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Vol. 5, Issue 1, 2019

Editorial

Anca DRĂGHICI¹

In this issue we publish the articles that were presented by Bachelor and Master students during the *Session of students' scientific communications, June 12, 2019*, Timisoara. The event is annually organized by the Faculty of Management in Production and Transportation of Politehnica University of Timisoara (FMPT/UPT).

The student scientific event aims to familiarize the youngest researchers with the activity of disseminating the research results. Frequently, *the Research Center in Engineering and Management (RCEM)*² (from FMPT/UPT) provides the organizational and action framework through which the confluence of young researchers and seniors in applied research activities (formal or informal) is achieved.



Thus, through the coaching activities carried out by professors (experienced researchers, doctoral supervisors, directors of research projects) with groups of students (especially from the Master and PhD. levels of education), the best students are identified and chosen to act in research. The research subjects are derived from different ongoing projects or are related to research themes pursued by the existing doctoral programs. In addition, the event and the way of how education and research activities are developed encourage students, young researchers to pursue a career in research and development, and therefore to pursue a PhD. program after they achieve a Master's degree.

Following the *Session of students' scientific communications*, there have been selected several

papers for the first issue of the 2019 of the Scientific Bulletin of Politehnica University of Timisoara – Transaction on Engineering and Management. The aim of this issue is to encourage and support students to share their researches and their knowledge through a publication (learn how to implement the template requirements and the reviewers' observations). Thus, the Editorial Board has decided that articles that reflect relevant ideas and research achievements should be included in this issue. I would like to address warm thanks to the members of the Editorial Board (main organizers of the Session of students' scientific communications) and to all reviewers, because their careful and professional (volunteer) review work has a positive impact on the quality content of this issue/number.

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

The first article has been developed by a group of Master students: Ionut COARDOS, Ionela PINTER, Victor CIOVIRNACHE, that has been coached by PhD. student Diana Florina ROBESCU (all authors from FMPT/UPT, Romania). Their study is related to on the “***Facts on Sustainable Entrepreneurship***”.

The second article has been developed by Phd. student Raluca PANDOR under the supervision of Prof. Marian MOCAN (authors from the FMPT/UPT, Romania). The research topic is reflected by the article title: “***The Importance of e-Book Platforms in Education***”.

The third paper has been developed by a group of Master students Bianca-Nicoleta STOCHITA, Ruxandra CACIULAN, Cristina BUICA that were coordinated and supervised by Assoc. prof. Ilie TAUCEAN (authors from the FMPT/UPT, Romania) and their field of research was related to ***The Importance of Vocational Training Courses for the Careers Development of Students and Graduates***”.

The fourth article has been developed by Master student Cristian MINCA together with the lecturer Dr. Alin ARTENE (both authors from FMPT/UPT, Romania), their research being entitled: “***An Investment Management Approach for Establishing a Physiokinotherapy Compartment in a Hospital***”. Their paper explores the decision-making process in

the case of a public organization with the final scope of developing a new medical unit.

The fifth paper has been developed by a group of Master students: Victor CIOVIRNACHE, Daniel SEVERA that has been coached by PhD. student Diana Florina ROBESCU (all authors from FMPT/UPT, Romania). Their research is dedicated to an actual subject: “***Greening the Urban Transportation. A Debate on the Solutions of the Flying Car***”.

The last paper has been delivered by Humeyra SENKULAK from Kocaeli University, Turkey which was Erasmus+ student at FMPT/UPT, Romania. Under the supervision of Prof. Anca DRAGHICI (FMPT/UPT, Romania), there have been developed the research entitled: “***Intercultural Management - A Comparison Between Romanian and Turkish Culture***”.

We are convinced that by this initiative of encouraging and attracting students in the research-dissemination activity they will pave the way for some careers in the field, whereas other students will be curious to experience such activities. The articles included in this issue also reflect the success of the FMPT/UPT teaching staff coach activities and their ability to discover and encourage the manifestation of talents.

Facts on Sustainable Entrepreneurship

Ionut COARDOS¹, Ionela PINTER²,
Victor CIOVIRNACHE³, Diana Florina ROBESCU⁴

Abstract – Entrepreneurship is recognized like a behavior and an outcome of ability to identify and exploit opportunities and motivation. Both elements are important in the decision to start a business. In addition, entrepreneurship phenomenon is associated with the creation of wealth, technological innovation and increased social welfare so, entrepreneurs are important to a country's economic development. Despite their constructive contributions on economic development, entrepreneurial activities have also led to environmental degradation. In this context, the present paper aims to demonstrate that this disadvantage could be transformed into new business ideas. We believe that environmental issues should be solved by entrepreneurs themselves. In recent years, linking entrepreneurial activity and sustainable development has become a vital practice for all organizations. In this context, the paper's main objective is to present some relevant facts of sustainable entrepreneurship based on the literature review.

Keywords: Entrepreneurship, statistics, analysis

I. INTRODUCTION

Entrepreneurship is the most powerful economic force known to humankind! The “entrepreneurial revolution” that captured our imagination during the 1990s has now permeated every aspect of business thinking and planning. As exemplified by the dynasty builders of the previous decades, such as Sam Walton of Walmart, Fred Smith of FedEx, Bill Gates of Microsoft, Michael Dell of Dell Computers, Steve Jobs of Apple, and Andy Grove of Intel, the applications of creativity, risk taking, innovation, and passion led the way to economic development far greater than anyone could imagine. Today we witness the immense impact of entrepreneurial companies such as Google, Amazon, Facebook, Twitter, and LinkedIn, which have produced technological breakthrough after breakthrough. As the twenty-first century unfolds, we will continue to encounter newer and sometimes more complex challenges and pressures than ever before in the form of green technologies, social entrepreneurship, sustainability, and technological

change. The entrepreneurial drive and determination of yet to be discovered dynasty builders will be our greatest solution to all these challenges.

The process of transforming creative ideas into commercially viable business continues to be a major force in today's world economy. Successful entrepreneurship requires more than merely luck and money. It is a cohesive process of creativity, risk taking and planning. Students today need courses and programs that set forth a basic framework for understanding the discipline of entrepreneurship in a manner that is unique and creative as entrepreneurship itself. Entrepreneurship has long been promoted and encouraged in the modern society (Tilley and Young, 2009). For instance, universities are offering entrepreneurship courses and various efforts to develop young entrepreneurs have also been carried out by the government. No doubts, it is hard to separate economic development and globalization from entrepreneurial activities. Some researchers have named entrepreneurs as “engines of economic growth” (Baron and Shane, 2008) and (Mellor et al., 2009) and it has been linked to wealth generation and economic growth for many years. Among the well acknowledged contributions of entrepreneurs are such as job creation, product and process innovation, enterprise establishments and other. Despite all these positive contributions, the entrepreneurial business activities have also contributed to environmental degradation (Cohen and Winn, 2007).

In this context, the main objective of this paper is to present some relevant fact of sustainable entrepreneurship that could be considered for counterbalancing the huge resources consumption and environment degradation through the entrepreneurial activities. The paper structure consists of the following parts: a literature review for the characterization of the sustainable entrepreneurship concept and phenomenon and then a debate on the competencies needed for this category of businesspeople are presented, also based on the literature review.

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II. THE RESEARCH CONTEXT FRAMEWORK

Business activities from entrepreneurial practices have contributed to environmental degradation (Cohen and Winn, 2007), causing environmental problems such as pollutions, green house effects and ecosystem imbalance. Therefore, some researchers suggest that entrepreneurs should help to resolve the environmental problems (Dean and McMullen, 2007). Specifically, they point out that linking economic and environmental interests to create benefit for the whole society has become a vital practice among corporations nowadays. In other words, business organizations nowadays are required to perform in an equal footing between economic gains and sustainable practices. As mentioned by Schaltegger and Synnestvedt (2001), being “green” and being “economically successful” should be at the central attention of all company leaders of today. In addition, Schaper (2002) also mentions that entrepreneurs nowadays are playing a leading role in adoption of green or sustainable businesses. In short, economic gain is no longer the only objective of entrepreneurship. Indeed, due to the increasing awareness and rapid development of concepts related to corporate social responsibility (CSR), ecological modernization and sustainability development, many business firms have re-examined their roles on social-economic issues. In many cases, the term “corporate sustainability” is a synonym for “corporate social responsibility” (Hall et al., 2010). As such, adopting sustainable practices is not only a trend, but also a must, for most current entrepreneurs. Although Friedman (1970) has mentioned that “the social responsibility of business is to increase its profits”; his viewpoint deserves a re-evaluation in today’s business world. Currently, the concept of triple-bottom-line (TBL or 3BL) coined by John Elkington in 1994, which emphasizes on balancing economic health, social equity and environmental resilience through entrepreneurship, has received much attention. Linking entrepreneurial activities to sustainability development has changed the ways businesses are performed. Entrepreneurship is experiencing a shift from emphasizing on wealth creation and profit accumulation to environmental concern and sustainable development (Smith and Sharicz, 2011; Tilley and Young, 2009). The shift towards sustainable development has created a new field in entrepreneurship known as sustainable entrepreneurship (Cohen and Winn, 2007; Gibbs, 2009; Hall et al., 2010; Richomme-Huet and Freyman, 2011; Shepherd and Patzelt, 2011).

The transition of entrepreneurship towards sustainability has undoubtedly become a challenge to most entrepreneurs. As Kuckertz and Wagner (2010) mention, sustainable entrepreneurship which bears additional potential for both society and environment adds new promise to the traditional entrepreneurship. Although the concept of triple-bottom-line has been stressed by researchers in sustainability study, it

remains as an under researched area, particularly regarding entrepreneurship. To date, studies on entrepreneurship intention has captured the attention of various researchers in entrepreneurship field, for examples, Moriano et al., (2011); Shook and Bratianu, (2010) and Schwarz et al. (2009), just to name a few. However, studies focusing on intention towards sustainable entrepreneurship are still very lacking, especially in the local setting. Nothing much has known regarding the antecedents of intention towards sustainable entrepreneurship in our motherland.

Quite several past literatures have investigated sustainable practices and development among students (Fielding et al., 2008; Kasier et al. 2005), household (Tonglet et al., 2004) and individuals (Bamberg and Möser, 2007; Kaiser and Gutscher, 2003; Vermeir and Verbeke, 2008). However, perceptions among current practicing entrepreneurs on sustainable practices are still less understood. As Hall et al. (2010) mention, there are scant empirical studies exploring the likelihood of entrepreneurship roles in transforming current economies into more sustainable system. Small and medium enterprises (SMEs) are often associated with entrepreneurship. As sustainable entrepreneurship could be regarded as an extension or sub-form of entrepreneurship (Levinsohn and Brundin, 2011; Schlange, 2006), studies on SMEs regarding sustainable entrepreneurship remains low.

Therefore, questions such as “are SMEs owners intending to engage with sustainable entrepreneurship?” and “what cause SMEs owners to engage with sustainable entrepreneurship?” are indeed require further investigation. Furthermore, it is also worthwhile to investigate “are novice and veteran SMEs owners having different intention towards sustainable entrepreneurship?”

III. A LITERATURE REVIEW ON SUSTAINABLE ENTREPRENEURSHIP

Throughout the years, many researchers have tried to defined entrepreneurship; however, the efforts have not received any promising results. To date, researchers found that there is no universally accepted definition of it (Carsrud and Brännback, 2007; Gartner, 1988; Veciana, 2007). Thus, for the purpose of this study, entrepreneurship can be defined as “a process in which enterprising individuals identify an unmet need or want and grasp the opportunity by turning ideas into commercial reality” (Schaper, 2002). As mentioned earlier, entrepreneurship is facing a shift or transition in its objectives. It should not be associated to solely on profit generation or wealth accumulation. Due to the increased awareness of environmental and social problems, entrepreneurs are expected to reconcile the twin goals of sustainable development and wealth accumulation (Tilley and Young, 2009). Over the years, many fields of entrepreneurship that are related to sustainability development have emerged as important areas in the study. For instance, environmental entrepreneurship, social

entrepreneurship and sustainable entrepreneurship are among the current development in this study (Richomme-Huet and De Freyman, 2011; Tilley and Young, 2009). However, sustainable entrepreneurship remains as a popular field due to the activity such as “greening the industry” which took place in Europe and other industrialized countries around the world in mid-1990s (Schick et al., 2005) and increasing awareness of sustainability development among entrepreneurs (Hall et al., 2010). Graham (2010) mentions that sustainability management emerged in 1970s and it has undoubtedly changed the ways people perceived on environmental resources issue. Sustainability can be defined as “the result of the activities of an organization, voluntary or governed by law, that demonstrate the ability of the organization to maintain viable its business operations whilst not negatively impacting any social or ecological systems” (Smith and Sharicz, 2011). Meanwhile, sustainable development can be defined as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED, 1987). It can be said that sustainable entrepreneurship is a concept that links entrepreneurship to sustainability development. As discussed before, environmental entrepreneurship, social entrepreneurship and sustainable entrepreneurship are among the current development in the study of entrepreneurship. However, these terms are ambiguous (Hall et al., 2010), overlapping and difficult to be differentiated (Gibbs, 2009). Even though the definition of sustainable entrepreneur is not remained static, Schlange (2006) attempted to describe sustainable entrepreneur as “someone having a strong emphasis on ecological aspects in the business vision as opposed to the traditional entrepreneurial aspirations”. In defining sustainable entrepreneurship, this study adopts Shepherd and Patzelt’s (2011) definition, as “focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy and society.”

Based on the above considerations we will focus, in the next section of the article, on the presentation of the competencies needed for entrepreneurs to allow them to act as sustainable one.

IV. COMPETENCIES NEEDED FOR SUSTAINABLE ENTREPRENEURS AS CHANGE AGENTS

A. Competencies for Change Agents

According to Svanström, Lozano-García, and Rowe (2008) a successful change agent for sustainability must have knowledge of environmental-, of economic-, and of social issues related to sustainability (i.e., knowledge element of competence). Furthermore, the change agent must have a value system to support their actions (i.e., attitude

element of competence). In addition, the change agent must have the ability to perform sustainability tasks (i.e., skills element of competence).

Considerable, though mostly conceptual, efforts in translating these abilities for change agents into competencies have been made over the past decade (de Haan, 2006; Rieckmann, 2012; Svanström et al., 2008; Wiek et al., 2011). Derived from research on competencies for sustainable development in higher education, various scholars have identified competencies for sustainable development in a work/business context (Table 1).

Most of these studies applied the comprehensive or multimethod-oriented approach to competence in applying these competencies in the business context. For example, the work of Hesselbarth and Schaltegger (2014) focusses on contextualizing competencies for sustainable development in a work context. Based on experiences of MBA alumni, they propose five key competencies for change agents for sustainability. Osagie et al. (2016) combined results from a systematic literature review with results from 28 interviews with Corporate Social Responsibility (CSR) managers to compile a set of eight CSR-related competencies. In the field of CSR, Wesselink et al. (2015) performed an empirical study to analyze individual competencies for managers engaged in corporate sustainable management practices and identified five competencies that highly correspond with core tasks performed by CSR managers.

Finally, Lans et al. (2014) identified a framework of seven competencies for sustainable entrepreneurship based on focus groups with teachers involved in entrepreneurship education and by performing an exploratory factor analysis on the survey in which the seven competencies were queried. Table 1 provides an overview of the different competencies mentioned in the four different studies.

Despite the use of some of the same initial competencies, the inclusion of key competencies differs among the different studies. Three competencies are included in all four studies, namely, strategic (management) competence, systems thinking competence, and interpersonal competence. Where Hesselbarth and Schaltegger (2014), Lans et al. (2014), and Osagie et al. (2016) underpin the importance of normative competence, the empirical study performed by Wesselink et al. (2015) did not point in this direction. They argue that this could be a result of either normative competence already being internalized in the behavior of CSR managers, or the structural lack of normative behavior in this specific work/business context (Wesselink et al., 2015). Another competency that has been subject to debate is anticipatory/foresighted thinking competence (both words are used for the same construct). Rieckmann (2012) identifies this as one of the most important competencies, and it is also empirically found in the work of Hesselbarth and Schaltegger (2014), Osagie et al. (2016), and Lans et al. (2014). However, Wesselink et al. (2015) did not include this competency as a key

competency. The reason for not including this competency seems to be directly related to the specific CSR context in which they have researched the enactment of the competencies (Wesselink et al., 2015). They argue that in the more mature phases of the CSR implementation process, foresighted thinking is less important than in the starting phases. Their sample consisted of companies in the more mature

phases, which could explain the absence of foresighted thinking competence. In addition, embracing diversity and interdisciplinarity competence is not supported by all four researchers. Lans et al. (2014) and Wesselink et al. (2015) acknowledge the importance of this competence but it is not included in the studies by Hesselbarth and Schaltegger (2014) and Osagie et al. (2016).

Table 1 A set of competencies for sustainable development – a literature review

Reference	Competencies for sustainable entrepreneurs
Hesselbarth and Schaltegger (2014)	<ol style="list-style-type: none"> 1. Strategic competence 2. Systems-thinking competence 3. Anticipatory competence 4. Normative competence 5. Interpersonal competence
Osagie et al. (2016)	<ol style="list-style-type: none"> 1. Anticipating CSR challenges 2. Understanding CSR-relevant systems and subsystems 3. Understanding CSR-relevant standards 4. CSR management competencies 5. Realizing CSR-supportive interpersonal processes 6. Employing CSR-supportive personal characteristics and attitudes 7. Personal value-driven competencies 8. Reflecting on personal CSR views and experiences
Wesselink et al. (2015)	<ol style="list-style-type: none"> 1. Systems thinking competence 2. Embracing diversity and interdisciplinarity competence 3. Interpersonal competence 4. Action competence 5. Strategic management competence
Lans et al. (2014)	<ol style="list-style-type: none"> 1. Systems-thinking competence 2. Embracing diversity and interdisciplinarity competence 3. Foresighted thinking competence 4. Normative competence 5. Action competence 6. Interpersonal competence 7. Strategic management competence

The fourth and last competence up for debate is action competence. In the literature this competence is widely considered as one of the most important competencies for sustainable development (Blok, et al., 2015; de Haan, 2006; Ellis and Weekes, 2008), but in practice this does not always show. Even though Lans et al. (2014) tend to keep action competence included, the results of their exploratory analysis show significant overlap with strategic management competence.

In addition, Hesselbarth and Schaltegger (2014) and Osagie et al. (2016) encounter difficulties with the concept of action competence. The latter encourage a more practical interpretation of the concept and see it merely as “actively engaging oneself in the process of CSR implementation” (Osagie et al., 2016, p. 17). This calls for a more in depth and empirical analysis of the competencies at stake when dealing with sustainability challenges.

B. Sustainable Entrepreneurs as Change Agents

An example of a promising work context in which competencies for sustainable development are truly at the forefront, enacted (and contested), is the field of

sustainable entrepreneurship. The emerging stream of academic literature on sustainable entrepreneurship adds a new dimension to the promise of entrepreneurship being an attractive way of generating competitive advantage and resulting in economic gain. Entrepreneurship for sustainable development is supposed to result in more than economic success. Sustainable entrepreneurs try to manage the “triple bottom line” (Patzelt and Shepherd, 2011); in other words, they balance economic health, social equity, and environmental resilience through their entrepreneurial behavior. Sustainable entrepreneurship is not only associated with the promise of more traditional concepts of entrepreneurship but also has additional potential both for society and the environment. The term sustainable entrepreneurship is an overarching concept looking at the contribution of entrepreneurs to social, environmental, and economic aspects (Schaltegger and Wagner, 2011). Sustainable entrepreneurs initiate those activities and processes that lead to identifying, evaluating, and exploiting business opportunities to contribute to sustainability and profitability (Patzelt and Shepherd, 2011; Schaltegger and Wagner, 2011). In this respect, sustainable

entrepreneurship is seen as a way of generating competitive advantage by recognizing new business opportunities resulting in new products, new methods of production, new markets or new ways of organizing business processes more sustainably (Patzelt and Shepherd, 2011). Thus, the recognition of opportunities is an important element of (sustainable) entrepreneurship (Gaglio and Katz, 2001; Shane and Venkataraman, 2000). Therefore, sustainability is not only something to act on, comply with, or engage in, but a major source for change and opportunities (Dean and McMullen, 2007). According to Hesselbarth and Schaltegger (2014), sustainable entrepreneurs act as change agents as they develop sustainability as a factor of success in their working environment, integrate sustainability criteria into business processes, and transfer the vision of sustainable development to society. Nevertheless, becoming a successful sustainable entrepreneur does not happen overnight. The Global Entrepreneurship Monitor defines four entrepreneurial stages (Kelley et al., 2011):

1. Potential entrepreneurs who intend to start a business in the future;
2. Nascent entrepreneurs who are involved in setting up a business;
3. New entrepreneurs who have just started a business;
4. Established entrepreneurs who own and manage an established business.

The role of higher education in this process is widely recognized as education can play a significant role in stimulating and fostering Phases 1 and 2. These individuals who have the intention to become a sustainable entrepreneur are labelled as would-be (sustainable) entrepreneurs (i.e., Baron and Ensley, 2006; Dimov, 2007). Furthermore, competence development usually is strongest in a context in which learning is central, which also emphasizes the role of higher education.

In this study, we focus on these would-be sustainable entrepreneurs as they have an important role as future change agents and are in the stage of developing competencies and an entrepreneurial intention. To bridge the gap between conceptual and empirical research on competencies for sustainable entrepreneurship, Lans et al. (2014) developed a competence framework. This framework is, to the best of our knowledge, the only framework that specifically addresses competencies for sustainable entrepreneurship. The competence framework consists of key competencies from entrepreneurship literature and key competencies from education for sustainable development (ESD) literature, which makes it a unique and innovative overview. The competence framework as proposed by Lans et al. (2014) includes 7 key competencies that are described in Table 2.

Table 2 A set of competencies for sustainable entrepreneurs to become change agents in a specific business context – a literature review

Competence	Description
1. Systems thinking competence:	The ability to identify and analyze all relevant (sub)systems across different domains (people, planet, profit) and disciplines, including their boundaries (Wiek et al., 2011).
2. Embracing diversity and interdisciplinary competence	The ability to structure relationships, spot issues, and recognize the legitimacy of other viewpoints in business decision-making processes; be it about environmental, social, and/or economic issues (de Haan, 2006; Ellis and Weekes, 2008).
3. Foresighted thinking competence	The ability to collectively analyze, evaluate, and craft “pictures” of the future in which the impact of local and/or short-term decisions on environmental, social, and economic issues is viewed on a global/cosmopolitan scale and in the long term (Wiek et al., 2011).
4. Normative competence	The ability to map, apply, and reconcile sustainability values, principles, and targets with internal and external stakeholders, without embracing any given norm but based on the good character of the one who is involved in sustainability issues (Blok et al., 2015; Wiek et al., 2011).
5. Action competence	The ability to actively involve oneself in responsible actions for the improvement of the sustainability of social–ecological systems (de Haan, 2006; Mogensen and Schnack, 2010).
6. Interpersonal competence	The ability to motivate, enable, and facilitate collaborative and participatory sustainability activities and research (Schlange, 2009; Wiek et al., 2011):.
7. Strategic management competence	The ability to collectively design projects, implement interventions, transitions, and strategies for sustainable development practices (de Haan, 2006; Wiek et al., 2011).

V. CONCLUSIONS

It is expected that the sustainable entrepreneurship framework can demonstrate that SMEs owners are showing a significant level of intention towards

environment, social and economic issues of today’s society. Even if the research of ours is based only on the literature review, there are several facts that proved the importance of the concept and its practical actions.

The contributions of this paper are two-folds. On the theoretical side, it helps to flourish the existing collection of literature by filling up the gaps identified. Moreover, it also develops a framework of sustainable entrepreneurship competencies that can be used to train, educate or learning programs in this entrepreneurship field.

On the other hand, it is hoped that it can shed light on practicing entrepreneurs' intention to become sustainable entrepreneurs. On the practical side, it is to incorporate the areas of sustainable entrepreneurship into the business and management education curriculum. In addition, it provides some useful information to promote sustainability entrepreneurship among SMEs, which is in line with the actual concerned on green society, circular economy and equity together with the governments' objectives to build a "green society".

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The Importance of e-Book Platforms in Education

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Abstract – Many people have considered purchasing a tablet device, such as an iPad, Kindle, or Nook, for personal use, yet how many have considered adopting this new technology as a pedagogical tool in the classroom? This article presents the complexity of e-book platforms from Romania in comparison with Amazon, FNAC, or Springer and how they are being used in Romanian market. Moreover, the analysis through criteria comparison will show which strategies are mostly used by students. The result of the research and analysis had shown us the fact that the number of e-books used are increasing in Romania and online platforms are using different strategies in order to promote the digitalization of print books, especially in education and professional documents. What helps people to trust e-books more are the tutorials of using or editing them.

Keywords Education, innovation, e-book, platforms, comparative study

I. INTRODUCTION

E-books are forms of electronic text containing many features that can be classified as accommodations. The document itself has three different components: an e-book file, software for reading the e-book, a hardware device to read it on, such as a computer, laptop etc. E-books are available through online libraries, bookstores, or can be created from common forms of electronic text with reading tools. E-books are often available free. Accommodating features that some e-books currently have include ease in portability, adjustable text size, highlighting, bookmarking, note taking, interactive dictionaries. By using these features instructors can create pre-accommodated e-books for student reading that can include items such as advance organizers and reading guides.

II. COMPARATIVE ANALYSIS OF THE OST POPULAR ROMANIAN E-BOOK PLATFORMS

Our analysis is based on a 36-criterion grid that tracks the organization of distributors, the range of products that are available, techniques and strategies, the complexity of the website and the e-book market. In order to land clear conclusions, we have made a

comparison between three platforms in Romania and three foreign platforms.

The Romanian platforms that we chose to analyze are Libris, Humanitas and Polirom. Initially, our study was focused also on Elefant.ro, but the collection of e-books of this platform was removed for reasons not publicly announced by the owners. On the other hand, we chose from the international e-book market three of the biggest and most renowned platforms, Amazon, FNAC and Springer.

A. Polirom

Following the applied grid, Polirom's online platform is best suited in terms of collection complexity. It now holds 1908 titles, all in Romanian. The absence of any listed collection in a foreign language (not even English) might be considered a weak spot. This platform offers the buyer both the electronic and the printed version for most of the books listed in its collection. One of Polirom's strong spot is when it comes to delivery, which is made through the Romanian Post or courier companies and DHL services - for purchases made from abroad. A very useful section for potential customers is dedicated to the company's delivery service policy, that explains the method of delivery as well as the shipping taxes applicable to different countries.

To widen its book collection, Polirom collaborates with other publishers and partners, that provide books, in both printed and electronic format. These partners support the copyright issues as well and most of the book's intellectual propriety type is ISBN.

Polirom uses some specific marketing strategies, including an old-fashioned newsletter, to which each user can subscribe to stay in touch with all the promotional campaigns. The subscription can be completed through a simple and user-friendly method: the user only provides his/her email to receive notifications about new collections or issues, applied discounts or new benefits.

The personalized marketing concept is not really used to its full potential on this platform. Polirom sticks to using cookies (a web standard nowadays), as well as personalized searches. Once logged in, the website will

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memorize the user's most recent searches, as well as his/hers points of interest. As for the use of cookies, the costumer can be bothered by the add placing on different other websites or social media platforms. Under the 'privacy policy' section, Polirom explains transparently the way that the data collected using cookies is being used and how the 'tracks' of the user can be deleted.

As far as the user account is concerned, Polirom offers only the classic version, with a few fields that can be filled in, without the possibility of logging in through social networks. Creating an account can offer some benefits to the user, but not so many. Polirom sticks to the classic approach, by registering searches for further recommendations.

The costumer support sections are neither very modern, as there is no instant chat window with the staff. However, there is a 'Help' section, divided in a few subcategories: How do I buy, shipping details, FAQs, online library etc.

Another weak spot is given by the fact that the users don't have the possibility of filling out a feedback form to express their opinion related to 'surfing'/searching/purchasing. However, the e-book collection is well set up. The user is provided with basic information about the book (e.g., title, author, domain, collection, publishing year) and extensive content descriptions. These include a synopsis, the author's biography and photo. Readers can also leave reviews on the book, for which creating an account and logging in to it is mandatory. Yet another weak spot, in our opinion.

B. *Libris*

Based on the number of e-books, Polirom is followed at close range by Libris. This Brasov based platform holds 923 titles in its collection and, just as its competitor, all the the e-books provided are in Romanian. This platform uses the 'shopping mall' economic model, which means that it allows other merchants to sell their products on the website.

Like Polirom, Libris also offers books in both classic and electronic format. As it's expected, paperback or hardcover books come in a much more generous range of selection, but just like on other similar platforms, buying an available book on an electronic support is far cheaper than the classic version of the same title. The e-books come in formats that are most easily supported, such as ePub, MOBI or PDF, which make them readable on basically any common device.

The platform also offers a lot of explanations and descriptions that can be useful to the reader, regarding the electronic book, a suggested app for a better reading experience and many other topics that might come in handy. Even more so, the platform offers special tutorials, regarding installation of different apps and transfer of e-books. It's important to know that the electronic books provided by Libris are not supported on Kindle devices but can be loaded through Adobe Digital Editions.

Users can form complaints or forward suggestions using the feedback form, that can be filled in even without creating an account. On the other hand, creating an account can be useful in many ways, as the platforms offers its users some important advantages and special services. They can, for instance, make a wish list, and benefit from important discount such as free shipping (for big orders), return, call center support, quick order and loyalty points. Libris also offers discounts limited by a certain period, promotions that are well displayed, usually being the centerpiece of the home page for better visibility. Discounts are also announced through the newsletter, that can be subscribed to by any visitor, just by listing his/her email address.

As for delivery, the options are the same as for the previous example: the Libris bookstore, courier, Romanian Post and DHL, for orders place from abroad.

C. *Humanitas*

Humanitas, the third Romanian platform in our analysis, currently has a rich collection of electronic books, approximately 920. This website has a well optimized mobile version and is well structured, so the user can quickly find anything he/she searches for. The user is informed regarding the devices and the operating systems that the e-books can be read on - iPad, Macintosh, iPhone, Android, eReader, Kindle (the first Romanian e-book platform to support it!).

User support is provided mainly through an instant chat sections, but also through a section called 'Recent Questions'. Within it, the user can find questions an answer on topics such as discounts, delivery methods, payment methods etc.

Following the applied analysis grid, we noticed that the LibHumanitas platform does not cover support for serious difficulties that might concern the customer. For example, staff responses via email or telephone are rare. Although, theoretically, the instant chat window promises a quicker response from the staff, this is not the case at LibHumanitas. Questions asked through this tool also go unanswered for several hours or even days.

The user account is built in a classic format, with registration or logging on windows. However, users can easily log in using their Face-book, Google+ or Yahoo accounts, in order to skip the old-fashioned account creation steps.

Each e-book comes with basic information, such as the title, the author's name, the publishing house, year of appearance, collection and a short synopsis. The biography of the author is not shown on LibHumanitas, and the book cannot be 'browsed', as only the cover is available for a preview. The available formats are ePub and PDF. The platform also provides the costumer with a guide that walks him/her through all the needed steps to install the required programs or apps, regardless of the used device.

As for the user's interaction with the product - in our case, the e-book - we find it low. The customer can leave comments, filling a few predefined fields (such as nickname, review title and review). However, users

cannot get involved in conversations and in the exchange of ideas and opinions. They also cannot give recommendations that could make the product better, more user-friendly, easier to purchase/download/read.

LibHumanitas does not do very well in the field of marketing techniques and resources as well. The platform does not provide its visitors with any extra discounts, promotional packages or other benefits. The only tactic that is being used is promoting, within the home page, different events in which the publishing house (Humanitas) is involved or new books that are being printed.

As for payment services, the classic methods are being used: reimbursement or paying by credit card. Deliveries are made by courier companies, directly from the libraries. There is also a special section for international shipping: it provides a well-structured, clear, step-by-step ordering information, as well as an email address to confirm payment or to offer support.

D. Amazon

As we specified earlier, our analysis also focuses on three major e-book selling platforms with an international range. And one of the best rated e-commerce platforms in the world is, undoubtedly, Amazon.com. In this case, we chose to study the domain dedicated to the United Kingdom, amazon.co.uk. It has various categories and products, from books, clothes, electronic devices, DVDs, accessories, cosmetics, clothing, detergents etc. Although the website is very complex, this involves a more difficult handling. As we mentioned, there are many different categories, therefore finding the desired information can sometimes be a bit of a challenge.

Specifically, Amazon UK has an incredible collection of 3.4 million e-books, available in 20 different languages. Only 46,717 of them are in English! As a platform type, it is like the ones discussed above. The economic model is that of a “shopping mall”, but also a “marketplace” (an online platform that allows the seller to advertise products at their own risk by selling them to consumers or sellers interested in them. In this case, the main platform is the intermediary that offers the actual selling place, through which the seller and the buyer can interact).

The placement of orders is done through filters, such as author, language or review. Unlike the platforms analyzed earlier, Amazon provides the user with all the categories in which printed books are available, adding in various Kindle deals (Kindle being the device on which the e-books can be read). The payment methods are also like the previous examples, but in this case the users can benefit from gift cards, fidelity points etc.

As it can be easily predicted, Amazon applies much more well several marketing tactics - each user can benefit from a wide range of offers provided he/she creates an account: free reading apps, newsletters, the possibility to give an e-book as a gift to another users, well detailed biographies etc. More than that, each new user has a free 30-days period to watch movies and TV

shows streamed on Amazon Prime, and students have accounts dedicated to them (Prime Student). The personalized marketing part is marked by the user's benefits, including the above-mentioned student account, as well as birthday gift cards and bonus points.

The user accounts are of two kinds: prime (e.g., prime student, movies, series, clothes etc. with discounts and fast delivery options) and business (developed especially for companies - stationery, equipment etc.).

The user support section is well organized, in a very structured section regarding various issues: orders, returns, digital services, premium accounts, payment options, account settings etc.

Following the analysis, we have concluded that Amazon stands good at every chapter, including e-books. In addition to the large number of titles that are available, the information is well structured and complete for every book (title, year of appearance, publishing house, number of pages and available formats). The cover of the book can be easily viewed and there is even an audio narrator incorporated. The books are also provided with a synopsis, plus advanced information, such as further recommendations, testimonials of other readers and tagged content. The users can interact by leaving comments or reviews.

E. FNAC

FNAC is, in many ways, the French version of Amazon. It is a very well-developed platform, available in both desktop and mobile versions. Like in the above-mentioned examples, it also uses the 'shopping mall' economic model, following the same steps in the distributing process. Just like Amazon, FNAC has a rich and well-turned category - cards, music, smart devices, home appliances, sports, babies etc.

FNAC also uses a wide range of marketing strategies. The platform offers users discounts on large product categories, and “3 products at the price of 2” type of promotions. These are all listed on the home page of the website, to instantly capture the visitor's attention. Another similarity with Amazon is its capability to remember searches and to rebuild them later, for faster navigations. This can be done even if the user is not logged on his/her account. Customized marketing strategies include certain benefits dedicated for subscribers, bonus points, 24 h delivery, lower shipping rates and even some free books. Through these seemingly tiny tactics, FNAC keeps the user close to the platform, rewarding him for his choice. At the same time, FNAC calls on the e-mail strategy targeted at various categories of clients, placing product recommendations identified by user searches.

The user has the option to create a classic account by filling in mandatory and predefined fields with basic information, as well as signing in directly through a social network (most commonly Face-book or Google+).

User support is made through a special category, organized according to the most useful aspect (orders,

returns etc.) for a quicker navigation. FNAC does not have an instant chat window for fast communication with the staff, and this might be considered one of the weak points of the platform. To be fair, it's a merely small inconvenient in comparison with the generous amount of offers and services. One of the newest and most demanded option is the FNAC++ card, that allows customers to get improved services - fast delivery, one day delivery, priority in outlets, free delivery, discounts etc. Of course, all the terms and conditions for acquiring this service are explained on the website.

Just like Amazon, FNAC also uses a special device for reading its e-books, named Kobo. If the user does not own such a device, he will still be able to download a smaller range of e-books in ePub format. However, if the customer is also a Kobo owner, the number of available e-books increases.

Each e-book comes with some basic information (title, year of appearance, publishing house, collection, electronic format), but also with some additional data (book details, other books by the same author or of the same category etc.).

FNAC also gives its users the possibility of skimming through the e-books. They can even download a few pages, but only after logging in to their own accounts.

Regarding the available information for every e-book, FNAC does not feature the author's biography. Instead, users can leave comments, reviews and can rate each product.

III. ANALYSIS OF SOME PLATFORM FOR E-BOOK CREATION

In the context of TeachSUS project (Erasmus+ Programme – Strategic Partnership, project no. 2018-1-RO01-KA204-049253) developed in an international consortium, there have been developed an analysis of different software types/platforms for the e-book creation and view. This activity is part of the dedicated Intellectual Output that will be materialized in a dedicated e-book for project-based learning in the field of teaching and educating sustainability, in the case of pre-university level of education. The created TeachSUS e-book will support teachers in their pedagogical approach for educating topics of sustainable development.

Table 1 shows the results of different software analysis to create an e-book in order to make it available on-line. The analysis has been not considered all the available software tools, only the most popular. Other software applications used in practice are:

- PC sau Mac — EPUB or PDF:
- iPad, iPhone, iPod Touch — EPUB or PDF:
- Kindle și Kindle Fire — MOBI or PDF:
- Android — EPUB:
- NOOK, NOOK Color și NOOK Tablet — EPUB:
- Sony Reader — EPUB.

Table 1. The synthesis of the analysis of different software types/platforms for the e-book creation and view

Software or platform name	Description	View and web page
Pressbooks	“The Open Book Creation Platform - Openness. Accessibility. Creation. Control.” The Pressbook is very similar to the WordPress platform, but it has a different concept. You can add and edit paragraphs, sections, and so on. It's ratuity, but if you want to remove the rat's watermark, you need the paid platform update. (starts with an initial payment of \$ 19.99)	https://pressbooks.com /
Beacon	“Your Complete Lead Magnet Solution. Use Beacon to create professional lead magnets and convert more website traffic into leads.” It's a WordPress plug-in. Plugin transforms blog articles into an e-book. You can miss which items are included, or how to filter them by category. The plugin modifies articles in HTML5, or PDF formats. Layout features are automatically included and can help design the e-book through the dashboard menu.	https://beacon.by/
Kitaboo	Kitaboo is a cloud-based content platform to create-publish-distribute interactive mobile-ready content. An award-winning e-book publishing platform, it creates interactive multimedia-rich & mobile-friendly digital content. The cloud-based technology securely publishes and distributes e-books on all mobile platforms and devices with powerful analytics and user insights. It supports and allows:	https://kitaboo.com/

	<p>Cloud based creation platform Automated ePub Conversion Secure B2B, B2B2C and B2C distribution White-labelled reader apps for iOS, Android and Windows Advanced user analytics</p>	
Epubeemaker	<p>It is a free software (ePUB Maker, ePUBee Maker) ePUBee Maker is a powerful Word addin that helps publishing EPUB, Mobi, PDF e-book with the same quality as Word document. Keyfeatures of ePUBee Maker v1.8.1.29: 100% free and safe; Quick, efficient conversions from word to epub; No contents or quality losing; Set cover, edit metadatas, edit table of contents, make professional e-book; Amazingly easy to use, just need edit word documents and click on "Publish"; Generate EPUB, MOBI, AZW, AZW3, PDF books in one software; Import EPUB, MOBI, AZW, AZW3, HTML, TXT to Word, you can use ePUBee Maker as e-book Editor or e-book Reader.</p>	<p>https://epubee.com/maker.html</p>
Flipbuilder	<p>Convert Static PDF Magazines/Brochures/Catalogs into Interactive, Media Rich e-books that Can Be Viewed, Shared and Distributed on Web, Social and Mobile.</p>	<p>http://www.flipbuilder.com/support/how-can-i-share-my-created-e-book-online.htm http://www.flipbuilder.com/</p>
Blurb	<p>A software for making electronic books to assist during the publishing and distribution process. It seems that is has not been used for educational materials.</p>	<p>https://www.blurb.com/e-book</p>
Calibre	<p>Caliber is a raturity e-book management software and an e-book viewer so you can store e-books and organize them in a library but also convert between PDF, EPUB, MOBI and other formats E-books.</p>	<p>https://calibre-e-book.com/</p>
Visme	<p>Give free solution for the educational environment.</p>	<p>https://www.visme.co/e-book-creator/</p>
FLIP PDF PROFESSIONAL	<p>Convert Static PDF Magazines/Brochures/Catalogs into Interactive, Media Rich e-books That Can Be Viewed, Shared and Distributed on Web, Social and Mobile. There is a free version (light in functionalities) but there are available 2 versions for purchase: Flip PDF is a utility which can be used to convert PDF files to animative page-flipping e-books which work on all device (99 USD) Flip PDF Professional provides more flexible and functionalities, such as enable you to embed video, audio, Flash and links (299 USD).</p>	<p>A very suggestive DEMO of what an e-book is can be seen at: https://www.flipbuilder.com/free-e-book-creator.html</p>

V. CONCLUSIONS

Digital technology and its applications, next to the internet have generated significant changes on the book

market as well. There are two big trends in industry: first, the transition from offline to online commerce and second, from the print book to the e-book. At the beginning there were spectacular increases and similar features. The results had shown that the sales of e-

books are decreasing in favor of a comeback of paper books. The print and the e-book will coexist, for a while. The publishers and book retailers find themselves in a new context, faced with new players and new opportunities. Lately, the Romanian book market follows the global trends. Both the online book market and the e-book market are changing in Romania. The online book market is becoming important in Romania, as well as on other markets.

With Romania's overall book market, on-line book buying is expected to grow as much as 20% this year, with books the third most popular online purchase. With Amazon pretty much ignoring the eastern Europe markets, there is plenty of room for growth for Libros, both with books and other online sales. The market leader in e-books in Romania used to be Elefant.ro. Again, Amazon has no e-book presence in the country.

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The Importance of Vocational Training Courses for the Careers Development of Students and Graduates

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Abstract: To facilitate the professional training of students, more and more companies offer training programs and courses to help students who want to deepen certain areas or simply acquire certain skills or knowledge that will help them in their careers, which he outlines. The present paper addresses at the theoretical level the concept of vocational training, as well as the applicative part - a questionnaire applied among the students, to see their perception of the vocational training courses and what are the criteria underlying the choice of such a course. The recommendations following the analysis are for students, on the one hand, for those who are interested and attend these courses, what kind, of course, to choose, depending on the expected results, and for those interested in attending such a course, to know which are the main axes of skills development that employers want to see a potential candidate.

Keywords: vocational training, skills, skills development axis

I. INTRODUCTION

What does vocational training mean? It is a form of continuous, non-formal education that comes to complement the formal education system. It aims to increase the level of professional competence of students, fresh graduates or employees, through various courses and training programs. At the same time, other objectives are pursued [6]:

- A better adaptation to the demands of the labor market;
- Promotion in work and professional development;
- Professional conversion;
- Preventing the risk of unemployment;
- Stimulation of labor mobility.

People who attend continuing education programs have an advantage over the competition when applying for a job, adapt more easily to changes within an organization and gain a competitive advantage in the labor market. Only authorized providers can offer such

training programs because vocational training is regulated by law.

The vocational training programs are authorized and certified by the National Council for Adult Vocational Training (NCAVT) and are developed in collaboration with the Ministry of Labor and the Ministry of Education. They can take many forms:

- Participation in courses organized by the employer or by the providers of vocational training services in the country or abroad;
- Internships of professional adaptation to the job and job requirements;
- Internships and specialization in the country and abroad;
- Organized apprenticeship at work etc.

Individuals can also consider individual training through coaching, mentoring, training, postgraduate academic studies, conferences, webinars, volunteering, research, internship programs, scholarships or participating in competitions held within the industry. The vocational training programs are carried out only at the premises of the authorized providers, at the employer's premises or at the offices of the County Agencies for Employment. A condition for these premises is to be equipped with study materials, supplies, audio-video equipment, materials for practical exercises. These courses are held by trained NAQ (National Authority for Qualifications) trainers.

II. CURRENT SITUATION OF PROFESSIONAL TRAINING COURSES

We are in the century of speed, and that means adapting rapidly to the demands of the market when we are at the beginning of our career or have already ventured on a certain path.

The current education system is very much based on the theory underlying all the trades, but one very important thing is neglected: at the end of university

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studies, employers want to see practical concepts coming out of the hands of future employers, the diploma having a very important importance into the detriment of the practical knowledge that the student / fresh graduate can prove.

There are more and more articles on the internet about how you can earn big money/month, even if you did not complete the maturity exam and even less, you did not go to college. This should give us some question marks, as it is not so important to higher education or, even worse, even if you follow them, you still cannot reach the threshold of an attractive salary because the experience required so often employers are missing. Consequently, for a fresh student/graduate, whose experience is measured in extra-curricular activities and internship/internship programs, the focus should be on self-study, which is not included in the faculty program and which demonstrates the proactive candidate, with initiative and the desire to accumulate knowledge. This is where these training courses come in. If in the beginning, the main courses were those for the trades such: electrician, confectioner/ cook, mechanic, locksmith, nurse, etc., with the evolution of the market, the courses of information technology, leadership, marketing, management, entrepreneurship, foreign languages were initiated, and so on

Of course, they are within the reach of any person, but for the students, they are extremely important, because they have the opportunity to practice exactly what they want and at the end of the course they will receive a certification which, together with a complex Curriculum Vitae, will differentiate it from the students who summarize it. only at the faculty courses. In addition, employers are very focused on what candidates know when they give various tests at the interview, and not so much on the field they study at the time of recruitment, respectively the area in which they graduated. If they have solid knowledge certifications, they can be easily hired. Access to these courses is unlimited, with a simple Google search you can access numerous sites that lead the users to the identified platforms.

If we talk about a decisive factor for attending a course, most students think about whether they can afford it, whether it is worth paying for something they do not have 100% confidence that it will bear fruit or will matter. To support the application to the available courses, they should be free, at least the initiation courses. In this way, out of sheer curiosity the students can follow them, and then decide if they can help the next levels.

Another factor that influences this decision to take a training course is the type of the course: physical or online. A first impression is that an online course can be much easier to follow, because you do not consider the travel time to a space, nor the resources, and everything can be done in front of your laptop at home. So, it is very practical for many of the students. On the other hand, a major advantage is the courses in physical format: direct interaction, deviation from the standard program in case of doubts or questions, the possibility

of being followed step by step in the learning process, the exchange of opinions is much more easily, productivity increases in a competitive spirit.

III. DOMAINS OF TRAINING COURSES

The types of courses that can be accessed are various - leadership, management, marketing, IT, etc. According to the Hippo platform [5], several courses should not be missing from the CV of any student, regardless of the chosen field of study, such as:

- Leadership studies - this type of study offers coordination, organization and demonstration skills that demonstrate the efficient management of tasks, delegation, and monitoring of the progress and results of a project. The advantage over others is obvious, and the opportunities for advancement are much greater.

- Accounting/finance - accumulation of useful knowledge in the case of a career in the field, but also of a type of knowledge that helps in one's personal life (taxes, taxes, budget planning, resource management). This course can reveal a responsible, analytical citizen;

- Business management - because it is never known when the opportunity to advance in the career and business management knowledge is needed in managing the new job challenges. Also, the possibility of opening your own business is great, at which point your ideas can be applied;

- Writing - the art of words must be mastered not only if the field in which it is activated is the press, PR or advertising. This must be mastered from the simplest applications to be drafted, to the composition of texts for various presentations or even proposals for the current workplace. Translating ideas into writing is not as easy for everyone, and this competence is preferable to be acquired;

- Communication - even in a technical field, the benefits of such a course must be taken into account. Contact with people is inevitable, be it the office team, superiors or clients. As most job descriptions also contain the condition that the applicant is a good communicator, a diploma attesting to his communication skills (written and oral) will position the candidate before the competition;

- Sociology - knowing the people around is very important and is a benefit. A sociology course can provide a student with knowledge about human behavior, inter-individual relationships, and analytical spirit;

- Technical studies - these studies may include the use of different technologies, platforms or programs that are always a plus. Indeed, it depends on the area in which you want to start a career, but there are a few that help regardless of the situation: using the Microsoft Office package, knowledge of photo and video editing, the use of various blogging platforms. Thus, the tasks at work can be performed with a low degree of difficulty without resorting to a specialist in the field within the company.

The promotion of these types of courses must be rigorous:

- Teams from companies that research new places where they can discuss and explain what happens in such a professional, but also personal development program;
- Teams that monitor the online environment, on all the social networking sites used, to make them known.

IV. THE IMPORTANCE OF PROFESSIONAL TRAINING COURSES

Employers appreciate the skills of the candidates and differentiate between those who come with an IT knowledge package, even if their studies are Arts and Design. If there is a certificate which attest the skills for a prospective future employee, the employment opportunity is extremely high. Take the "X" Academy of Information Technology as an example, which offers worldwide recognition of the knowledge gained in their program. This is possible because after taking the final exams and passing them, certificates are issued directly from the Cambridge, Microsoft, Adobe, Zend, Autodesk and CompTIA International Examinations Department in England, the Netherlands or the United States.

The advantage of such certificates is that they obtain a recognized authority both at home and at the international level. Access to companies that are offering well-paying jobs is guaranteed.

V. THE STUDENTS OPINIONS ABOUT TRAINING COURSES

To find out the frequency of participation, the way of promoting the training courses for the students as well as the students' opinions about their importance and usefulness, a survey based on a questionnaire has been developed and applied. Thus, there has been created a questionnaire to which 34 people answered (research sample). We choose a sample size of 34 persons, for a population of approximately 500 persons and having a confidence level of 95%. The chosen sample size has a confidence interval of 16.24. The results are presented in the following.

1. The area where you live is:

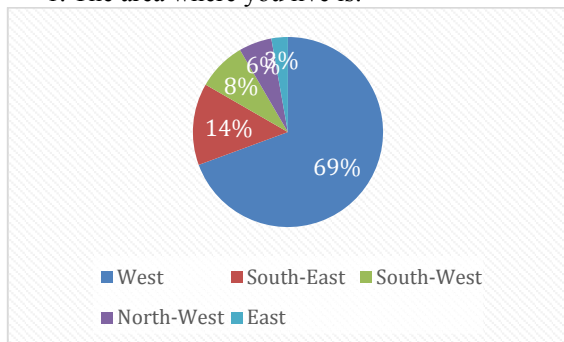


Fig. 1. The area where live the respondents

As seen in Figure 1, approximately 70% is from West, 14% is from South-East, 14% is from

South-West, 5,6% is from North-East and 2,8% from East.

2. How old are you?

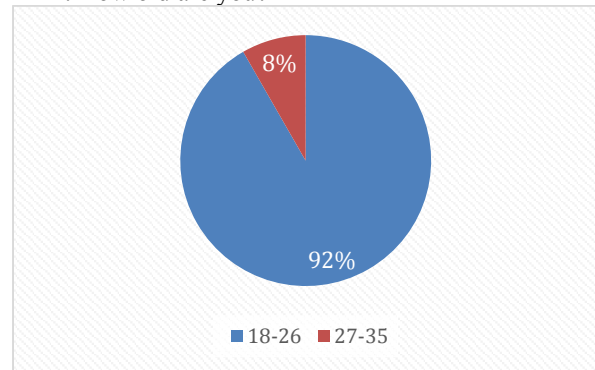


Fig. 2. Respondents age

As seen in Figure 2, 91,7% from respondents have age between 18-26 and the rest of the respondents have between 27-35 years.

3. Your occupation is:

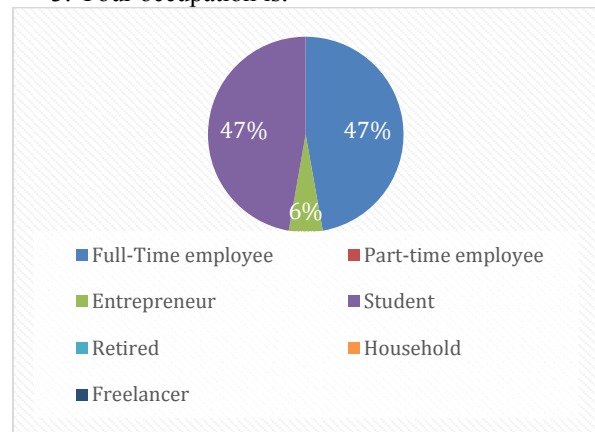


Fig. 3. Respondents occupations

Respondents in the sample are not only students because in some cases they are employees. Thus, the respondents' occupation is shown in Figure 3. On par with a percentage of 47.2% of respondents are full-time employees and students and the remaining 5.6% are entrepreneurs; 17 people are students, and only they have gone through the rest of the questionnaire.

4. The university you attend is:

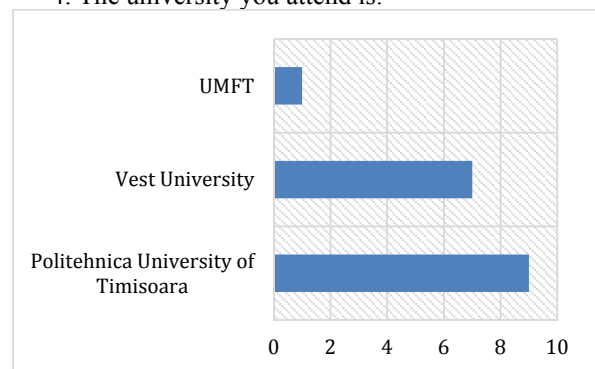


Fig. 4. Universities where are going the students' respondents

As it is seen in Figure 4, 9 respondents are students at Politehnica University of Timisoara in Romania, 7

follow studies at the West University of Timisoara, Romania and 1 respondent is enrolled at the “Victor Babes” University of Medicine and Pharmacy, Timisoara, Romania.

5. The faculty you attend is:

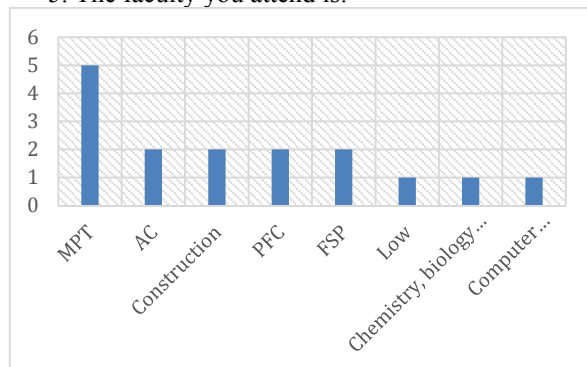


Fig. 5. Faculties where the respondents are enrolled

The analysis in detail of the respondents’ faculty where they belong is shown in Figure 5. As can be seen, 5 students from the Politehnica are enrolled at the Faculty of Management in Production and Transportation (MPT), 2 at the Computer Science Faculty (AC), 2 at the Civil Engineering Faculty (Construction). The students in the research sample from the West University of Timisoara belong at: Faculty of Political Sciences (PFC), 2 respondents, 2 are students of the Faculty of Social Sociology and Psychology (FSP) and one belong to the Law Chemistry, Biology and Geography Faculty (law) and student follow the medical school at the “Victor Babes” University of Medicine and Pharmacy, Timisoara, Romania.

6. The year of study:

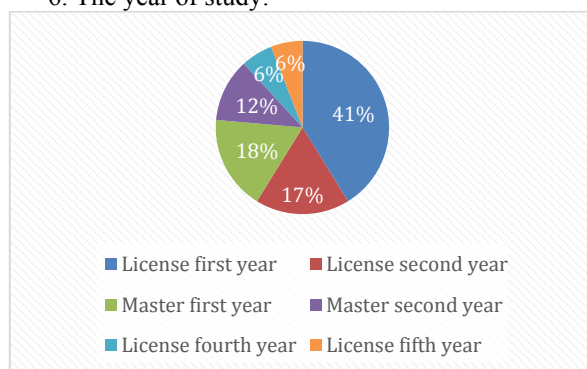


Fig. 6. Year of study of respondents

Regarding the year of study, Figure 6 is showing the research sample structure. 41.2% of the students are from first year Bachelor studies, 17.6% are in the Bachelor studies second year, 5.9% are Bachelor students in the fourth year and 5.9% of students are in fifth year of study at Bachelor level. Regarding the master students that have been considered in the research sample: 17.6% of the respondents are master students in the first year and 11.8% of the respondents are master students in the second year of study.

From the perspective of the year of study, there have been considered that the sample is equilibrate, having 70% of the respondents belonging to Bachelor studies and 30% at Master programs. The percentages reflect the usual proportion between the Bachelor and Master students in the Romanian higher education.

7. Are you part of a student organization?

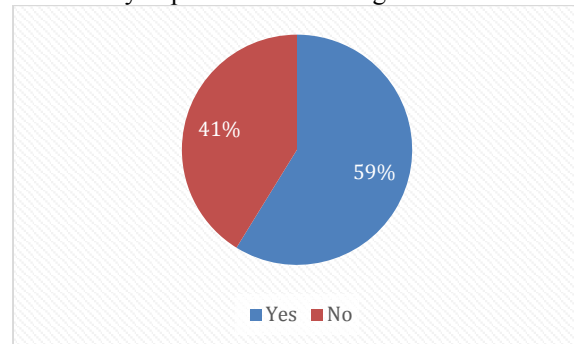


Fig. 7. Respondents’ affiliation to a student organization

As it is seen in Figure 7, more than 50% of the respondents are part of some students’ organization.

8. Have you attended training courses for students so far?

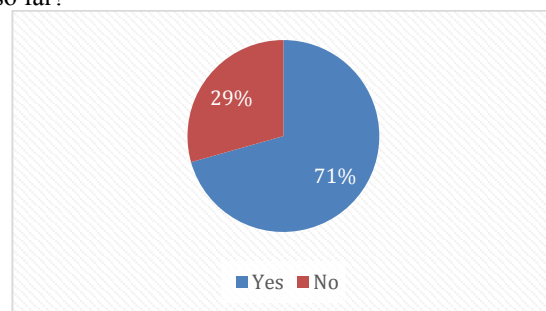


Fig. 8. Respondents participation at training courses

In Figure 8 there are presented the research results on the students’ involvement in training courses, other than the usual one of their study programs curricula. 70.6% of the respondents have recognized that they attended training courses (extra-curricular trainings) for students so far.

9. The course to which you attended were with fees or not:

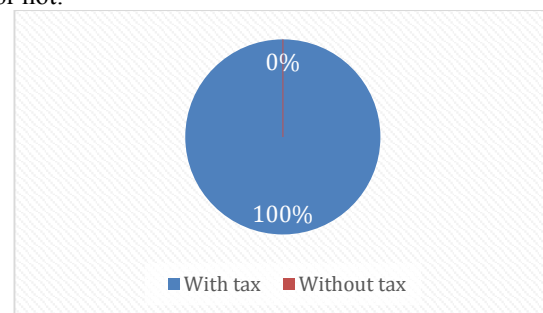


Fig. 9. The fees payed for extra-curricular training courses

As shown in Figure 9, all the extra-curricular training courses which were attended by the students were free of charge (no fees were payed) or they were

covered by the scholarships. This result proves that extra-curricular trainings are well promoted among learners. In addition, extra-curricular training which are vocational one, were find very popular by students and all universities in the research are offering diverse programs.

10. The environment in which the course has been developed:

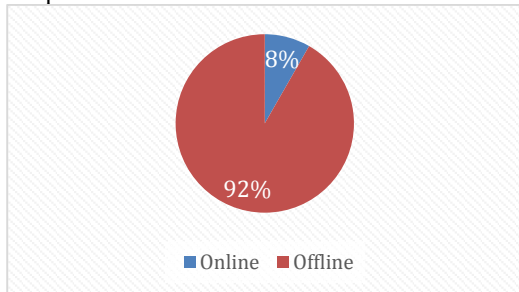


Fig. 10. Type of learning environment for vocational training courses

The investigation on the type of learning environment for vocational trainings (Figure 10) shown that: 91.7% of the trainings followed by students were organized offline (face-to-face in classes). This shows that confidence in the success of a course is higher when existing direct interaction between teacher and learners, and lower in the case of the online courses.

11. The course you attended was about:

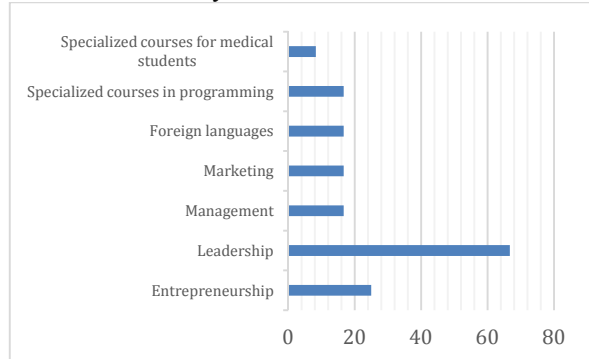


Fig. 11. Topics of the courses followed by respondents

In Figure 11 is shown the distribution of the responses regarding the topics of the vocational training dedicated to students>

- 66.7% of the students participated in leadership courses (which is the most attractive topic),
- 25% students have followed an entrepreneurship course,
- 16.7% of the respondents have attended management, marketing, foreign languages and other specialized courses in informatics and
- Only 8.3% of the respondents recognized that they followed courses specialized for medical students. Consequently, there is a gap in organized vocational trainings for medical students.

12. Why have you not attended training courses for students so far?

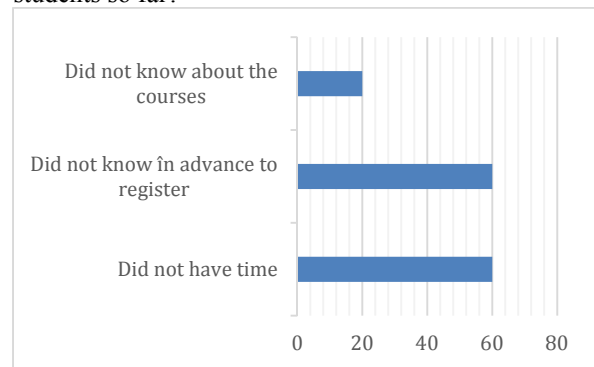


Fig. 12. Reasons for non-participation of respondents at vocational training courses

As seen in Figure 12, more than 60% of the respondents recognized that the main reason why they did not attend vocational trainings is because they did not have time to do it and because they did not know in advance to register. Only 20% of the respondents recognized that they know about this type of courses.

13. Where do you usually, find out about the courses organized for students?

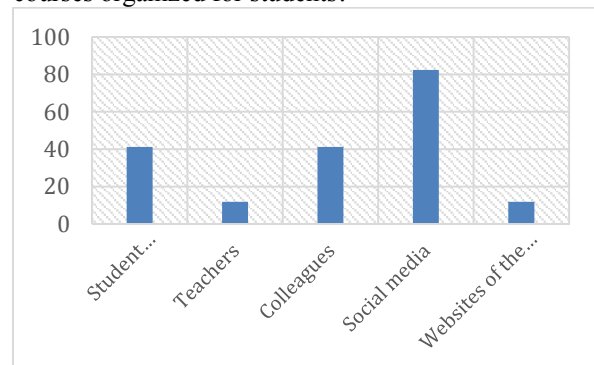


Fig. 13. Sources of information about vocational training programs

In Figure 13 are presented the responses on the sources of information about the vocational training programs. As could be seen, 82.4% of the students find out about courses on social media, 41.2% from the student organizations and colleagues, and 11.8% from the teaching staff they interact with and from the websites of the companies that organize such courses.

14. On a scale from 1 to 5, how useful do you think it is to follow and graduate vocational training courses? (1-less important, 5 very important)

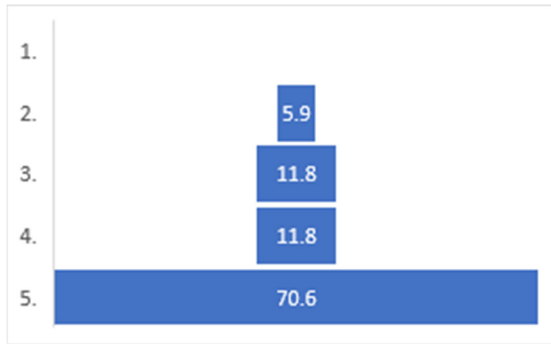


Figure 14. The importance of vocational training courses

The importance and usefulness of the vocational trainings for students in the research sample are shown in Figure 14:

- 70.6% of the students responded with a grade 5 on the the scale of importance for the vocational training courses,
- 11.8% note 4 and
- 11.8% note 3, but
- note 2 being granted only by 5.9% of students.

15. For a graduate vocational training program, do you consider that certification received is important?

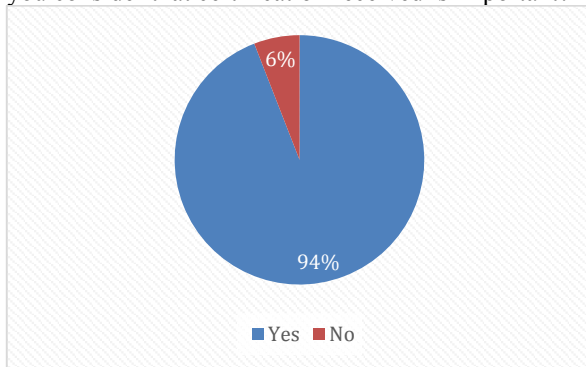


Fig. 15. The importance of certification

In Figure 15 there can be seen that 94.1% of the respondents considered that the certification obtained after they graduate a vocational training course is important, because they considered that the main purpose of the enrollment is to support them in their careers' development. There is also a small percentage of respondents who consider that the role of the courses is primarily personal and is followed simply by a passion and interest on the topic.

16. How relevant do you think the diploma/certification of such a course is for employers besides the experience?

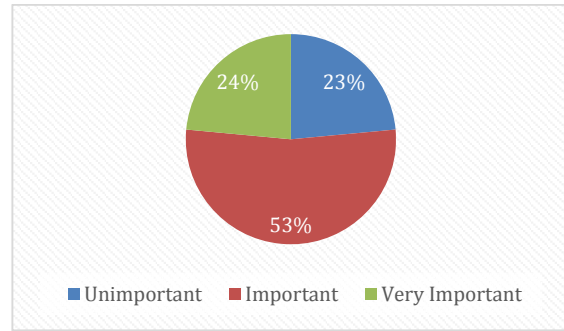


Fig. 16. Importance of vocational training courses for employers

As seen in Figure 16, half of the respondents consider that it is important for employers the diploma/certification obtained from the promotion of a training course as the knowledge gained during it brings the value of the future employees.

A quarter of the respondents do not consider them important because they think that these are superficial courses after which the knowledge package is not a solid one and which is not an advantage for the students when they are hired.

17. Would you like to attend training courses for students in the future even if they have a cost?

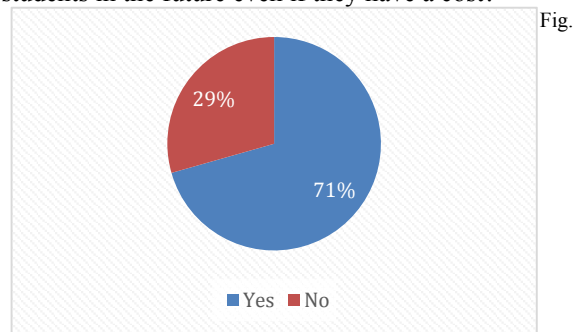


Fig. 17. Respondents willing to participate in vocational training courses

The data presented in Figure 17 shown that 70.6% of the responding students would attend training courses even if they will have a cost for participation. Thus, it can be observed that this is an important aspect that students consider when choosing to take a course. Those who do not wish to pay will apply for them when the financial balance will not be affected in any way.

18. What would be the amount of money you would be willing to pay to attend a vocational training course?

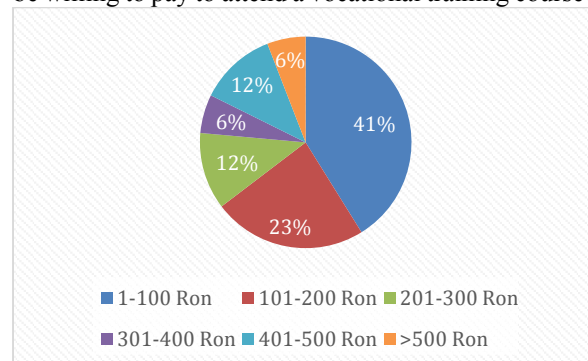


Fig. 18. The cost of a vocational training course

The research results presented in Figure 18 shown that the amount that students would be willing to pay for completing a training course is divided into several intervals, as following:

- 41.2% of students are willing to pay between 1-100 Ron,
- 23.5% between 101-200 Ron,
- 11.8% between 201-300 Ron,
- 11.8% 401-500 Ron,
- 5.9% between 301-400 Ron and
- 5.9% more than 500 Ron.

In addition, with this question, we can find out that, although over 70.6% of the respondent students are willing to pay tuition fees, the amount of money that they need to pay is very important, most opting to pay up to 100 Ron.

From these percentages, we can achieve that students cannot easily afford large amounts of money for these courses, although a higher quality course involves the allocation of an amount of over 500 Ron.

19. When would you like to take this course?

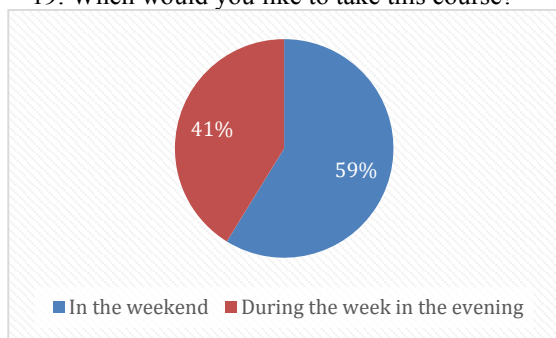


Fig. 19. The period of training course

Regarding the vocational trainings timetable, relevant data are related to the research results presented in Figure 19. As can be seen, 58.8% of the respondent students want to attend training courses that are organized in the weekend and the rest during the week but in the evening, because the participation during the day does not possible because they have courses at a faculty/master's degree.

20. How much time are you willing to give to complete such a course?

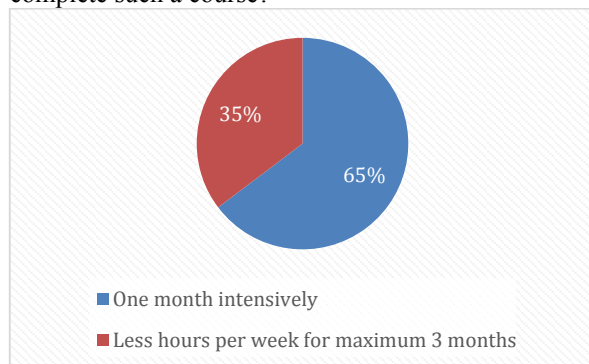


Fig. 20. Time to complete a training course

As seen in Figure 20, about 65% of the respondent students want to attend courses that have a maximum period of one month intensively, beside of the courses that have fewer hours per week but have a total period of 3 months.

21. What is the the reason why you would not want to attend vocational trainings for students for which you should pay?

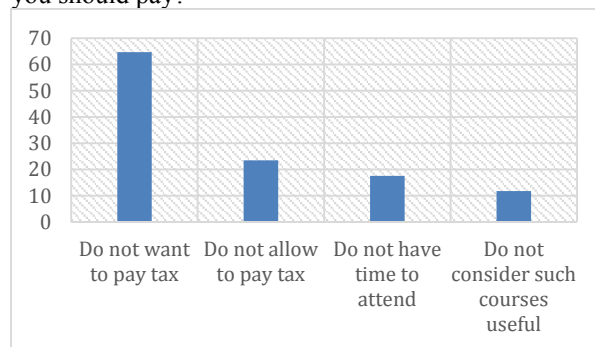


Fig. 21. Reasons why respondents would not like to participate in vocational training courses

The research results presented in Figure 20 shown that 64.7% of the students who do not want to attend training courses for which they have to pay to have the reason that they do not consider as a student must to pay for such courses, 23.5% do not allow to pay tax, 17.6% do not have time to attend such courses and 11.8% do not consider such courses useful.

VI. FINAL REMARKS ON THE RESEARCH RESULTS GATHER WITH THE SURVEY

Most of the respondents who have completed the whole questionnaire are students in Timisoara so they study at the Politehnica University, the Vest University and the University of Medicine and Pharmacy.

With the help of the questionnaire we found out that about 60% of the respondent students are part of a student organization thus being aware of its usefulness in a faculty.

Approximately 70% of the students have so far participated at training courses for students who have been free and whose domain is leadership in the largest proportion, then marketing, management, entrepreneurship, foreign languages and IT. Those who have not participated at such courses so far have not done so because they did not have time or did not find out in time for registration.

The students find out in a large proportion about at training courses on the social media with a percentage of 82.4%, from the student organizations and from the colleagues in the proportion of 41.2% and 11.8% from the teachers.

Over 90% of students consider it important to obtain certification both for them and for employers.

Only 70% of the respondent students are willing to participate in training courses that will have a participation fee, but most are willing to pay up to 200 Ron. Those who do not wish to participate in the training courses who have a participation fee consider

that they should not pay for such courses at 64.7% and others do not allow themselves to pay the fee or do not have time.

Most students want to take intensive courses who will be organized during the week or at the weekend.

VII. CONCLUSIONS AND RECOMMENDATIONS

Following the questionnaire applied, we can observe the increasing interest of the students regarding vocational training courses, as well as the main directions that they want to develop. The main area of interest of the students is to develop their leadership skills, but they also do not neglect the development of marketing or entrepreneurship skills. A major impediment to attending the courses, however, is the cost of attending it. It seems that, on average, students do not want to spend, on average, more than 500 RON, which is not beneficial to them, because a complete vocational training course can reach several thousand Ron. Our advice is that they go beyond the material aspect and invest in training courses designed to shape their future careers. Also, another recommendation for students wishing to participate in

such courses is to allow enough time to search for possible courses, because, unfortunately, this niche, as well as its promotion is an underdeveloped one in Romania, unfortunately.

We also recommend the more intense promotion of vocational training courses both in universities through posters and with the help of teachers.

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An Investment Management Approach for Establishing A Physiokinotherapy Compartment in a Hospital

Cristian MINCA¹, Alin ARTENE²

Abstract – In the paper is presented the reengineering of the medical recover process through phisiokinotherapy with the aim to increase the performance of the specialty, streamlining using resources, thus: quality improvement through increasing number of medical personnel and endowment with new devices; increasing number of the patients, increasing addressability; improving performance, increasing hospital income.

Keywords: Investment management, efficiency-based decision, organization development

I. INTRODUCTION

Investment activity is a priority to support the implementation of research-development projects that meant to align organization to actual progresses of technology (Popa, 2008). Even for a public or profit-oriented organization, investment activity is a priority for top management (considered also as a managerial function) required to ensure business processes support in a competitive environment (Draghici & Dobrea, 2010; Mgxaji et al., 2016).

Micro- and macroenvironment determines the risk levels and complexity of the investment projects realization. Generally, investors – private individuals, corporations or investment funds – are concerned on how to use current resources to gain the maximum benefits from the investments (after the implementation of the project). Thus, each investor considers the problems of alternative projects selection, investment resources allocation, maintenance and enhancement (Litterman, 2004).

Furthermore, evaluation of investment project is very vital part of any project undertaken by an organization. Aim is to determine the project's efficiency, effectiveness, development and sustainability. Various methods and techniques can be used to determine projects progress and evaluate either project is worth considering. According to the literature, careful consideration should be given before commencing the evaluation of project as there are many methods can be used but results might differ from

each other. So, it is important to understand the reason of evaluation before commencing and how the process should be designed and what outcomes are expected (Shyriaieva & Hussain, 2018).

This paper consists of the analysis, debate and substantiation of the investment decision regarding the accomplishment of the physiokinotherapy department at the Hospital. The main synthesized and analyzed issues are:

- Presentation of the priority issue addressed;
- Presentation and argumentation of the proposed solution;
- Sources of financing identified for implementing the solution;
- Dynamic vision of assessing the economic efficiency of investments;
- Determining the indicators of the effects of the immobilization of funds.

Thus, the indicators of the economic efficiency of the investment projects (based on the information from the hospital unit and some estimations) have been described and calculated as the basis for substantiating the decision to choose the optimal project variant.

II. PRESENTATION OF THE PRIORITY ISSUE ADDRESSED AND IDENTIFY THE PROBLEM

Preparing for the improvement of hospital services, within this project show the development of hospital capacity to improve medical recovery.

Under this management plan, it was decided to establish a Physiokinotherapy Compartment (located in Timisoara and as a unit in an existed hospital). The identification of this object of the project was made by the complex analysis of the projects proposed by different providers (companies), the financial analysis of the existing medical recovery services, the increased addressability of this medical specialty due to the existence of the Department of Orthopedic Traumatology, General Surgery Section, the existence of a well-trained physiotherapist, known in the field

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and with addressability increased and the decision of the Board of Directors

The purpose of this article is to detail the sizing and implementation of the improvements outlined above to help increase the hospital's competitiveness.

III. GENERATING CAUSE

At the West Region of Romania, in the hospital's area of responsibility, there were at the end of 2018 several adults with disabilities (94,779 persons).

Relevant indicators characterizing the West Region situation are shown in Table 1 and Table 2.

The physiokinotherapy unit is extremely necessary because it meets the needs of this highly disadvantaged category. The project is in line with the National Strategy on Social Protection and Social Integration of People with Disabilities (Ministry of Labor, Family, Social Protection and Elderly, 2014). The objectives of the program aim at locomotion rehabilitation on different areas of development or disability: medical recovery, psychological counseling and therapeutic activities.

Table 1 The number and rate of persons with disabilities in the West Region of Romania, by counties (values declared at 31 December 2018)

County	Total number of people with disabilities	Of which women
Arad	15,228	8,033
Caras-Severin	12,917	6,894
Hunedoara	20,766	11,364
Timis	25,360	13,366
Bihor	20,508	11,496
Total	94,779	51,153

Table 2 Persons with disabilities, by degrees of disability, in the West Region of Romania, by counties (31 December 2018)

County	Total no.	Serious handicap	Highly handicap	Medium handicap	Easy handicap
Arad	15,228	6,906	6,612	1,586	124
Caras-Severin	12,917	4,989	6,789	1,079	60
Hunedoara	20,766	8,419	10,220	1,970	157
Timis	25,360	9,982	12,779	2,358	241
Bihor	20,508	8,166	11,010	1,245	87

In accordance with the guidelines of the National Strategy for the Protection, Integration and Social Inclusion of People with Disabilities (Disability), which stipulates that the person with disabilities is as important and valuable as any other person, we appreciate that services provided through a specialized healthcare department and physiokinotherapy recovery will allow support for the process of social and professional integration of this category of people.

At the level of the accountability area, the high number of potential beneficiaries of physiokinotherapy recovery services within a specialized compartment place priority on the creation of such a center.

Persons who face problems associated with disabilities (disability), unable to perform their everyday activities, become into a state of addiction, marginalization, lose their autonomy and need the support of others. These facts have multiple and complex consequences (as mention and align with the (Ministry of Labor, Family, Social Protection and Elderly, 2014)):

- *At an economic level:* the income of adults with disabilities / disabilities is sometimes non-existent and / or very low. The Department of Specialized Nursing and Physical Therapy Recovery will provide

rehabilitation and recovery services for resuming work and organizing activities.

- *At the social level:* communication difficulties and / or those within human relationships increase the degree of marginalization of people with disabilities
- *From the financial point of view:* the cost of medication and interdisciplinary therapeutic treatment for the treatment of diseases are high and, most of the time, not integrated into the social insurance system
- *At family level:* Families and family members are often unable to provide care that meets their needs.

From the point of view of urgency and opportunity, we can state that for the moment an efficient recovery process can only be carried out in a specialized framework in which specialized healthcare and physiokinotherapy services can be provided.

In addition, in this segment are people who have undergone orthopedic surgery or who have suffered accidents and require medical recovery by physiokinotherapy.

Due to the large number of people who have requested specialized services for rehabilitation, we consider it necessary to invest in this compartment. At present, adults with physical rehabilitation needs

appeal to insufficient hospital services and are not always able to provide long-term recovery for these people. They come back into the family environment and appeal only to critical circumstance to circumstantial services to reduce stigma and disease but fail to complete a long-term recovery program.

IV. THE IMPACT OF THIS PROBLEM

The project supports the recovery of people with disabilities, a category deeply affected by legislative changes, people's mentality, lack of knowledge in the field, ignorance, other emergencies and priorities, thus (Ha et al., 2016):

- Facilitates the access of disabled people to specialized medical recovery services;
- Responds to the specific interests of people with disabilities, related to the complexity of disability-related needs;
- Promotes the principle of equal opportunities, respect for confidentiality, respect for people;
- Is based on the permanent evaluation of the beneficiaries, wants to modernize these evaluation systems adapted to the requirements of the legislation in force.
- Promote early intervention through appropriate assessment and individual recovery plans tailored to the needs of each patient;
- Provides a secure environment with specialized personnel as well as adequate equipment for the short- or long-term implementation of recovery strategies;
- People with disabilities will benefit from adequate recovery, specialized intervention, with maximum safety and with specialized equipment.

The impact of the project on the local community and local authorities are:

- Increasing work performance;
- Encouraging the promotion of physical therapist and physiokinotherapy in Romania;
- Increasing the quality of services offered to people with disabilities;
- Increase understanding of the needs of the community and the availability of the experience of other institutions to ensure the necessary diversity;
- Increase the credibility of community recovery centers;
- Developing consultative mechanisms with other social actors.

For a long-term impact of the project it will:

- a) Ensure optimal physical conditions for the implementation of effective rehabilitation programs;
- b) Ensuring sustainability through financial support and human resource;

- c) Providing long-term interdisciplinary support for the patients of the structure to ensure the premises of an effective recovery;
- d) Communication with all the social actors who can support through expertise the intervention within the specialized medical care department and physiokinotherapy recovery;
- e) Ensuring an internal evaluation methodology to ensure a performance management of the compartment;
- f) Providing programs for the continuous training of the specialized personnel.

Reduction until elimination the possibility of a risk of service incapacity due to a lack of medical recovery services. Establishment in the hospital of a specialized health care and physiokinotherapy. rehabilitation department for people with disabilities and people with medical need. Several advantages or positive implications of the proposed investments are:

- Development of specialized medical physiokinotherapy recovery services in favor of rehabilitation of persons with locomotor disabilities;
- Developing an organizational structure of recovery services for people with disabilities and people with recovery needs on a European-accepted good practice model;
- Providing specialized recovery services corresponding to the assessed needs of people with disabilities and people with recovery needs;
- Developing the hospital by providing physiokinotherapy recovery services for people with medical recovery needs.

It is proposed to establish a physiokinotherapy compartment, for which the following main objectives are identified:

- a) Endowment with high performance medical apparatus;
- b) Staff insurance against mal praxis;
- c) Develop procedures and protocols, update existing procedures, ROF, ROI, structure;
- d) Space planning and change destination
- e) Secondary Goals:
- f) Provision of medical recovery services with insurance house;
- g) Specialized collaboration with other institutions.

It is desirable to redesign the process of medical recovery through physiokinotherapy within the hospital in order to increase the performance of the specialty, using resources more efficient considering the following aspects:

- Increasing quality by increasing the number of medical staff and endowing with new devices;
- Increasing the number of patients, increasing of addressability;
- Performance improvement;
- Increasing hospital income.

V. SOURCES OF FUNDING IDENTIFIED FOR IMPLEMENTING THE SOLUTION

A. Preliminary aspect of the investment process

Funding the establishment of a physiokinotherapy department can be done from the own incomes, subsidies from the principal loan manager or sponsorships. Considering the need for physical medical recovery, the hospital management agrees with the investment for which reason the investment list of 2018 (period of the investment project development and the decision-making process) and that will include:

- Feasibility study to support investment;
- Approval documentation of the intervention works.

After the completion of these documents, the necessary steps will be taken to the Ministry for the allocation of the necessary amounts for the rehabilitation of the space and the allocation of the own revenues for the purchase of the medical equipment.

Given the necessity of the investment, the success of the funding consists of the substantiation of the request, which can be done based on a well-documented and correctly elaborated study.

B. The decision-making process for choosing the optimum investment project (simplify method)

In generally, the decision-making process will be based on the “most powerful” indicators for economic efficiency. In the following they are presented.

- The return of investment, ROI which is the duration for the total investment (Inv) recovery from the benefits created by exploiting the created medical unit (B):

$$ROI = Inv/B \quad (1)$$

Where Inv ins the volume of the capital invested;
B - benefit achieved

- The coefficient of economic efficiency of investments e :

$$e = 1/ROI \quad (2)$$

- The monthly/annual profit generated (P):

$$P = V - C \quad (3)$$

Where V is the monthly/annual income;
C - the monthly/annual costs

- The economic yield R :

$$R = P * i/Inv - 1 \quad (4)$$

Where P is the annual profit;

i – the effective exploitation time.

For public medical units, in Romania the investment processes are conducted through auctions (similar with the considerations of (Dabla-Norris et al., 2012)). Thus, in the present case were presented three companies that offered complex solutions regarding the arrangement of the space and the equipping with equipment, but each proposed project was differentiated by the technical and economic parameters. The decision regarding the optimum project variant was based on a detailed analysis of the technical parameters and a calculation regarding the economic efficiency of each investment variant. It must be said that, in the case of public organizations, the decision of investments and acquisitions is made on the criterion of "the minimum price", but the chosen variant (declared the winner of the public auction) must ensure the level of performance and quality desired.

Table 3 includes the initial data and information about the three investment projects that has been considered in the decision-making process. Table 4 presents a synthesis of the calculations results of the indicators for economic efficiency together with the comparison of the three investment projects. The calculations are developed in a static vision and the comparison has been consider the individual scores achieved by each investment project for each calculated indicator (score 1 – optimal solution).

Table 3 Results of the economic efficient indicators – static vision

Preliminary data	Symbol	Unit	Variant 1	Variant 2	Variant 3
Indicator					
Total volume of the investment	Inv	kRON	2.50	2.50	3.00
Annual services provide (estimations)	Q	Pc./year	30,000	20,000	20,000
Unitary cost (average value)	c	lei/pc.	20	20	25
Tarif of a service (average value)	p	lei/pc.	120	120	120
The duration for the investment project implementation	d	years	1	1	1
The duration of efficient exploitation	De	years	5	5	5

Table 3 Results of the economic efficient indicators – static vision

Decision-making indicators	Symbol	Unit	Variant 1	Variant 2	Variant 3	Count V1	Count V2	Count V3
Total volume of the investment	Inv	kRON	2.50	2.50	3.00	1	1	0
The duration for the investment project implementation	d	years	1	1	1	1	1	1
The duration of efficient exploitation	De	years	5	5	5	1	1	1
Specific investment	s	lei/pc.	83.33	125.00	150.00	1	0	0
Investment productivity	Iwi=1/s	pc./RON	12000.00	8000.00	6666.67	1	0	0
Annual Income	Vh	kRON	4.20	4.20	4.20	0	0	0
Annual Cost	Ch	kRON	0.60	0.40	0.50	0	0	0
Annual Profit	Ph	kRON	3.60	3.80	3.70	0	1	0
ROI	Ti	years	0.69	0.66	0.81	0	1	0
The coefficient of economic efficiency	ei=1/T	-	1.44	1.52	1.23	0	1	0
Economic efficiency	Ri	-	6.20	6.60	5.17	0	1	0
Total equivalent expenditures	Ki	kRON	5.50	4.50	5.50	0	1	0
Annual equivalent expenditures	ka=Ki/De	kRON /year	1.10	0.90	1.10	0	1	0
Specific equivalent expenditures	ksi=Ki/Q	kRON /year	36.67	45.00	55.00	1	0	0
Total scores result						6	9	2

It can be seen from the tables above, based on the score obtained, that the hospital unit will choose as the optimum variant of investment project to be implemented, the V2 variant (the optimum variant). As a result, the volume of capital invested for implementing the project is 2.5 kRON.

VI. CONCLUSIONS. EXPECTED RESULTS

Following the implementation of the project, important results are expected through the assurance of the services for interested persons, against payment or by settlement of the insurance house. The created unit for medical services will provide an alternative for the local population through the development of the following capacity:

- One physiotherapeutic rehabilitation compartment for people with disabilities / handicap offering recovery and rehabilitation services;
- Minimum 2 appearances in the local and central press;

- Create a recovery model in line with European standards;
- We do not expect each beneficiary to have a better quality of life due to recovery;
- Reducing long-term hospitalization among people with disabilities by facilitating access to medical recovery services;
- The project comes to respond to the specific interests of people with disabilities, related to the complexity of disability-related needs
- The principle of equal opportunities, respect for confidentiality, respect for people will be promoted;
- Promoting early intervention through proper assessment and individual recovery plans tailored to the needs of each patient;
- Disabled people will benefit from adequate recovery, specialized intervention with maximum safety and specialty equipment.

Indicators will be evaluated quarterly. The head of the department and the medical director are responsible for the assessment of the indicators. Depending on the evolution observed, they may request the meeting of

the Steering Committee at any time, in addition to the quarterly evaluation, to eliminate the identified risks or to solve unforeseen problems:

1. Providing services at the hospital level in two laps;
2. It will be aimed at eliminating the referral of patients to other centers;
3. Contracting of medical recovery services.

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Greening the Urban Transportation. A Debate on the Solutions of the Flying Car

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Abstract – Facing climate change challenges, many local governments worldwide became active deploying Green Urban Transport Policies (GUTP). By doing so, their central objective is to curb CO₂ emissions and manage the latent tension between accessibility, mobility and quality of life. However, in some cases, those policies indirectly foster the localized development of cleantech innovations. In this paper we analyze the urban Europe state on cities, towns and suburbs based on the available data from the Report of 2016. Then there will be presented a study for the introducing of the flying car as an innovative solution from the electric one to green the cities' transportation.

Keywords: Green transportation, innovation; urban transport policy, airmobile, flying car

I. INTRODUCTION TO GREEN URBAN TRANSPORT POLICIES AND CLEANTECH INNOVATIONS

During the last decade, a “green turn” took place in the policy agendas of many cities worldwide (Betsill and Bulkeley, 2007). Cities realized that climate change can seriously endanger their very own sustainability and development prospects. Among manifold efforts, important initiatives have been focusing on decoupling transport from urban development (Bertolini et al, 2008), i.e. on reducing carbon emissions caused by urban mobility without endangering but improving urban accessibility, quality of life and growth (Carvalho et al., 2012).

Examples are the introduction of several green urban transport policies (GUTP) like the imposition of tight standards on buses' emissions, free parking and lower local taxes for “green” cars, procurement of cleaner bus fleets, but also direct support to the use and diffusion of renewable and cleaner fuels. GUTP are usually part of what in EU-jargon are known as Sustainable Urban Transport Plans (European Council, 2006), i.e. specific measures taken by local authorities

to promote low CO₂ emission and energy-efficient vehicles in order to reduce greenhouse gas emissions (Carvalho et al., 2012).

Pioneer cities in Northern Europe have been deploying related policies for already some years now. Moreover, as recently observed by Mingardo et al (2009), whether in an intended or unintended fashion, some of those policies seem to be linked with the development, also at the local and regional level, of several so-called cleantech innovations (Cooke, 2008), e.g. new vehicle engines, improved ways of producing and using low carbon fuels, new materials and engineering systems (Carvalho et al., 2012). It is not the first-time urban transport policies are used to accomplish policy objectives in other realms, like job creation, investment attraction and social inclusion (Blauwens et al, 2006). However, the relation between GUTP and the localized development of Page 3 of 39 cleantech innovations is still an unexplored and intriguing field, for several reasons.

In this context, the present paper there will be analyzed the urban Europe state on cities, towns and suburbs based on the available data from the Report of 2016. Then there will be presented a study for the introducing of the flying car as an innovative solution from the electric one to green the cities' transportation.

II. AN OVERVIEW OF SOME STATISTICS ON URBAN EUROPE

Throughout history, cities have been at the centre of change, from the spread of Greek and Roman civilizations, through the Italian renaissance period, to the industrial revolution in the United Kingdom (Kotzeva and Brandmüller, 2016). Over time, Europe has slowly transformed itself away from being a largely rural, agricultural community and according to the

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United Nations (as provided by the data of the United Nations which are based on national definitions which may undermine comparability in some cases; note these definitions are somewhat different to those employed elsewhere in this publication, based on a harmonized data collection exercise conducted by the EU), more than half of the European population was living in an urban area by 1950; this was also the case in North America and Oceania (Figure 1).

By contrast, more than 80% of those living in Africa and Asia in 1950 inhabited rural areas. While the pace of urbanization in these two continents

subsequently accelerated, in 2015 most of their populations, Africa (59.6%) and Asia (51.8%), continued to live in rural areas. Almost three quarters of the European population lived in an urban area in 2015, while even higher shares were recorded in Latin America and the Caribbean (79.8%) and North America (81.6%). These different levels of urbanization show that, at a global level, it was only during the last decade that the total number of people living in urban areas overtook those living in rural areas (Kotzeva and Brandmüller, 2016).

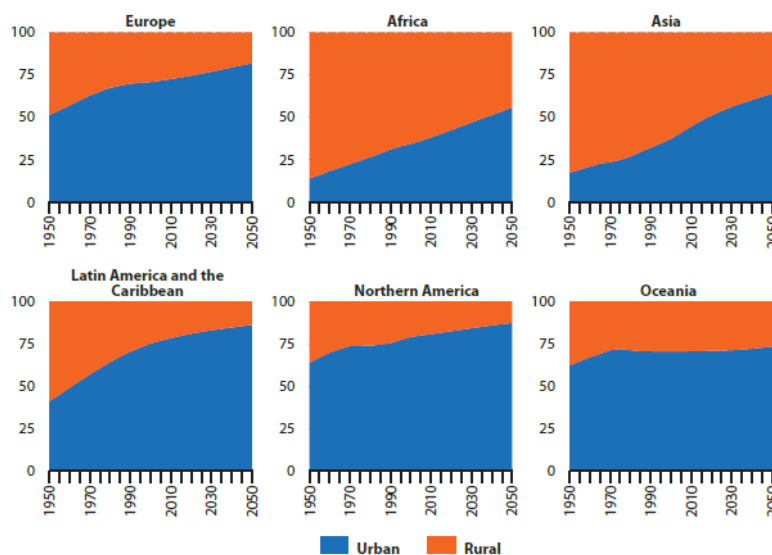


Fig. 1 Share of urban and rural populations, 1950–2050 (% of total population)

Source: *World urbanization prospects — United Nations, Department of Economic and Social Affairs, Population Division (2014)*

According to the United Nations (World urbanization prospects (2014)), approximately two thirds of the world’s population will be living in an urban area by 2050. This rapid pace of change is projected to be driven primarily by changes in Africa and Asia, as the focus of global urbanization patterns continues to shift towards developing and emerging economies. The pace of change in Europe will likely be slower, with the share of the population living in urban areas projected to rise to just over 80% by 2050 (Kotzeva and Brandmüller, 2016).

Aside from the considerable differences in shares of urban populations across continents, there are also widespread differences between countries. Figure 2 provides information on the share of the urban population in 2014, which peaked (among those countries shown) in Argentina and Japan (2010 data) at over 90 %. Just over half (54.3%) the population of China was living in an urban area in 2014, while the urban population in India (2011 data) accounted for less than one third (31.1%) of the total number of inhabitants. For a more detailed analysis of global changes in the degree of urbanization (based on the development of a new global population grid), please refer to The State of European Cities report, recently released by the Directorate-General for Regional and Urban Policy (Kotzeva and Brandmüller, 2016).

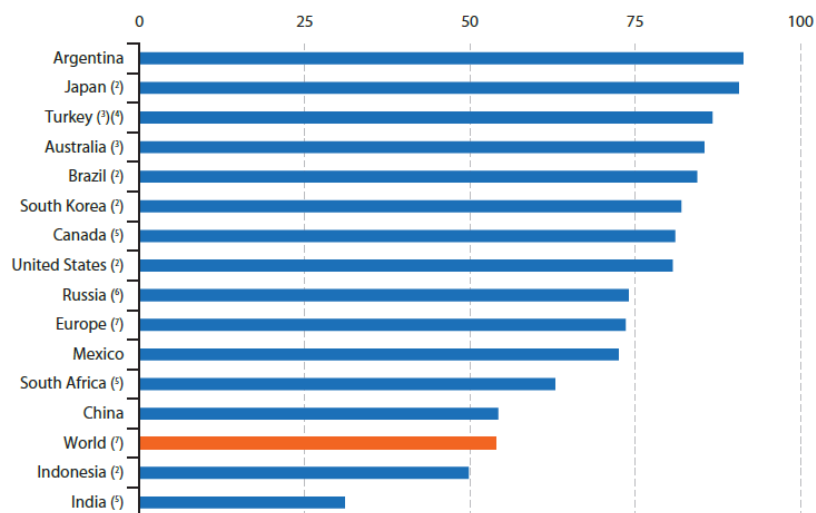
As mention by (Kotzeva and Brandmüller, 2016), the spatial distribution of cities varies considerably: Europe is generally characterized by a high number of relatively small cities and towns that are distributed in a polycentric fashion; this reflects, to some degree, its historical past which has led to a fragmented pattern of around 50 countries being spread over the continent. By contrast, in some parts of Asia and North America, a relatively high proportion of the urban population is concentrated in a small number of very large cities.

The United Nations defines a megacity as having in excess of 10 million inhabitants. According to this criterion, there are only two megacities within the European Union (EU), those of Paris and London. Figure 3 presents a list of the top 30 global agglomerations in 2015, with all but one of these (the Peruvian capital of Lima with 9.9 million inhabitants) being classified as a megacity. Of the 29 megacities in 2015, Tokyo (Japan) was the world’s largest city, its agglomeration numbered 38.0 million inhabitants. It was followed by Delhi (India) with 25.7 million, Shanghai (China) with 23.7 million, Mexico City (Mexico), Mumbai (India) and São Paulo (Brazil) each with around 21 million, and Beijing (China) and Osaka (Japan) each with just over 20 million inhabitants. The populations of Paris and London were, in global terms, relatively small, as each had less than 11 million inhabitants; in other words, they were less than one

third the size of Tokyo. There were two other European cities in the ranking, the Turkish city of Istanbul (14.2 million inhabitants) and the Russian capital of Moscow (12.2 million inhabitants) (Kotzeva and Brandmüller, 2016).

Urban areas in the EU are often characterized by high concentrations of economic activity, employment and wealth with the daily flow of commuters into many of Europe’s largest cities suggesting that opportunities abound in these hubs of innovation, distribution and

consumption. However, cities in the EU are also characterized by a range of social inequalities, and it is commonplace to find people who enjoy a comfortable life living in close proximity to others who may face considerable challenges, for example, in relation to housing, poverty or crime — herein lies the ‘urban paradox’. These polarized opportunities/challenges are often in stark contrast, as patterns of inequality in cities are generally more widespread than those observed for countries (Kotzeva and Brandmüller, 2016).



(1) United Nations data are based on national definitions; as such there may be a discrepancy with respect to the Eurostat data used elsewhere in this publication.

(2) 2010. (5) 2011.

(3) 2013. (6) 2012.

(4) Estimate. (7) 2015.

Fig. 2 Share of urban population, 2014 (% of total population)

Source: Demographic yearbook of the United Nations, Department of Economic and Social Affairs, Population Division (2014)

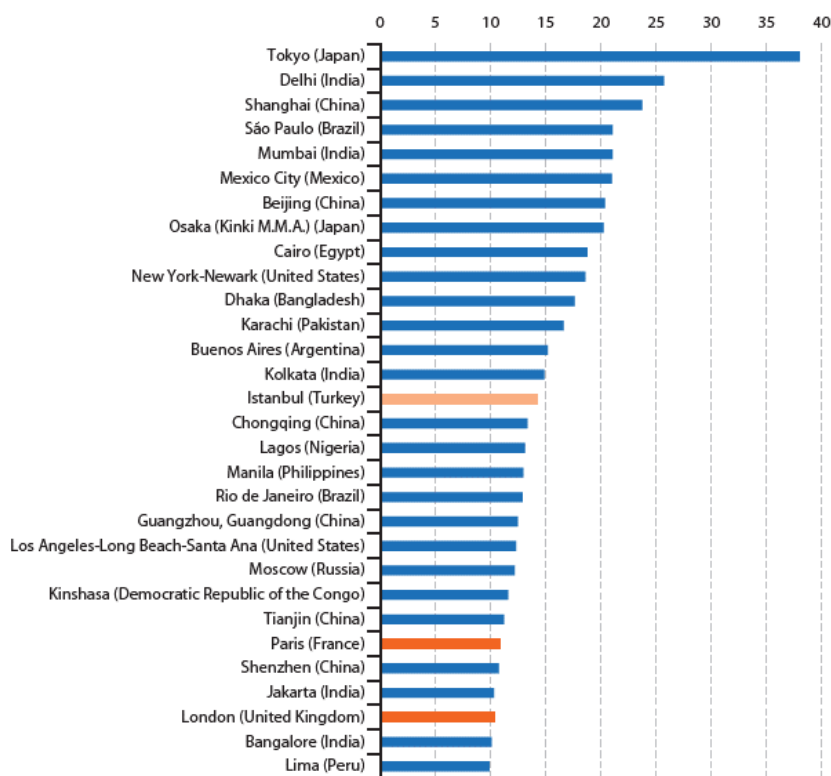


Fig. 3 Top 30 global urban agglomerations, 2015 (millions) (Projections of United Nations data are based on national definitions; as such there may be a discrepancy with respect to the Eurostat data used elsewhere in this publication.

Source: World urbanization prospects — United Nations, Department of Economic and Social Affairs, Population Division (2014)

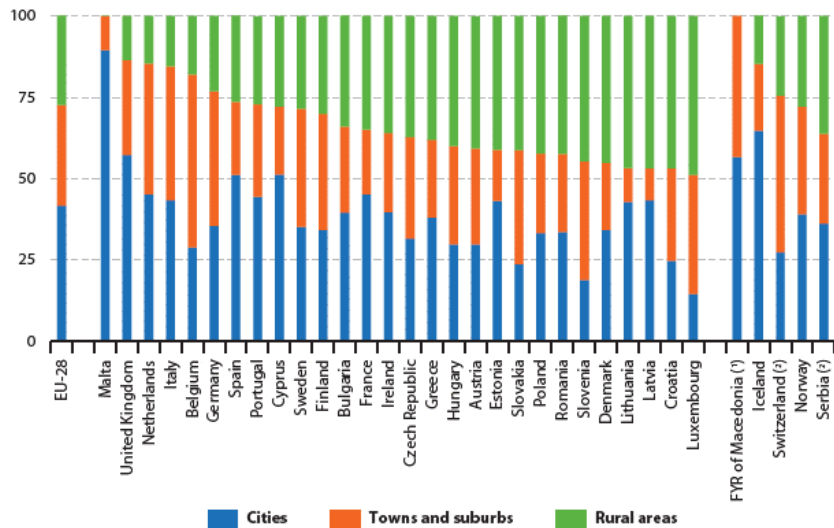


Fig. 4 Distribution of population, by degree of urbanization, 2014 (% of total population)
 Source: Eurostat (online data code: ilc_lvho01)

There are considerable differences in the size and spatial distribution of urban developments across the EU Member States: for example, the Netherlands is characterized by a high level of population density and a high share of urban land use, whereas in most of the Nordic Member States and the interior of the Iberian Peninsula much lower levels of urban land use are commonplace. Each of the EU Member States has a distinctive history of territorial developments: for example, centrally planned economies and the lack of a market for land/property resulted in compact urban developments across most eastern and Baltic Member States. Since the middle of the last century, most of Europe has been characterized by spreading cities and increased population numbers, with people choosing to move out of inner cities to suburban and peri-urban areas (hybrid areas of fragmented urban and rural characteristics); this has resulted in the divide between urban and rural areas becoming increasingly blurred (Kotzeva and Brandmüller, 2016).

Capital cities have the potential to play a crucial role in urban developments within the EU; they are often hubs for competitiveness and employment and may be drivers of innovation and growth, as well as centres for education, science, social, cultural and ethnic diversity. A comparison of European cities' economic performance indicates that the major cities, and, the metropolitan regions of EU capital cities, generally outperform the rest. In some EU Member States, capital cities exert a form of "capital magnetism", through a monocentric pattern of urban development which attracts investment/resources, so these are concentrated in the capital. Whether such disparities have a positive or negative effect on the national economy is open to debate, as capital cities that dominate their national economies may create high levels of income and wealth that radiate to surrounding regions and pull other cities/regions up (Kotzeva and Brandmüller, 2016).

Smart cities may be defined as those which seek to address public issues via ICT-based solutions

involving multi-stakeholder partnerships. Smart cities have the potential to improve the quality of life: they are innovative, making traditional networks and services more efficient through social innovation and the use of digital technologies, creating more inclusive, sustainable and connected cities for the potential benefit of their inhabitants, public administrations and businesses. Smart cities are generally characterized by very high concentrations of people having completed a higher education, while statistics on innovation activity confirm that they also record a high propensity to patent (Kotzeva and Brandmüller, 2016).

While urbanization has the potential to raise wealth, it often does so accompany by pollution or other forms of environmental damage. Indeed, global patterns of urbanization have created some of the biggest environmental challenges facing the planet. However, it is increasingly recognized that compact cities are resource-efficient ways for people to live and for businesses to exist, as proximity and the pooling of resources provides potential efficiency gains.

"Green cities" combine higher levels of efficiency, with innovative capacity and reduced environmental impact, addressing issues like congestion through the implementation of, among others, road charges and integrated public transport systems. This 'greening' of cities has the potential to reduce pollution and the harm that may be done to an individual's health, for example, by reducing traffic, promoting the use of cleaner or renewable fuels, encouraging cyclists/pedestrians, or introducing more green spaces (Kotzeva and Brandmüller, 2016).

In keeping with many aspects of urban development, tourism is a paradox, insofar as an increasing number of tourists in some towns and cities have resulted in congestion/saturation which may damage the atmosphere and local culture that made them attractive in the first place; Venezia (Italy) and Barcelona (Spain) are two of the most documented examples. Furthermore, while tourism has the potential to generate income which may be used to

redevelop/regenerate urban areas, an influx of tourists can potentially lower the quality of life for local inhabitants, for example, through: higher levels of pollution and congestion; new retail formats replacing traditional commerce; increased prices; or increased noise (Kotzeva and Brandmüller, 2016).

Aside from attracting (potential) business investment, cities also need to attract individuals: this can be done through the quality of what they can offer in terms of education, jobs, social experiences, culture, sports and leisure facilities, environment, or urban safety. The results presented by (Kotzeva and Brandmüller, 2016) suggest that a high proportion of Europe's ageing population lives in relatively small towns and cities (with a preference to live on the coast), whereas younger people are more likely to live in the suburbs within proximity of capital or other large cities.

Employment rates among women were somewhat higher in cities than they were in towns and suburbs or rural areas. Indeed, female participation tended to influence overall employment rates far more than male rates and explained, for example, why relatively low employment rates were recorded in many (particularly rural) parts of southern Europe. Otherwise, one of the recurring themes in relation to urban labor markets is commuting, which results from increased levels of mobility. Lengthy commutes to work may be associated with increased congestion, as well as environmental and economic costs (for individuals, local authorities and enterprises). The share of people who use public transport to get to work is generally much higher in the EU's largest cities, while in provincial cities, towns and suburbs the use of private motor vehicles tends to be the principal mode of transport for traveling to work (Kotzeva and Brandmüller, 2016).

Some city-dwellers live in urban neighborhoods that are characterized by overcrowding and/or poor-quality housing, a lack of social housing and low levels of home ownership. Such issues may lead, among others, to lower life chances, health inequalities, increased risks of poverty and environmental risks. In absolute terms, the smallest dwellings in cities of the EU were located in the Baltic Member States and Romania (an average of less than 60 m² per dwelling) while the largest were located in Cyprus, Belgium, Luxembourg and Portugal (an average of more than 100 m² per dwelling); those city-dwellers enjoying the largest amounts of living space were usually living in provincial (rather than capital) cities. Indeed, it was commonplace to find that the capital city had the highest share of flats and the lowest share of houses in its total number of dwellings, likely due, among others, to the cost of land, a lack of space for new property developments, a range of alternative land uses competing for space (business and commercial property), and a high level of demand from those wishing to live in the capital city. The highest shares of one-person households among EU cities were recorded in four capitals located in western and northern Europe

(Berlin, Helsinki, Amsterdam and Copenhagen) with almost half (49.0%) of all households in Berlin composed of single persons (Kotzeva and Brandmüller, 2016).

III. THE ANALYSIS OF THE EXISTING SOLUTIONS OF FLYING CARS

A. Electric energy used for greening transportation

As recently debated in by Gilbert and Perl (2018) their assessment of numerous alternatives to oil as a transport fuel concludes that, as oil depletion progresses, only electricity could reasonably power acceptable levels of land transport. Authors sustained that oil products will be increasingly devoted to fueling marine transport and aviation.

Furthermore, electricity is an advantageous energy source for land transport in every respect except one: it cannot be stored on board vehicles in acceptable quantities. This disadvantage can be overcome by delivering electricity to vehicles while in motion. Grid-connected electric vehicles have provided transport for at least as long as vehicles powered by internal combustion engines. As electric trains, streetcars, and trolleybuses, they provide most public transit in most of the world's major cities. Moreover, Gilbert and Perl (2018) anticipate substantial expansion in the use of this kind of vehicle, with development and some deployment of unfamiliar systems including trolley trucks and personal grid-connected vehicles.

Electric vehicles offer the important advantage of independence from how their fuel is produced. Electricity generation can transition among a variety of sources, from coal generation to solar thermal generation, without changes in the transport system. Electric traction is well suited to the necessary transition from non-renewable to renewable energy (Gilbert and Perl, 2018). Increased use of electricity could bring greater reliance on coal generation. We demonstrate that such reliance can be avoided through ready reduction in electricity consumption for other purposes and development of numerous opportunities for renewable generation (Gilbert and Perl, 2018).

According to the research of (Gilbert and Perl, 2018), the key feature of the transport redesign proposed for China and USA (important actors and countries for green transportation issues) is massive expansion of electrically powered land transport. Movement of people in the USA, for example, would be 30% electrically powered in 2025 compared with well under 1% today. Oil products would still fuel most motorized transport in the USA and China in 2025, but the transition to electric traction would be well under way and would continue for decades beyond 2025.

From these brief considerations, the transportation sector faces the challenge of meeting growing demand for convenient passenger mobility while reducing congestion, improving safety, and mitigating emissions. Automated driving and electrification are

disruptive technologies that may contribute to these goals, but they are limited by congestion on existing roadways and land-use constraints. Electric vertical takeoff and landing aircraft (also known as, Vertical Take-Off Landing, VTOL) could overcome these limitations by enabling urban and regional aerial travel services (Kasliwal et al., 2019). In addition, they could be the solution for a sustainable transport in urban areas of tomorrow.

B. An inventory of flying cars

The Gyrocopter PAL-V One (Figure 4) was developed by a Dutch company founded in 2007. It is a three-wheel VTOL (Vertical Take-Off Landing) gyrocopter with two seats, a fuel engine of 160 kW equivalent with 217 HP. This is the first model designed and produced for the PAL-V. The maximum weight for take-off is 910 kg and the price of approximately 499.000€.

Pal-V Liberty Sport (Figure 5) is the second model generation designed and developed from PAL-V. It flies up to 3500 m altitude, and it has 400 km flight autonomy with a fuel consumption of 26 l/h. The fuel tank is 100 l and it used gasoline E95, E98 or E10. For driving this model, you need a flight license achieved after 40 hours training. The price is approximately 299.000€.



Fig. 4 Gyrocopter PAL-V One (Perez, 2014)



Fig. 5 Pal-V Liberty Sport (CarAndBike Team, 2018)



Fig. 6 AeroMobil 3.0 (Aeromobil, 2014)



Fig. 7 AeroMobil 4.0 (Aeromobil, 2018)

The AeroMobil VTOL 3.0 (Figure 6) has been developed by a private start-up founded in 2010 in Bratislava, Slovakia. This was the first model for testing, it has crashed during the flight tests, but the company continues with the next models. This is a STOL (Short Take-Off and Landing) vehicle and in back there are 25 years of development. Next model AeroMobil VTOL 4.0 (Figure 7) is available for order and buying but the price starts from 1.000.000 Euro. It has a safety system with parachute, airbags and the last carbon fiber type structure. It has a take-off weight of 960 kg, fuel engine of 224 kW (304 HP) and an autonomy driving option. Three minutes is the necessary time for switch the car in flight mode. The release design will be available in 2020. AeroMobil 5.0 (Figure 8) it is the first e-VTOL, full electric and vertical take-off and landing. Starting at 1.5 million Euro the model it is the last concept and the goal was to not see the difference between a normal car on the street and this flying car. It has four seats with two strength electric engines, the release is in 2025.

Terrafugia (Figure 9) has been created by five MIT graduate students that establish a company with the same name in 2006. They won the contest MIT 100 k Entrepreneurship 2006. It is an electric hybrid flying car, STOL variant with a price starting with 279.000\$. Autonomy flight of 400 km and it requires a license flight of 40 hour of training. This is concept in the development phase, estimation release over 8 years with two electric engine of 600 HP, one back fuel engine of 300 HP and autonomy of 800 km. Cruise speed of 322 km/h.

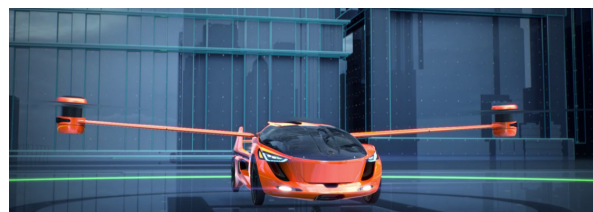


Fig. 8 AeroMobil 5.0 (Šutorová, 2018)



Fig. 9 Terrafugia Transition (Duncan, 2012)



Fig. 10 Terrafugia TF-X (Hirschberg, 2018)



Fig. 11 TF-2 Lift + Push (Lavars, 2018)

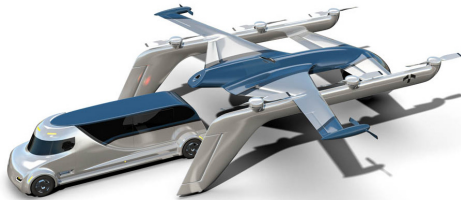


Fig. 12 TF-2 Lift + Push and Truck (Lavars, 2018)



Fig. 13 Volocopter 2X (Suton, 2019)

The next Terrafugia concept (Figure 10) it is a two parts system. The flying part it is call Lift + Push and it is the cabin flight with four seats for passengers. Always there is a driving person.

The model TF-2 Lift + Push flight cabin is separated when take-off by a truck which takes it and switch with a new cabin with four passengers ready to fly. The ticket's journey is around 380 - 420\$ (Figure 11 and Figure 12).

Volocopter air taxi has been developed by a German group ready to launch an air taxi fleet in 2020 in Dubai, Singapore and Berlin. The Volocopter transport two passengers (160 kg) and it has 18 electric rotors for flying (Figure 13).

Black-fly (Figure 14) is an electric model built by the Opener, Ontario in Canada. It is flying with one passenger at a speed of 100 km/h for 30 minutes.



Fig. 14 Black-Fly (Alger, 2018)



Fig. 15 Lilium (Withers, 2019)



Fig. 16 Verde-Go PAT200 (Warwick, 2017)

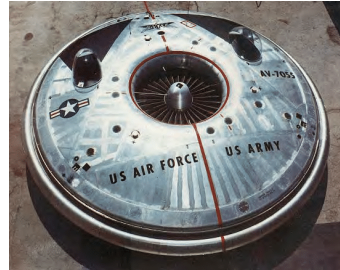


Fig. 17 Avrocar VZ-9 (Fedrigo et al., 2015)



Fig. 18 Bell Nexus (Zart, 2019)



Fig. 19 City Airbus (Cohen, 2017)

Lilium is an electric concept for urban transportation with an autonomy of 300 km in 60 minutes (Figure 15). First flight was made in 2019 and it is planning to come into use in 2025.

Verde-Go Aero PAT200 (Figure 16) is an electric-hybrid VTOL for commercial and urban transport. Cruise speed is 240 km/h with an autonomy between 30 and 60 km and a weight lift of 227 kg.

Avrocar VZ-9 (Figure 17) was a secret military project developed by the USA and Canada between 1952 – 1961. The Romanian engineer and scientist Henry Coanda contributed with the flying principle for this saucer. The diameter is 5.5 m, the thickness is 1.1 m and the weight of 1944 kg.

Bell Nexus (Figure 18) was developed by Bell who presents his concept at CES Las Vegas this year and with his flying car will complete the taxi fleet developed by Uber in 2020 for cities like Dubai, Dallas, LA, Tokyo, Rio de Janeiro, Melbourne and Paris.

Citi Airbus, depicted in Figure 19, uses 8 rotors, four battery with a nominal voltage of 800 V, and four pair of propellers.

C. Conclusions about the existing solutions of the flying car

The transportation sector faces the challenge of meeting growing demand for convenient passenger mobility while reducing congestion, improving safety, and mitigating emissions. Automated driving and electrification are disruptive technologies that may contribute to these goals, but they are limited by congestion on existing roadways and land-use constraints. Electric vertical takeoff and landing aircrafts (VTOLs) could overcome these limitations by enabling urban and regional aerial travel services. VTOLs with tiltrotor, duct, and wing designs, such as the GL-10 prototype designed by NASA (Barnstorff, 2017), combine the convenience of local takeoff and landing like a helicopter with the efficient aerodynamic flight of an airplane. Although smaller and larger designs are possible, several companies are considering craft that can carry four to five occupants (Datta, 2018). Initially, these VTOLs would likely be piloted taxi services, but with advances in aviation regulation and sensor and processor technology, could transition toward future automated control (Amazon Web Services, 2018).

Electrification is a propulsion strategy for improving the sustainability of both aerial and ground-based transportation modes, owing to the superior efficiency of electric powertrains compared with combustion engines. One critical efficiency enabler for flying cars is distributed electric propulsion (DEP), which uses physically smaller, electrically driven propulsors (Kim et al., 2018). These propulsors can be used with greater flexibility to leverage the benefits of aero-propulsive coupling and improve performance compared with more traditional designs. This enables aerodynamically optimized designs, such as articulating propellers and high aspect-ratio blown wings, which allow efficient VTOL energy performance and significant noise reduction. DEP could facilitate VTOL success in the urban aerial taxi space, where conventional helicopters or vertical-lift aircraft have struggled.

In principle, VTOLs can travel the shortest distance between two points, and their relatively modest sizes would enable near point-to-point service. Conversely, road networks are much less direct and consequently have an associated circuitry factor, defined as the ratio of the shortest network route to the Euclidian distance between two points (Ballou et al., 2002). This benefit of VTOL aerial systems could favor energy and travel-time performance, particularly in locations with congested and circuitous routing. High VTOL cruise speeds could reduce travel time further. Significant time savings and associated productivity gains could be a key factor in consumer adoption of VTOL transportation. Details regarding the role of flying cars in sustainable mobility have been shown by the work of Kasliwal et al. (2019). Furthermore, the flying cars can be parked conveniently than other conventional aircraft and it does not need much space to take off and land. They can meet the demands of fast travel between

two cities with a typical car journey of about 3-5 hours, which can bring great convenience to the users.

IV. CONCLUSIONS AND FINAL REMARKS

The urban areas overcrowding problems have been considered challenges for the automotive industry. Traffic congestion, pollution, crashes, and delays are still a major problem in many large metropolitan areas. Multiple ideas have been suggested to overcome these problems, ranging from safety systems that would lead to a reduction in severe injuries to road infrastructure that could help cope with traffic congestions. The incorporation of advanced and intelligent technologies in transportation systems could certainly lead to significantly better transportation systems and enhance transportation services. Hopefully, new technologies could contribute to the transport challenges we are facing today. While several technologies might look unrealistic, other are developed or used (e.g., autonomous vehicles, privately owned flying cars) (Ben-Haim et al., 2018).

According to popular visions, flying cars will revolutionize personal transportation, providing solutions to various problems, e.g., traffic congestions, redundant infrastructure development or environmental damage (Rajashekara et al., 2016). However, despite technological feasibility, it is highly unlikely that this technology will be introduced to the market soon due to high safety risks, perceived low market potential, and legal aspects (Seidel et al., 2005; Rajashekara et al., 2016; Ben-Haim et al., 2018).

Flying car is a future today but it will become a usual car in the next 20 years considering the moving problems of the crowd cities (urban agglomerations). So, based on the references and the consulting companies' studies, electric cars will be a usual car over 5 to 10 year, in order to satisfy everyone's, need to get to their destination quickly.

The fly experience it is also a pleasure when you know it's safe. It is a challenge to design a flying car but also a huge success when you succeed. The technical solution analyzed in this study research demonstrate that the idea could be feasible and is perfectly achievable. Even if, for the moment, there are only demonstrative models built-up we estimate that in next 20 years the use of flying cars it will be a reality. However, the realization of this flying machine is also dependent on the development of other technologies and still has large number of challenges to overcome. For example, in order to improve its endurance, a battery with higher energy density is needed. It is hoped that such a concept can provide further motivation for aircraft designers today and in the future.

The study has recognized (based on the literature review and the information available on companies and professional organizations web pages) that flying cars can green the cities and this is not so distant future. Despite these aspects, there are many questions that

need to be addressed to assess the viability of VTOLs including cost, noise, and societal and consumer acceptance. Our analysis has targeted the environmental sustainability of VTOLs compared with ground-based passenger cars because few studies of VTOLs' potential climate change implications are present in the literature (Ullman, 2017; Uber, 2017). Future researches will quantify the use-phase sustainability of these mobility systems, using two key metrics: primary energy use in units of megajoules [MJ] and GHG emissions in units of kilograms of carbon dioxide equivalents [kg-CO₂e] on a 100-year global warming potential basis (similar indicators were used by (Chester and Horvath, 2012)).

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Intercultural Management - A Comparison Between Romanian and Turkish Culture

Humeyra SENKULAK¹, Anca DRAGHICI²

Abstract – The present article will present a state of the art on intercultural management, particularly focus on specific model presented in the literature. The final part will be dedicated to a comparison of Romanian and Turkish culture based on the presented model, in order to underline the specificities, the differences generated by the national specifics. Finally, conclusions will reflect the state and tendencies in international management and briefly summarized the lessons learned from the studied business environments.

Keywords: Intercultural management, cultural differences, human resources, business model

I. INTRODUCTION

Intercultural management can be described as a combination of knowledge, insights and skills which are necessary for adequately dealing with national and regional cultures and differences between cultures at several management levels within and between organizations (Barmeyer & Franklin, 2016).

The new science has been developed in the context of globalization and migration in the early '90, but it is actually and of big concern for managers, academics, researchers or public servants. Intercultural management describes the ability of a supervisor to productively communicate and work with employees from a range of different cultures; it is concerned with the effective functioning of diverse groups or teams of people.

Diversity can also arise because of variations in corporate culture that are impact of the national culture. These aspects must be considered in strategic human resources establishment (Draghici, 2015).

In this context, it is obvious the motivation of the present study; even the context of it was very adequate because authors have been confronting one each other with a different culture (Turkish and Romanian). The present article will present a state of the art on intercultural management, particularly focus on specific model presented in the literature. The final part will be dedicated to a brief overview of the Romanian and Turkish culture in order to underline the

specificities, the differences generated by the culture differences. The comparative study will be developed based on the cultural models presented previous in this article. Finally, conclusions will reflect the state and tendencies in international management and briefly summarized the lessons learned from the studied business environments.

II. A LITERATURE REVIEW ON INTERCULTURAL MANAGEMENT

The development of intercultural management was stimulated by the difficulties of managers in dealing with cultural conflicts which can arise in the course of the diverse international activities of companies (operational level of the organizational hierarchy). This potential conflict affects all activities and areas of company business: beginning with obtaining the raw resources and materials via the production of goods and services right up to the marketing and sales. Within nation states there are suitable means of peacefully dealing with conflicts, using valid laws and company ethics (Lewkowicz et al., 2008; Li et al., 2017; Kuitam et al., 2016; Wallenstein, 2018).

In the last few decades, information and communication technology has largely contributed to the transfer of knowledge worldwide. Cultural sensitivity relates to being aware of practices that exist in other cultures and being willing to investigate the reasons why people of another culture act the way they do (Lewkowicz et al., 2008; Draghici, 2015).

It is important to understand how the diversity inflicts peoples work for a manager who works in an intercultural company. Someone with a high level of cultural sensitivity is aware that his or her standard way of behavior might not appreciate in other cultural contexts and above that, might even cause harm. Cultural intelligence goes a step further. Individuals with a high level of cultural intelligence interact constructively with individuals from other cultures and are therefore most successful in achieving their desired

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personal or business goals in an intercultural setting (Draghici, 2015; Li et al., 2017).

Integration and human resource management are dependent upon one another to the degree that structuring a firm's global activities involves the development and use of human capital and other human aspects (Draghici, 2015).

The conclusion Hambrick and Snow (1980) arrived tells us that international management of the future will make the inclusion of intercultural management an absolute necessity. Even speaking a foreign language may not be enough for communication between people belonging to different cultures. In these kind of situations managers must be aware not only of the different language of the business partner but their diverging attitude, time perception, behaviors, traditions and further aspects related to a different culture. At this point, Intercultural Management provides the opportunity to be aware of it and deal with such cultural aspects.

In recent years, The Intercultural Management has become particularly important as the phenomena of globalization has been accompanied by increasing migration flows, enlargement of the European Union, economic openness of many countries around the world, the emergence of new economies like China and the expansion of economic partnership between countries disposing of different economic systems. The cooperation between these different economic systems, which are based on significant cultural differences requires a new (intercultural) approach (Li et al., 2017).

For companies this approach means that the consideration of the intercultural issues of all cross-border activities must no longer be neglected. Far more than before, these issues must explicitly find their way into the respective activity's intercultural orientation (Li et al., 2017; Kiitam et al., 2016; Wallenstein, 2018).

III. INTERCULTURAL MANAGEMENT VS. INTERNATIONAL AND CROSS-CULTURAL MANAGEMENT

A. The Task of Intercultural Management

According to Hofstede (2006) the "culture-free" context has shown the majority considering management as a culture-bound phenomenon. While a few scientists have pointed out a global convergence and have consequently ruled out a connection between ethnocultural and corporate culture The majority of scientific studies verify that undertakings in different nations reveal different corporate cultures, which can be traced back to respective ethnocultural (Leung et al., 2005; Hofstede, 2011; Pieterse, 2019).

When concluding the task of intercultural management includes the concrete design of functional, structural problems by providing adequate approaches for efficient international actions (Usunier et al, 2017). Therefore, professionals and expertise and speak foreign languages but also have to adjust their

behavior to intercultural standards which enable them to work effectively in a foreign environment.

B. The Relation Between Intercultural Management and International Management

Different from international management (which takes into consideration all functional activities of company) and compared management (which compares the specific of management in different systems), intercultural management focuses on organizational behavior and human resources (Draghici, 2015; Barmeyer & Franklin, 2016; Usunier et al., 2017). Intercultural management attempts to evaluate the influence of culture (national and organizational) on the perceptions, interpretations and actions of managers.

International management views culture from the perspective of an environment that the organization faces. Intercultural management views culture both within the organizational and externally. For international management, culture and its consequences make up only one dimensions that are stressed. The other dimensions international business specifically examines include the external political environment the external legal environment, the governmental influences, world financial institutions, and strategic management of various functional systems (Barmeyer & Franklin, 2016; Usunier et al., 2017). Figure 1 describes the relations of different management areas.

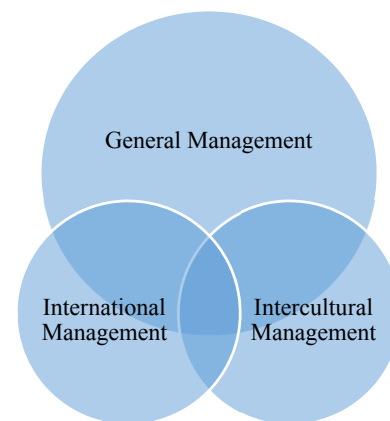


Fig. 1. The relation between different areas of management

As seen in Figure 1, intercultural management interleaves with international management as some similarities occur. It might therefore be relevant to depict those features of international management that are effective. These features are (Lenartowicz et al., 2003; Draghici, 2015):

- Teams consist of internationally representative managers;
- Structural forms such as organic modes exist;
- Leadership includes varied skills appropriate for the global context;
- Motivation is appropriate for diversity;
- Organizational cultures such as those characterizing learning organizations exist;

- Communication methods and systems are available and applicable;
- Human resource management systems and practices that reflect the dynamic of operating global context are used.

As part of the team intercultural management the expression management is ubiquitous. Management is the on-going professional composition, steering and development of (complex) structures and processes in order to achieve the goals of the organizations. For a definition of intercultural management, the general management definition needs to be extended by cultural component.

Therefore, intercultural management can mean to achieve goals with professional means by persons of other or different cultural influence. It is the composition, steering and development of structures and processes in order to achieve the goals of an organization in context that is shaped by coincidence of at least two different cultures (Usunier et al., 2017).

C. The difference between intercultural management and cross-cultural management

Some research approaches differentiate between an “inter-cultural” and a “cross-cultural” point of view. Intercultural studies concentrate on cross-border contacts and relationships, whereas “cross-cultural” studies compare certain phenomena in different cultural surroundings (Søderberg & Holden, 2002; Adekola & Sergi, 2016).

On the one hand, works in culturally comparative psychology have e.g. proved that cultural factors have a big influence on psychological processes such as perception, motivation, cognition and emotion. Moreover, the results show that some psychological laws hold across cultural borders but also that such generalizations are not possible without restrictions. Consequently, the “cross-cultural” perspective always generates comparative assertions, which means that the focus is on the cultural comparison (Adekola & Sergi, 2016).

International encounters reach across national borders and intercultural contacts across cultural barriers. The relationships between social organizations are always of an intercultural nature, since every organization is defined by a specific culture which distinguishes itself from the culture of other organizations. If one however assumes that the use of the prefix “inter” (as is to be found e.g. in the words “inter”-cultural or “inter”-national management (Søderberg & Holden, 2002) implies an isolated view on cultures or nations, then this definition fails the holistic approach connected to cross-border interactions. I

ntercultural considers can never be completely independent from comparative statements but need them as a basis in order to gain quantitatively distinguishable results. The actions of expatriate managers are influenced by their own as well foreign moral concepts (Søderberg & Holden, 2002).

IV. MODELS FOR CHARACTERIZING THE NATIONAL CULTURE

Before presenting the models for the national culture characterization there must be understand that strategic behavior differs across nations. Researches in the literature have argue on differences of national culture between Japanese, European, and American firms in their approach to strategy formulation. The Japanese approach is described as ‘evolutionary’, emerging and adaptive to environmental conditions. The European and American approach is described as ‘strategic planning’, as it is directed from the top and controlling towards the environment (Schneider, 1989). On the other hand, cultural differences may also have an impact on interpreting and responding to strategic issues. Researchers found Japanese managers more likely than America managers to interpret issues as threats and to differ in information scanning and sharing within the organization as a function of that interpretation (Sullivan et al., 1988). One could argue that Japanese managers would more likely to interpret a strategic issue as a ‘threat’ and restrict information sharing as they prefer to avoid uncertainty (Hofstede, 2011) and perceive less control over their environments. Assumptions about the environment and the organization, and more specifically regarding perceptions of uncertainty and control over the environment, and particularly relevant to understanding strategic response as previously discussed. As national culture is believed to influence these perceptions towards uncertainty (Hofstede, 2011), it is expected that national culture will have an impact on the interpretation and response to strategic issues.

A. Hofstede’s Cultural Model (brief presentation of the cultural dimensions)

Hofstede’s framework about cultural dimensions is the most widely used national cultural framework in psychology, sociology, marketing, or management studies (Hofstede, 1984; Søderberg & Holden, 2002; Hofstede, 2011).

Hofstede analyzed a large database of employee value scores collected within IBM between 1967 and 1973. The data covered more than 70 countries, from which Hofstede first used the 40 counties with the largest groups of respondents and afterwards extended the analysis 50 counties and 3 regions. Through standard statistical analysis of large data sets, he was able to determine patterns of similarities and differences among the replies. From this data analysis, he formulated his theory that world cultures vary along consistent, fundamental dimensions. Since his subjects were constrained to one multinational corporation’s world-wide employees, and thus to one company culture, he ascribed their differences to effects of their national cultures (One weakness is that each country has one dominant culture) (Hofstede, 1984).

Later, Hofstede published a more accessible version of his research publication in cultures and organization: software of the mind. His focus was not on defining culture as refinement of the mind (or highly civilized attitudes and behavior) but rather on highlighting essential patterns of thinking, feeling, and acting that are well established by late childhood (Hofstede, 2003).

Hofstede created five dimensions, assigned indexes on each to all nations, and political aspects of a society, a feature unmatched by other frameworks. It is the most comprehensive and robust in terms of the number of national cultures samples. Moreover, the framework is useful in formulating hypotheses for comparative cross-cultural studies.

Power Distance Index (PDI) - This dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally. The fundamental issue here is how a society handles inequalities among people (Hofstede, 2003). It suggests that a society's level of inequality is endorsed by the followers as much as leaders. Power and inequality, of course are extremely fundamental facts of any society, and anybody with some international experience will be aware that "all societies are unequal, but some are more unequal than others." A society's power distance level is bred in its families through the extent to which its children are socialized toward obedience or toward initiative.

People in societies exhibiting a large degree of Power Distance accept a hierarchical order in which everybody has a place, and which needs no further justification. In societies with low Power Distance, people strive to equalize the distribution of power and demand justification for inequalities of power.

Individualism vs. Collectivism (IDV) - This dimension refers to the degree to which individuals are integrated into groups. In individualist societies, the ties between individuals are loose: Everyone is expected to look after themselves and their immediate families (Hofstede, 2003).

The opposite, Collectivism, represents a preference for a tightly knit framework in society in which individuals can expect their relatives or members of a ingroup to look after them in exchange for unquestioning loyalty. A society's position on this dimension is reflected in whether people's self-image is defined in terms of "I" or "we".

Masculinity vs. Femininity (MAS) - This dimension refers to the distribution of emotional roles between the sexes, another fundamental problem for any society to which a range of solutions are found. The IBM studies revealed that women's values differ less among societies than men's values. The masculinity side of this dimension represent a preference in society for achievement, heroism, assertiveness and material rewards for success. society at large is more competitive. It's opposite, Femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus oriented. The women in feminine countries

have the same modest, caring values as the men: in masculine countries, they are somewhat assertive and competitive, so that these countries show a gap between men's values and women's values (Hofstede, 2003).

In the business context Masculinity vs. Femininity is sometimes also related to as "tough versus tender" cultures.

Uncertainty Avoidance Index (UAI) - "The extent which people feel threatened by uncertainty and ambiguity and try to avoid these situations" (Hofstede, 2003). The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen?

Countries exhibiting strong UAI maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles (Hofstede, 2003).

Long-term vs. Short-term Orientation (LTO) - This dimension "stands for the fostering of virtues oriented towards future rewards, in particular perseverance and thrift". A late addition to the initial four, this dimension represents a range Confucian-like values and was termed Confucian Dynamism (as mention in (Soares et al., 2007)). Every society must maintain some links with its own past with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies who score low on this dimension, for example, prefer to maintain time honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education to prepare for the future.

Indulgence vs. Restraint (IVR) - The sixth and new dimension added uses Michael Minkov's label Indulgence versus Restraint (2012). It focuses on aspects not covered by the other five dimensions but known from literature on "happiness research". Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms.

B. Hall's model on culture definition and approach

Hall's model has evolved from empirical studies of culture context observation and description in more than ten countries or national cultures. He distinguished patterns of culture according to context, space, time, and information flow. The primary work from which Hall (first published in 1976) created his contexting model Beyond Culture. In explaining this model, he defined high-context and low-context messages as follows (Hall, 2005): "A high-context (HC) communication or message is one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message. A low-context (LC) communication is just the opposite; i.e.,

the mass of the information is voted in the explicit code”.

Hall made several distinctions between HC and LC cultures. In HC cultures:

- Information is widely shared and thus requires extensive cultural programming;
- HC cultures emphasize stability;
- Providing too much information is talking down to others;
- Communication is an art form that is unifying and cohesive and thus displays sophistication, nuance, and cultural identity.
- HC cultures appreciate slow, indirect messages;
- HC cultures interpret laws with personal involvement and thus bend rules to accommodate relationships;
- HC cultures tend to employ more holistic thinking.

In LC cultures:

- Information is less widely shared and thus requires less cultural programming;
- LC cultures emphasize change and mobility;
- Providing too much information is considered being thorough;
- Communication is primarily task oriented;
- LC cultures insist on fast, direct messages;
- LC cultures prefer formal information networks;
- LC cultures interpret laws impersonally and thus maintain strict adherence to rules;
- LC cultures tend to employ more linear thinking.

Hall (2005) described cultures as being either primarily HC or primarily LC. But he explained that cultures could be arranged on a continuum from extremely LC to extremely HC cultures. He classified the following cultures on such a continuum in order of lowest to highest context: Swiss-Germans, Germans, Scandinavians, Northern Americans, French, English, Italians, Latin Americans, Arabs, Chinese, and Japanese. His work has been intensive debated and even criticized (Cardon, 2008).

C. Trompenaars cultural model

Fons Trompenaars, another Dutch researcher, made in the eighties and nineties studies upon cultural differences following the same path as Hofstede but including in his research upon 46 countries 10 post-communist countries from Eastern Europe as well (Hamburg, 2011). “Culture is the manner in which these dilemmas are reconciled, since every nation seeks a different and winding path to its own ideals of integrity” (Trompenaars & Woolliams, 2004).

According to Trompenaars theory on cultural diversity approach if you want to minimize conflict between cultures, you must first analyze-measure even the differences between them. In the context of this model there have been considered seven dimensions as following (Trompenaars & Hampden-Turner, 2011):

- Universalism versus Particularism;
- Collectivism versus Individualism;
- Affective versus Neutral Relationships;
- Specify versus Diffuseness;

- Achievement versus Ascription;
- Orientation towards Time;
- Internal versus External Control.

A good way to imagine what culture means is to compare it with layers of an onion (Figure 2). The outer layer is what people principally associate with culture: the observable reality of clothes, food, language, housing, etc. the middle layer refers to the norms and values which a community holds: what is considered right or wrong (norms) and good or bad (values). Understand the core of the onion is the key to successfully working with other cultures: the series of rules and methods which a society has evolved to deal with the regular problems that face it. This problem solving has become so basic that, like breathing, we no longer think about how we do it. We refer to these unconscious solutions as basic assumptions (Trompenaars & Hampden-Turner, 2011).

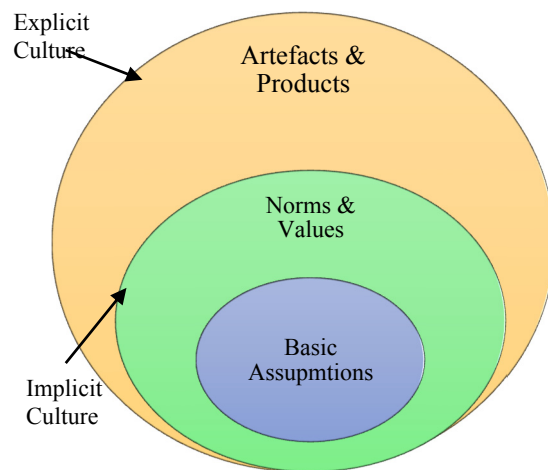


Fig. 2. The Onion Model of Culture

A culture is stable when the norms reflect the values of the group. When this is not the case, there will be most likely be a destabilizing tension. While the norms, consciously or subconsciously, give us a feeling of “this is how I normally should behave”, values give us a feeling of “this is how I aspire and desire to behave”. A value serves as criterion to determine a choice from existing alternatives. It is the concept an individual or group has regarding the desirable. For instance, in one culture people might agree with the value: “Hard work is essential to a prosperous society.” Yet the behavioral norm sanctioned by the group may be: “Do not work harder than the other members of the group because then we would all be expected to do more and would end up worse off.” Here the norm differs from the value. Some Japanese might say that they bow because they like to greet people: that is a value. Other might say they do not know why except that they do it because the others do it too. Then we are talking about a norm (Trompenaars & Hampden-Turner, 2011).

Management of cultural change which is basic to the process of internationalization is only genuine when the core set of basic assumptions held by the organization is challenged. Changing the explicit elements of culture is symbolically helpful; a necessary

but not an enough condition. Changes at the explicit level – to organization charts, human resources systems and marketing strategies- need to be intimately connected to changes at more fundamental levels.

The way a manager challenges the implicit culture of the organization does not matter, if it is done regularly. To change the organization into an international firm is ultimately the responsibility of the leaders of the organization. Not just the very top, but responsibility of all those who are able to connect actions with the survival of any organizational activity; it is multiple leadership.

V. COMPARISON BETWEEN ROMANIA AND TURKEY CULTURES

A brief comparison of the Romanian and Turkish culture has been done using the online software 6-D Model©, on Hofstede web page (<https://www.hofstede-insights.com/product/compare-countries/>).

Both countries were selected in the dropdown menu to see the values for the six dimensions on the same graph (Figure 3). After a first country has been selected (Romania), the second one (Turkey) has been added to see a comparison of their scores related to Hofstede defined cultural dimensions.



Fig. 3 Comparison of Romanian and Turkish culture using Hofstede cultural dimensions

(<https://www.hofstede-insights.com/product/compare-countries/>)

If we explore the Romanian and Turkish cultures through the lens of the 6-D Model©, we can get a good overview of the deep drivers of both cultures relative to other world cultures. The synthesis of the comparative study is presented in Table 1.

Table 1 Characteristics of Romanian and Turkish culture – Results of the study using Hofstede online software 6-D Model© (<https://www.hofstede-insights.com/product/compare-countries/>)

Hofstede cultural dimensions	Romania culture characterization	Turkey culture characterization
POWER DISTANCE - This dimension deals with the fact that all individuals in societies are not equal – it expresses the attitude of the culture towards these inequalities amongst us. Power Distance is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally.	Romania scores high on this dimension (score of 90) which means that people accept a hierarchical order in which everybody has a place, and which needs no further justification. Hierarchy in an organization is seen as reflecting inherent inequalities, centralization is popular, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat.	Turkey scores high on this dimension (score of 66) which means that the following characterizes the Turkish style: Dependent, hierarchical, superiors often inaccessible and the ideal boss is a father figure. Power is centralized and managers rely on their bosses and on rules. Employees expect to be told what to do. Control is expected and attitude towards managers is formal. Communication is indirect and the information flow is selective. The same structure can be observed in the family unit, where the father is a kind of patriarch to whom others submit.
INDIVIDUALISM - The fundamental issue addressed by this dimension is the degree of interdependence a society maintains among its members. It has to do with whether people’s self-image is defined in terms of “I” or “We”. In Individualist societies people are supposed to look after themselves and their direct family only. In Collectivist societies people belong to ‘in groups’ that take care of them in exchange for loyalty.	Romania, with a score of 30 is considered a collectivistic society. This is manifest in a close long-term commitment to the member ‘group’, be that a family, extended family, or extended relationships. Loyalty in a collectivist culture is paramount, and over-rides most other societal rules and regulations. The society fosters strong relationships where everyone takes responsibility for fellow members of their group. In collectivist societies offence leads to shame and loss of face, employer/employee relationships are perceived in moral terms (like a family link), hiring and promotion decisions take account of the employee’s in-group, management is the management of groups.	Turkey, with a score of 37 is a collectivistic society. This means that the “We” is important, people belong to in-groups (families, clans or organizations) who look after each other in exchange for loyalty. Communication is indirect and the harmony of the group must be maintained, open conflicts are avoided. The relationship has a moral base, and this always has priority over task fulfillment. Time must be invested initially to establish a relationship of trust. Nepotism may be found more often. Feedback is always indirect, also in the business environment.

<p>MASCULINITY - A high score (Masculine) on this dimension indicates that the society will be driven by competition, achievement and success, with success being defined by the winner / best in field – a value system that starts in school and continues throughout organizational life. A low score (Feminine) on the dimension means that the dominant values in society are caring for others and quality of life. A Feminine society is one where quality of life is the sign of success and standing out from the crowd is not admirable. The fundamental issue here is what motivates people, wanting to be the best (Masculine) or liking what you do (Feminine).</p>	<p>Romania scores 42 on this dimension and is thus considered a relatively Feminine society. In Feminine countries the focus is on “working in order to live”, managers strive for consensus, people value equality, solidarity and quality in their working lives. Conflicts are resolved by compromise and negotiation. Incentives such as free time and flexibility are favored. Focus is on well-being; status is not shown.</p>	<p>Turkey scores 45 and is on the Feminine side of the scale. This means that the softer aspects of culture such as leveling with others, consensus, sympathy for the underdog are valued and encouraged. Conflicts are avoided in private and work life and consensus at the end is important. Leisure time is important for Turks, it is the time when the whole family, clan and friends come together to enjoy life. Status is shown, but this comes more out of the high PDI.</p>
<p>UNCERTAINTY AVOIDANCE - The dimension Uncertainty Avoidance has to do with the way that a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? This ambiguity brings with its anxiety and different cultures have learnt to deal with this anxiety in different ways. The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these is reflected in the score on Uncertainty Avoidance.</p>	<p>Romania scores 90 on this dimension and thus has a very high preference for avoiding uncertainty. Countries exhibiting high Uncertainty Avoidance maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. In these cultures there is an emotional need for rules (even if the rules never seem to work) time is money, people have an inner urge to be busy and work hard, precision and punctuality are the norm, innovation may be resisted, security is an important element in individual motivation.</p>	<p>Turkey scores 85 on this dimension and thus there is a huge need for laws and rules. In order to minimize anxiety, people make use of a lot of rituals. For foreigners they might seem religious, with the many references to “Allah”, but often they are just traditional social patterns, used in specific situations to ease tension.</p>
<p>LONG TERM ORIENTATION - This dimension describes how every society must maintain some links with its own past while dealing with the challenges of the present and future, and societies prioritize these two existential goals differently. Normative societies, which score low on this dimension, for example, prefer to maintain time-honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education to prepare for the future.</p>	<p>Romania has an intermediate score of 52 on this dimension.</p>	<p>Turkey’s intermediate score of 46 is in the middle of the scale so no dominant cultural preference can be inferred.</p>
<p>INDULGENCE - One challenge that confronts humanity, now and in the past, is the degree to which small children are socialized. Without socialization we do not become “human”. This dimension is defined as the extent to which people try to control their desires and impulses, based on the way they were raised. Relatively weak control is called “Indulgence” and relatively strong control is called “Restraint”. Cultures can, therefore, be described as Indulgent or Restrained.</p>	<p>With a very low score of 20, Romanian culture is one of Restraint. Societies with a low score in this dimension tend to cynicism and pessimism. Also, in contrast to Indulgent societies, Restrained societies do not put much emphasis on leisure time and control the gratification of their desires. People with this orientation have the perception that their actions are Restrained by social norms and feel that indulging themselves is somewhat wrong.</p>	<p>With an intermediate score of 49, a characteristic corresponding to this dimension cannot be determined for Turkey.</p>

A. A debate on Romanian business culture

Romanian society shows moderate formalism conveying importance to age, social belonging and titles, however concerning the latter and diplomas being considered important, most people long for them

resulting a real chase of diplomas. On the other hand, as there are already existing many possessors of such titles, they’ve lost some of their value and power to confer prestige (Hamburg, 2011; Jarjabka, 2014).

Considering bribery and the system of looking for back doors in problem solving, communication is not very direct in Romanian business world, despite of it messages still preserve to a great extent their communicative value. Expressing disapproval happens without resorting to euphemism but asking for a favor usually assumes veiled forms. A Romanian negotiator will make a moderate use of para- and non-verbal communication tools, his gestures, body and facial movements, voice variations being more intense than for instance in reserved cultures. Visual contact will be sought to the partner, if contrary, their intentions are not honest, they have something to hide. At the same time Romanian businesspeople will keep moderate distance in their professional relations without invading the counterpart's private space. Men used to shake hands but hugging, taking somebody by the arm are no practice in Romania -as well as there is no handshaking among women or between women and men- thus we can assert Romanian culture is a "noncontact" one (Hamburg, 2011).

Although being a monochronic culture (according to Hall's model) or sequential one according to Trompenaars model, i. e. tasks are solved one by one and time is considered rather a rare resource than an abundant one, Romanians will still have a quite flexible time perception. As a moderately rigid-time culture Romanian business sphere will accept being maximum 10-15 minutes late -motivation and apology required-however punctuality will be preferred. Meetings will have certain time frames concerning beginning, duration and end but possible little delays won't be considered a tragedy. Fixed breaks can give ground to spontaneous interruptions if necessary, for instance before making final decision in order to summarize data and consult colleagues or when reaching deadlock.

Considering Trompenaars' cultural dimensions Romanians' predilection for particular solutions based on interpersonal relationship or social belonging could be the result of particularism characterizing Romanian culture. As in Romanian society persons are not always strictly ranked according to performances and merits, it can be classified rather an "ascribed position" culture however economic and business sphere try to counterbalance this aspect. Analyzing phenomena by parts separating public space designated for instance for negotiations from the private one reserved only to intimates, classify Romanian culture in the Dutch researcher's typology as specific culture. According to their adopting masculine values Romanian managers tend to believe that environment is subordinate to their activities and plans, they give too little importance to nature's protection in the sense of sustainable development, showing thus an outer-directed behavior (Jarjabka, 2014).

In Romanian business sphere there's no taboo to show sentiments within the confines of rationality and decency. For the expression of joy, interest, approval or disapproval, indignation and so on business people have at their disposal beside the usual verbal tools also the para- and non-verbal ones like voice intensity,

silence, facial expression, losing temper are not accepted in moderately affective cultures as the Romanian one either. Concerning verbal communication and foreign language usage Romanians present both good quantitative and qualitative values derived from necessity and interest (Hamburg, 2011; Jarjabka, 2014).

B. A debate on Turkish business culture

According to Hofstede's model of national culture, Turkey has been described as high on the collectivism a power distance value dimension. This suggests that organizational cultures in Turkish firms are characterized by both unequal (or hierarchical) and harmonious, family-like (clan) relationships. The finding is also consistent with the earlier observations of the Turkish society.

Trompenaars and Hampden-Turner (2011) found Turkey to have the steepest hierarchy in its organizations. Turkish organizations have been also described as the family-type. It is important that the autocratic style of leadership does not prevent the employees from unhesitant information sharing that is necessary in organizational learning culture development.

Another explanation of this finding may be attributed to the nature of state-business relations in the current Turkish context. The high level of hierarchy could be the reason that employees in Turkey do not pay much attention to strategic information acquisition, as they mostly carry out highly standardized tasks and follow orders given out by top management. Another explanation for the lack of strategic information acquisition is that the relations with government authorities, rather than the market, determine the strategic decision in Turkish organizations (Fikret Pasa et al, 2001; Dulaimi et. al., 2007).

The hierarchical arrangement in Turkish firms is further supported by some research findings that the employees in Turkish firms extensively use formal channels for interpreting information. The use of face-to-face channels is obviously not encouraged. The use of electronic channels, on the other hand, suggests the level of electronic and information technology infrastructure development in Turkish firms is adequate. Moreover, the employees in Turkish firms are benefiting from the use of information technology, which is crucial for information exchange (Özkalp et. al., 2009).

Cultural preferences often have the force of law as well as custom. Refusal to send young women managers to Turkey because they are young and female is probably illegal, yet to send them is to confront them with difficulties which they may not have the capacity to surmount, through no fault of their own. The more they achieve, the more they seem to subvert the ascription process. A better tactic can be to make a young female an assistant or adviser to indigenous managers. She will make up for any deficits in knowledge they have, while using local seniority to get things done. Such a posting could be paid and

evaluated in the same way as being chief in an achievement-oriented culture, perhaps with a bonus for culture-shock. You cannot replace Turkish with American cultural norms if you seek to be effective in Turkey. This will not be effective in the long run, and in the short run can be very expensive (Fikret Pasa et al, 2001; Dulaimi et. al., 2007).

VI. CONCLUSIONS

This paper provides an overview to actual problems on international management and an up to date review based on the literature regarding the existing models for the cultural dimensions' characterization. The current study revealed some interesting preliminary results, which point toward several issues that need to be investigated in future research. Cultural influences on business and the effectiveness of managers/leaders' behaviors need to be addressed since they have potential applied implications for the management of cross-cultural workgroups.

The aspects related to the analysis of the cultural issues on Romania and Turkey have deliver important aspects of common understanding of the behavior dimensions of the people in generally, and of the business environment of both countries. The comparative study has been of great useful for understanding the way people see their working environment and act in accordance to their cultural values and habits. This was also, the premise of characterizing tolerance and adaptation dimensions of behavior.

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