSION**

**LITERATURE**

**APPLICATIONS**

# **Chapter One Theoretical and methodological foundations of strategic human resource management**

## **1. Essence of strategic human resource management. Approaches, models and principles**

The dissertation analyzes six main approaches to strategic human resource management.

The most popular of these is the Best Practice Approach, which claims that there is a universal set of good HR practices that lead to high performance, regardless of the context or strategy of the organization. This approach defines the following basic practices that managers apply: intensive training and development; internal promotion; incentive compensation system; high level of employee participation; performance appraisal; protection from arbitrary dismissal. The main authors who defend the advantages of the universal approach are Pfeffer (1998) and Huselid (1995). Despite its advantages, the approach has been criticized for ignoring context and not recognizing that not all "good practices" work equally everywhere and in all situations.

Another approach to HRM is the Best Fit Approach. It states that HR strategy should be tailored to the specific context of the organization – its environment, strategy, structure and stage of the life cycle. This approach cites as examples of fit: Innovation Strategy → flexibility, creativity, broad skills; and Low Cost Strategy → routine skills, efficiency, standardization. The main authors who defend the advantages of the contingent approach are Schuler & Jackson (1987), Wright & Snell (1998). However, what they note as a weakness of the approach is that it is difficult to achieve perfect fit in a changing environment.

Resource-Based View (RBV) is useful in that it addresses the construction of firm advantages. Building a sustainable competitive advantage occurs through the development of unique internal resources – including human capital. This approach determines that firm resources must carry value, and for this purpose they must be difficult to imitate and not easily replaceable. This in turn raises the question of the limitedness of such resources, the need for efforts to find, create and retain them, which defines the approach as dynamic in nature. These characteristics of the approach are described by Barney (1991) and Wright et al. (2001). This approach ignores the influence of the external environment and has difficulty measuring the contribution of different resources to the final result of business activity.

A fourth approach is the Configurational Approach, which states that effectiveness comes from the mutual compliance between different elements of the HR system, as well as with the overall business strategy. Good examples of its applicability at the business level are: "Harmonic Configuration" - high commitment, development, internal communication; and "Controlling Configuration" - routine work, monitoring, production indicators. They are described by Delery & Doty (1996) and Lepak & Snell (1999). In general, this sub-sub

The fifth approach is known as the Institutional approach. It emphasizes the influence of social, legal and cultural institutions on the shape of HR strategy. Examples in this direction are: HR practices in the USA (individualism, flexibility) versus those in Germany (collectivism, regulations). These settings are examined by the authors Gooderham et al. (1999) and Boxall & Purcell (2011). This approach has the weakness that it can be used to justify ineffective practices with "local peculiarities".

The last major approach is the Critical Approach. As its name suggests, it questions the neutrality of HRM. This approach defines HR as a means of reproducing power and inequalities. Three main practices are used in its implementation, namely control through culture and language, the illusion of participation and the capitalization of labor through HR practices. These specific features of the approach have been identified by the authors Legge (2005), Keenoy (1999) and Willmott (1993). They also define the approach as mostly descriptive, but not offering applicable management tools.

Table 1 Summary of approaches

Approach	Main idea	Strength	Limitation
Universalists	“Best” practices work everywhere	Easy to apply	Ignores context
Contingent	HR = a function of strategy and environment	High applicability	Context variability
Resource-based	People = strategic resource	Sustainable competitive advantage	Difficult measurability
Configuration	Internal consistency of practices	Systems thinking	Difficult to implement
Institutional	Influence of cultural/legislative factors	Explains national differences	Can limit innovation
Critical	HR as a power mechanism	Reveals ideology	Lack of applicable tools

When implementing strategic human resource management approaches, managers in their activities must strictly observe the observance of certain principles, which various authors define as a necessary prerequisite for achieving success. Authors researching strategic human resource management set out the following eight principles that are important for its success.

1. Strategic Alignment Principle. It is one of the most discussed principles and establishes the need for integration between HR strategies and the overall corporate strategy (Wright & McMahan, 1992; Becker & Huselid, 1999). This principle emphasizes that HR practices should be aimed at supporting the long-term goals of the organization. For example, if the company strives for innovation, the HR strategy should emphasize hiring creative personnel, stimulating creativity, etc.

2. The principle of the long-term perspective. According to this principle, HRM is distinguished from traditional operational personnel management precisely by its orientation towards the future (Boxall & Purcell, 2011). The principle of the long-term perspective means that decisions about hiring, developing and retaining employees are made in view of future needs and trends – including demographic changes, automation and globalization.

3. Principle of integration and integrity. Modern research emphasizes the need for an integrated approach, in which different HR practices (recruitment, training, evaluation, compensation, etc.) do not operate in isolation, but are mutually supportive (Delery & Doty, 1996). This principle ensures consistency and coherence in human capital management, which leads to better organizational effectiveness.

4. The business value principle states that HRM should be viewed as a value-creating business function, not simply as an administrative activity (Ulrich, 1997). This principle transforms the role of HR professionals into strategic partners who influence competitive advantage through talent development, organizational culture, and leadership.

5. Evidence-Based HRM. There is a growing interest in using empirical data and analytical methods in HR decision-making (Rynes & Bartunek, 2017). The evidence-based management principle means that strategic HR initiatives should be supported by valid research, metrics, and performance analyses.

6. Principle of flexibility and adaptability. In conditions of high dynamics and uncertainty, organizations must be able to quickly adapt their HR strategies (Lengnick-Hall & Lengnick-Hall, 1988). Flexibility is a key to sustainable competitive advantage, as it allows for timely response to changes in the labor market, technology, and regulations.

7. Principle of participation and engagement. HRM is not a one-way process – its success depends on the inclusion of employees in strategic goals (Kaufman, 2015). The principle of engagement emphasizes the importance of organizational culture, internal communication, and leadership in building a motivated and engaged workforce.

8. Sustainability and Ethics Principle. Increasingly, strategic human resource management incorporates principles related to corporate social responsibility, ethics, and sustainability (Ehnert, 2009). This reflects the growing expectation that HR practices support not only financial goals, but also the social and environmental aspects of organizational activities.

The principles of strategic human resource management outline the framework within which organizations can effectively use their human capital as a source of competitive advantage. They reflect the evolution of personnel management - from an administrative function to a strategic partner in organizational development. The literature emphasizes the importance of strategic alignment, long-term perspective, integration, added value and flexibility. In addition, new priorities such as sustainability, ethics and evidence-based management expand the scope of HRM and place new demands on HR professionals.

In conclusion to everything said so far, the following two conclusions can be drawn, relating to the essence of strategic human resource management:

- ✓ The essence of strategic human resource management is the integration of human capital into the core of organizational strategy. It goes beyond administrative functions and becomes a source of sustainable competitive advantage. Despite existing criticisms and challenges, HRM remains an indispensable tool for organizational development and innovation, especially in a dynamic and uncertain environment.
- ✓ Strategic human resource management is a multidimensional and dynamic field that combines organizational goals, social processes, and technological transformations. It is not just a tool for competitive advantage, but a key management philosophy that centers on people – not as a resource, but as a strategic partner in the success of the organization.

## **2. Relationship between strategic management and organizational effectiveness**

The main research question is to explore the conceptual and empirical approaches to understanding this relationship, focusing on the factors that mediate or moderate the impact of strategic management on organizational effectiveness. The analysis is based on leading academic works, including Porter (1980, 1985), Mintzberg (1994), Kaplan & Norton (1996), Barney (1991), as well as more recent research related to dynamic capabilities and strategic management in the context of digital transformation (Teece, 2007; Grant, 2016).

Resource-based theory (Barney, 1991; Grant, 1996) links organizational effectiveness to the unique resources and capabilities of the firm that are difficult to imitate and substitute. According to Barney (1991), competitive advantage arises from resources that are valuable, rare, inimitable, and organized – known as the VRIO model. In this context, strategic management has a key role in identifying, developing, and protecting such resources.

Organizational effectiveness, according to Kaplan and Norton (1996), can be measured through an integrated approach, including not only financial but also non-financial indicators – customer satisfaction, internal processes, innovation capacity and training. Thus, strategic management is seen as a process of balancing different dimensions of effectiveness, according to strategic priorities.

Strategic Human Resource Management (SHR) is a long-term, integrated approach to managing people in an organization, which aims to achieve strategic business objectives through the optimal use of human capital. Organizational effectiveness, in turn, refers to the ability of an organization to achieve desired results – economic, social, market and operational – with available resources. The following table presents key relationships between these two concepts.

*Table 2 Key links between HRMS and performance*

HRMS element	Impact on efficiency
Strategic HR planning	Ensures the availability of the right competencies at the right time and in the right place, which improves the execution of organizational strategy.
Talent management and staff development	Increases individual and collective productivity, engagement, and innovation capacity.
A reward system tied to strategic goals	Stimulates desired behavior and results, which directly reflects on the financial and non-financial indicators of the organization.
Performance management	Creates clear performance standards and provides feedback that leads to improved results.
Organizational culture and leadership	They support sustainable development, innovation and the ability to adapt to a changing environment.

Numerous studies have demonstrated the strong relationship between strategic human resource management and organizational effectiveness. Huselid (1995) demonstrates that “highly effective HR practices” have a statistically significant positive effect on productivity, turnover, and profitability. Becker & Gerhart (1996) argue that HRM contributes to building sustainable competitive advantage. Wright et al. (2001) emphasize that strategically oriented HR practices increase commitment and organizational flexibility, which are key to effectiveness in a changing environment.

In the conditions of the Bulgarian market, where organizations still often face outdated administrative approaches to personnel management, the implementation of strategic thinking in HR processes:

- improves competitiveness;
- reduces turnover;
- increases motivation;
- creates stability and adaptability in times of crisis and change (e.g. demographic collapse, migration, digitalization).

According to research by BIA and IME, companies with a strategic HR approach show 20–30% higher levels of key personnel retention and productivity compared to those with an operational focus.

The relationship between strategic management and organizational effectiveness in the scientific literature is described through the following two models:

- The "HRM - Performance Chain" model (Guest, 1997) shows that strategically oriented HR practices lead to:
  - higher motivation →
  - better behavior and skills →
  - higher productivity →
  - higher organizational efficiency.

- The Boxall & Purcell model (2003) emphasizes the "fit" between HR practices and the business context as a key factor for effectiveness.

In conclusion, these studies can be determined that the relationship between strategic human resource management and organizational effectiveness is direct, bidirectional, and proven to be significant. Organizations that adopt a proactive, strategic approach to human capital management achieve:

- ✓ higher employee engagement and satisfaction;
- ✓ better business results;
- ✓ greater resilience and adaptability.

In this sense, HRMS is not just a part of administrative personnel management, but a key component of the strategic success of modern organizations.

Empirical research on the impact of strategic management on organizational performance uses a variety of methodologies—case studies, cross-sectional and longitudinal quantitative analyses, meta-analyses, and systematic reviews. Early empirical work was often qualitative and based on detailed company surveys (e.g., Kaplan & Norton projects), while later research added large panel data and statistical tests of causality and moderating variables. The general conclusion from the literature is that strategic practices (clear strategy formulation, tools for translating it into operational objectives, and measurement and control systems) have a positive but context-dependent relationship with organizational performance.

#### 2. Balanced Scorecard and effectiveness — empirical findings

Kaplan & Norton's (1992) Balanced Scorecard (BSC) is among the most widely studied tools for translating strategy into execution. Case studies in their initial work demonstrate practical utility in organizing metrics and aligning objectives, while broader empirical evaluations and meta-analyses provide a nuanced view: a well-implemented BSC improves both financial and non-financial indicators, but the effect depends on the quality of implementation, organizational culture, and sustainability over time. Recent meta-analytic reviews show a modest but statistically significant positive effect of BSC on firm performance, with publication and contextual nuances to the strength of the effect.

#### 3. The resource-based approach — link resources → efficiency (empirical data)

Barney's (1991) Resource-Based Value (RBV) theory provides a framework according to which specific internal resources and capabilities predict sustainable competitive advantage and, thereby, higher performance. Empirical research using panel data and measures of non-financial assets (e.g., human resources, patents, organizational processes) confirms that the possession and management of rare and hard-to-imitate resources are strong predictors of better productivity and financial performance. However, the literature emphasizes that resources alone do not guarantee results—strategic management is the mechanism that mobilizes them and through which they actually influence performance.

#### 4. Dynamic Capabilities — empiricism and measurement

Dynamic capabilities theory (Teece, Pisano & Shuen, 1997; Teece 2007) emphasizes the ability of an organization to sense opportunities/threats, seize opportunities, and reorganize its resources. Empirical research in this area attempts to operationalize and measure these "higher" capabilities and to link their intensity to organizational performance. Systematic reviews and vote-count analyses show consolidated but not absolutely unambiguous support: dynamic capabilities are associated with better performance especially in high-change environments, but in more stable environments their relative contribution may be more modest. A methodological problem here is the danger of reverse causality (more successful firms may invest more in developing such capabilities).

#### 5. Strategic leadership, strategic planning and HR as intermediaries

Research shows that strategic leadership (the ability of top management to define a vision, communicate strategy, and create the organizational conditions for execution) is a key

mediator between formulated strategy and achieved performance. Work by Hitt and colleagues, as well as reviews of strategic leadership, highlight the role of human capital and talent management as critical mechanisms through which strategy is translated into returns. Empirical evidence suggests that the impact is strongest when there is alignment between the chosen strategy, human resource management systems, and organizational structure.

### 3. Specifics of human resources management in the agricultural sector.

The general characteristics of human capital in Bulgarian agriculture are defined as follows:

- Low educational level– a significant share of the employed have primary or secondary education.
- Aging workforce– the average age of workers in the sector exceeds 50 years.
- Seasonal employment– typical for fruit growing, vegetable growing, viticulture, etc.
- Migration processes– many agricultural workers are engaged temporarily and migrate between regions and countries.

These specific features put agricultural managers in front of solving important issues for which strategic management seeks working solutions and implementation of specific practices. The Common Agricultural Policy (CAP) finances measures for training, youth employment and social innovation. LEADER projects, measure 6.1, 6.3, 16.9, etc. support the modernization of management and digitalization. Need for synergy between agribusiness, universities and employment institutions. These opportunities determine the work directions of managers in dealing with the identified problems in the agricultural sector.

*Table 3 Problems and challenges in human resource management in Bulgarian agriculture*

Challenge	Manifestation
Lack of staff	Young people leaving rural areas.
Low motivation	The work is seasonal, hard and low-paid.
Formal employment	Gray practices and lack of employment contracts are widespread.
Educational deficit	Insufficiently adapted agricultural programs in VET and higher education.

Various authors provide the following recommendations for implementing strategic human resource management in agriculture. Petrov (2022) defines the need for development of regional HR strategies for agriculture. According to Georgieva (2021), the introduction of flexible forms of employment and digital recruitment platforms will allow farmers to plan the necessary labor resources and secure their production processes. Kostova (2020) determines that only through investments in agricultural education and the creation of mobile training centers will benefits from strategic human resource management be realized, with an emphasis on supporting young farmers through scholarships and coaching programs. And the Strategic Plan for the Development of Agriculture and Rural Areas 2023–2027 of the Ministry of Agriculture determines the need to integrate sustainable HRM into the strategic goals of agricultural companies.

Human resource management in the agricultural sector is particularly challenging due to the influence of natural, economic and demographic factors. Overcoming the personnel crisis

in agriculture requires a strategic approach, combined with support from public institutions and innovations in education and management. Despite the difficulties, there are real opportunities for the transformation of HR practices in the agricultural economy through partnerships, digitalization and sustainable development.

Human resource management (HRM) in the agricultural sector is characterized by many specificities: seasonality of employment, high dependence on migrant labor, high variability in labor demand and increasing automation. These characteristics create a particular set of challenges for selection, training, retention and ensuring healthy and safe working conditions. In recent years, academic literature has paid increasing attention to the integration of HRM practices with the aim of increasing productivity, sustainability and social responsibility in agriculture.

Early studies applied general HRM concepts to the agricultural context (e.g., models for selection, pay, and training), emphasizing the need to adapt universal practices to sectoral specifications. Subsequent frameworks view HRM through the lens of sustainable development and “good employership”—an approach that not only optimizes productivity but also reduces the vulnerability of workers (including migrants) through better conditions and protections. Contemporary reviews integrate topics such as digitalization, labor-saving technologies, and the role of HRM in facilitating technological transition.

Main empirical themes and findings

✓ Seasonality, migrant labor and vulnerability

The seasonal nature of much agricultural activity leads to the widespread use of temporary and migrant workers. The literature points to systemic problems: transport and housing conditions, precarious contracts, risks of exploitation and health risks – problems that hinder the retention and social sustainability of workers. European reports and empirical studies highlight the need for legislative and organisational measures to protect and integrate seasonal workers.

✓ Access to labor and demographic challenges

Many countries (including Bulgaria) are facing labor shortages in agriculture due to demographic aging, migration to cities, and uncompetitive wages. Studies on Bulgarian and regional data emphasize the need for youth attraction policies, training, and mechanisms to increase the attractiveness of the sector.

✓ Training, professional development and knowledge transfer

Empirical research shows that structured training and development programs — including training in new technologies and safety — improve productivity and reduce accidents. Highly skilled human capital is a prerequisite for successful digital transformation and the implementation of labor-saving technologies. At the same time, small farms often lack the resources for systematic training, which creates inequalities in terms of adaptation to innovations.

✓ Working conditions, safety and social responsibility

The literature highlights that improving working conditions (pay, hours, safety, housing, and transportation) is both an ethical and productive issue: better conditions lead to greater retention and motivation, which positively impacts performance. Reports and studies show that implementing “good employer” principles reduces turnover and improves corporate reputation.

✓ Specifics of management in family farms and small farms

Family and small farms form a significant part of the sector in many countries. People management in such structures has its own peculiarities: a mixture of work and family relationships, a lack of formalized HRM practices, and limited opportunities for professional development. Research recommends adaptive, low-investment HRM techniques (mentoring, short training, improving conditions) suitable for this type of organization.

The literature consensus suggests a combination of organizational and public interventions:

Selection and recruitment: targeted search (local campaigns, seasonal contract schemes), partnerships with agencies and legal migration programs.

Training and upskilling: short, practice-oriented courses; machine and safety training; digital skills for working with intelligent systems.

Working conditions and social services: ensuring adequate housing, healthcare and transparent employment contracts – especially for seasonal workers.

Working with intermediaries and cooperatives: collective solutions (cooperatives, regional platforms) for sharing resources, training and recruitment.

Institutional policies: migrant protection frameworks, incentive schemes for young farmers and training subsidies.

The literature on the topic has limitations: the frequent use of cross-sectional data makes it difficult to establish causality between HRM practices and productivity; small and family farms are underrepresented in the research; the presence of informal work and illegal employment makes it difficult to reliably measure the effects. In addition, dynamic changes (Brexit, pandemic, migration policies) change the structuring and risks in the sector, making periodic reviews and adaptive policies mandatory.

The literature shows that effective human resource management in the agricultural sector requires an integrated approach: synchronizing short-term operational measures (recruitment, working conditions) with long-term strategies (professional development, digital transformation, institutional protection). Key research areas remain the empirical measurement of the impact of specific HRM interventions on productivity, the assessment of good practices in family farms, and the study of policies for the sustainable integration of seasonal and migrant workers.

Human resource management (HRM) in the agricultural sector is an area of growing importance due to the simultaneous impact of demographic changes, global migration flows, technological transformation (automation, precision agriculture) and increased public interest in sustainable and ethical production. Characteristics such as seasonality of work, high delegation to temporary and migrant workers, dominant role of family farms and high share of small/medium enterprises create a unique set of HRM challenges that require adapted interventions and specific policies (Qorri et al., 2024; European Parliament, 2021).

The purpose of this review is to synthesize the contemporary literature on human resource management in agriculture, derive key empirical findings, examine practices and policy interventions, and point out research gaps and recommendations for future research and policy.

Although general HRM theories (resource-based approach, strategic HRM models, organizational learning theories) are applicable to the agricultural sector, the specific characteristics of the sector require operational modifications. Several relevant theoretical perspectives:

Resource-based approach (RBV): Human resources—especially skills, experience, and organizational practices—are seen as key non-replicable assets that can create sustainable competitive advantage and increase productivity. In the context of agrarian farms, this includes specific farming skills, managerial competencies, and knowledge of local ecosystem management. (Barney; also applicable to agriculture in empirical reviews).

Strategic HRM (SHRM): Strategic HRM practices—selection, training, motivation, and appraisal systems—must be aligned with the farm’s strategic goals (e.g., competitive production, entry into organic markets, or digital transformation). SHRM models advocate for bundles of practices rather than individual interventions—which is particularly relevant for small farms with limited resources.

Organizational learning and knowledge transfer theories: agricultural innovations often depend on the transfer of practical knowledge (from academic institutions/consultants to farmers) and on the training of seasonal workers. The specific role of informal learning and mentoring on family farms is key for long-term adaptation.

Institutional and social context: institutional frameworks (national legislation, seasonal worker schemes, social protection systems) and social norms (family practices, attitudes towards migrants) moderate the effectiveness of HRM efforts. European reports and research highlight that policy measures are closely linked to company practices and the potential to improve working conditions.

#### **4. Main characteristics of agricultural production. Production structure and technologies**

Agricultural production is a major subsector of the agrarian economy, whose main objective is the production of food, raw materials and biological resources necessary for feeding the population and for industrial processing. It is an integral part of the national economy and has strategic importance for food security, sustainable development and the protection of natural resources.

The nature of agricultural production is determined by the specific interrelationship between natural, economic, social and technological factors. In contrast to industrial production, which is more predictable and standardized, agriculture is characterized by a strong dependence on natural conditions and significant seasonality.

##### Seasonality

Seasonality is a fundamental feature of agricultural work. Planting, cultivation and harvesting are strictly dependent on climatic conditions, leading to periods of intense employment and periods of relative stagnation. This has an impact on the organization of work, employment and the need for temporary workers.

##### Dependence on natural and climatic factors

Productivity and results of agricultural production depend largely on climatic factors such as rainfall, temperature, soil conditions and sunshine. Unpredictable events such as droughts, floods or plant and animal diseases can lead to serious losses.

##### Long production cycle

Agricultural production is characterized by long cycles - the time between input of resources (seeds, fertilizers, feed, care) and obtaining the final product is significantly longer compared to industrial production.

##### High degree of biological conditioning

The production process involves living organisms – plants and animals, whose development is subject to biological laws and cycles. This requires constant control, care and adaptation to the biological specificity of the production.

##### Low predictability and risk

Uncertainty is inherent in agricultural production. In addition to climatic factors, market fluctuations and international commodity prices also affect farm profitability.

##### Need for mechanization and digitalization

Modern agriculture is highly mechanized and entering a phase of digitalization through precision farming technologies, process automation, drones, sensors, and GPS systems. This is changing the requirements for workforce qualifications and increasing the need for continuous training.

##### Land as a main factor of production

Land is the basic resource for agriculture, and its quality, fertility, and location determine the productive potential of the farm. Compared to industry, agriculture is limited by the spatial and natural characteristics of the land.

Economic and social features

- Farm fragmentation– In Bulgaria and many EU countries, there are a large number of small farms that coexist with large agrohholdings. This leads to a diversity in organizational forms and management practices.
- Employment and labor force– Agriculture provides employment for a significant portion of the population in rural areas, but often suffers from a shortage of qualified personnel, an aging workforce, and high youth migration.
- Low performance– Compared to industry and services, agriculture has lower labor productivity, which affects the pay and social status of workers.
- Social role– In addition to its economic function, agriculture has a social mission – maintaining the vitality of rural areas, preserving traditions, culture and sustainable development of local communities.

In addition to these features, modern agriculture is in the process of transformation under the influence of: Globalization and international competition; European policies and subsidies (Common Agricultural Policy - CAP); Climate change and environmental requirements; Digitalization and automation; The green transition and sustainable production.

These processes are changing the nature of agricultural production, creating new requirements for human resource management - from low-skilled seasonal labor to a more specialized, technologically literate and adaptable workforce.

## **5. Influence of the human factor on production results. Problems and challenges in the sector**

The “human factor” in agriculture encompasses the skills and qualifications of operators and workers, experience (farm-specific tacit knowledge), motivation and health/safety status, organizational practices (management, HRM), and the composition of the workforce (permanent, seasonal, migrant). These elements directly impact labor productivity, product quality, the degree of adoption of technological innovations, and operational efficiency. Contemporary empirical research indicates that improvements in labor quality and labor management contribute significantly to the growth of agricultural production, especially in conditions of decreasing total working hours.

Skills and human capital (training & education). Higher education, specific skills, and targeted training increase productivity and accelerate the adoption of technologies (e.g. precision agriculture, automation). Longitudinal analyses show that increased workforce quality offsets declines in hours worked and contributes to output growth.

Experience and farm-specific knowledge. Returning seasonal workers and long-term employees often demonstrate higher productivity — with less need for induction training and a better understanding of local technological and environmental features. An ABARES report shows that returning seasonal workers are, on average, more productive than new ones.

Motivation, remuneration system and working conditions. Adequate remuneration, working conditions and social services (housing, healthcare) reduce turnover, increase commitment and consequently increase productivity. Policies/initiatives for “good employership” demonstrate positive effects on both output and workforce sustainability.

Health and safety; workability in the face of climate risks. Health and safety conditions affect available working hours and the quality of performance. In the context of rising

temperatures and extreme weather conditions, adaptation of work practices is critical to maintaining productivity (e.g. changing work shifts; measures against heat stress).

Management practices and organizational structure. The quality of management—workforce planning, logistics, consistency of instructions—affects operational performance. Well-organized work processes and clarity of roles reduce waste and increase efficiency in harvesting, processing, and storage.

The quality of the workforce compensates for quantitative losses. USDA/ERS and other studies show that improvements in the education and skills of workers are among the factors that have contributed to growth in agricultural output, even as total hours worked decline. This means that investing in human capital can be a cost-effective strategy.

The effect of training on productivity is measurable and significant. Studies in different countries show that conducting practice-oriented training (on safety, use of machinery, agrotechnical practices) leads to increased yields and incomes for households/firms. (example: study of the impact of training centers on production).

Seasonal and migrant workers – economically important but variable. Reports from the EU and international organisations highlight that the sector is highly dependent on seasonal workers; the quality and stability of this resource affects productivity, but there are large differences between farms and countries in the way these workers are recruited, integrated and protected.

Operational practices for rehiring lead to higher efficiency. ABARES and other analyses show that returning seasonal workers require less induction training and work more efficiently than new hires, which is economically significant during harvest periods.

Technological change and automation. Automation increases the requirements for upskilling. Farms that provide training and plan their workforce around technology achieve higher returns on investments in machinery; conversely, technology without adequate HR input can be ineffective.

Climate change. The increase in extreme weather events (heat, drought) is changing working hours and conditions and requiring adaptation of work processes — which reinforces the role of human management and health measures.

Institutional and regulatory conditions. Policies for seasonal workers, minimum standards for working conditions, and support systems (training, subsidies) strongly moderate how human factors are transformed into productivity.

Invest in training and career development — even short, practical trainings reap quick economic benefits; it is advisable to combine on-the-job training with mobile/modulated courses for seasonal workers.

Worker retention programs — rehiring seasonal workers and creating incentives for return reduce onboarding costs and increase productivity (e.g. bonuses, housing, contract schemes).

Integrated HRM-technology strategies — when introducing automation, plan for parallel upskilling; without this, investments in technology may not yield the expected return.

Health and safety as a production priority — preventing illnesses and work-related accidents, adapting to heat stress, and ensuring access to healthcare services are not only ethical but also economic decisions.

Policy measures to stabilize seasonal labor — formal seasonal programs with clearly regulated rights and conditions increase labor reliability and reduce exploitation, which has a positive effect on productivity on a large scale.

Despite the compelling evidence for the positive role of the human factor, there are research gaps: relatively few quasi-experimental and randomized controlled studies directly measure the effect of specific HR interventions on yield/profitability; data on informal labor

and very small farms are limited; effects in conditions of strong climate shocks require more specialized longitudinal studies.

The human factor is a critical and often decisive component for production results in the agricultural sector. Investments in human capital (training, health, conditions), adequate management practices and policies to stabilize seasonal labor make a measurable and sustainable contribution to productivity. In conditions of technological transformation and climate challenges, the role of strategic human resource management becomes even more central: without a combination of technology and human capacity, the potential of new technologies and practices cannot be fully realized.

## Conclusions from Chapter One

**First,** Strategic human resource management is a comprehensive and long-term oriented management concept that integrates people management with the overall strategy and goals of the organization. Its essence is expressed in the recognition of human capital as a key strategic resource that creates a sustainable competitive advantage through knowledge, skills, motivation and organizational culture.

The approaches considered – universalist, contingent and configurational – show that there is no single “best” model for human resource management. The effectiveness of strategic HRM depends on the degree of fit between the internal characteristics of the organization, the external environment and the HR practices applied. Models of strategic HRM (such as the models of compliance, high commitment and high effectiveness) emphasize the need for a systematic and integrated approach, in which individual policies and practices complement and reinforce each other.

**Second,** The relationship between strategic management and organizational effectiveness is direct, sustainable and multi-layered, as strategic management ensures focus, coordination and optimal use of the organization's resources. By clearly formulating a mission, vision and strategic objectives, strategic management creates a framework for making management decisions that direct the organization's activities and behavior towards achieving higher results.

Organizational effectiveness increases when strategies are adequately aligned with the external environment and the internal potential of the organization, as well as when their implementation is supported by appropriate structure, processes and management practices. In this context, strategic management acts as an integrating mechanism that connects strategic planning, implementation and control, transforming strategy into real organizational results.

Strategic management is therefore not just a formal planning process, but a key factor for long-term organizational effectiveness and sustainable competitive advantage. Through strategic consistency, adaptability, and an orientation toward continuous improvement, organizations can achieve higher productivity, better quality of results, and increased responsiveness in a dynamic and uncertain environment.

**Third,** human resources management in the agricultural sector is characterized by its pronounced specificity, determined by the seasonal nature of labor, dependence on natural and climatic conditions, the lower degree of automation in a number of activities and the combination of traditional practices with increasing requirements for modernization. These features require flexible and adaptive approaches to planning, selection, training and motivation of personnel, which should take into account both short-term labor needs and long-term development of human capital in the sector.

**Fourth,** Agricultural production is characterized by its high dependence on natural and climatic factors, seasonality of production processes and the biological nature of the resources used, which significantly distinguishes it from other sectors of the economy. These features

have a direct impact on the production structure, determining the need for flexible planning, diversification of activities and effective risk management.

**Fifth**, in the context of increasing technological complexity and digitalization of agriculture, the role of the human factor is transformed, requiring higher qualifications, the ability to work with innovative technologies and a willingness to continue learning. The lack of trained personnel or low motivation of the workforce leads to lower productivity, inefficient use of equipment and increased production costs.

The topics discussed outline the key role of strategic management and the human factor for the effective and sustainable development of agriculture. Strategic human resource management is established as a key tool for achieving organizational efficiency by aligning goals, structures and practices with the dynamic external environment. In the agricultural sector, this role is particularly strong due to its specificity - seasonality, dependence on natural conditions, diverse production structure and the growing importance of modern technologies.

Agricultural production requires flexible organization, adequate production structure and effective implementation of innovations, and it is the human factor that is decisive for the transformation of resources and technologies into real production results. In this context, the development, motivation and strategic management of human resources emerge as a key prerequisite for increasing the productivity, competitiveness and sustainability of agricultural holdings in the long term.

## Chapter Two Analysis of Human Resource Management Practices in Agricultural Farms

### 2.1 Presentation of the surveyed farms

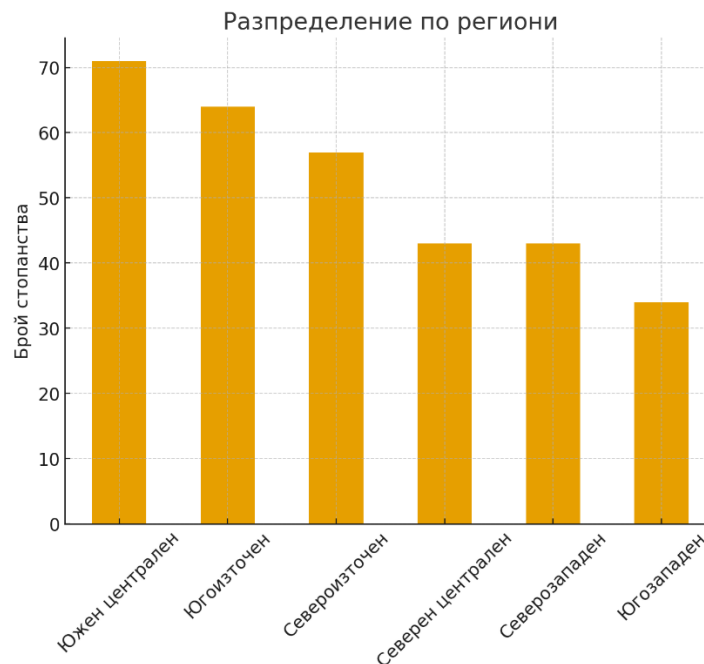
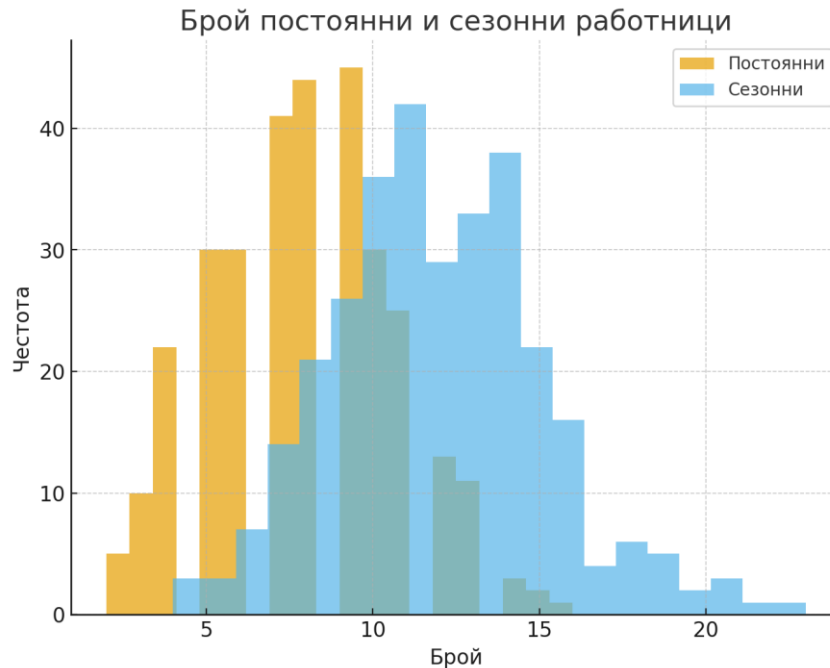


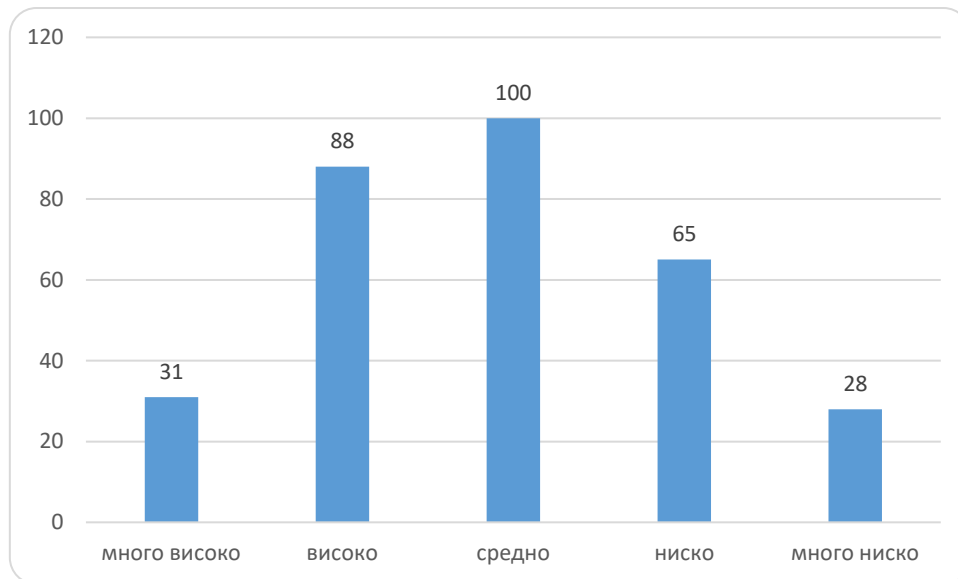
Figure 1 Distribution by region of the sample

The results show that the largest share of surveyed agricultural producers are located in the South Central (22.8%), South Eastern (20.5%) and North Eastern regions (18.3%). This is consistent with national statistical data, according to which it is these regions that concentrate a significant part of agricultural areas and production capacities.

In terms of main activity, almost half (49.7%) of the farms are specialized in crop production, 31.1% in mixed production, and 19.2% in livestock production. This structure reflects the traditional profile of Bulgarian agriculture, where crop production has a higher degree of mechanization and profitability, while livestock production remains labor-intensive and more dependent on the human factor.

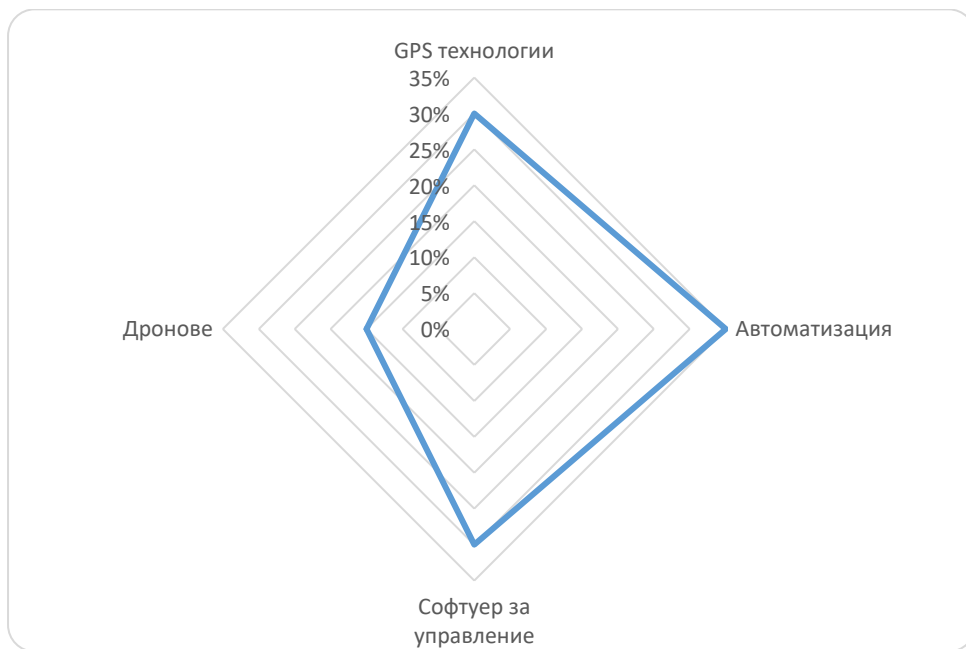


Of particular concern is the fact that 55% of respondents systematically experience a shortage of labor during a campaign, and 60% report seasonality as a serious problem. This clearly shows a mismatch between the needs of the agricultural sector and the availability of a qualified and motivated workforce.



*Figure2 Level of mechanization and technology implementation*

The largest share of respondents (32%) define the level of mechanization on their farms as medium (3), and 28% as high (4). Only 9.6% reach a very high level (5). This means that although the progress in mechanization is significant, a significant part of the work in agriculture is still done manually or with limited resources.



*Figure3 Technological innovations in agricultural holdings*

When it comes to modern technologies, the results show a relatively low level of digitalization:

- **GPS technologies – 30%**
- **Automation – 35%**
- **Management software – 30%**
- **Drones – 15%**

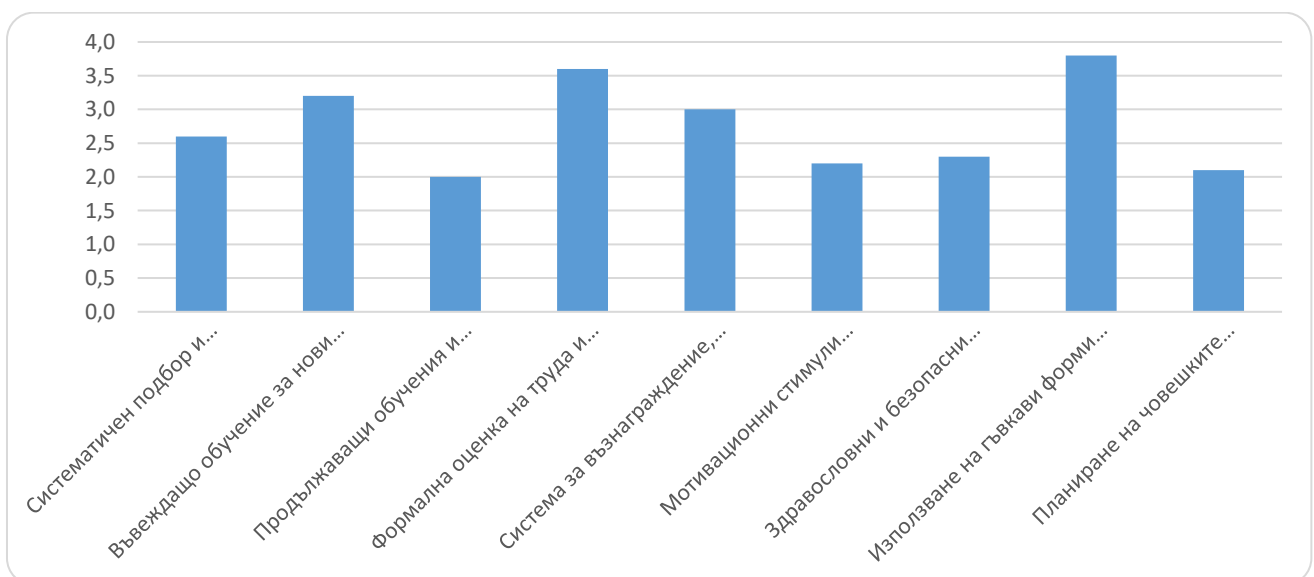
These values reveal that technological innovations are mainly available to larger and economically sustainable farms, while small producers continue to rely on traditional methods.

## 2.2 Organizational structure and HR strategies

The organizational structure of the surveyed farms includes three main activities:

- creating jobs with developed job descriptions that meet their specific requirements;
- ranking of jobs in a hierarchical structure by building the relevant organizational links;
- delegation of rights and obligations at hierarchical levels and creation of the necessary departments.

These activities are carried out on a linear basis, taking into account the functional characteristics of each work area in the production process. The organization of this structure requires that rights and obligations are well defined and coordinated. Each workplace is associated with the performance of tasks, which contribute to the achievement of common goals. This management function must monitor changes in the internal and external environment. Jobs can be increased, decreased or closed; additional ones can be created; new production methods can be introduced; new management techniques can be applied; they must be adapted to changes in the social, political, legal and economic spheres. Due to the continuous influence of internal and external forces, management constantly organizes and reorganizes ongoing processes.



*Figure 4 Human resource management practices*

The average scores for the implementation of HR practices range from 2.0 to 3.6 on a Likert scale (1–5). This means that in most farms HR management is at a low to medium level of development.

The most commonly used practices are:

- "Use of flexible forms of employment" (3.8)
- "Labor Evaluation" (3.6)
- "Introductory training" (3.2)
- "Performance-related reward system" (3.0)

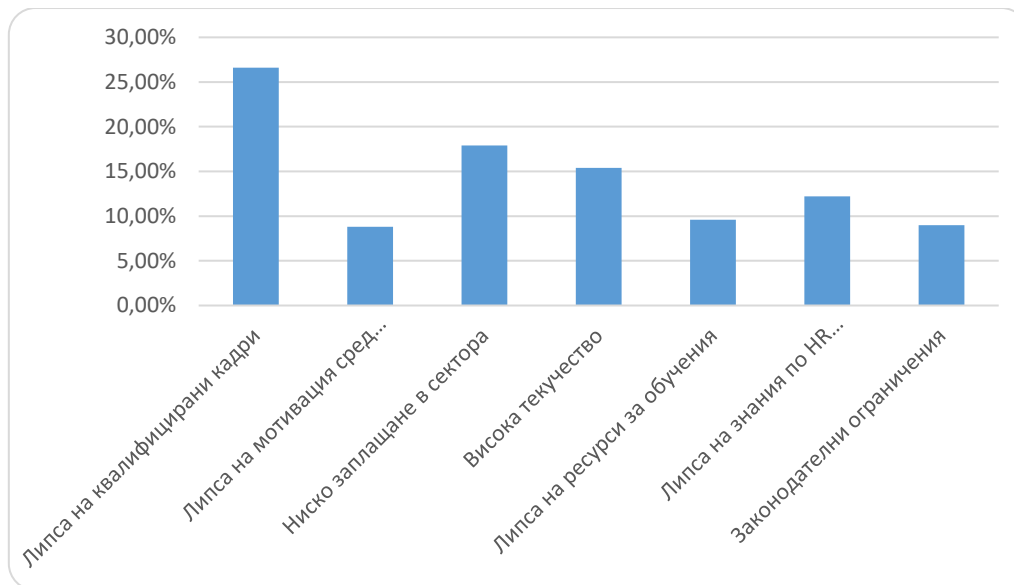
The least represented are:

- "Systematic selection and hiring of personnel" (2.6)

- "Healthy and safe working conditions" (2,3)
- "Reward and incentives" (2.2)
- "Human resource planning /personnel needs forecasting/" (2.1)
- "Qualification and Training" (2.0)

This shows that farmers focus on current and immediate needs (assessment and basic training), but long-term strategic elements such as planning, human resource development and employment stimulation remain poorly developed.

### 2.3 Identified good practices and problem areas



*Figure5 Main problems and barriers*

The most frequently cited barriers to effective human resource management are:

- Lack of staff – 26.6%
- Low pay – 17.9%
- High turnover – 15.4%

As secondary but significant problems, the following stand out: lack of knowledge and competences in the field of HR (12.2%), shortage of training resources (9.6%) and legislative restrictions (9%).

The results clearly show that the shortage of labor and the weak attractiveness of the sector are the main challenges that hinder the sustainable development of human resources in the agricultural sector.

A significant share of respondents (59%) recognize the need to acquire new knowledge and skills. This is especially important in the context of the digitalization of agriculture, where the use of GPS technologies, drones and automated systems requires specific qualifications.

1. Agricultural farms in Bulgaria operate under conditions of high seasonality and chronic labor shortages.
2. The level of strategic human resource management is poorly developed, with a focus on operational rather than long-term activities.
3. Digitalization and technological innovation They are entering slowly and mainly into larger farms.
4. The main barriers to HR management are staff shortages, low pay, and high turnover.

5. There is a clear need to improve the qualifications and adapt the workforce to the new requirements of modern agriculture.

## 2.4 Analysis of strategic factors

In order to investigate the possibilities for improving the strategic management of labor resources in agricultural producers, the relationship between the identified HR practices and the characteristics of agricultural producers was tested in a statistical way. For the purposes of statistical analysis, HR practices are defined as outcome indicators, and the 5 general characteristics of the farm (listed in the questionnaire) are factor indicators. The task of the study is to determine the profile of farms that have the potential to improve the management of their personnel based on a strategic approach. To perform the analysis of the data base with answers, five statistical groupings by factor indicators were formed.

Based on the statistical groups made, which essentially represent frequency distributions, the factors that have a non-random (objective) relationship with the performance indicators (identified marketing determinants) can be revealed using the Chi-square statistical method. When interpreting the results of the statistical analysis, it is necessary to take into account that there are many other factors that were not studied in the current sample. The results of the performed chi-square analysis are shown in Table 9. The statistical evaluation was made at a statistical error  $\alpha = 0.05$ .

*Table4  
Results of statistical data processing*

<b>management determinants</b>	<b>location</b>	<b>activity</b>	<b>size</b>	<b>staff</b>	<b>mechanization</b>
Systematic selection and hiring of personnel	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Induction training for new workers	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Continuing education and qualification	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Formal evaluation of work and results	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Performance-related reward system	<b>connection</b>	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Motivational incentives (bonuses, awards, social benefits)	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Healthy and safe working conditions	<b>connection</b>	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Use of flexible forms of employment (hourly, seasonal, remote)	<b>connection</b>	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>

Human resource planning (personnel needs forecasts)	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
seasonality makes personnel management difficult	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
labor shortage during the season	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
GPS/precision farming	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Drones for monitoring	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Automated machines (combine harvesters, milking systems, etc.)	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Farm management software	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>	<b>connection</b>
Do you need new skills and qualifications related to technology?	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Lack of qualified personnel	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Lack of motivation among workers	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Low pay in the sector	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
High turnover	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Lack of resources for training	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Lack of knowledge in HR management	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>
Legislative restrictions	no connection	no connection	<b>connection</b>	<b>connection</b>	<b>connection</b>

Source: own research

Table 12 shows that all management determinants depend on the size of the farm, the number of personnel and the degree of mechanization of production. The location of the farm reports a statistical relationship with only 7 management determinants, which is a sign of their widespread manifestation throughout the country without detecting regional differences. As for the production orientation of the farms, most of the management determinants have a statistically significant relationship with the characteristics of the farms, which determines that the implementation of HR practices is different in crop and livestock production. This gives us reason to create a profile of the agricultural producer who would participate in activities to improve human resource management based on a strategic approach. Thus, a profile of the

target agricultural producer has been formed for each management determinant, see Table 13. Based on the formed profiles, it can be determined which HR practices are suitable for application under specific conditions. An important part of this process is its organizational support, which requires the establishment of certain organizational structures, without which the implementation of management determinants would hardly achieve the expected positive effects on human resource management in agricultural holdings.

*Table 5 Farmer profile for participation in strategic activities*

<b>management determinants</b>	<b>characteristics</b>
Systematic selection and hiring of personnel	livestock production; large agricultural holdings; more personnel; high degree of mechanization
Induction training for new workers	livestock production; large agricultural holdings; more personnel; high degree of mechanization
Continuing education and qualification	livestock production; large agricultural holdings; more personnel; high degree of mechanization
Formal evaluation of work and results	large farm; more staff; high degree of mechanization
Performance-related reward system	farm in leading agricultural regions; large agricultural holding; more personnel; high degree of mechanization
Motivational incentives (bonuses, awards, social benefits)	large farm; more staff; high degree of mechanization
Healthy and safe working conditions	farm in leading agricultural regions; large agricultural holding; more personnel; high degree of mechanization
Use of flexible forms of employment (hourly, seasonal, remote)	farm in leading agricultural regions; small farm; fewer staff; low degree of mechanization
Human resource planning (personnel needs forecasts)	farm in leading agricultural regions; livestock production; large agricultural holdings; more personnel; high degree of mechanization
seasonality makes personnel management difficult	crop production; small agricultural holding; more personnel; low degree of mechanization
labor shortage during the season	crop production; small agricultural holding; more personnel; low degree of mechanization
GPS/precision farming	farm in leading agricultural regions; large agricultural holding; more personnel; high degree of mechanization
Drones for monitoring	large farm; more staff; high degree of mechanization
Automated machines (combine harvesters, milking systems, etc.)	farm in leading agricultural regions; large agricultural holding; more personnel; high degree of mechanization
Farm management software	farm in leading agricultural regions; large agricultural holding; more personnel; high degree of mechanization

Do you need new skills and qualifications related to technology?	small farm; fewer personnel; low degree of mechanization
Lack of qualified personnel	small farm; fewer personnel; low degree of mechanization
Lack of motivation among workers	small farm; fewer personnel; low degree of mechanization
Low pay in the sector	small farm; fewer personnel; low degree of mechanization
High turnover	small farm; more staff; low degree of mechanization
Lack of resources for training	small farm; fewer personnel; low degree of mechanization
Legislative restrictions	small farm; fewer personnel; low degree of mechanization

The analysis shows that different characteristics have different manifestations in the implementation of HR practices and the examination of problems related to human resource management. The profiling of agricultural holdings is the basis for conducting targeted activities in the studied management area to improve the results of economic activity.

## Chapter Three Model for Strategic Human Resources Management in Agriculture

### 3.1 Justification of the need for a model

Strategic human resource management (SHRM) in agriculture is a critical factor for the sustainable development of the agricultural sector. The need to create a comprehensive model is justified by a combination of structural, economic, demographic and technological challenges that significantly affect the efficiency of agricultural enterprises.

The creation of a model for strategic human resource management in agriculture is a necessity dictated by complex factors – demographic, economic, technological and organizational. Such a model will allow agricultural enterprises to use human capital effectively, increase productivity, adapt to technological changes and meet European and national requirements for sustainable development.

It is a key tool for increasing the competitiveness of the sector and the sustainability of agricultural holdings in the long term.

### 3.2 Elements of the proposed model

The model is built on the logic of strategic management, adapted to the specifics of the agricultural sector – seasonality, technological transformation, labor shortage, sustainability, regulatory requirements. It includes four main modules and twelve interconnected components. The generalized logic of the model is as follows:

1. **Analysis**→ defines the context and needs
2. **Planning**→ formulates HR strategy and competency profile
3. **Implementation**→ implements HR solutions in selection, training, motivation
4. **Control and sustainability**→ ensures adaptability and long-term effectiveness

## **Module I. Strategic context and environmental analysis**

### **Analysis of the external environment (macro- and meso-level)**

- demographic structure and migration
- regulatory requirements (CAP, quality standards, environmental regulations)
- technological trends ("smart" agriculture, digitalization, automation)
- labor market situation
- seasonal factors and climate risks

The purpose of this analysis is identifying opportunities and threats that determine HR strategy.

### **2. Analysis of the internal environment in the agricultural enterprise**

- organizational structure
- available competencies
- productivity levels
- culture and values
- current personnel management practices

The purpose of this analysis is determining the strengths and weaknesses of human capital.

### **3. Forecasting workforce needs**

- quantitative forecasting against production cycles
- predicting competencies in the context of new technologies
- assessment of risks in case of staff shortages

The goal is to create basis for planning HR strategy.

## **Module II. Strategic HR planning and goal formulation**

### **4. Formulating HR vision and strategic goals**

- alignment with business strategy
- competence development goals
- digital adaptation goals
- motivation and retention goals

The result is strategic HR plan, tailored to seasonality and sustainability.

### **5. Creating a competency model for the agricultural sector**

- basic competencies (agricultural engineering, animal husbandry, machine operation)
- digital skills
- environmental competencies
- soft skills (communication, responsibility, working under high pressure)

The role of this activity is an integrating element of the entire HR model.

## **Module III. Strategic HR Management System – Operational Components**

### **6. Recruitment and selection strategies**

- seasonal and permanent recruitment channels
- partnerships with vocational high schools and universities
- use of digital platforms
- competency-based selection mechanisms

The focus of this activity is on minimizing staff shortages.

### **7. Strategies for training, qualification and technological adaptation**

- internal and external training
- digital literacy
- training in sustainable practices
- certification programs

The goal is adaptation to technological changes and production requirements.

#### **8. Motivation and performance management**

- competency assessment systems
- KPIs specific to agriculture (output per worker, quality of production, accuracy when working with machinery)
- bonus schemes tied to seasonal results
- non-material incentives (training, working conditions, housing if needed)

#### **9. Strategies for retaining and developing human capital**

- career paths (operator → foreman → agronomic assistant → production process manager)
- long-term engagement programs
- talent management in family and medium-sized farms
- improving the working environment and safety

#### **10. Managing seasonality and flexible employment**

- flexible contract models
- integration of temporary workforce
- optimization of schedules according to the agricultural cycle
- workforce planning for climate risks

A key element in this activity is finding balance between permanent and temporary staff.

### **Module IV. Monitoring, Evaluation and Sustainability System**

#### **11. Monitoring and evaluation of HR strategies**

- indicators: productivity, turnover, personnel costs, level of competence
- seasonal reports
- digital tracking systems
- feedback from workers and managers

#### **12. Corrections, adaptation and improvements (PDCA cycle)**

- periodic review of the HR model
- adaptation to regulatory changes (e.g. CAP)
- implementing innovations in personnel management
- strategic human resources audit

The goal is ensuring sustainability and continuous improvement.

This is a complete, systematically structured model, tailored to the specifics of the agricultural sector and suitable for academic and practical application.

### **3.3 Approaches for implementation in a real production environment**

Strategic human resource management in agriculture is one of the key factors for the sustainable development of the sector in a dynamic socio-economic and technological environment. The results of the empirical study conducted among 312 agricultural producers in Bulgaria showed clearly outlined problems related to the shortage of labor, the low level of remuneration, high turnover and the insufficient implementation of systematic HR practices. At the same time, it was found that where a comprehensive approach is applied - selection, training, assessment and motivation - the efficiency of farms is higher, and organizational sustainability is better guaranteed.

In the context of the contemporary challenges facing agriculture – climate change, digital transformation, global competition and demographic decline in rural areas – strategic decisions for human capital development are becoming a critical element of the sector's competitiveness. Without qualified, motivated and adaptable staff, even the most modern technological solutions and financial mechanisms lose their effectiveness.

The empirical analysis showed significant differences in the implementation of HR practices by region and type of farm. For example, in Northwestern Bulgaria, human resource management is characterized by a low degree of formalization and a predominance of small farms, while in the Northeastern and Southeastern regions, a more active implementation of personnel selection and planning systems is observed. Livestock farming lags behind in the implementation of introductory training and labor evaluation, while mixed farms demonstrate a relatively higher degree of development of HRM practices.

These differences highlight the need for differentiated and targeted recommendations, tailored to both the type of agricultural activity and regional specificities. A unified approach would be ineffective, as the needs of a large mixed farm in Northeastern Bulgaria are fundamentally different from those of a small livestock farm in the Southwestern region.

These recommendations aim to offer strategic guidelines for improving human resource management in agriculture in Bulgaria, which will answer several key questions:

- What measures should be taken at the individual farm level to improve human resource management?
- What regional policies can contribute to better distribution and development of the workforce?
- What national and European strategic mechanisms should be implemented to stimulate systematic human resources management?

The focus of the recommendations is on creating a sustainable system for strategic human resources management, encompassing the processes of selection, training, qualification, assessment and motivation, tailored to the specific needs of the sector. This aims to increase the efficiency of production processes, strengthen the social sustainability of rural areas and achieve competitiveness of Bulgarian agriculture within the single European market.

## Conclusion

Strategic human resource management in agriculture is one of the key factors for the sustainable development of the sector in a dynamic socio-economic and technological environment. The results of the empirical study conducted among 312 agricultural producers in Bulgaria showed clearly outlined problems related to the shortage of labor, the low level of remuneration, high turnover and the insufficient implementation of systematic HR practices. At the same time, it was found that where a comprehensive approach is applied - selection, training, assessment and motivation - the efficiency of farms is higher, and organizational sustainability is better guaranteed.

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### III. REFERENCE ON CONTRIBUTIONS

The dissertation "Strategic Human Resources Management in the Organization of Production Processes in Agriculture" contains the following more significant contributing ideas and solutions for the theory and practice of corporate management:

1. The specifics of production processes in agriculture and the place of human resources in the production process are clarified.
2. The mechanism of human resources management in agriculture has been clarified.
3. The factors determining the impact of human resources on the results of the production activity in agricultural holdings.
4. A model has been developed for improvement of human resource management in agricultural holdings based on a strategic approach.

### IV. LIST OF PUBLICATIONS ON THE TOPIC

1. **Stoenchev, D.**, Motivational approaches in human resource management. Journal of Bio-based Marketing. 2025, No. 2
2. **Stoenchev, D.**, Human resource management in agriculture. Journal of Bio-based Marketing. 2026, No. 1
3. **Stoenchev, D.**, Strategic approach to personnel management in agricultural holdings. Journal of Bio-based Marketing. 2026, No. 1