**UNIVERSITY OF PETROSANI**

**DOCTORAL SCHOOL**

**FIELD: INDUSTRIAL ENGINEERING**

**DOCTORAL THESIS**
**-ABSTRACT-**

DOCTORAL SUPERVISOR:
PHD. Habil. ENG.: VASILESCU GABRIEL-DRAGOȘ

DOCTORAL STUDENT:
Eng. Ec.: MICLEA OLGA

2024

**UNIVERSITY OF PETROSANI**
**DOCTORAL SCHOOL**
**FIELD: INDUSTRIAL ENGINEERING**

# EVALUATION OF THE IMPACT OF ORGANIZATIONAL CULTURE ON HUMAN RESOURCES MANAGEMENT IN THE FIELD OF SCIENTIFIC RESEARCH

DOCTORAL SUPERVISOR:
PHD. Habil. ENG.: VASILESCU GABRIEL-DRAGOȘ

DOCTORAL STUDENT:
Eng. Ec.: MICLEA OLGA

2024

# CONTENT

## 1. Concepts, Definitions, Thesis Motivation, and Objectives

The thesis "*Evaluating the Impact of Organizational Culture on Human Resource Management in the Field of Scientific Research*" explores an innovative and highly relevant topic in the era of digital technology specific to integrated human resource management, combined with practices in occupational safety and health. It focuses on conceptualizing the idea of organizational culture to develop prospective and exploratory solutions in managerial scientific research aimed at ensuring a sustainable professional work environment with predictable sustainability of its safety.

The topic addressed in this work aligns with international research directions aimed at developing technical and scientific solutions regarding the impact of organizational culture on human resource management, under conditions of predictable occupational safety and health. Thus, the theoretical and practical foundation of the thesis involved conducting the following research activities:

-The integrated, prospective, and exploratory study of the impact of organizational culture on human resources management in the field of scientific research;

-The analysis of the influence of organizational culture on human resources management practices;

-Establishing the role of human resources planning in the personnel management strategy of research and development activities;

-The study of social mechanisms and human resources management practices in creativity-based organizations;

-Development of a method for evaluating human resources management practices and organizational learning factors;

-Development of methodological tools for assessing and managing occupational risk at the level of organizations;

-Ensuring the enhancement of occupational safety and health through the development and implementation of organizational culture and specific management in research organizations;

-Development and implementation of it tools for computerized management of organizational performance under predictable occupational safety conditions.

*The motivation* for this thesis derives from both the importance of the need and the possibility of developing/adapting technical solutions for the comparative evaluation of organizational culture, taking into account economic considerations and the impact effect of personalizing cultural variables that can influence managerial practices specific to human resources in the field of research, under sustainable conditions of occupational safety and health. Additionally, it stems from the need to ensure an adequate technical-scientific infrastructure that can facilitate the optimization of the configuration of methodological tools dedicated to this area.

*The main objectives* of the thesis consist in: Analysis of the importance of organizational culture in the management of human resources in the context of its formalization at the level of current reality; Evaluation of processes and practices specific to human resources management; The study on the influence of organizational culture on human resource management practices with activity in the field of scientific research; The creation of methodological tools and specialized IT applications, based on the study of the connections and influences that may appear between the national/organizational culture and the usual practices in the field of occupational safety and health specific to institutional activities.

These main objectives are achieved by fulfilling the derived objectives, namely: addressing the integrative relationship between organizational culture and human resources management; critical analysis of processes and practices in the field of human resources management; studying the general background of organizational culture in institutions; analyzing procedural aspects in planning based on specific human resources elements in research and development activities; configuring aspects related to the safety and health levels of employees; researching the socio-professional climate in workplaces; identifying motivational factors within the organization; analyzing the recruitment, selection, and integration process of human resources; researching training and development activities in the field of occupational safety and health; analyzing performance evaluation activities; researching the salary system and forms of reward; outlining social relations within the organization; identifying manager-subordinate relationships regarding communication and cooperation; contextualizing the organization of learning and human resources practices; developing a generalized graph-analytic model for evaluating the sustainability of the organization's impact on the environment; developing and implementing IT tools for computerized management of organizational performance under predictable occupational safety conditions.

The work begins with the study of the influence of organizational culture on human resource management practices, focusing on the analysis of issues related to the safety and safety of activities conducted at the national economy level. This analysis has led to a significant development of responsible socio-economic sustainability in the occupational field, aimed at ensuring the prerequisites for configuring high-performing and sustainable work systems that generate optimal economic returns and increased managerial efficiency.

The next step in the research focuses on establishing the foundation of the management strategy, both by determining the role of human resources planning at the institutional level and through the integrated study of dedicated social mechanisms and human resources management practices in creativity-based organizations.

Another important step in the research lies in the development of the methodological infrastructure, both in the field of evaluating human resources management practices and organizational learning factors, as well as from the perspective of diagnosing and forecasting hazardous situations that may arise during the work process, affecting both the human and environmental components.

Regarding the development of specialized software applications intended for the computerized management of organizational performance in industrial companies under predictable occupational safety conditions, as well as for the implementation of an integrated management system in the field of occupational safety and health, I have focused on analyzing and evaluating the identified risks specific to activities conducted at the institutional level. This aims to establish operational management methods for addressing issues related to occupational safety and health, while respecting discipline in the work process and quality principles.

The three thematic research routes in the technical-scientific plan that constituted the foundation of the thesis development strategy are:

-The thesis begins with a review of specialized works in the field of relevant bibliographic references to establish the theoretical framework for defining the concept of organizational culture in the context of ensuring effective management of occupational safety and health within research institutions. After querying numerous databases of reference scientific works, I considered a total of 403 dedicated bibliographic references for the completion of this thesis;

-The secondary dimension of the technical-scientific study was realized through the analysis of official data published by research institutes. This data was collected through annual

reports published by these economic operators and primarily focused on: the overall value of organizational culture; aspects regarding employee satisfaction levels; the socio-professional climate in the workplace; identification of motivational factors within the organization; analysis of the recruitment, selection, and integration process of human resources; analysis of training and development activities; analysis of performance evaluation activities; analysis of the salary system and forms of reward; analysis of social relations within the organization; and analysis of manager-subordinate relationships concerning communication and cooperation. Subsequently, using established mathematical models, these factors were quantified and then interpreted;

-The third dimension of the research focused on the use of IT technology to develop specialized software applications aimed at the operational management of issues related to occupational safety and health, based on an implemented quality system in accordance with applicable standards.

The limitations of the research stem from the fact that aspects related to the evaluation of the impact of organizational culture and practices in the field of occupational safety and health management within specialized economic institutions are confidential information. These aspects can only be approximately inferred from their annual reporting documents.

Moreover, the sample of contributors may register significant increases, which will have a positive impact on the accuracy of the outcome indicators if a longer period is allocated for data and information collection, ensuring an acceptable level of sufficiency.

## 2. Thesis Structure and Some Contributions

Regarding the structure of the thesis, it includes an introductory chapter that details the subject and seven content chapters. Additionally, there is a final chapter with conclusions and personal contributions, as well as future research directions. This work comprises 245 pages, of which 227 pages represent the thesis itself, and 18 pages constitute the bibliography, which includes 403 bibliographic references, along with specialized annexes that contribute to a better understanding of the thesis and its objectives.

A number of valuable contributions from the author, which are included in the content chapters of this work, refer to:

- A summarizing study presenting the correspondence between the defining elements of organizational culture specific to human resources and the applicable regulations in ensuring the conduct of institutional activities under predictable conditions of occupational safety and health;

- Analyzing the connections and influences specific to organizational culture from the perspective of assessing the general background of the socio-professional climate within research institutions, in order to configure aspects related to the predictable level of occupational safety and health for workers;

- Evaluating organizational culture based on the diagnosis of identified motivational factors within the organization and analyzing the recruitment, selection, and integration process of human resources, aimed at optimizing professional performance levels and ensuring a sustainable occupational safety climate;

- Developing a method for evaluating human resources management practices and organizational learning factors;

- Developing a generalized graph-analytic model for evaluating the sustainability of the organization's impact on the environment;

- Increasing the degree of occupational safety through the development and implementation, while adhering to quality principles, of organizational culture and effective institutional management;

- Developing specialized software/tools for the operational management of organizational performance under predictable occupational safety conditions.

The valuable results of the research conducted within the thesis have been disseminated through publications in various works, including the proceedings of conferences/symposiums or journals indexed in ISI/BDI.

### 3. Summary of the Work

Because it aids in better understanding individual and group behavior within an organization, the analysis of cultural factors is increasingly addressed in managerial literature. In general, organizational culture is defined as a complex combination of behaviors, values, and beliefs. Furthermore, it is particularly important to note that this organizational culture can evolve as it faces the influence of the external environment; however, this change may encounter obstacles from the internal environment, demonstrating that this type of culture is complex, emergent, and non-uniform.

The doctoral thesis titled *"Evaluating the Impact of Organizational Culture on Human Resource Management in the Field of Scientific Research"* is structured into 9 chapters.

A brief summary of the work, along with general considerations, the main objective, specific objectives, and the motivation for the thesis, are presented in the **first chapter**, titled *"Introduction"*.

**Chapter 2**, *"The Study of Organizational Culture"*, presents the research on the current level of conceptualization of the integrated notion of organizational/national culture in the field of managerial science, as well as an analysis of the main elements of the procedural synthesis regarding the recruitment, selection, orientation, and integration of human resources. This is aimed at laying the groundwork for strategies to evaluate the socio-professional performance specific to work environments with predictable occupational safety conditions.

Romania has a pyramidal bureaucratic model when considering the main cultural elements. For instance, it falls into the group of countries with a high uncertainty avoidance index and significant hierarchical distance. The pyramidal bureaucratic organization is centralized and formalized, with the unit of command and regulations at the center of the pyramidal structure. The head of the organization is responsible for decision-making. Formal rules or laws, as well as customs and traditions, govern work procedures and interpersonal relationships. However, in Romanian organizations, there are strict rules for personal relationships, but not for work procedures; the central figure, a "father-leader," holds authority. Consequently, regulations and norms are not always followed or are often confusing and misleading.

According to the renowned Dutch professor Geert Hofstede (Hofstede G., 1996), organizational culture is: *holistic*, in the sense that it represents more than the sum of its components; *historically determined*, as it reflects the organization's evolution over time; *connected* to anthropological elements (symbols, rituals, etc.); *socially founded*, because it is created and maintained by the group of individuals that make up the organization; and *difficult to change* due to the complex human elements involved.

On the other hand, E. Schein (Schein E.H., 1985) observes that when discussing the culture of an organization, "everyone agrees that 'it' exists and that it is very important, but everyone has different ideas about what 'it' is, as the notion of 'culture' has multiple meanings, and groups and organizations are difficult to define, thus increasing ambiguity. Therefore, superficial models of organizational culture should be avoided in favor of 'more detailed and complex anthropological models'.*"

The major challenge faced by organizations is the cultural differences among people. Geert Hofstede (Hofstede G., et al., 1990) asserts that we are culturally conditioned, with culture controlling our behavior in an irrational yet persistent manner.

In this regard, Levinson (Levinson, H., 1981) believes that child-rearing practices in Western societies are comparable to the leadership style of organizations (Angela Nicoleta Onea, 2005).

This is because each society encourages or disapproves of certain behaviors, attitudes, ideas, etc.; that is, each "world" comes with its cultural baggage, with its own values to which it is attached and which it wishes to uphold. Moreover, everyone believes that what they do, think, feel, and hold as normal, while anything that deviates from their own rules creates a dissonant note and disrupts "harmony," thus it must be excluded. There is an effort to change this mentality, especially during this time when globalization is being discussed, along with the cosmopolitan manager and the ongoing need for individuals to adapt (to other cultures, to different places, to various professions, etc.). Additionally, issues related to the safety and safety of activities conducted at the national economy level have led to a significant development of responsible socio-economic sustainability in the occupational field, aimed at ensuring the prerequisites for configuring sustainable multinational work systems that generate optimal economic returns and increased managerial efficiency.

**Chapter 3** is titled "*Analyzing the Influence of Organizational Culture on Human Resource Management Practices.*" Regardless of the size and field of activity, every organization, including a research organization, has an organizational culture. This culture is based on its history, methods of addressing issues, and leadership practices. Therefore, organizational culture reflects the mix of personalities and leadership styles and influences how things are accomplished, how changes are made, and the psychosocial climate.

I created a tool called OCAI (Organizational Culture Assessment Instrument) to collect data and evaluate organizational culture. OCAI is a questionnaire with six domains that employees must complete, with four items in each domain (Cameron and Quinn, 2006). Each alternative receives 100 points for each domain, depending on how popular or attractive each alternative is. The six domains are as follows: dominant characteristics; organizational leadership; employee management; organizational glue; strategic orientation; and success criteria. The model for this type of questionnaire is included in Annex 2 of the thesis.

A common activity in human resources management is the assessment and evaluation of the work performance of an organization's employees. This practice is becoming increasingly widespread and is now a strategic activity in the process of managing human resources. Private organizations, and increasingly public institutions, are aware of the importance of implementing the most effective system for evaluating the professional performance of employees in order to gain economic advantages and competitive edges. Therefore, $360^0$ Feedback evaluation is one of the most modern and relevant methods for assessing the level of professional performance at the organizational level, which can also be successfully utilized in research institutions. The objective of this evaluation is to improve employee performance and motivate them to achieve the expected professional successes. Many multinational organizations use $360^0$ Feedback, a relatively new and contemporary concept.

The methodology for the implementation of the 360º assessment involves the following steps: Defining the objectives for the performance assessment; identification of the persons who have been assessed, as well as the persons who will receive the results of the assessment; selecting the areas of work or behavior on which the assessment will focus; determining the persons participating in the evaluation; Selection of data collection methods; Planning and execution of the program in its original form; analyzing the initial reactions of the evaluation participants and adjusting the pilot scheme if necessary; Implementation and planning of the program in its final form; Program monitoring and evaluation with a comprehensive evaluation.

**Chapter 4** is titled "*Establishing the Role of Human Resources Planning in the Personnel Management Strategy of Research and Development Activities*." Human resources planning is important because it: ensures that the necessary personnel for the organization is provided in a timely manner, based on anticipated developments; ensures that personnel costs are kept within reasonable limits; prevents significant imbalances, overstaffing, or staff shortages in relation to the organization's actual needs; and provides a clear picture of the organization's disadvantages and opportunities. Human resources planning involves analyzing the current state of the organization's existing resources, interpreting forecasts for the organization's development regarding future labor resource requirements, establishing policies for the development of existing resources, and hiring new employees. Recently, human resources planning has become increasingly important due to frequent changes occurring in both the internal and external environments of an organization. Planning is a general management function, as it involves the responsibility of making decisions that establish the organization's future objectives and how the necessary resources will be allocated to achieve them. In the field of human resources, planning is a way to connect the current workforce employment of an organization with future staffing needs.

Regardless of whether they are directly or indirectly involved in personnel issues within the organization, all decision-makers are responsible for human resources planning. Human resources planning will be based on the company's overall strategy, will be continuous and systematic, and will highlight action programs and appropriate measures depending on internal and external circumstances.

Human resources planning is the process of determining the right number and type of employees for the most suitable roles within the company. Generally, planning begins by establishing the organization's mission and objectives. Any development plan is based on the organization's "philosophy." Human resources planning considers strategic objectives, estimates future employee demand, compares it with the available workforce in the company, and creates plans to reduce discrepancies between the two variables. Planning should focus on qualitative changes in the workforce rather than quantitative changes, such as increases or decreases in the number of employees.

Leadership must conduct a comprehensive assessment of the internal and external elements of the organization to strategically plan human resources. This evaluation should identify the strengths and weaknesses of the human resources, recognize threats and opportunities, and then address these threats and opportunities to prevent the inefficient use of human resources. In this regard, managerial practice offers a way to utilize SWOT matrix analysis. Following the analysis of the internal and external environment, a matrix is created that tracks the strengths (Strengths) and weaknesses (Weaknesses) of the internal situation, as well as the opportunities (Opportunities) and constraints or threats from the environment.

There are several methods that can be used to reasonably calculate the personnel requirements, including the regression method, trend analysis, the Delphi method, estimating the number of employees based on labor productivity, and the managerial succession planning scheme.

The purpose of evaluating individual professional performance is to obtain an impartial assessment of employee activity by comparing the level of achievement of the established objectives and evaluation criteria for that time period with the actual results obtained. The evaluation of individual professional performance is conducted to: express and accurately measure objectives; determine the directions and methods for the professional development of employees and enhance their performance; establish deviations from the adopted objectives and make corrections; and reduce the risks associated with retaining or promoting unqualified individuals professionally.

**Chapter 5** is titled "*Social Mechanisms and Human Resources Management Practices in Creativity-Based Organizations.*" In the current economy, characterized by uncertainty, risk, and dynamism, scientific creativity becomes a vital source of competitive advantage for institutions engaged in research, development, and innovation, as well as for economic agents benefiting from technical and scientific results. Considerable evidence suggests that creativity makes a significant contribution to organizational innovation, effectiveness, and survival. Therefore, fostering creativity is a strategic choice that firms must make (Amabile, 1996). Both creativity and innovation involve generating new ideas, but the two concepts are not identical. While some authors associate creativity primarily with the generation of new ideas as an end in itself (Amabile, 1988; Van de Ven, 1986), innovation emphasizes the applicability of new ideas to address specific problems (Kanter, 1983). As Amabile et al. (1996:1154) reported: "*All innovation begins with creative ideas. We define innovation as the successful implementation of creative ideas within an organization. From this perspective, the creativity of individuals and teams is a starting point for innovation; the former is a necessary condition but not a sufficient one for the second one.*" Since creativity is an important source of organizational innovation and competitive advantage (Amabile, 1988, 1996; Oldham & Cummings, 1996), organizations increasingly seek to promote it. Various managerial practices influence the work environment, which is one of the major factors that stimulate creativity at the institutional level (Couger, 1995). Therefore, institutional leaders face the challenge of creating the right context and conditions for creativity to thrive (Shalley, Gilson & Blum, 2000). This chapter has contributed to various research streams in organizational theory and management. First and foremost, it has contributed to the literature on creativity. For instance, reviewing definitions of creativity and identifying conceptual categories has significantly clarified existing theory and fostered a common understanding among separate research streams. Furthermore, it has initiated the process of integrating these different streams into a whole, enhancing understanding of what constitutes the essence of creativity and suggesting promising avenues for future research.

**Chapter 6** is titled "*Contributions to the Development of a Method for Evaluating Human Resource Management Practices and Organizational Learning Factors.*" Institutions engaged in research and development that wish to compete successfully in dynamic markets should be prepared to implement significant changes in their operations, with one of the key points for successful change being the understanding of how individuals and organizations perceive changes when exposed to a transitional environment. Implementing modern management systems in the field of human resource optimization is considered essential for institutions seeking to achieve high levels of competitiveness. There are several examples in the literature discussing the adoption of "roadmaps" as an essential means of supporting the operational functionality of economic operators. However, since such "operational maps" emphasize the technical factors of change, the process of organizational learning and human resource management practices tend to be neglected. Thus, Chapter 6 presents a synthesis of a method for evaluating the impact of human resource management practices and organizational learning factors specific to an economic operator in the industrial area that has a research and development department, allowing for an analysis of maturity in this field. This chapter presents a method for evaluating HRM practices and OL factors in institutions undergoing the implementation of organizational learning programs. The proposed method is illustrated through a case study conducted at an industrial institution that also has a specialized research and development department, which produces components (incorporating technical pyrotechnic items of type P2) for the automotive industry.

Two characteristics of the proposed method become evident from its practical implementation, namely:

-First, the method does not provide an optimal solution but indicates improvement alternatives that can be developed consecutively within the three levels of contextualization.

Furthermore, the method proposes indicators that allow for measuring the evolution of the sociocultural factors represented by OL issues, which contribute to building behavior that supports the change process and helps sustain it in the long term.

-Secondly, through the reverse analysis of maturity matrices (an original contribution of this work), institutions can identify the phases of implementation in the learning process that are poorly served by the current state of organizational learning factors within them, anticipating issues and developing human resource management practices to mitigate them. This is quite relevant, as changes in organizational practices may take longer to implement, making it essential to understand these opportunities and have a clear vision of the current gaps in HRM practices within the institution.

Some limitations of the proposed method are noteworthy and could be viewed as opportunities for improvement, namely:

-The technical aspects of adopting learning are not covered in this chapter but should be considered by institutions that wish to undergo changes in their learning practices. Learning systems tend to operate with minimal resources, which become exposed to sudden changes in demand patterns or system availability, potentially compromising the desired level of service provision for beneficiaries. However, this important point exceeds the scope of this chapter. Another limitation is related to the abandonment of old (morally worn) or organizationally disadvantageous practices. OL often relies on processes of organizational forgetting; that is, institutions that wish to transform not only need to acquire new capabilities but also frequently must be able to let go of old knowledge or other types of knowledge, such as bad habits (learned from an institutional partner, for example).

-In the step of prioritizing improvement opportunities, the method identifies the most critical HRM practices for the institution, structured according to their level of contextualization. The resulting portfolio represents the beginning of the improvement process and leaves room for further developments in the proposed method discussed in this chapter.

**Chapter 7** is titled "*Contributions to the Development of Methodological Tools for Assessing and Managing Occupational Risk at the Organizational Level.*" This chapter presents the results of risk assessments obtained using specialized methodological tools for quantifying the degree of hazard associated with the occupational environment, providing relevant data and information regarding the state of occupational safety and health specific to activities conducted in industrial spaces. The aim is to improve and streamline the process of establishing policies in the field of preventing and combating the causes that can lead to workplace accidents and/or occupational diseases.

By applying the innovative risk quantification tool in the work process, two independent evaluators, assessing the same type of job at the same workstation, ultimately obtain remarkably similar results. This aspect indicates that the method is much more precise than many of the methods used globally for evaluating complex risks, where the human-machine relationship is viewed within a system of structural connections and is dependent on the environment in which it coexists. Additionally, the method is extremely flexible, allowing for adaptation to any work system and any organizational structure where the human component in the work process is analyzed. For jobs where not all specific risk groups and subgroups have been considered, the method allows, in principle, for structural development adapted to new fields, provided that these newly defined groups and subgroups are specific and as detailed as possible. For the identified and subsequently evaluated risks in these new areas, the existing weighting criteria within the method are applicable, or specific pre-established weighting criteria can be defined, which, once integrated into the method, minimize the subjective assessment errors caused by the individual evaluator applying this method. Regarding risk management in business, no system or activity is risk-free, and not all implemented controls can completely eliminate risk. The purpose of risk management is to analyze the business risks of a process, application,

system, or other element to determine the safest prudent operating method. The risk assessment team analyzes these assets with business objectives as their primary consideration. It is impossible to use a control mechanism that ensures a guaranteed reduction of risk to zero. In other words, a safety program that aims to achieve a target of 100% safety will result in the organization achieving 0% productivity. Thus, the professional sphere in safety ensures awareness that the goal is to support the organization and ensure that management objectives are met. Regarding the development of a generalized graph-analytic model for assessing the sustainability of the organization's environmental impact, I proposed a model for evaluating environmental degradation based on research results in industrial engineering related to integrated risk and impact analysis. The ultimate goal of any risk analysis and decision-making process should be to answer fundamental questions: "Who should decide on the acceptability of what risks, for whom, under what terms, and why?"

**Chapter 8** is titled *"Contributions to Enhancing Occupational Safety and Health through the Development and Implementation of Organizational Culture and Specific Management in Research Organizations."* This chapter presents both the results of the study on organizational culture in the context of human resource management and the development of an occupational risk management system in accordance with applicable national regulations, respecting quality principles. It also includes a prospective synthesis of aspects related to the evaluation of the implementation of the new ISO 45001 standard for occupational health and safety during the migration/transition process (ISO 45001:2018). Human resource management is a category of actions focused on ensuring, developing, motivating, and retaining human resources within an organization to successfully meet its objectives and satisfy employee requirements. In this sense, human resource development involves training employees to perform the tasks needed by the organization. The fundamental issue is knowing what type of training employees need. The motivation of workers receiving training must be considered when making training decisions, as there are numerous training methods and components necessary for a training program. Based on a documentary study of the specialized literature, the approach to occupational health and safety (OHS) management at the organizational level was established, and the main stages of implementing the occupational management system were highlighted, in accordance with applicable SR OHSAS references. In this context, a standardized form of the specific documents for the occupational safety and health management system was developed to facilitate its implementation, namely: the checklist for meeting the requirements of the OHS management system and the quality documents in the field of occupational safety and health (the OHS management manual and 13 system procedures: Hazard Identification, Risk Assessment and Control Measures, PS–SSO-01; Compliance Evaluation with Legal and Other Requirements, PS–SSO-02; Competence, Training and Awareness, PS–SSO-03; Communication, PS–SSO-04; Participation and Consultation, PS–SSO-05; Document Control, PS–SSO-06; Emergency Preparedness and Response Capability, PS–SSO-07; Monitoring and Measuring OHSAS Performance, PS–SSO-08; Incident Investigation, PS–SSO-09; Nonconformities, Corrective and Preventive Actions, PS–SSO-10; Record Control, PS–SSO-11; Internal Audit, PS–SSO-12; Management Review, PS–SSO-13). Additionally, ISO 45001 (ISO 45001:2018) is based on OHSAS 18001 (SR OHSAS 18001:2008), but it is a new and distinct standard, featuring many new or significantly modified clauses. The remaining clauses, especially those related to the operational aspects of OHS, have undergone minor changes. Furthermore, it is a dynamic standard, making integration with other management system standards much simpler. Consequently, the ISO 45001 standard (ISO 45001:2018) has undergone significant modifications. This also involves the implementation and auditing of the new requirements. When migrating from OHSAS 18001 (SR OHSAS 18001:2008) to ISO 45001 (ISO 45001:2018), there are a series of significant issues for both organizations and third-party auditors, issues that are highlighted in the standard's guidelines.

Users of the standard should understand the implications of its clauses, as these are related to the changing requirements across different industries and business sectors, as well as to social, technological, and technical changes. This chapter also presents the results obtained from the implementation of the specialized software application EuroJob Business at economic operators active in industrial spaces, which is intended for the proper management of human resources in the context of socio-economic activities under predictable efficiency conditions, as well as the MSSO.EXE 01 program, which serves as a working tool for the operational and procedural development of the OHS system documents.

      **Chapter 9,** titled *"Final Conclusions and Personal Contributions."* highlights the valuable contributions to the evaluation of the impact of organizational culture on human resource management in the field of scientific research, along with the way in which the research results are applied and utilized both in the present and in the future.

## 4. Personal Contributions

### 4.1. Theoretical Contributions

-A synthesis study that highlights the connection between the defining elements of organizational culture specific to human resources and the applicable regulations in ensuring the conduct of institutional activities under predictable conditions of occupational safety and health;

-The analysis of the connections and influences specific to organizational culture from the perspective of assessing the general background of the socio-professional climate within research institutions, in order to configure aspects related to the predictable level of occupational safety and health for workers;

-The evaluation of organizational culture based on the diagnosis of identified motivational factors within the organization and the analysis of the recruitment, selection, and integration process of human resources, aimed at optimizing professional performance levels and ensuring a sustainable occupational safety climate;

-Performance evaluation: it affects the hiring, participation, and motivation of staff in a research organization;

-Methodology for evaluating the individual professional performance of employees;

-Analysis of procedural aspects in the planning field based on specific human resource elements in research and development activities.

### 4.2. Applied Methodological Contributions

Significant results of this type, which have been documented in the doctoral thesis, are:

-Development of a method for evaluating human resource management practices and organizational learning factors;

-Development of a generalized graph-analytic model for evaluating the sustainability of the organization's impact on the environment;

-Enhancing occupational safety through the development and implementation, while adhering to quality principles, of organizational culture and effective institutional management;

-Development of the Occupational Risk Management System in accordance with applicable national regulations.

### 4.3. Applied IT Contributions

-Implementation of the specialized software application EuroJob designed for the proper management of human resources in the context of conducting socio-economic activities under predictable efficiency conditions in organizations;

-Development of the specialized software application MSSO.EXE 01, which ensures the operational and procedural preparation of system documents in the field of occupational

safety and health management based on the analysis and evaluation of the particular manifestation of all aspects of occupational safety and health managed at the organizational level.

### *4.4. Future Research Directions*

Based on the original results obtained in full agreement with the thematic directions of the thesis, which have been documented as personal contributions, and considering the scientific horizon of interest related to the identified issues, I highlight the following possible research directions that can be addressed in the future:

-The research conducted during the process of developing the thesis can serve as a bibliographic source for practical projects involving methodological packages of specialized software programs for evaluating the organizational safety climate;

-The entire thesis can serve as a foundation for a university course specifically focused on evaluating the impact of organizational culture in industrial companies, where sustainable occupational safety policies are implemented;

-The results can be leveraged through research contracts, collaboration with educational institutions or industrial companies, or by providing services;

-Considering the current and future circumstances, it is necessary to accelerate research projects, build IT infrastructure, approve funding, create additional job positions, and enhance staff skills and expertise in the area of interest of the thesis.