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Editorial

Anca DRĂGHICI¹

This year Politehnica University celebrates 100 year ... there are various type of events develop on-line, on social media and less face-to-face because of the pandemic conditions. “We started a new path of Politehnica together, in the year of the Centenary, in different conditions from the ones we have become accustomed to in recent years. Even if, in this context, it is not easy for us, I am convinced that the ambitions for the evolution of Politehnica remain the same, namely to strengthen this academic edifice that led to the modern construction of Timisoara, the redefinition of community involvement in the academic life of the city, rededication to the role of guiding so many generations of students, by opening their horizon to the challenges of the future” say the Rector of Politehnica, Associate Prof. PhD. Florin DRAGAN.

It is a difficult year, the Editorial Board of the Scientific Bulletin has encouraged and supported the authors in our community to continue writing and disseminating the research results. Based on our last achievements in increasing the visibility of the Scientific Bulletin (most in the last three years), we are motivated to increase the quality of the research and to encourage the publication of multidisciplinary and/or interdisciplinary studies of a large diversity of researchers.

It has been a good and successful initiative that the first issue of each year to be dedicated to dissemination actions of young researchers, master and PhD. students and the second one, to senior researchers who presents their las findings through extended research articles. This habit has started in 2018 and will continue under the supervision of the reviewers and the Editorial Board.

We would like to address worm thanks to the reviewers (members of the *Associated Editors*) because their careful and professional (volunteer) review work has a positive impact on the quality content of this volume. In addition, we appreciate the constant implications of the members of *the Research Center in Engineering and Management (RCEM)*² (from the

Faculty of Management in Production and Transportation, Politehnica University of Timisoara, Romania) in supporting each issues of the Scientific Bulletin publication. Furthermore, the Research Center provide a productive and

positive environment through which we share ideas and knowledge between young people and seniors involved in research activities (formal or informal).

The current issue presents a collection of articles reflecting actual topics and research thematic in the field of economics, human resource management and talent management, the legal profession in Romania, software development aspects with a case study, education system aspects, related to project management. It seems that sustainable development is the key aspects approached by all articles.

The first paper has been developed by PhD Student Dana FATOL, PhD Students Diana Florina ROBESCU (both from Politehnica University of Timisoara, Romania), Eng. Monica PRELIPCIANU (from the Technical Colledge ”Maria Baiulescu” Brasov, Romania), Master student Eng. Luiza LAZEA (from Politehnica University of Timisoara, Romania) and it is a study on the “*A Study on the Multicultural Teams’ Style*”. This article aims to analyze the Cultural Style Indicator using The Peterson Cultural Style IndicatorTM. Starting from the conceptual framework



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² Information are available at: <http://www.mpt.upt.ro/eng/research/research-center.html>

definition of “organizational culture”, the paper will focus then on a possible research approach using The Peterson Cultural Style Indicator™. Dr. Brooks Peterson defines the cultural intelligence and explains the cross-cultural differences having the purpose to make you define your own cultural style in six important areas: management, strategy, planning, personnel communication and reasoning. This article presents the results obtained from a research made in our Institution, using The Peterson Cultural Style Indicator™. Pilot research results achieved, can offer us the possibility of a comparison between the data obtained in our Institution and the data already collected by Dr. Peterson.

The second paper has been developed by Master student Mirabela METZLER and Lecturer Dr. Caius Tudor LUMINOSU (from Politehnica University of Timisoara, Romania). Their research entitled “*Challenges for the Future of the Legal Profession in Romania*” reflects some preliminary results of their preoccupation associated with the future PhD programme that will be followed by the student. The presented study is focused on observing regulatory requirements, the economic aspects of legal activities and deontological issues that arise from practicing law in Romania. Besides the interdisciplinary analysis (European Union legal framework, national legislation) and multidisciplinary approach of the concept of legal services market (from the perspective of economics, deontology and regulations) the paper addresses national bibliographic deficiencies with numerous references of legal developments in other countries. The aim of this study is to prepare for innovation by discussing global trends and professional challenges that the legal profession is facing in Romania.

The third paper presents the result of a study entitled: “*Environmental Protection. A Debate on Economic Aspects*” and has been developed by master student Eng. Horea Vlad GIURGIU, Prof. Gabriela

PROSTEAN and Assistant PhD. Andra DIACONESCU (from Politehnica University of Timisoara, Romania). The topic of the presented study is the real estate industry, which is in the early stages of software application, in constant search of new tools to make the industry work more efficiently and effectively. The real estate market is differentiated by certain needs, respectively each segment of the real estate market is looking for software solutions to meet the main needs. In order to meet the requirements of the real estate market, the authors come up with a proposal to create a prototype (iMoPal), including software application development, for a product, namely an online real estate platform for property management, and the creation of a scoring system for tenant and landlord. The application offers a proficient time management solution between tenant and landlord.

The fourth paper presents “*A Study on Students’ Social Competencies*” developed by a team of two master Students: Corina - Diana PUȘCAȘ and Bianca - Varvara ANDRASY (from Politehnica University of Timisoara, Romania). The research has been focused on the education topics. There have been recognized that education is one of the main pillars of a society that supports the development of a country by being a basic tool in achieving a sustainable future. In our country the institutionalized education suffers, because of the instability of specific legislation, frequent changes in the curricula.

The last paper is dedicated to “*Safety and Ergonomic Risk Management for Visual Stress. A Theoretical and Experimental Case*” and has been developed by Master student Salvatore LANZA (Politecnico di Bari, Italy) and PhD Student Nicoleta Paula NEAG (from Politehnica University of Timisoara, Romania). This is a very brief paper reflecting an internship period of the master student and the activity of him as Erasmus+ student in Romania.

A Study on the Multicultural Teams' Style

Dana FATOL¹, Diana Florina ROBESCU², Monica PRELIPCIANU³, Luiza LAZEA⁴

Abstract – This article aims to analyze the Cultural Style Indicator using The Peterson Cultural Style Indicator™. Starting from the conceptual framework definition of “organizational culture”, the paper will focus then on a possible research approach using The Peterson Cultural Style Indicator™. Dr. Brooks Peterson defines the cultural intelligence and explains the cross-cultural differences having the purpose to make you define your own cultural style in six important areas: management, strategy, planning, personnel communication and reasoning. This article presents the results obtained from a research made in our Institution, using The Peterson Cultural Style Indicator™. Pilot research results achieved, can offer us the possibility of a comparison between the data obtained in our Institution and the data already collected by Dr. Peterson.

Keywords Cross-cultural members, The Peterson Cultural Style Indicator™, cultural intelligence

I. INTRODUCTION

Over the past decades, engineering processes have evolved dramatically. These changes have led companies to review their working methods and realize an organizational culture definition, to be able to move from one culture to common conservative culture knowledge (and to define them as a learning organization).

In the current economic world, time differences existing and the languages seem to no longer a prohibition on the team creation teams. Considering the specific needs in communication and information terms, sharing knowledge between employees from different services, it is necessary to incite participants to behave collaboration, regardless their level in the company hierarchy. Cultural differences, language or location having no essential.

In the current economic world, time differences existing, the languages multitude, seem no longer a prohibition on the teams' creation. In multinational companies tend to form teams to work together. Cultural differences, language or location having no essential. Culture is a learned meanings system in each

society, transmitted and shared that facilitates the survival community ability and the adaptation of one community to the external environment.

From the point of view of cross-cultural psychology, we are particularly interested in subjective culture, the individual inside. Subjective culture components are referring to cultural traditions, subject cultural beliefs, cultural values, norms, and cultural rules. In the work context space, we deal with the organization cultural identity, company culture. Heintz (2005) said about organizational culture that supports its proper functioning and that, this concept emerged in the twentieth century. Since then, labor sociology focuses on the "enterprise culture" and "identity at work". Enterprise cultural characteristics may be (Thevenet, 2010):

- Activity (mission design and organization reason for);
- Person (design rights and duties organization towards the person and the person rights and liabilities towards the organization);
- Environment (design boundary relations and interaction between organization and environment).

We cannot however limit to observing the organization internal framework to explain its function and dysfunctions. It is also important to understand what place the organization works in life of its employees compared to other works submitted by them.

Dr. Brooks Peterson defines the cultural intelligence and explains the cross-cultural differences having the purpose to make you define your own cultural style in six important areas: management, strategy, planning, personnel communication, and reasoning.

This article presents the results obtained from a research made in our Institution, using The Peterson Cultural Style Indicator™. Pilot research results achieved, can offer us the possibility of a comparison between the data obtained in our Institution and the data already collected by Dr. Peterson.

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II. CONCEPTS DEFINITION

The concept of organizational culture nowadays is very present in management, acquiring over time an important place in scientific papers analyzing organizational behavior. Although organizational culture characterizes organizations along, it became the subject of debate 25 years ago, because contemporary managers showed a great interest in identifying the elements that make the difference between success and failure in an organization.

The concept of corporate culture emerged in late 70's, in the United States of America. That finding was

made by Jean-Luc Vachette in French magazine management (Revue Française de Gestion), in a number dedicated to the concept of corporate culture.

Organizational culture definition is difficult to be made because there is now a widely accepted vision by researchers or theorists. Considering these aspects, it is interesting to see different specialists' opinions and theories on organizational culture content.

Finally, it can see identity or differentiation elements. Table 1 summarizes the definitions for organizational culture made by some of the experts in the field.

Table 1. Organizational culture: main definitions synthesis

No.	Literature resource	Organizational culture is defined as:
1.	(Peters et al., 1982)	"A dominant and coherent set of values shared by members, induced by symbolic means."
2.	(Frost et al., 1985)	"Talking about organizational culture is to talk about the symbolism importance for people - rituals, myths, stories and legends - about the events interpretation, ideas and experiences are influenced and structured by groups in which they live".
3.	(Smircich, 1985)	"By developing a common understanding of the events, objects, words and people in the organization develop a shared sense of their experiences facilitating coordinated action".
4.	Van Maanen & Barley, (1982)	"Culture can be understood as a set of solutions defined by a group of people to face specific problems ... which they experience together."
5.	(Sergiovanni & Corbally, 1986)	"The values system, symbols and shared group meanings transferring these values, symbols, meanings in material objects and ritual practices. Culture shows what is important to a group and how they should think, feel and behave group members. Elements of culture include customs and traditions, historical memories, whether mythical or real, collusions, customs, norms and expectations, shared meanings, common assumptions".
6.	(Strati, 1992)	"A symbol set, beliefs and behaviour patterns learned, produced and recreated by people who devote their life energy and labour to one organization."
7.	(Kunda, 1995)	"Symbols group and shared meanings that provide shared rules governing cognitive and affective aspects of membership to organization."
8.	(Hofstede, 1996)	"Collective mental programming that distinguishes members of one organization from members of other organizations."
9.	(Schein, 2010)	"A shared pattern basic assumptions of group problem solving external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be shared with other new members as the correct way to perceive, understand and feel in relation to those problems". "Fundamental model assumptions made in the group and measure to resolve the external adaptation problems and internal integration that has worked well enough to be considered valid and therefore sent to new members as the correct way of thinking and perception in relation to these problems".

Table 2. Peterson Cultural Style Indicator™ chart – Romania vs. United States of America

<i>Romania</i>	<i>United States of America</i>
<p>1) <i>Equality versus Hierarchy</i></p> <ul style="list-style-type: none"> • In Romania, people are more focused on Hierarchy, they are more self- indirected; • There is no flexibility as a member in a company or a team; • Men and women are treated differently and expect them to behave differently; 	<p>1) <i>Equality versus Hierarchy</i></p> <ul style="list-style-type: none"> • In USA, people are more focused on equality, they are more self-directed; • They want more flexibility as a member in a company or a team; • No differences are made between men and women.
<p>2) <i>Direct versus Indirect</i></p> <ul style="list-style-type: none"> • Here, people are more diplomatic, the opinions are expressed diplomatically living room for interpretations; • When it is the case, they are not open to confront difficulties or conflicts. 	<p>2) <i>Direct versus Indirect</i></p> <ul style="list-style-type: none"> • Here, people are more direct, they are trying discretely to avoid differences; • When it is the case, they are open to confront difficulties or conflicts.
<p>3) <i>Individual versus Group</i></p> <ul style="list-style-type: none"> • Romanians are more focused on collaborations and group ideas and goals; • Most of the time follow and enforce guidelines; • The group affiliation is used as a way of determining their identity; • Conform so much to social norms. 	<p>3) <i>Individual versus Group</i></p> <ul style="list-style-type: none"> • Americans are more focused on the individual level; • They are more flexible, but focused more on the individuals and less on the team; • A group affiliation is not used as a way of determining their identity; • Not conform so much to social norms.
<p>4) <i>Task versus Relationship</i></p> <ul style="list-style-type: none"> • Romanians are focused on Relationship; • People are defined based on who they know; • There are established some comfortable relationships before starting a new business; • For hiring a person for a job, sometimes are used more personal selection criteria (such as family connections). 	<p>4) <i>Task versus Relationship</i></p> <ul style="list-style-type: none"> • Americans are focused on Task; • People are defined based on who they do; • They start first the business and then establish the relationships; • There are used impersonal selection criteria (such as résumés, test scores) for hiring a person for a job.
<p>5) <i>Risk versus Caution</i></p> <ul style="list-style-type: none"> • Before taking a decision, more information is collected; • They want more rules, guidelines, and directives; • Do not change plans at the last minute. 	<p>5) <i>Risk versus Caution</i></p> <ul style="list-style-type: none"> • More comfortable with Risk, they quickly take a decision with less information; • Prefer less rules, guidelines, and directives; • Prefer to change plans at the last minute.

In addition to national culture, organizational culture has a strong effect on management. Organizational culture is embedded in national cultures in which an organization operates. Although both cultures play different roles, each affect how things work in multinational corporations. Thus, both factors must be considered, especially in the context of global virtual teams using information and communication technologies. It must recognize the complexity, range, and distinctiveness corporate cultures. Organizational or corporate culture includes values and beliefs expressed in artifacts, symbols and practices, and organizational language, traditions, myths, rituals, and stories.

Schein (1999) sees it as "the way we do things around here. Corporate culture is learned hypotheses jointly in common, such as values, beliefs, and assumptions" (1999, p 48.). Therefore, organizational impact varies largely by communication technology

used in global teams - can act as a barrier or information retention and communications technology or to provide the necessary support in terms of culture technology infrastructure and organizational culture to actively promote. Current interest, given to measurement intercultural competence has inspired the development of many new assessment tools. These tools are related to a needs variety for measuring outcomes, program evaluation and personnel selection, and providing tools for vocational guidance and training.

III. METHODOLOGICAL ASPECTS

Peterson Cultural Style Indicator™ (PCSI) is a tool that allows international comparisons with their own culture typical of people in over 70 countries. The questionnaire consists of 25 questions. A different

colors graph has your own cultural style that you can compare with over 70 countries targets. Brooks Peterson is using five global cultural dimensions:

- Equality versus Hierarchy,
- Direct versus Indirect,
- Individual versus Group,
- Task versus Relationship,
- Risk versus Caution.

A pilot research was also made in Timisoara, Romania. The research was realized during the month of October 2012. Figure 1 represents the personalized suggestions based on our score investigation.

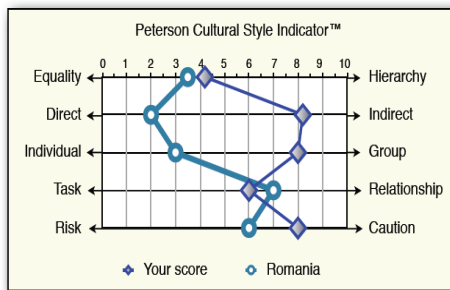


Fig. 1. Peterson Cultural Style Indicator™ chart for Romania (Peterson Cultural Style Indicator™)

Based on the answers received from the questionnaire, the research results and conclusions were summarized in Table 2.

IV. CONCLUSION

Unfortunately, until now, in the literature there has been no highly penetrant Romanian cultural model. At the base there are some Romanian research studies, studies which can be highlighted by a factors number that characterize much a good part from the organizations in Romania. Typically, an organizational culture analysis is based on elements of national culture. The studies made in Romania have concluded that our country still maintains a conservative design based on life experience. Middle-aged people are close to family, traditions, nature, always seeking to make sense of life. Furthermore, the opposite are young people who are oriented to new, being extremely capable for efforts to succeed. An individual's behavior is influenced by personality traits held. Studies have revealed that some understanding organizational behavior is possible by considering the emotional element. represented by interests and motivations. They may be innate or acquired, conscious or unconscious, physiological needs are simple or abstract ideals. Sex and age variables also explain certain work performance. Many activities, by their nature, are specific to women, and that they tend to reach high performance in a relatively short time. In some professions, age could be a problem or, conversely, a notable advantage. Some professions are considered boring by young people (for example, working on automobile assembly lines), but the elderly is well

professional integrity, obtain professional satisfactions and, are less prone to fluctuation (Megargee, 1972).

Organizational culture is born with the organization. A strong organizational culture is one in which there is a strong alignment to the values and principles. An organization with such a culture does not require control systems and bureaucratic systems. People that make a strong culture do not require additional impulses, already accepted unconditionally "game rules" and the organization manages to form a desirable employee type.

Resources within an organizational system are characterized by certain interdependence, what means that it should prevail in its teamwork.

This work was realized with the support of Mr. Brooks Peterson, the Across Cultures founder and the creator of The Peterson Cultural Style Indicator™, was partially supported by the Ministry of Education, Research, Youth and Sports, and by Politehnica University financial support.

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Challenges for the Future of the Legal Profession in Romania

Mirabela METZLER¹, Caius Tudor LUMINOSU²

Abstract – Innovation drives change in many aspects of life, but the particularity of legal services must be considered when making changes, in order to satisfy the need to innovate and maintain professional standards.

The research is focused on observing regulatory requirements, the economic aspects of legal activities and deontological issues that arise from practicing law in Romania. Besides the interdisciplinary analysis (European Union legal framework, national legislation) and multidisciplinary approach of the concept of legal services market (from the perspective of economics, deontology and regulations) the paper addresses national bibliographic deficiencies with numerous references of legal developments in other countries. The aim of this study is to prepare for innovation by discussing global trends and professional challenges that the legal profession is facing in Romania.

Keywords legal professions, lawyers, innovation, European Union, liberal professions, legal service market

I. INTRODUCTION

The article is based on the findings of European Commission in their annual European Innovation Scoreboard 2019 that places Romania in the “modest innovator” performance group, noticing that performance has declined strongly compared to the last years [1]. The research serves as starting point to answer the question how Romanian legal services providers are staying relevant in the face of change.

To start, the first part of this article focuses on characteristics of the legal profession in Europe considering the nature of liberal professions (and the arguments for which professionals are classified as undertakings). Section III provides an overview of the Romanian legal services market and the main players, with an emphasis on the specifics of lawyers. Section IV is devoted to literature study covering recent and forecasted changes of legal services in different countries, considering the common influencing factors that affect the structure of legal services.

In order to understand current development and future trends in the legal market we used a mix of methods, ranging from observation of Romanian legal professionals to literature review of contributions from other countries, as well as reports and opinions of European authorities and national organizations. However, most of the literature comes from English speaking countries and available translated documents as the language barrier was limiting our research.

II. OVERVIEW OF LEGAL SERVICES AS LIBERAL PROFESSIONS IN THE EU AND ROMANIA

This section intends to examine Romanian and European legal frameworks to determine how legal professionals are situated in relation to other liberal professionals.

A. *The concept of liberal professions*

Current understanding of liberal professions in the EU consists of those occupations that involve intellectual activities whose development requires special training in the field, are characterized by a specific deontology, they have an obligation to the contracting authority and are required to act in the public interest [2][3][4].

Professional activities are organized by the state (through laws) and overseen by officially recognized associations (enforcing statutes and codes of ethics). These services address health, legal or major economic issues and service provider must therefore meet the highest professional and ethical requirements especially because, even *ex-post*, the client can hardly assess the services performed –which is why these professional services are classified as “credence goods” [5].

Based on existing definitions of the liberal professions in State Members, the European Economic

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and Social Committee (EESC) gives an exhaustive definition as follows [6]:

"A liberal profession is characterized by: provision of a valuable intangible service that is distinctly intellectual in nature, based on advanced (academic) training; a service that is in the public interest; substantive and economic independence in executing tasks; provision of services in a personal capacity, on the provider's own responsibility and in a professionally independent manner; a particular relationship of trust between the client and the service provider; a focus on providing the best possible service rather than on maximizing profit; and compliance with precise, strict professional regulations and codes of professional ethics."

A comparative study [7] conducted across five European states observes the common characteristics of the liberal professions consisting in similar principles of professional ethics necessary in order to ensure the quality of services provided.

The Romanian Employers' Association of Private Services also published a paper [8] studying European relevant laws and regulations from a legislative, economic and social point of view in order to identify essential common characteristics of liberal professions that separates them from other occupations. The authors recommended distinct public policies for future national regulation of liberal professions in order to rise to EU ascending standards.

Drawing on this distinction between liberal and freelance professions, Romanian National Trade Register Office (ONRC) lists the following cumulative conditions required in order for ONRC to consider the activity a liberal profession [9]:

- Legislative norm regulating the field;
- A public authority or professional body that checks the conditions for conducting the profession, grants authorization and keeps a record;
- An express provision in the law that professionals conduct themselves under authorization and/or a badge of membership.

In Romania, the liberal profession of lawyers is strictly regulated through special norms [10]. Thus, in order to practice law, one must be a law graduate who earned the title of lawyer in one of the member bars of the National Union of Romanian Bars (UNBR). This can be achieved by either passing the entrance exam or the bar confirmation exam, respectively, for those transferring from other legal professions. There are also EU lawyers who practice in Romania under the professional title of the home Member State (with some limitations of material competence).

Considering the above-mentioned research, in Table 1 we conducted a comparative analysis of liberal professions as opposed to freelance activities, using custom criteria to measure the relevance of such delimitation for legal services market.

Our analysis suggests that the distinction between the two categories exceeds tax regime and registration procedure and is relevant for all liberal professions including the legal profession, considering the different type of relations that form between lawyers and clients as opposed to relations between freelancers or companies and their customers. The specific relation between a lawyer and his clients is a direct consequence of the main characteristics of the legal profession as described in Fig. 1.

Table 1 Comparative analysis of liberal professions versus freelance activities

Comparison criteria	Liberal professionals	Freelance professionals
1. Personal requirements	They have professional qualification; Have practical experience or exam certified skills.	They can perform an activity without prior certifications.
2. Work requirements	Established by decision of the professional organization/body they belong to; Practicing according to the rules of conduct in the industry; Pay fees as member.	Registration with the Trade Register; Carries out entrepreneurial activity without additional supervision; They can choose to join professional organizations but are not required to.
3. Obligations of conduct	The principle of independence and impartiality, professional secrecy, respect for integrity and professional dignity, etc.	Only follow social norms; They are not bound by deontology.
4. Professional Liability Limits	Professional activity exposed to disciplinary sanctions; Compulsory professional liability insurance for the quality of services provided.	Commercial liability according to organizational legal form; Voluntary liability insurance.
5. Regulation	Special law for each profession.	Law no. 31/1990 on commercial companies; Government Ordinance no. 44/2008 on economic activities by individuals.
6. Tax regime	Real income taxation system mandatory.	Option to pay tax according to income norms.
7. Quality assessment	Consumers cannot verify the value of the service provided ("credence goods").	Consumers may or may not accurately assess after consumption the value of the service provided (either "credence goods" or "experience goods").

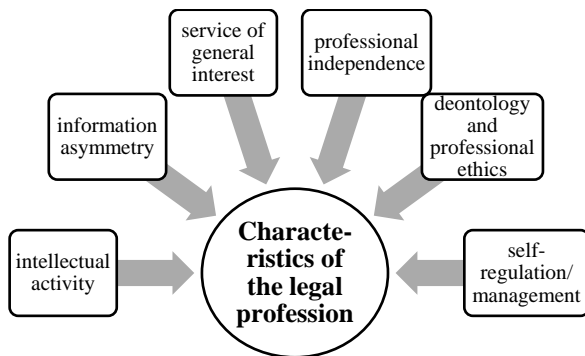


Fig. 1 Characteristics of the legal profession

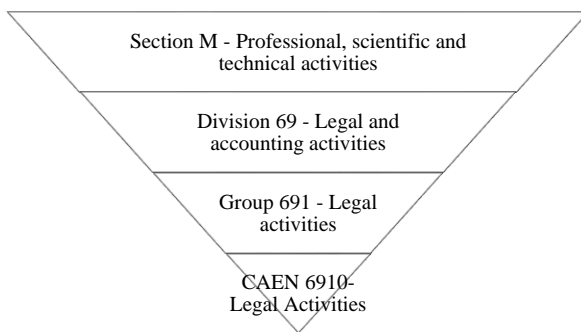


Fig. 2 Placing legal activities according to CAEN Rev. 2

B. The Professional Dichotomy

Over the last decade, there have been global debates whether law is a business, a profession or both; this is known as the paradigm of lawyers as "service providers" where the legal profession is not seen as a separate, single profession, with the right to their own individual regulations, but is included in a wider group of "service providers" who can be treated together. This would represent a *"fundamental, even seismic, shift in the approach towards lawyer regulation"* [11].

Older generations of professionals consider the practice of law to be a form of art [12] whilst others debate the idea of (also) treating law as a profit-oriented business [13].

The economic understanding of legal services is pioneered by EU and transposed in Romanian Competition Law when defining the term "undertaking" as follows:

"Any economic entity engaged in an activity consisting in providing goods or services on a given market, regardless of its legal status and the way it is financed, as defined in European Union case law".

Intellectual activities are therefore undertakings, which assimilate any activity consisting in offering goods or services on a given market as an economic one. Activities within law firms fall into this category because lawyers provide legal services in a permanent way and they receive remuneration when the customer pays legal fees, thus exercising an economic activity.

A recent study at EU level reveals many proofs for this argument in case law and official documents [14]. Furthermore, EESC's above-mentioned opinion recognizes liberal practitioners as entrepreneurs and

intends to support this sector by integrating it into programs that promote the development and competitiveness of SMEs.

Therefore, according to the competition rules, legal service providers are undertakings because:

- There is demand for legal services (from individuals and legal entities) and an offer (legal services provided by lawyers);
- There is competition in the market in which lawyers operate, in the sense that individuals and / or legal entities could choose between lawyers, according to the services they provide;
- Lawyers provide legal services on the market;
- Lawyers charge a fee for legal services rendered.

Regarding this economic approach, Romanian Union of Liberal Professions expressed concern that, in the legal profession, competition should focus on quality, not on profit and that a competition of a commercial or industrial nature has no place in the liberal professions [26].

III. THE LEGAL SERVICES MARKET IN ROMANIA

Legal activities are economically defined according to Nomenclature of the Classification of Activities in the National Economy Rev. 2 (CAEN) under class 6910 consisting in activities of lawyers, legal counsels, notaries and bailiffs (Fig. 2).

Out of these legal activities only lawyers can provide consultancy, representation and legal assistance activities to the public.

A. Lawyers

Control on the establishment, organization and functioning of lawyers, regardless of organizational form, is exercised by National Union of Bars in Romania (UNBR).

According to art. 5 of Law 51/1995 for the organization and exercise of the legal profession in conjunction with the provisions of the Statute of legal profession, lawyers can practice on their own or group together to form civil associations and even hire auxiliary staff (other than legal counsels).

Table 2 Differences between organizational forms of the legal profession

Type of organization	Differentiating features
Individual cabinet (C.I.)	Consisting of a permanent lawyer, alone or with other collaborating lawyers
Grouped cabinets (C.G.)	Lawyers share common economic resources and facilities, but retain their individuality in dealing with clients
Associated cabinets (C.A.)	Lawyers practice the profession together and cannot hire clients with contrary interests
Professional civil societies (S.C.P.A.)	Consisting of two or more permanent lawyers who are associations, to which can be added collaborating or salaried lawyers
Professional limited liability companies (S.C.P.A.R.L.)	The company has legal personality and own patrimony that constitutes the shared capital and the liability of the associates is limited to the social contribution of each one.

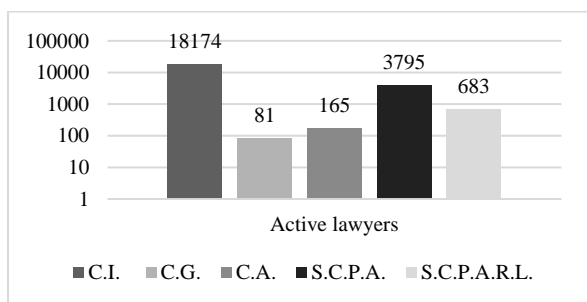


Fig. 3 Distribution of active lawyers by organizational form (logarithmic scale). Source: UNBR

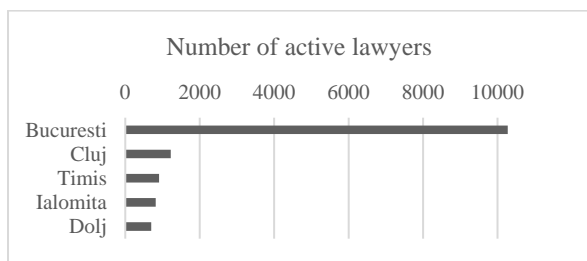


Fig. 4 Top five counties by active lawyers. Source: UNBR

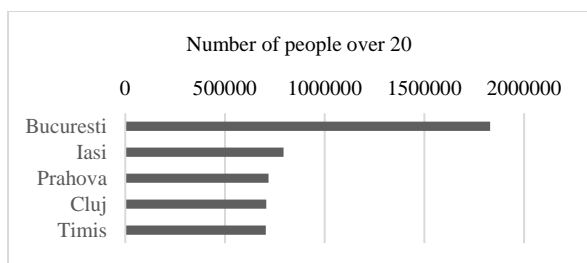


Fig. 5 Top five counties by adult population. Source: INSSE

At national level, there are over 35,000 lawyers registered in county bars, of which 23,000 are active and have the right to practice law, as shown in Fig. 3. A look at the UNBR website reveals that most lawyers practice as individuals rather than grouped. This statistic will have a major role as we discuss the impact of globalization and technology further along this study.

Geographically, the legal services market is strongly centralized and located mainly in Bucharest, where 10277 active lawyers are registered. The Cluj Bar is the second largest with 1222 registered lawyers, and the Timiș Bar has 907 lawyers (Fig. 4). When cross-referencing this geographic distribution to the current demographic situation (Fig. 5) we notice that Bucharest has 1 lawyer per 178 adults compared to Prahova having 1 lawyer for every 1345 adults and 9018 in Iasi.

These findings could support the concern that young lawyers leave their smaller counties and practice law in the capital [15].

B. Other players

It is beyond the scope of this article to go deeper into the history of parallel structures of the legal profession. Nevertheless, it's important to mention that the legal monopoly of lawyers has been the subject of

many debates in the last two decades, as captured by professor C.L. Popescu in his paper "Legality, Continuity And Uniqueness Of The Professional Order Of Lawyers In Romania" [16]. Amongst his many arguments, he emphasized that:

- According to the Law no. 514/2003 for the organization of the profession of legal counsel, the legal counsel profession can be exercised only as an employee or civil servant, and never as a freelancer;
- According to art. 25 of Law no. 51/1995, the exercise of any activity of legal assistance specific to the profession of lawyer and provided in art. 3 of the law by a natural or legal person who does not have the quality of lawyer registered in a Bar constitutes a crime and is punished according to the criminal law.

More recently, the former President of UNBR expressed his concern in an interview about the emergence of "false lawyers" [17].

Indeed, during the last decade and following the examples of other countries that, non-lawyers are delivering legal services under different names and as part of integrated consulting services, in which the lawyer's name no longer appears, being absorbed or dissolved in the final service offered by a commercial company (as is the case of debt collectors).

The increasing number of corporate advisers has also led to a "substitution effect". Multidisciplinary companies offer legal services solutions alongside other type of professional service that the client needs. This is the case of The Big 4 consulting firms that have taken over part of the lawyers' global market, offering consulting services, especially in the field of labor law and intellectual property (The Big 4 is the nickname used to refer collectively to the four largest professional services networks in the world, consisting of Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers). However, current news reports show that this does not pose a threat for the Romanian legal market as over the last years these companies renounced or renamed the affiliated Romanian law firms [18].

In a broader sense, there are also various companies or non-profit organizations in the market that aim to inform and disseminate legal information to the population, without providing legal advice or assistance. Such organizations are mainly focused on lobbying ("Centrul de Resurse juridice") or delivering legal products like compliance kits (e.g. "GDPRO", "START GDPR", "KIT GDPR") rather than legal advice. When selling legal information to a customer, no attorney/ client relationship exists. The buyer is not a "client"; he is a customer that has chosen not to hire a lawyer and, instead, to buy legal information, for whatever the reason [19].

However, the same author mentions situations in which such a distinction is debatable when the legal information sold includes an intrinsic interactivity component. Further on, the idea of cross-disciplinary teams working collaboratively to design and develop

new products and bring them to market caught root in the legal profession. These cross-disciplinary products are called "LawTech" or "LegalTech" and bring together applications that use technology to deliver a legal service or the technological applications that are used by lawyers in carrying out their work. Both are utilizing technology to build products solving problems faced both by the legal industry and the consumers of legal services [20][21].

IV. CURRENT DEVELOPMENT OF LEGAL SERVICES IN DIFFERENT COUNTRIES

In a study about globalization and deregulation trend of legal services, reveals a segmentation of the legal services market caused by globalization, between corporate and personal services; the corporate market is a product of globalization, but personal markets are not affected by this [22]. The author claims that in the personal markets we see a tendency for "re-regulation" (meaning stricter regulation of the profession) as local law firms adapt, as *"a sophisticated strategy to undermine those kinds of innovation (i.e. caused by globalization) or to avoid blurring the line between segments."* This section will further the distinction and observe the difference in regime between corporate legal market – offered to companies and organizations versus personal legal market – addressed to individuals. The analysis was based on data found in literature and market reports available in English language.

A. Corporate legal market

A global study conducted by Deloitte in 2016 [23] shows how the increase in demand for legal services has given rise to the need for a new, broader type of counseling in business-to-business (B2B) market, illustrated in Fig. 6. Buyers of legal services are especially looking for providers who understand their business and industry, who provide advice in areas beyond the legal sphere, who provide multidisciplinary services in multiple jurisdictions and use technology more efficiently.

There is also need for a new type of service that combines legal with strategic advice from other disciplines. Responding to the demand, well-established law firms with strong client relationships, mainly international corporations, have been able to rapidly expand their reach but have also recruited local lawyers who can understand the specific requirements of a client's activity [24].

Based on these insights we developed a diagram using a 2x 2 matrix to show the evolution of the demand for legal corporate services in relation to the lawyer's knowledge of other professional fields (other than law) and the level of his specialization in a specific legal field of activity related to the clients business (Fig. 6).

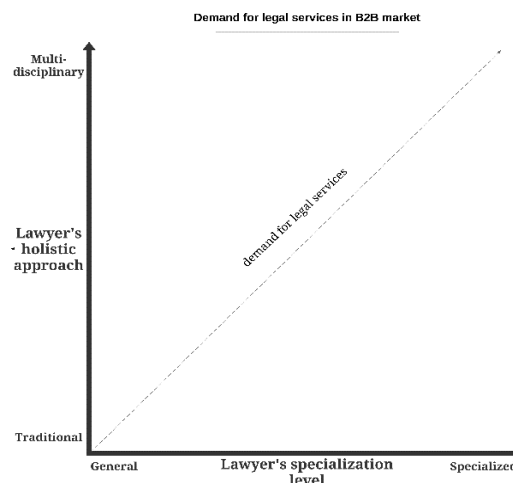


Fig. 6 Demand for legal services in B2B legal markets

We notice that lawyers that have a legal-exclusive approach to business and a broad expertise in all fields of law are no longer required to serve the corporate legal market.

The ideal lawyers are multidisciplinary and/or specialized, meaning that lawyers are forced to diversify their skill set and narrow their legal field of interest to a specific industry in order to continue to be relevant in the corporate legal market.

B. Personal legal market

Regarding business-to-consumer (B2C) market, professionals and academics from the US have proposed, since the beginning of the last decade, the democratization of legal services by delivering the service to consumers through corporations in partnership with law firms, in order to facilitate access to affordable representation for the population [25]. This phenomenon is already manifesting in Europe (especially in UK) but meets resistance in "modest innovator" countries like Romania. [26]

A study in the UK [27] revealed that consumers of legal services assume that *i)* all lawyers have an acceptable level of knowledge and have passed all sufficient qualifications, and *ii)* the quality of legal advice offered that does not vary significantly as long as all lawyers work within the same legal framework.

We appreciate that a similar survey is highly needed for Romanian legal services market in order to better understand how consumers choose and use legal services.

C. Factors influencing the legal services in different countries

Financial Times has been publishing a Special Report on Innovative Lawyers in Europe and for the last decade found that the change in the legal profession has been incremental, until 2016 when has become exponential with the help of digital specialists with experience in other industries, especially IT [28].

Table 3 Global influencing factors of the legal services

Category	Description and analysis
Technology factors	<ul style="list-style-type: none"> • Routine tasks will be increasingly automated, and more and more jobs will involve managing legal processes, breaking them down into smaller tasks and applying technological solutions to achieve maximum profitability. The provision of legal services will move online and computer-based web services will replace lawyers, unless advice is really needed [28]; • Considering the stage of technological development, including the introduction of Artificial Intelligence (A.I.) technologies, most consumers still prefer to interact with humans as legal services provider [32]; • Consumers in the legal services market are increasingly looking for value and expect lawyers to be competent users of the technology [33]; • Numerous market opportunities in the field of virtual business models will be created. Standardized consulting services will give way to online providers, and the Internet will facilitate the process of recommending a lawyer. Expanding IT processes and increasing data security will gradually increase the need for non-lawyer staff in law firms, thus leading to changes in their staff structure [34].
Globalization factors	<ul style="list-style-type: none"> • The model of the virtual law firm appears, which hires lawyers with a well-established client base, reduces the bills of large traditional law firms by half and the lawyer ends up keeping almost the entire fee. While lawyers operate remotely, they coordinate the firm through software solutions and centralized billing, IT support, marketing and recruitment efforts [35]; • Customers will purchase the services they need as and when they need them [34]; • Fixed costs, correlation of financial offer with added value and greater transparency [20]; • Greater automation and transformation at the level of consulting law firms - to stimulate profitability and to meet customer expectations [24]; • Increased demand for alternative or non-traditional legal service providers [20].
Career factors	<ul style="list-style-type: none"> • Future generations of lawyers will be increasingly composed of women and so-called digital natives (those who grew up with the Internet), as well as people for whom their privacy has an increased value [34]; • Five emerging areas that in-house lawyers should explore: data analysis; intranet use; social networks; project management and collaboration [36]; • Individual law firms are facing additional competitive pressure from the growing number of non-lawyer providers who have gained limited access to the field of extra-judicial legal services [34]; • Many companies will focus on a few areas becoming boutique style, which then rely on other alternative suppliers to provide a full service [37].

Similar conclusions confirmed that a pre-configuration of a new business model for lawyers must be supported by technology and firms need to stand out for continuous economic prosperity. [29] A 2006 study found that *"professionals are caught between the pressure of change and the need to respect and maintain professional legitimacy,"* with the consequences of losing organizational efficiency[30]. The conclusions of this study indicate that change within the professional organization only takes place if it is under urgent pressure and is generally slowed down due to institutional barriers.

In Table 3 we identified, grouped and summarized the influencing factors of the legal services across the world, as presented in literature, including opinions and market reports. It can be observed that these factors, although they affect different aspects of the legal services market, they point to significant shifts in the way the legal profession is practiced, organized and how the service is provided and, most probably, how they are regulated. These global factors can be expected to also have an influence on national legal markets.

VII. CONCLUSION

Firstly, we noticed the inherent difference between selling legal information and practicing law. We find it also important to distinguish between the simple

provision of standardized legal forms and templates through freely available software and consulting as an intellectual syllogistic service consisting of a case analysis. Main reason for this distinction is that anyone might deliver the first but only a lawyer can perform the second.

Secondly, after analyzing the characteristics of the legal profession we noticed a pronounced social aspect meaning that those who practice liberal professions should always give priority to the quality of the services offered in accordance with the ethical principles and not for the scope of profit maximization. We are convinced of the economic aspect of practicing the law, however the economic nature of law firms as undertakings must be congruent with the main role of lawyers within society, in order to maintain the high standards the legal profession requires and, at the same time, allow lawyers to benefit from all the opportunities that other organizations enjoy on the market.

Thirdly, more liberal legal markets like the US and UK are the main influencers globally, partially because of media coverage and having the advantage of being written in English. For the Romanian legal market, there is a pronounced concern that democratization of legal services leads to "deregulation" of the legal profession; this would mean that people who are not professionally qualified will be able to conduct activity in the area of legal professions even though they are not under the control of a statute, a deontological control,

disciplinary sanctions and they will not be required to have professional insurance. Globalization is changing the archetype of corporate lawyer as “old-school” lawyers with legal-exclusive approach to business and a broad expertise in all fields of law are no longer required to serve the corporate legal market. We see the need for a national survey of the legal services market in order to better understand how consumers choose and use legal services.

Lastly, we conclude that change through technology could be a slow process considering most Romanian lawyers operate at a small scale in individual law firms.

Nonetheless, we expect that in the coming decades, advances in technology and new business practices will further challenge the conservative and traditionalist nature of the legal profession in Romania.

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Software application development for real estate activities

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Abstract – The real estate industry is in the early stages of software application, in constant search of new tools to make the industry work more efficiently and effectively. The real estate market is differentiated by certain needs, respectively each segment of the real estate market is looking for software solutions to meet the main needs. In order to meet the requirements of the real estate market, the authors come up with a proposal to create a prototype (iMoPal), including software application development, for a product, namely an online real estate platform for property management, and the creation of a scoring system for tenant and landlord. The application offers a proficient time management solution between tenant and landlord.

Keywords software, application, program, product, real-estate.

I. INTRODUCTION

In recent business practices, there is no industry in this world that has not incorporated a software program. The real estate industry is one of the huge industries that cannot function without the predictability offered by a software program. The indispensable use of a software program comes due to the rapidly growing flow of information in the real estate market due to the proliferation of company websites, e-mails, cell phones, personal digital assistants, online connections to financing sources, and others. technological advances [1]. Due to technological progress, the real estate market attracts a very large number of workers, agencies, and even subcategorized enterprises. For example, each segment of the real estate market has its own needs. If a company focuses on customer retention, it will find software such as CRM to use its resources. In the case of employee records in large enterprises, transaction records would become a mandatory acquisition. A creative start-up or recently set up in real estate to deal with their clients could use enhanced and easy-to-use portals to connect with their potential clients.

However, the real estate industry is in the early stages of the software application, in constant search of new tools to make the industry work more efficiently and effectively [2]. Today, most solutions offered in

the real estate industry are based on Web 1.0 services. Experts believe that these services are outdated and much more work is needed. Also, in the literature, there are debates about exploring much deeper the needs for each real estate market segment and develop software applications that answer to those needs [1], [2], [3].

The present paper started from the hypothesis that the real estate market is differentiated by certain needs, respectively each segment of the real estate market is looking for software solutions to meet the main needs. In this case it is necessary a short presentation on the existing software programs and what is their utility in the real estate market.

- *Transaction Management*: This type of software is crucial and supports successful training for a real estate professional. This program provides support for sales, marketing, customer service, accounting, legal and more. Also, provides ease in managing high volume transactions.
- *Enterprise Resource Planning*: ERP software solution manages inventory and operation transactions of industrial, residential, office, properties, etc. The operation refers to the allocation and management of space, their acquisition, rental fees received land maintenance, and many other functions.
- *Data Procurement*: There is a huge amount of data that a real estate developer can store. The software automates purchases and manages purchase orders and B2B relationships. The aim of the solution is to help streamline the public procurement process, with a view to limiting documents and the challenges that come with real estate operations in remote portfolios.
- *Data Quality & Integration*: Data are stored after mapping all buildings in the interest area and helps provide a quality score for each building based on location, building status, history, environmental metrics, etc. When a huge amount of data is stored there are high chances of data being redundant and even

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unauthentic at times. In big data systems, there is a lot of repetition of data which just creates confusion and too many expenses.

- *Data Governance*: This is a tool that every real estate business faces. One needs to be very legitimate and warranted under the law. Every country has different terms and conditions which one must adhere to. Data and policies need to be in line with the law.
- *Data Segmentation*: There are times when a real estate agent wants to distribute their data based on numerous parameters, like, Gender, Age, Income Group, Location, Budget other ways are into customer segmentation, market segmentation, product segmentation, etc. The segmentation is chosen based on the decision tree technique, CART, or regression-based technique. This segregation is tedious and takes forever to sort.
- *Data Modelling*: This software model was designed to handle Brokers, their Listings, and Sellers attached to those Listings, as well as the Buyers interested in the Listings. Modeling data requires skill sets to connect everything and concluded, otherwise, the collected data are useless. The next step is to interpret the data from his conceptual basis, to make a higher grade, and to connect the data with the rest of the available information.
- *Business Intelligence*: Employing business intelligence, or BI, tools make more accurate decisions, realty firms, investors, and even home seekers stand to benefit greatly. But there is always a probability that wrong measures taken or lack of certain factors make the results not optimal. Predicting possible changes considering all parameters, factors, and possible data errors are debatable and questionable.
- *Predictive and Prescriptive Analytics*: Predictive analytics is an instrument that has never produced 100% precise results. If only one could be sure cent percent as to where to invest or where to pull back, nobody would struggle to keep their real estate business skyrocketing.

Every business, or even small, medium, and small companies, face various obstacles in this industry. Each company has its own obstacle. They know their shortcomings and where they are prone to errors. Using appropriate software programs, it will help them reduce their costs and increase their income. When adopting a

software program, in the real estate industry, it is important to classify essential business data.

In the real estate industry, it has become very vital to be able to decode and decipher the key information that draws from it. The ability to extract intelligent information from data management is still a challenge for many industries. Extraction is not the only major problem they face, including storing, analyzing, cleaning data, sharing, searching, transferring, viewing, and even the confidentiality of information. Problems can be reduced if high accuracy can be obtained in the analysis of data management. Efficient data management is the most crucial and prominent area where every segment of the real estate market stumbles [3]. Every firm needs an analysis tool to assess market conditions and trends. In today's world, there is no survival in the industry without proper tools to function [4], [5].

In order to meet the requirements of the real estate market, the authors come up with a proposal to create a prototype, including software application development, for a product, namely an online real estate platform for property management, and the creation of a scoring system for tenant and landlord.

II. PROJECT DEVELOPMENT

The name of the project is called *iMoPal*. In order to obtain the necessary data, the authors went through the necessary stages for the project development. (Fig. 1.)

- Create / update logical Data Model.
- Create / Update Physical Data Model.
- Create / Update Data.

The initialization of the project took place on 16.03.2020.

The team members were defined a day later under the guidance of the project manager. The timing of the project was based on the delivery requirements given by the client. The follow-up of the plan, of the degree of accomplishment of each task, was done periodically, usually with a frequency of 1 maximum 2 times a week. In the higher stages of realization, the frequency of meetings increased because of the increasing complexity of the taxi and the need for high communication.

The follow-up meetings took place through the ZOOM meeting, considering the current situation generated by the COVID-19 pandemic. The interdependence between tasks was presented in the project plan.

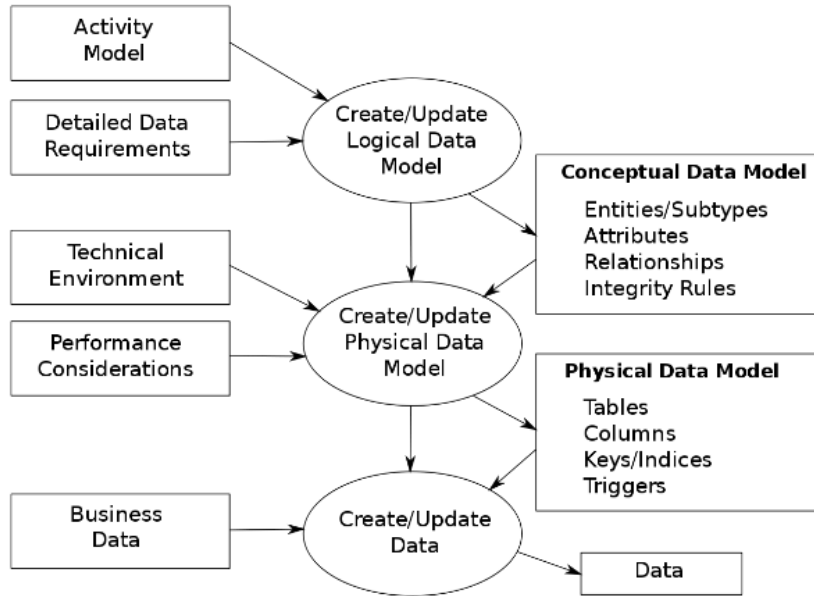


Fig. 1. Software application development

III. CREATE / UPDATE LOGICAL DATA MODEL. CONCEPTUAL DATA MODEL

In order to make an optimal software integration of the online real estate platform, the authors investigate the three operating modes described below.

1. API Module (Web server)

The web server is written in AWS (Amazon Web Services) for JavaScript in Node.js. Node.js provides a collection of built-in modules. AWS helps take the complexity out of coding by providing JavaScript objects for AWS services including DynamoDB.

We used the API (Application Programming Interface) principle to transmit information to the client or to modify or save information in the database. The application uses a NoSQL database, more precisely DynamoDB. DynamoDB was chosen because it has good performance in terms of the number of requests (10 trillion per day) and can support more than 20 million requests per second.

2. UI Module (Web site)

It is a React type application. React uses mainly three languages: HTML, CSS, and Javascript. HTML is used to create components and elements in the interface, CSS is used to customize these components. HTML and Javascript are used to create some logic for these components. React makes it painless to create interactive UIs. Design simple views for each state in your application and React will efficiently update and render just the right components when data changes. Declarative views make the code more predictable and easier to debug. The connection between this module and the webserver will be made through a "client-server" principle of the "API binding" type. In other

words, http requests are made to receive or transmit data.

3. Android and iOS Module

Mobile application versions are developed using the Kotlin programming language for Android and Swift for iOS. Swift is a compiled programming language, developed by Apple, using the open source LLVM compiler. It is designed to work with Objective-C, Apple Cocoa and Cocoa Touch frameworks. Kotlin is a statically typed programming language that runs on the JVM and is completely interoperable with the Java programming language. Kotlin is an officially supported language for developing Android apps, along with Java.

After the requirements were integrated the next section of the research starts with presenting the project activities, strategic objectives, and product configuration.

IV. CREATE / UPDATE PHYSICAL DATA MODEL. PHYSICAL DATA MODEL AND PRODUCT CONFIGURATION

The project deadlines were considered in the planning activity. These were presented and agreed with the client. These are presented below:

- Specifications completion: 13.04.2020
- Design: 27.04.2020
- Testing: 08.05.2020

The secondary activities were defined as well as the responsible persons so that the execution of the terms is not affected in any way. The project activities are followed within the team, in project meetings with a determined frequency so that the status of the actions

is closely monitored. The planning was done in MS Project.

The developed product falls under the CAEN code 6201 - Custom software development activities (customer-oriented software) and is based on Law no. 31/1990 with subsequent amendments, is an online real estate platform for property management and the creation of a scoring system for tenant and landlord. The activity field is part of the software industry in Romania, which has a value of 6.2 billion in 2019, which is increasing compared to the previous year by 10.4% [6].

Strategic objectives:

1. Increase turnover every year by 20%.
2. Creating a nationally recognized brand image in the first year.
3. Penetration of the real estate sales market in the 2nd year.
4. International expansion in the 3rd year.

Customers/users are all people who want to rent or offer a residential or commercial space for rent. In the case of private properties according to Eurostat, the number of people living in rent is approximately 720,000 in Romania. Another category of clients is real estate agencies and those who rent commercial or office space.

The main advantages of the first versions of the platform are intended for owners who rent directly. The rental process usually consists of the following steps:

- Searching for a home according to certain criteria;
- Viewing of the house;
- Signing the contract;
- Monthly payment rent.

Searching for a home is in most cases on the internet on sites such as imobiliare.ro, homezz.ro or publi24.ro [7].

Quite often the apartments presented in the ads are not the real ones and the agencies take advantage of some apartments that look very good and through this method attract customers to other more attractive apartments. Once the desired homes of interest are found, people are called to watch them. Unlike the iMoPal application where the viewing request is made directly from the application and the date and time are automatically added to the calendar.

The conclusion of the contract is usually made at a later meeting because it must be listed and then signed by both parties.

With the help of the iMoPal application, the owners have the possibility to send the contract in digital format to be signed directly from the application by the tenant, thus reducing it to a later meeting.

To pay the rent, the tenant can:

- make a bank transfer;
- meet with the owner/agent to make the cash payment;
- to deposit the amount in the owner's account.

Through the iMoPal application, the tenant is notified on the due date, as he has the possibility to pay directly

from the iMoPal application. In addition, the payment history is available for both the tenant and the landlord.

In conclusion, with the help of the iMoPal application, the time lost for finding the desired home, the time for concluding the contract, and the time for paying the monthly rent are reduced.

V. CREATE AND UPDATE DATA. BUSINESS DATA

The platform consists of several parts. For the first version of the platform, only some of them will be available as follows:

After opening the application, the user is shown the login screen where the application logo is displayed. There will be 2 fields for email and password as well as login and registration buttons if the user does not already have an account created. (Fig. 2.)

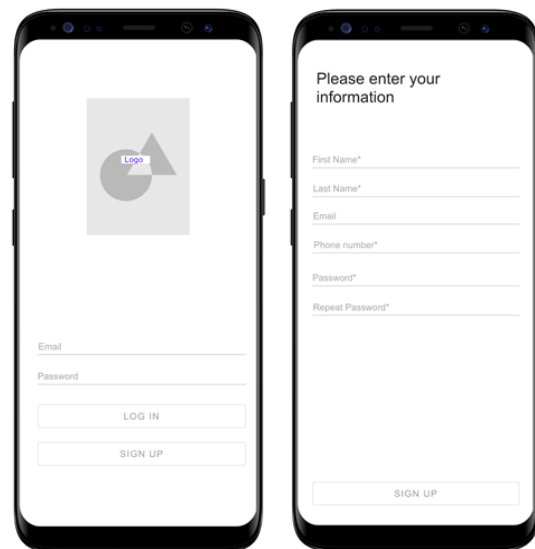


Fig. 2. Data registration

To create an account the user presses the SignUp button. It is redirected to a screen where it adds its basic data for account creation and validation as shown.

Once the account is created, the user can log in. The user is directed to the main screen where the main property data is displayed and where he can add new properties. The main data displayed are current month's income, current month's expenses and a total representing the difference between income and expenses.

When user press one of the options mentioned above, the user is directed to a screen that displays a table that represents the entire period since he is a user. At the bottom of the application are displayed all the user's properties plus the date of the next rent and the end date of the current lease. (Fig. 3.)

An important feature of the application is when pressing the Property button, for checking the list or the Add Property button is pressed, the user is shown an Add / Edit Property screen. From this screen, you can add details about the property such as images, number of rooms, area, plan, utilities, etc. Also, from this

screen, you can add a new tenant by clicking the Edit Tenant button.

Adding a New Tenant is very simple with just a few basic details of it, once you add these details, the landlord receives a message with one to confirm the action. The tenant in turn receives an email with a link to the application and a code that verifies the phone number. In addition, from this screen, there is the possibility to conclude a contract in digital format between the landlord and the tenant (not available in the first version of the application). After entering the code by the landlord, the property is associated with the new tenant. When he creates his account, he has the possibility to see the payment amount, the payment history, and the possibility to pay online. (Fig. 4.).

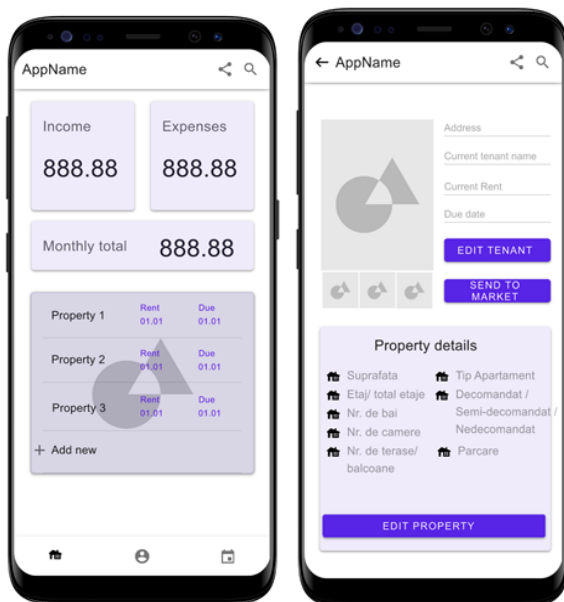


Fig. 3. Edit property details

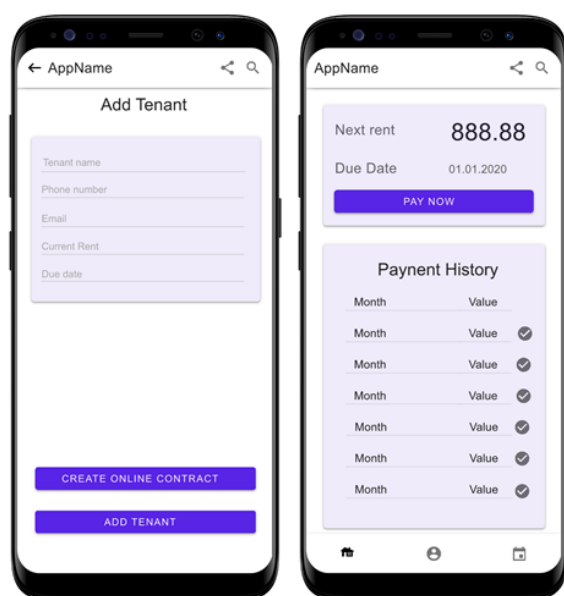


Fig. 4. Add Tenant

Searching properties for rent, users use the catalogue screen where the available properties can be filtered according to the needs of each tenant. The Rent Now button sends a notification to the landlord to let them know that a person is interested in their property.

The next step to make the application accessible, the authors detail the actions of the marketing plan from the business plan. Thereby tariffs charged for using the application are in accordance with the services offered. The pricing strategy is adopted on a long-term basis, and the first receipts are estimated to be recorded after 6 months of activity. We will practice the low-price strategy which is meant to increase sales volume to attract as many users as possible in the initial phase. (Table 1).

The price charged is influenced by:

- The number of properties owned by each owner;
- The position in the list of properties offered for rent.

Table 1. Charges prices

Product type	Price
1 Property	Free for the first 2 months and then 2€/month
More than 1 property	2 €/property/month
Rental ad promotion	5 €/week

Delivery prices are uniform and apply to all users regardless of their geographical location. The platform will be distributed through existing digital platforms such as Google Play and Apple App Store. (Table 2)

Table 2. Digital platforms prices

Platform	Price
Google Play	\$25
Apple App Store	\$100 / year

These intermediate marketing channels are short, wide, and deep. They cover storage, transport, taking over and honouring orders, screening, and merchandising. The promotion policy will be carried out by the blog related to the application site and paid promotion through social networks and Google AdSense. In addition, there will be a promotion campaign at the launch of the platform, which will be worth 500€.

iMoPal will operate in the virtual environment. The platform is distributed free and accessible from Android and Apple Smartphones as well as from any browser. According to the INS in Romania, the number of internet users is approximately 8.8 million who use the Internet with a daily frequency aged between 16-74 years in 2018 [8]. In the case of private properties according to Eurostat, the number of people living in rent is approximately 720,000 in Romania. Which results in a maximum of 720,000 property owners [9].

We calculated the market capacity starting from the assumption that only 50% of potential customers have real purchasing power (N). The average consumption

intensity (I) obtained as a product between the average size of a purchase (q = 2 euro / month) and the average purchase rate (f = 12 subscriptions / year) (1).

$$Cp = N * I = N * q * f \quad (1)$$

$$Cp = N * I = N * q * f = 360.000 * 2 * 12$$

$$= 8.640.000 \text{ Euro.}$$

The authors also identified the main competitors globally and made the matrix of the competitive profile. We identified critical success factors for our production study, we gave each factor a weight, after

which we identified 3 main competitors in the global market and evaluated them relating to each critical factor (Table 3).

The competitor who obtained the highest score is Millu who is also the direct competitor being present only in the Romanian market. The application will have an initial development period for a first version that will be launched for Android and Web mobile platforms, followed by an iOS version shortly. New features will be added constantly throughout the life of the product (Table 4).

Table 3. Main competitors

Critical success factors	Weight	TellUs		LandlordStudio		Millu	
		Rate	Score	Rate	Score	Rate	Score
Reputation	0.1	2	0.2	3	0.3	4	0.4
Market segment	0.3	1	0.3	2	0.6	2	0.6
Recording ease	0.1	3	0.3	3	0.3	3	0.3
Online payment	0.3	1	0.3	1	0.3	3	0.9
Online contracts	0.2	1	0.2	1	0.2	4	0.8
Total	1		1.3		1.7		3.0

Table 4. Development period

Stages		1st Month	2nd Month	3rd Month	4th Month	5th Month	6th Month
1	Idea conception and design						
2	API and application implementation						
	Testing						
3	Preparing for launch and launch V1						

The first month is dedicated to conceiving the idea and conceiving the visual aspect. All departments are involved in this stage. Then begins the application development period involving the server side, mobile applications (Android, iOS) and web design.

Testing is done simultaneously with development to provide superior quality. Upon completion of the first version (5 month) the application is tested in alpha and beta (a small number of users to validate the functionality of the application and receive initial feedback). Advertising campaigns are prepared for launch on social platforms and through Google AdSens. Preparing the application for Google Play and App Store.

The technologies used for the development of the platform are the following: For the server side and API are used AWS (Amazon Web Services). Mobile application versions are developed using the Kotlin programming language for Android and Swift for iOS.

The production activity will be carried out through working platforms by the three associates. The

necessary material resources are computer equipment, which are owned by the three partners, made available to the company to carry out the activity. These include laptops and the necessary software.

VI. CONCLUSIONS AND FINAL DISCUSSIONS

The real estate industry must employ digital data gathering and analysis to gain insight into specific business decisions. Software applications have huge advantages for those who want to analyse real estate data. Real estate software applications help to maintain and organize payments, rent and vacancy tracking to contract and insurance management tenants and even craft property website.

As presented in the paper the real estate market is differentiated by certain needs, respectively each segment of the real estate market is looking for software solutions to meet the main needs. Thus, the solution offered by the authors brings added value to a

market segment in the real estate industry by developing the platform iMoPal. iMoPal application improves the time for finding the desired home, the time for concluding the contract, and the time for paying the monthly rent.

The research presents each stage of the project namely client requirements, project activities, strategic objectives, and product configuration. An important stage of the research trying to point out all the strategic aspects of the marketing plan.

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Early school leaving, a problem of the entire society

Corina - Diana PUȘCAȘ¹, Bianca - Varvara ANDRASY²

Abstract: Education is one of the main pillars of a society that supports the development of a country by being a basic tool in achieving a sustainable future. In our country the institutionalized education suffers, because of the instability of specific legislation, frequent changes in the curricula. Another cause of instable educational system is the social inequality, which is also a main driver for early school leaving. Moreover, the evolution of technology (tools, internet etc.) and current society changes are factors that deepen the social disparity phenomena and determine certain behaviors among young people.

Keywords Education, sustainable future, social inequality, early school leaving, evolution of technology, social disparity.

I INTRODUCTION

„Education starts at birth and continues through the whole life by gaining knowledge. It should be considered a strategic development factor. The rhythm and size of the society changes and the problems of the humanity require a development and growth of competences of skills for a better acceptance of a rapidly changing world. The internet, computers, tablets, smartphones, Facebook, Twitter, YouTube, commercial and educational websites have transformed the culture and economy of the whole world” [1].

Unfortunately, in the last couple of months, the humanity had to face this CoVid-19 horrifying pandemic, meaning that most of the education, socialization and commercial activities have been done online. The philosopher Aurel Codoban said in an interview for Adevarul Newspaper that the world in general and the education will be, for sure, a lot more digitalized after this CoVid-19 novel. H. G. Wells stated that the pandemic is the tail of the comet which will lead us to change. There change has come! The schools shut down, classes are done online, same as examinations. So, everything is different. Despite digitalization is not necessarily a bad thing, in Romania

the digitalization of the educational services created severe inequalities. There are still families who cannot afford providing their children access to the technology necessary to benefit of the free education. Or even if technology is already present in a family’s house, it could be that there are more children who would have to use the same computer.

Online education can, indeed, work. But for children with no access to technology and no possibilities to use it, it is not working at all, or working only partially. Furthermore, the teachers’ efforts in preparing the digital lessons are a lot higher than a traditional way of teaching. And here we must not forget the parents, who are now more involved than ever to make sure that the children can and know how to use the digital tools which are necessary.

In the light of the COVID-19 novel, the teaching processes have changed a lot and, for children coming from poor areas or families, this could mean another category of children who are leaving school early. A sustained development of the way of living and of a community’s economy cannot be realized without proper schooling.

The Ministry of Education in Romania has adopted special short-term measures for improving the quality of the online education. These measures are:

- Finding solutions to finance, purchase and distribute IT equipment free of charge for families who cannot afford;
- Creating support channels and teaching communities with the children, parents and teachers to ensure an easier knowledge transfer for digital education.

In the same time, on a long term, the Ministry of Education wishes to implement a national plan for online teaching and learning, including resources and equipment necessary for different stages of schooling. The numbers showing the early school leaving rate for Romania are higher and higher - 1.5% of the students from pre-university school and 7.5% from post-secondary school are abandoning education [2]. Figure 1 presents early school leaving for young people in high schools and colleges. Romania versus EU comparison.

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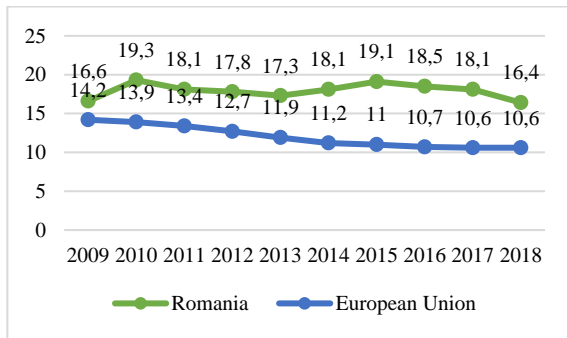


Fig. 1 Early school leaving for young people in high schools and colleges [2; 3]

According to the European Commission's statistics, in 2018 the Romanian early school leave rate has dropped with 2%.

The reality is that many parents who migrate for work outside of the Romanian borders take their children with them because they have better benefits there (for e. g., Higher monthly payment for each child), but also to avoid leaving the children without parents.

In addition, 2018 statistics show that 20.000 children from Romania had both parents living in another country, and they were taken care of their local relatives. Most of them have left school. The challenges and lacks our educational and social services are being brought to light by data and studies of the public institutions but also by NGOs and international institutions.

II STATE OF THE PROBLEM

Reducing ESL to less than 10% by 2020 was agreed as a key objective of the Europe 2020 strategy and one of the five benchmarks of the strategic framework for European cooperation in education and training [4]. Though ESL is a multifaceted phenomenon with multiple causes, according to EU policies, comprehensive strategies should be introduced and implemented to reduce ESL that must focus on the whole spectrum of education and include prevention, intervention and compensation measures [5; 6].

Early school leaving (ESL) is one of the core issues in the European educational agenda and most of its member states. It is a fundamental concern as it not only limits the life opportunities of ESLers but also calls into question the very foundations of European educational systems as guarantors of equal opportunities, as well as the right to education for all. In fact, far from being a phenomenon that affects all social groups equally, ESL is particularly significant among the most economically, socially and culturally disadvantaged groups, and therefore, must be viewed as a central question in terms of educational equality and social justice.

There have been numerous reports and publications since the mid-1990s that have analyzed the causes and identified the main factors that lead to ESL. Taken

cumulatively, this means that a significant body of knowledge on this matter has already been constructed: It is a social, multidimensional and procedural phenomenon that requires parallel prevention, intervention and compensation measures [7]; the profiles of ESLers are heterogeneous and diverse; and only those practices and policies focused on students' needs, interests and voices can be effective in the struggle against ESL.

However, despite these advances in research, many authors have pointed out that there are still few studies that examine the processes of ESL, especially from the subjective perspective of the students. What is more, there is still relatively little empirical evidence focusing on the effect that schools, and teachers in particular, have on students' decisions – towards the end of their period of compulsory education – to continue studying or to drop out [7].

II THE CASE STUDY

2.1. The research context overview – Romania situation on ESL

The phenomenon of school dropout, similar with Early School Leaving (ESL), or Early Leaving of Education and Training (ELET) refers to the early school leavers, means the percentage of youth 18-24 years old who did not finalize the upper-secondary education and who are not following any other educational path or are not enrolled in any other vocational training [8].

The consequences of early school leaving affect people throughout their entire lives by increasing their risk of unemployment, poverty, and social exclusion, including through reducing their children's chances of succeeding at school.

Romania continues to have one of the highest early school leaving rates in the EU. The rate of early school leaving decreased slightly, from 19.1% in 2015 to 18.5% in 2016, to 18.1% in 2017, and to 16.4% in 2018, but the target of 11.3%, for 2020, remains far from being reached [3]. In this context, concern for preventing and reducing early school leaving is seen as a priority of the education system, even more as factors of school dropout multiply and diversify, in the current complex context of the social, economic, cultural, and professional environment.

After a period of decline, starting with the year 2011/2012, VET in Romania has an upward trend, both concerning the number of schools and the number of students and teaching staff. The year 2017 was the Year of Technical and Vocational Education and Training in Romania. The staff of school inspectorates, TVET schools, economic operators and consultative partner bodies benefited from training and information sessions on how to organize and operate dual VET in Romania.

Despite recent measures, the quality of Romanian VET system and its relevance for labor market remain mostly insufficient. The attractiveness of VET as a

career choice and not mainly as a ‘second choice’ option remains rather limited. The employment rate of recent VET graduates remains below the EU average, 63.3 % vs. 75 % in 2016 [9]. Despite continued reforms, especially on dual VET, several challenges remain to be addressed [10].

There are many reasons for what some young people give up prematurely to education and training: personal or family problems, learning difficulties, or a fragile socio-economic situation. Education system features and school climate are also important factors in the process of pupil engagement or disengagement.

2.1. The case study

In 2017, a study for one of the neighborhood’s schools has been conducted, in the context of a project implementation. 25 teachers were interviewed (both primary and gymnasium).

The result of the study was that most of the children who are abandoning school come from disorganized families, with parents left for work in other countries. In that school, 32.8% of the children had their parents migrated to other European countries. Another problem highlighted by this study was the representation of the children by the relatives with relative here, in Romania. The migrating parents are leaving the children in the care of the neighbors, relative, but most often with the grandparents. The legal tutor of a child is the parent. In case the parents are missing, there should be another tutor legally named. Without the legal documents, the child cannot be legally represented in public institutions (Population Services, AJPIS, etc) and in education institutions.

The study shows that the percentage of children without representation documents is 21%, meaning more than a half.

A severely important problem is the child’s psychological trauma which comes after the parents are leaving. This trauma must be handled with attention, professionalism and seriously by the school together with the state.

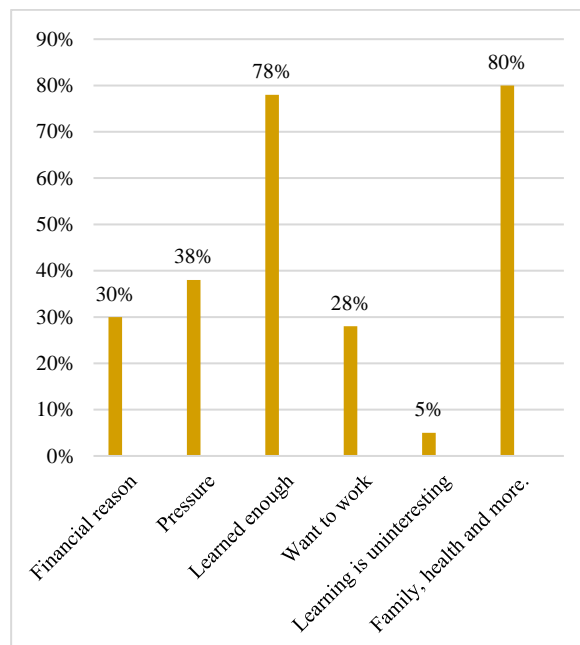


Fig. 2 The reason for ESL in Romania [10]

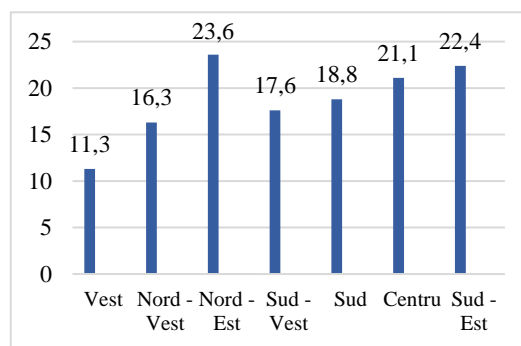


Fig. 3 Percentage of abandonment on the regions of Romania [10]

Following this study, the Social Services Institution from Timisoara has founded a center for children coming from the type of families mentioned above. The center has hired social workers, educators, psychologists and doctors.

The children are brought after school to this center, they are fed and helped with their homework. The specialists monitor the children regarding their presence at school, and they provide support to the families in relation with the public institutions [3]. Figure 2 presents the reason for early school leaving in Romania.

The main factors for school leaving are:

- Financial difficulties, especially in the families with large number of children, with parent working abroad, with no resources, with issues in ensuring proper clothes and are somehow obliged to work (in the field or their own property);
- Disorganized families have, therefore, financial issues. Divorces, alcoholism and

violence are signs that precede the decision of early school leaving.

To fight against this phenomenon it is necessary, as a first step, to understand its causes, besides the social causes (economic situation, example set by parents, disorganized families, lack of jobs) and psychological causes (low motivation, lack of interest, anxiety, passiveness). Figure 3 presents the percentage of abandonment on the regions of Romania.

Judging by the dates published in the Social Monitor at the end of 2018, the highest rate of school leaving in Romania can be found in the North-East side of the country (23.6%), and the lowest in Bucuresti-Ilfov (5.5%).

The same source shows that school leaving rate is a lot higher in the rural areas compared to urban areas. To be more specific, in 2018, the rate in the rural areas was 27.1% and in large urban areas (over 50.000 people) it was 4.5%.

Moreover, the data shows that approximately half of the young people leaving school do this for getting a job. According to the European Commission, most of these young students come from poor families.

Europe 2020 (European platform for combating poverty and social exclusion) is considering two main approaches: prevention (the most efficient and viable way to stop poverty and social exclusion) and early intervention (for avoiding the situations in which the people can reach to poverty or remain in difficult and problematic conditions).

The current law says that there should be allocated enough schooling figures to ensure that the 0-18/26 years students are included in pre-university and/or special education programs.

III. CONCLUSIONS

School leaving is not only an individual problem, but also a problem of the whole society. It looks like school leaving cannot be stopped. By the contrary! Reality shows that the phenomenon grows and is higher compared to official data.

There is an important segment of children who do go to school, but only to ensure presence in order not to lose the monthly allowance or to not be expelled which could happen at 40 absences per month.

Early school leaving is a dangerous phenomenon because it determined negative effects from a psychological point of view, but also social point of view, because the lack of school success can lead to stigmatization and labeling. Therefore, the involvement of all the public services are necessary to stop the early school leaving is mandatory.

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Safety and Ergonomic Risk Management for Visual Stress. A Theoretical and Experimental Case

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Abstract – Ergonomic studies must consider numerous elements such as human – machine interactions (hardware ergonomics), human environment interactions (environmental ergonomics), human – organization interactions. The paper presents a theoretical and experimental study on safety and ergonomic risk management for visual stress, developed during an internship period.

Keywords: Ergonomic, health, safety, risk, visual stress, standard, evaluation, prevention, VDT, results

I. INTRODUCTION

Occupational health and safety have always played a role over time more important.

The legislation on the subject has undergone significant changes both at national and at national level European. Occupational safety prevention has long been underestimated: it is with Legislative Decree 626/94 which is witnessing its reevaluation and, even more so, with the Legislative Decree 81/2008.

An effective preventive system can be considered as the preparatory basis on which to be able develop the entire corporate safety system, prevention intended as complex of measures to be implemented in order to anticipate the potential development of a hazard, starts from a careful assessment of the possible risks present and passes through the processing of the prevention document up to the planning of a real study programmatic, aimed at monitoring, maintaining and improving conditions over time security within a company.

II. BS OHSAS 18001: CONTENTS, PURPOSE AND REQUIREMENTS

The OSHAS 18001 standard is currently the only international standard for certification of Occupational Health and Safety Management Systems. It includes BS OSHAS 18001 (Occupational Health and Safety Management Systems) [2], responding to market

demand for a standard that allowed the assessment and certification of conformity of health management systems and job security. Compatible with standards for quality and environmental management systems, it allows the integration of quality, environment and safety management systems, where required [3].

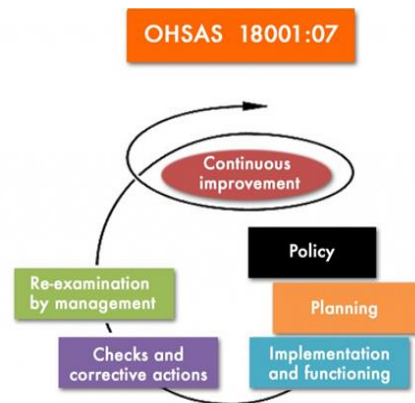


Fig. 1. The BS OHSAS 18001 standard

III. INTEGRATION OF THE INTERNSHIP PROJECT

The following chapter will address the analysis and subsequent assessment of the inherent risks the ergonomics and visual stress to which the employees of the Step Sud company are subjected Mare, located in Pomigliano d'Arco, operating in the transport and design sector vehicle in which I carried out an inspection during the internship period that I carried out from 07/06/2017 to 06/08/2017 at the company PSB consulting S.r.l., a company a Limited liability with various locations operating in different regions of Italy. From the beginning I had the opportunity to view some examples of Evaluation Documents of Risks: the document must primarily contain the corporate registry and the organization chart security. To obtain this information, an inspection must be organized

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technician at the company being assessed and collect all information necessary to do the job. So to put into practice what I could learn, I took the SSM company.

IV. THE COMPANY PROFILE

Born in 2012, Step Sud Mare is the synthesis of two important realities in the world of design industrial: Step Sud Srl and Mare Engineering SpA. Thanks to a team of about 150 collaborators, develops over 250,000 hours / year of engineering activities, with two offices in Italy (Pomigliano d'Arco and Turin) and two abroad (Slovak Republic and Brazil).

Focused on vehicle design and technological innovation in the automotive sector transport (Automotive, Aerospace, Railway, Industry) SSM covers, on an international scale, all the industrial engineering sectors: EWC, Cad, R&D, Manufacturing and Logistics. Always engaged in research, SSM collaborates with numerous universities. Among his clients are Ferrari, FCA, Hitachi Rail, Adler Group, Abarth, Cira, Maserati and many others.

V. THE USE OF WORKSTATIONS WITH VDT (VIDEO TERMINALS)

In more recent years, the use of workstations with video terminals (VDT) has suffered an abrupt acceleration. This phenomenon has produced significant transformations in the normal course of business work activities but also represented the cause of the onset of risk factors on the workplace.

To assess the risk associated with carrying out one's work activity in workstations equipped with VDT, reference is made to aspects of ergonomics of vision. In the assessment of lighting risk in fixed workstations with VDT it will be necessary to consider both the ergonomics implications of the vision that derive from relationship between the worker and the screen (human-machine interface) and the implications agents on the specific visual task (e.g. reading on the screen) in relation to lighting general of the work environment (human-environment interface) [4].

VI. MAIN RISK FACTORS

The disturbances that video terminal workers can accuse are visual and eye disturbances; problems related to posture; physical and mental fatigue.

As for the operating methods, the main risk factors that can be the causes of the disorders are the high stress on the organs of vision and their rapid fatigue; wrong body position; physical or mental fatigue. Their relevance is closely related to the duration of the exposure. Let us analyze each of them schematically risk factors listed above:

Solicitation of the organs of vision; body position; physical or mental fatigue [5].

VII. CRITERIA AND METHODS OF EVALUATION

To carry out the study on the use of equipment equipped with a video terminal, work was carried out on the following way; Two types of questionnaires were used:


one of an objective nature, taken care of in the compilation by a group of operators prepared, who carried out the investigation by checking the individual VDT jobs and their location in the various offices;

another of a subjective nature, distributed to all operators involved in the planned activity by VDT.

VIII. EVALUATION RESULTS

Problematic conditions relating to conditions are highlighted in the assessment environmental (noise, microclimate and lighting). In relation to these risk factors, instrumental recognition was not made but the possible need for targeted investigations in this sense is derived from the assessment of the entity of the subjects who, in the subjective questionnaire, highlighted problems for each of the parameters in question.

When one emerges from the results of the subjective evaluation questionnaire significant percentage of dissatisfied people in relation to the number of complaints per location / office analyzed, it was deemed necessary to proceed with an instrumental analytical study of the highlighted condition.

	Use of video terminals (office activities)			
	P	D	R	Level
art. 172 e seguenti del d. Lgs. 81/2008	3	2	6	3 medio

$$R = P \times D \text{ formula}$$

IX. PREVENTION MEASURES

All workers exposed to a risk from using equipment equipped with video terminals for 20 hours per week will be subjected to health surveillance by integrating the surveillance programs envisaged for other risks.

In addition, employees will undergo training and information on the specific risk of using equipment with video terminals.

If prescribed by the competent doctor, ophthalmic lenses or other special visual correction devices should be used.

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