CONTENTS

Businesses in an Interactive World

Companies have direct relationships both downstream (with merchants and customers) and upstream (with material suppliers and banks). Organizations also have lateral relationships with local communities (administrative institutions, schools, universities etc.) and even with competitors. All these constitute the stakeholders of the concerned organization. And each stakeholder has different expectations.

When it comes to customers, an organization achieves its purpose if it manages to provide products and services that generate satisfaction. Product satisfaction appears if all its features have values situated above the threshold required by the client. It was noted, however, that there are two thresholds: thanksgiving (which separates the displeasure of thanksgiving) and customer satisfaction (that separates the dissatisfaction of satisfaction). Customer satisfaction is the sense of fulfillment of desires. In the event of dissatisfaction or satisfaction, the customer responds and talks about the product, but the negative advertising is three times more intense than the positive one. There can be also identified another state, the enthusiasm, the feeling of exceeding all wishes, the fulfillment of unidentified needs. Only enthusiastic customers become loyal customers.

For a long time, it was considered that customers buy goods on their own responsibility – „be careful what to buy" (caveat emptor), or that there is a contract between the trader and the buyer whereby the buyer agrees to what the seller is supplying. The diversity and complexity of products offered for sale have led to the need for consumer protection.

The relationships with clients are sometimes conducted directly, but in many cases, they are conducted through traders. The trade impacts the producer by reconciling the production. Stocks advance orders flatten the production. But the dealer has influence and insight, delivering the goods to the desired location in the appropriate time and in the required amount. That's why the manufacturer tries to engage the dealers by offering different benefits and by forming sale chains.

Suppliers are the source of raw materials, half-finished products for the enterprises concerned. Manufacturers create different forms of integration with suppliers and customers and they also create partnerships. The direct

„If you do not seek out allies and helpers, then you will be isolated and weak."
Sun Tzu
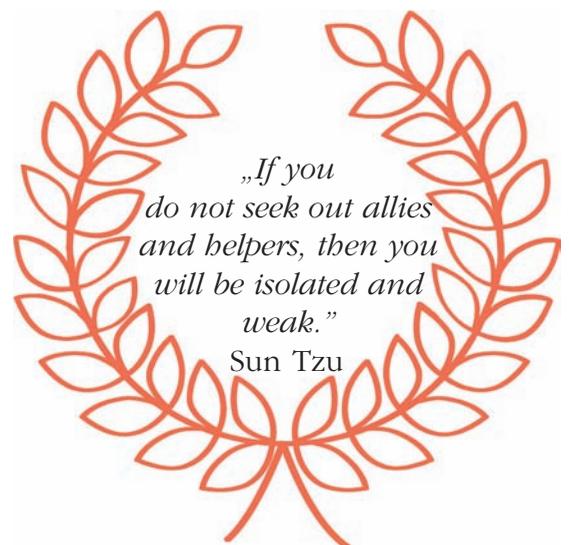
supplier and the immediate customer are highly important, but even more important is the entire range of integration, called value chain or industrial chain. Designing the industrial chain has become one of the main strategic activity of an enterprise. Providers have a major impact on the cost of execution of the products and their quality. They begin to be perceived as external departments of the enterprise, being called co-designers or co-producers. For a long period of time, the two sides were seen as opponents, because the bond between them was considered only from the price point of view, but today it involves a lot of collaboration.

An enterprise needs to be careful with regards to its competitors. The analysis of the competitors refers to their competitive strength (quality, price, services provided), the methods used by new competitors and strategic groups. There might be brand competitors, market competitors, niche competitors. For each competitor, the enterprise must identify a range of objectives as: the role of profit, market growth dynamics, cash flow, technology, services offered. In addition to the competition, there is also a collaboration with competitors, for example in setting standards e.g. establishing Chambers of Commerce.

Dealing with banks and financial firms relates to lending and intermediation of financial relations with the clients and suppliers. Banks make financial instruments available, but they also allow operations such as factoring or hedging.

Relationships with communities refer to both the local community and the central government. Companies have positive effects on the local community, they pay taxes on properties, they offer employment, sponsor community activities. The enterprise country pay taxes for profit, collects the tax on the salaries, value added tax, contributions to health, unemployment and social insurance.

An organization is therefore not alone in its environment and its success depends on its relations with the stakeholders.

Sorin Ionescu,
Editor in Chief

„Alliances have become an integral part of contemporary strategic thinking."
Fortune Magazine

A Tailored Methodology for Project Management

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Abstract

Nowadays, Information & Technology (IT) projects are rapidly increasing in number and value due to their importance and impact across all industries. Public institutions, nongovernmental institutions, nonprofit institutions and the private sector need to enhance their level of digitization. All the industries show similar trends in enhancing the usage of the last-mile technologies: manufacturing, banking, insurance, healthcare, agriculture etc. To cover the market needs, a big number of IT projects is generated yearly, encompassing projects of different dimensions, from projects that address 10-20 users to projects that address a billion users. The management of these projects is becoming more challenging and there is a certain need to apply management methodologies that fit in the context of each project. The author's previous research and experience prove that the methodological approach of the IT projects should be customized by taking into account the dimension of the project and by capitalizing the existing resources.

Keywords: management, processes, IT projects

Introduction

The project managers are often locked in methodologies that make the management of the project difficult and bring no added value to the project itself and to the organization. In some cases, the methodologies are difficult to be applied and the associated effort is not justified, taking into consideration the dimension of the project.

The project's dimension has been largely debated in the specific literature, and it has been observed that there are many criteria that could influence project dimensions, criteria that should be permanently

„Our business is about technology, yes. But it's also about operations and customer relationships."
Michael Dell

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evaluated. In this article, the author presents a new management methodology tailored to the dimension of the project. The model proposed by the author is also based on the assessment of the dimensions of the IT project and takes into consideration other important steps to be followed at the level of the organization: defining the criteria for evaluation, establishing the project priority and addressing the lesson learned.

The management methodology proposed is mainly based on the PMBOK processes and is promoting a simplification of it, to make it usable in an efficient way for smaller projects.

Methodology

The present article will combine theoretical research from the literature regarding IT projects with the observations from the implementation of the IT projects in real business environments. The management methodology proposed by the author is limited in terms of validation across a large number of projects. It has been deployed in few IT projects with encouraging results.

For evaluating the steps and processes needed to be customized, the author assessed the PMBOK processes and effectiveness in a project having reduced dimension, based on the author's experience, literature research and surveys.

The Importance of a Tailored Methodology

Whitaker (2014) defines the management methodology as a set of politics, practices, processes, tools, techniques and templates that will support the manager in the implementation of the projects. One if the frequent causes of the failure of IT projects is that a formal methodology is missing at the organization's level. As reported by Wellingtone (2015), methodologies will help managers to better understand the necessary processes, the lifecycle of the project and also the tools and templates necessary to manage the project.

The most common elements indicating that a methodology is not followed because it is not tailored to the projects' needs are given by the project's team; firstly, because the team members are not following the same processes and secondly, the project team is conducting the change management processes without the support or involvement of the management, which is contributing to the lack of standardization in the project, as argued by Whitaker (2014).

LaBrosse (2015) affirms that the most valuable competitive advantages could be represented by a methodology which is applied with success at the organization level. Project team members can easily follow the same steps and processes to solve the tasks. A good methodology that is known, followed, applied and respected will help the team to pass from vision to action. Project management methodology

can be linear or iterative, extensive or minimalist, in phases or on the entire life cycle, but it is important to be adapted to needs of the project to guarantee the completion of the project.

The first step in selecting the management methodology is to know the dimension of the project and then to decide what process are to be applied. The management of the organization should give the correct answers and direction to the project manager: how complex is the project, how to measure it and what kind of methodology should be applied. An applicable matrix for selecting the complexity of the management methodology is shown in Figure 1:

Project value

| Simple project management methodology | Medium to high complexity for project management |
| Very Simple project management methodology | Medium complexity for project management methodology |

Project Complexity
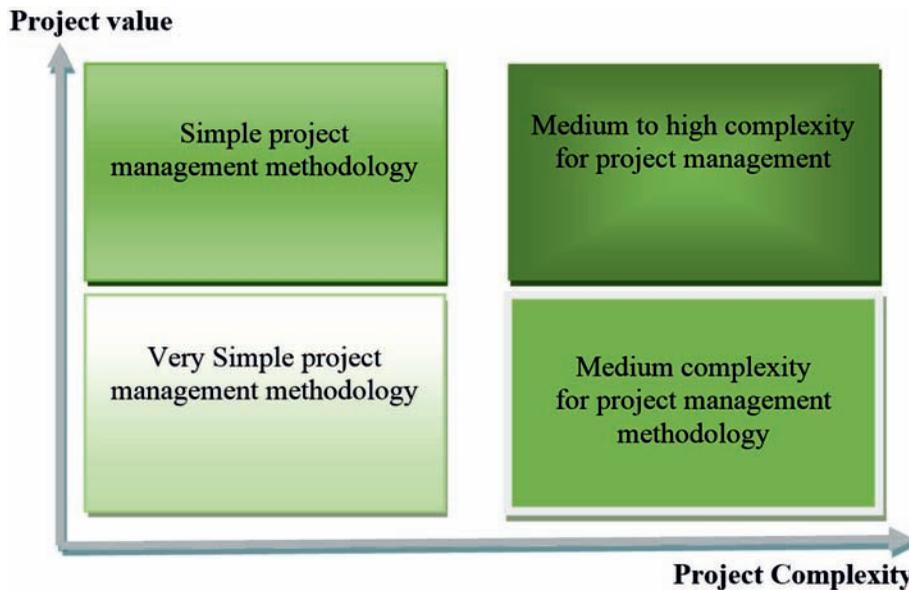
Figure 1 – *Matrix for selecting complexity of the management methodology* (Whitaker, 2014)

Following Wiegers (2014), there can be defined five dimensions of a project that should be considered when implementing a methodology: project complexity, quality, duration, costs and team. The complexity of the project should be evaluated from a technical perspective and a management perspective (2008):

❑ **Technical perspective:** number of technologies involved, expertise in the chosen technologies and associated risks to the technologies;

❑ **Management perspective**: the risks associated with requirements for the project, project resources requested in the project, political aspects, number of stakeholders, constraints and issues regarding the time and the costs.

The New Tailored Methodology

The author paid a close attention to reduced size IT projects, where it is important to reduce the effort associated with the management processes. Usually, the planning phase for this kind of projects is minimized, in some cases skipped and the project goes directly into the execution phase. This approach creates unrealistic deadlines. The communication process is also minimized in such a way that the stakeholders are not managed and the team is not properly informed on a regular basis (Larson, 2012).

The planning of the projects should respect the principles mentioned by Humphrey (2010):

1. **Accessibility** – all the necessary information should be found in one place;
2. **Clarity** – all the information should be easy understood by the project team members;
3. **Relevant to the project** – the project plan addresses the specific characteristic of a project, such as what will be done, when will it be done, by whom will it be done and related costs;
4. **Precision** – all the information will be presented with precision.
5. **Accuracy** – if the project information will not allow an accurate planning, then the planning process will be reiterated several times.

The author constructed a methodology in order to manage a project in two steps: first, the dimensioning of the project, and second, the management methodology to be followed accordingly with the results from the first step.

The author's model for dimensioning the projects considers that the IT projects with reduced dimension have a reduced technical complexity, a small number of stakeholders entities, a limited number of resources needed to cover the project's activities. In an organization, the reduced size projects represent approx. 10% of the resources and 10% of the revenue. The main principles to be followed in dimensioning an IT project are presented in Figure 2:
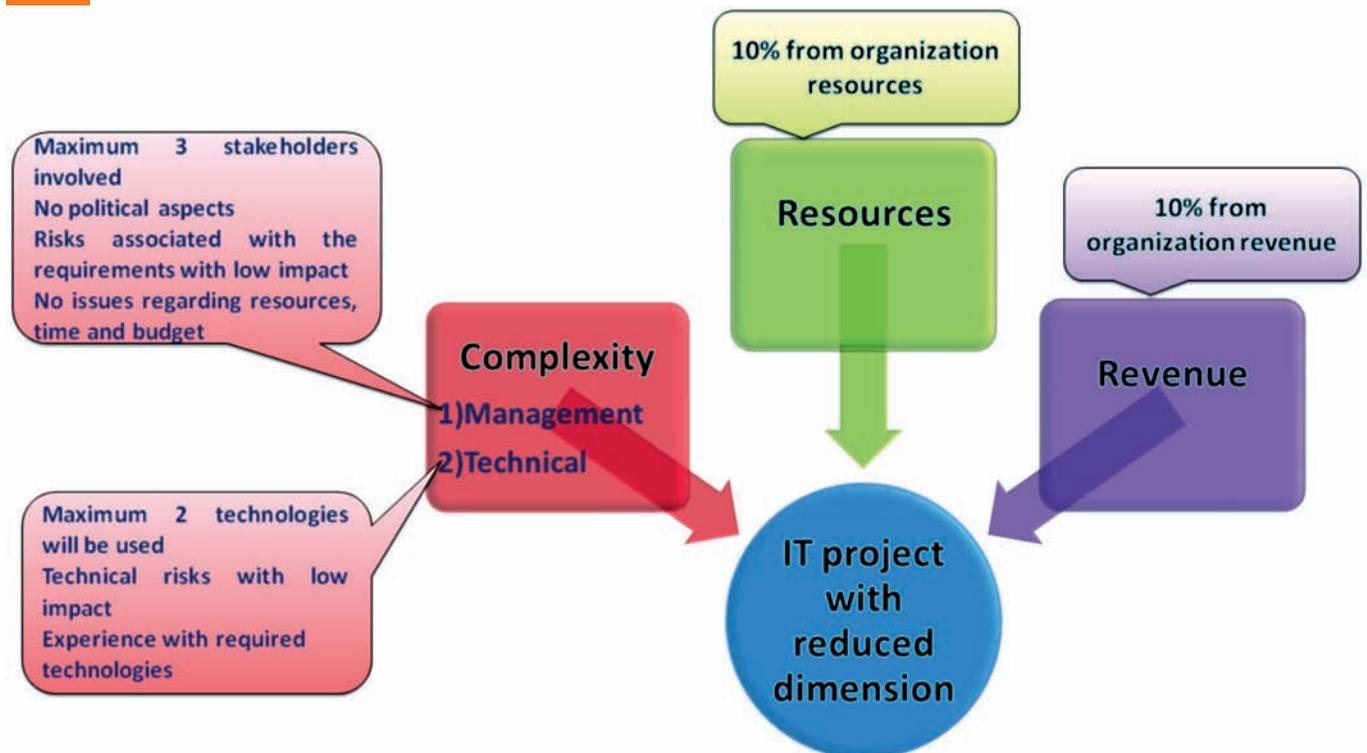
Figure 2 – *A model to evaluate IT projects' dimension*

The complexity of the project can be evaluated by assessing the criteria from a management perspective (resources, time, budget, stakeholders and political aspects)

and balancing them from a technical perspective. Based on PMI methodology, the author defined a management methodology for IT projects tailored to the needs of

reduced IT projects, as shown in Figure 3. The management methodology processes are grouped into 4 phases:
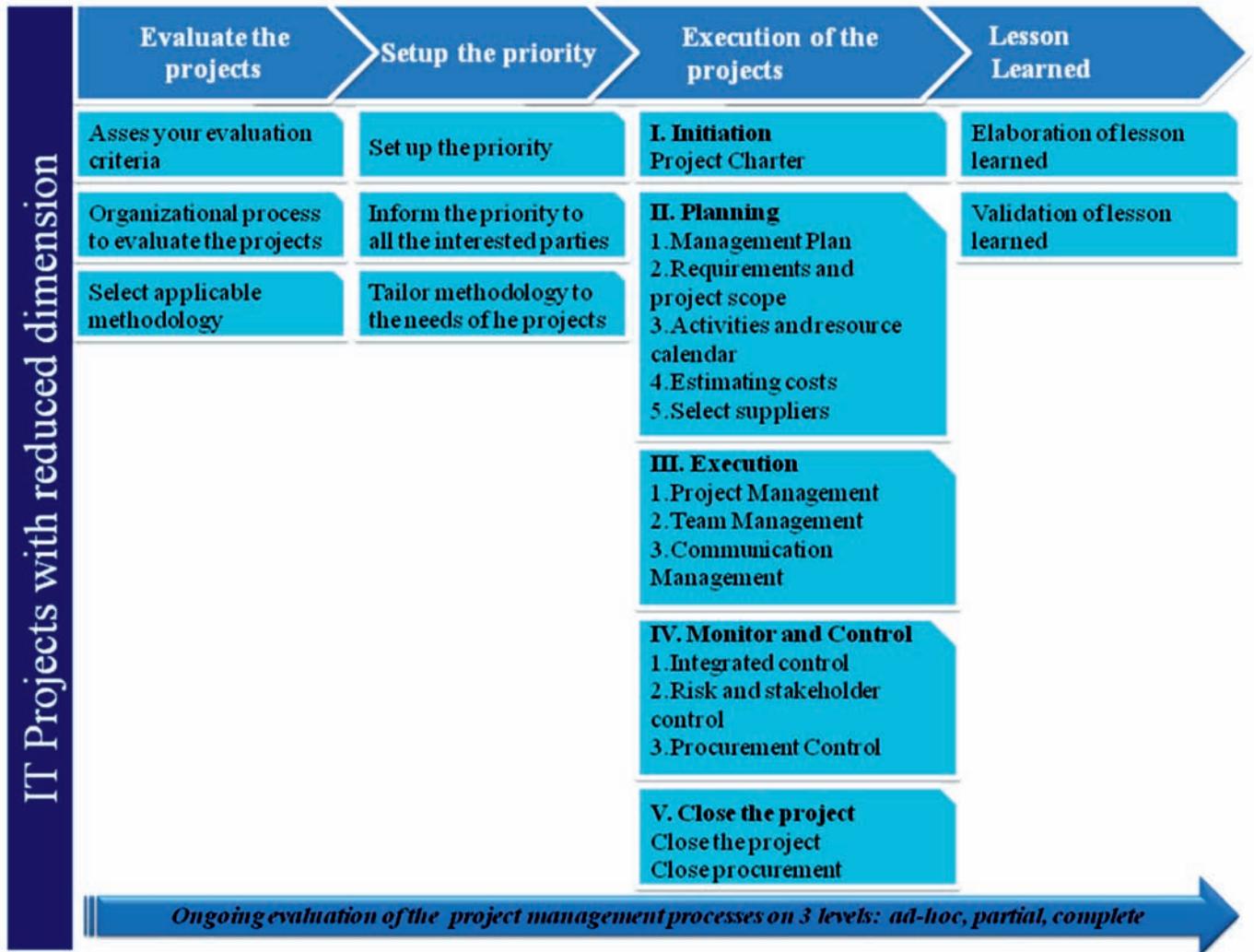
Figure 3 – *Tailored methodology for IT projects with reduced dimensions*

Phase 1. Evaluating the projects within the organization. It includes three processes: assessing the evaluation criteria, considering the organizational process to evaluate the projects and tailoring the methodology that will be used accordingly with projects' dimension. To assess the degree to which the organization is evaluating the ongoing projects on a scale from 1 to 3, there can be used:

1. Ad-hoc evaluation – the evaluation process is triggered by some crisis at the level of the organization and there is no framework established;
2. Partial evaluation – defined criteria exists, but they are covering only some project categories from the organization;
3. Complete evaluation – the evaluation is executed permanently and the criteria are covering all the projects of the organization. The list of criteria is permanently updated to the organization's needs and to market's evolution.

Phase 2. The phase of assessing the priorities includes:

- **Assessing the projects for identifying the priority.** The priority of every project will be established through a standardized process with well-known criteria. The criteria should be related to the dimension of the project, organization strategy and available resources.
- **Communicating the priority.** This needs to be transparent at all levels of the organization.
- **Adapting the organizational process** to consider projects priorities in the company planning and executing of activities.

The priority establishing phase will be evaluated using a scale of 1 to 3 as follows:

- ❑ Ad-hoc – the priorities will be made randomly, without an established framework;
- ❑ Partial – some projects are permanently evaluated according to well-known criteria;
- ❑ Complete – all projects have priorities assigned by using a well-established framework.

The practical result of this phase will be the list of all projects with different priorities that will create the base of the future actions for the ongoing and future projects.

The lack of of the evaluation and priority set up processes will lead in most cases to the chaotic execution of projects. This kind of operation is usually running without the top management support due to the fact that the objectives and the results of the projects are not aligned or have little or no importance for management. The results of the priority setting process can contribute to a detailed analysis of the benefits given by different projects to the organization. The adopted methodology will support the implementation of the project in conformity with the results of the evaluation process. Any new update on the projects – for example, the revenue, duration etc. – can influence the results of the evaluation process.

Phase 3. Is represented by the execution of the project with the well-known five phases from PMBOK: Initiating, Planning, Executing, Monitoring Controlling and Closing.

The processes from the five phases were reduced according to with studies made by the author. The version 5 of PMBOK has 47 processes to manage the execution of projects. Those processes are proposed to be reduced to 23 the processes. The comparison between the number of processes in each phase from PMBOK and the new tailored methodology is summarized in Figure 4.

Phase 4. Includes elaboration and validation of lesson learned. In order to evaluate the process of completion and validation of the lesson learned, we will use the same principle of using a scale from 1 to 3:
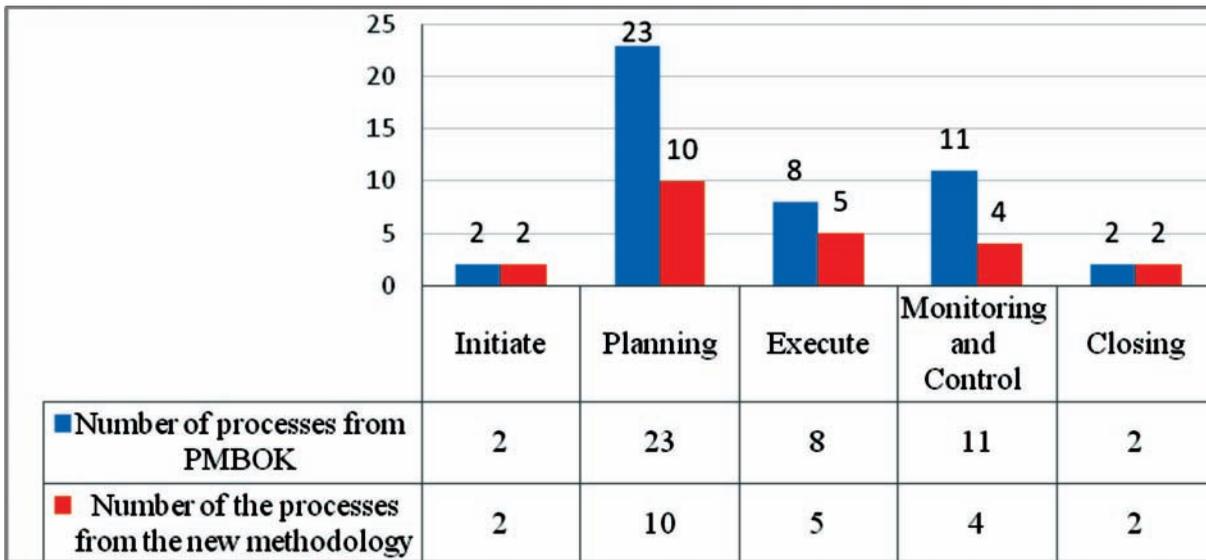
Figure 4 – *Number of processes from PMBOK versus processes from proposed methodology*

1. The completion and validation of the ad-hoc lesson learned – the completion of the lesson learned is made randomly, without an established framework;
2. Partial completion of the lesson learned, only for some part of the projects;
3. Full completion of the lesson learned when all the projects include validated lesson learned.

The process of completing the lesson learned is very important and it is mandatory that they are validated by the experts in the field to ensure that the usage of the lesson learned at the level of the organization will bring the desired impact. Lesson learned won't reduce or replace the planning phase.

Results and Discussions

Based on the assumptions of Larson (2012), formalizing a management methodology at the level of an organization will enhance the capacity of the organization to deliver IT services and will also allow a unique approach for the requirements and tasks for all the parties involved, while reducing the risks for the IT organization which executes the project. There are clear elements that need to be considered and that will influence the implementation of a new management methodology in an organization:

❑ A new management methodology will be followed in small steps to capture the negative aspects and to avoid the negative impact at the level of the organization;
❑ The effort of implementing the new management methodology will be significant and irrelevant if the top management is not involved and does not support the implementation itself;
❑ The methodology will be improved in the implementation phase by identifying aspects that were treated wrongly;
❑ Project managers used a methodology without pointing gaps and their

involvement in the implementation process of the new methodology will enhance the possibility to assess and evaluate the right processes.

The goal of any organization is to bring value to its shareholders and this is to be achieved by increasing, in a structured way, the chances of success of its projects. That is also the goal of the present model for reduced size projects.

Conclusions

The managers need to be aware of the dimension of the project managed in order to adopt the proper tools, models and methodology to follow. The main objective of the proposed methodology is an alternative model to be used for the projects with reduced dimensions. There are two conditions that must be achieved: the success rate of the projects is bigger than using the old methodology, and the management effort is lower.

The management model for reduced size projects has the right elements to achieve this by setting up front the priority, by adopting a process simplification and focusing on people management.

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„If everyone is moving forward together, then success takes care of itself."
Henry Ford
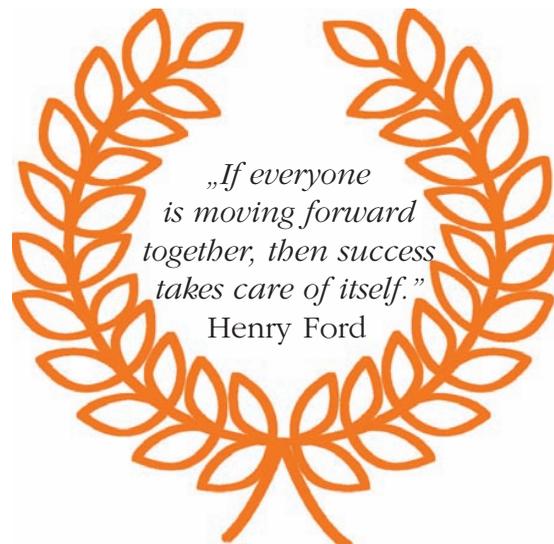
Entrepreneurship and its Relations

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Abstract

Entrepreneurship is an increasingly important phenomenon in the world economy. Many reports show that job creation and economic growth is driven primarily by the creation and growth of young, new firms. However, such new firms are vulnerable; Europe and Romania have a low survival rate. Because of this issue, scholarly interest in the topic of new venture survival, or the ability of new ventures to successfully start and maintain their operations, has continued to grow. The relationship between technology innovation, HRM and entrepreneurship has been an active area of research. It is well-known technology and HR are closely linked for competitive advantage. The paper will present how a firm can respond to the competitive pressures through a process of entrepreneurial change. Firms must become more entrepreneurial in order to identify new opportunities for sustained superior performance. The main „ingredients" of corporate entrepreneurship (CE) are organizational learning, driven by collaboration, creativity and individual commitment. The results of the research showed that in the process of the innovation, human resource entrepreneurship plays a significant role in improving the effectiveness of management technology and in achieving organizational objectives.

Keywords: Entrepreneurship, technology innovation, competitive advantage

„Health is the greatest gift, contentment the greatest wealth, faithfulness the best relationship."
Buddha

Introduction

Over the past three decades, a small but growing literature has emerged which empirically examines the association between human resource management (HRM) practices and entrepreneurship in order to increase the innovation capability of the companies. Peter Drucker (1985) argued that innovation is the tool of entrepreneurship.

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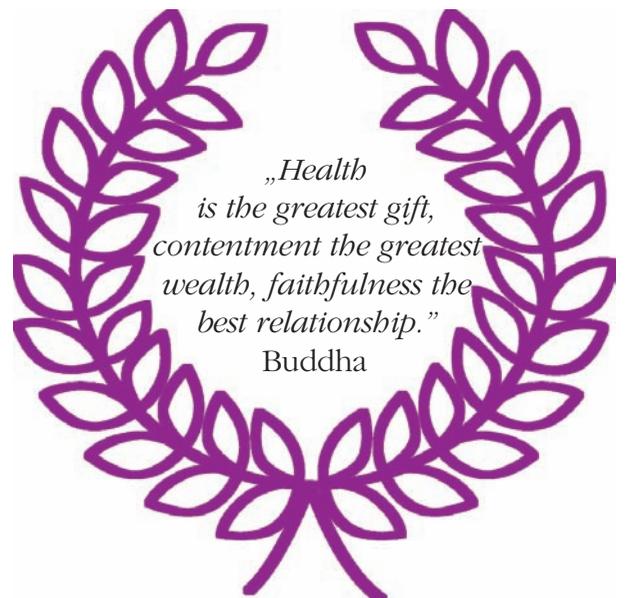
Entrepreneurship plays an indispensable role in improving productivity and promoting economic growth. There are many definitions for corporate-level entrepreneurship, although all are based on the seminal papers of Miller and Stevenson. Miller (1983) points out that entrepreneurial behavior includes innovation, proactiveness, and risk-taking. Stevenson adopts a resources-and-skills perspective and considers that entrepreneurial behavior is based on achieving and exploiting the market opportunity. The literature defines this type of entrepreneurship as corporate entrepreneurship (CE) or entrepreneurship. Thus CE refers to the creation and development of an entrepreneurial culture within businesses in order to increase the firms' innovative capacity (Montoro-Sánchez, Soriano 2011). Under the new challenges owned to globalization, when companies have to develop IT, promote organizational reform, and encourage innovation and entrepreneurship in the recent years, the focus of manpower practices has shifted from employee-level of personnel management to the core employee and managerial levels of strategic human resources management (HRM) (Wang, 2000; Tsui and Lau, 2002).

Innovation is defined as adding something new to an existing product or process. The key words are adding and existing. The product or process has already been created from scratch and has worked reasonably well. When it is changed so that it works better or fulfills a different need, then there is innovation on what already exists. Innovation is the successful exploitation of new ideas.

There are several significant changes need to be noticed in order to understand the key issues in HRM, innovation and entrepreneurship. First, international entrepreneurship has become one of the major approaches to business development. The international entrepreneurship approach is an effective strategy not only for expanding to new markets and introducing overseas funds and managerial skills for enhancing competitiveness, but also for more and more local companies to introduce and recruit foreign knowledge managers and technicians for their joint ventures and/or key local facilities for their business development. Therefore, both strategic and cross-cultural HRM has become a crucial supporting approach.

Second, technological innovation and entrepreneurial networking are among the most popular strategies for business development in different countries through a variety of cross-regional mergers, acquisitions, joint ventures, and business alliances. In many cases of mergers, HRM was a bottleneck for effective integration. Therefore, human resource management strategies were urgently needed for supporting organizational change, technological innovation and entrepreneurial development.

Third, for most firms, the secondary entrepreneurship transformation is the main business-driven strategy in connection with intrapreneurship, corporate entrepreneurship and strategic entrepreneurship. Because of these changes is necessary to identify and improve organizational actions for

integrating human resource functions into the organizational and innovation strategy in order to support and implement a plan to achieve a competitive advantage.

Innovation and Entrepreneurship

The dictionary defines **innovation** as the introduction of something new or different. Innovation is the implementation of creative inspiration. Innovation could be defined as „the intersection of invention and insight, leading to the creative of social and economic value". Innovation is „value" – the creation of value adding value to customer's satisfaction – „delighting the customers". Innovation is the basis of all competition advantages, the means of anticipating and meeting customer's needs and the method of utilization of technology. Innovation requires a fresh way of looking at things, an understanding of people, and an entrepreneurial willingness to take risks and to work hard. An idea doesn't become an innovation until it is widely adopted and incorporated into people's daily lives.

Joseph Schumpeter (1934) believes that the concept of innovation, described as the use of an invention to create a new commercial product or service, is the key force in creating new demand and thus new wealth. Innovation creates new demand and entrepreneurs bring the innovations to the market. This destroys the existing markets and creates new ones, which will, in turn, be destroyed by even newer products or services. Schumpeter calls this process „creative destructions."

The entrepreneurs are the „dreamers", who take hands-on responsibility for creating innovation and the presence of innovation make possible to distinguish the entrepreneur from others. The elements of innovation are: Challenge, Customer focus, Creativity, Communication, Collaboration, Completion, and Contemplation; Culture – Leadership and People as the source of innovation, Basic values, Innovation values, Context.

Innovation can take several forms: innovation in management and work organization, and the exploitation of human resources, together with the capacity to anticipate techniques; Innovation in processes, including changes and improvement to methods – these contribute to increases in productivity; Innovation in products or services – lead to increases in effective demand which encourage increases in investment and employment.

It is already known that nowadays innovation has become almost a prerequisite for business success (Hamel, 2006; Jamrog *et al.* 2006). Well-known successful companies all around the world with sustained innovation often describe their success as due to finding the best people and then 'getting out of their way'. Other companies discuss creating environments and systems which encourage innovation and provide opportunities to convert ideas into successful products or services. Our interest lies in the „people related" processes which are found in successful innovating firms. In this paper, we note the deficit in clear links between HRM practices and innovation

performance (Laursen, Foss, 2003) and explore existing research on the human resource management factors which encourage and sustain innovation to identify HR policies, processes and practices related to firm-level innovation success (Becker, Matthews, 2008).

The critical business success factors for the future included recruiting and retaining skilled employees, increasing customer satisfaction, employing and developing leaders, sustaining a competitive advantage, managing risk, managing change and corporate culture and becoming more innovative (survey of Australian CEOs in 2003). In considering this group of factors, it is clear that it will not be individual HRM functions that will provide a competitive advantage, but a suite of practices that adequately fit with the organizational strategy. It was developed the research concerning the link between HRM and innovation capability (Panayotopoulou and Papalexandris, 2004). Their model is based on the Competing Values Framework (Cameron & Quinn, 1999) and is shown in Figure 1.

FLEXIBILITY

HUMAN RELATIONS MODEL

HR Role: change agent
Means: facilitating transformation
Ends: organizational renewal
Competencies: systems analysis, organisational change skills, consultation and facilitation

OPEN SYSTEM MODEL

HR Role: employee champion
Means: responding to employee needs
Ends: cohesion, commitment, capability
Competencies: morale assessment, management development, systems improvement

INTERNAL FOCUS

HR Role: administrative specialist
Means: reengineering processes
Ends: efficient infrastructure
Competencies: process improvement, customer relations, service needs assessment

HR Role: strategic business partner
Means: aligning HR with business strategy
Ends: bottom line impacts
Competencies: general business skills, strategic analysis, strategic leadership

EXTERNAL FOCUS

INTERNAL PROCESS MODEL

RATIONAL GOAL MODEL

CONTROL

Figure 1 – *HRM Orientation*
(Source: Panayotopoulou & Papalexandris, 2004)

There are three dominant theoretical perspectives in the literature that seek to explain how HRM may influence innovation and entrepreneurship: resources and capabilities based perspectives, the behavioural view, and social exchange theory derived explanations. These explanations are not mutually exclusive and each explains a part of the puzzle of the relationship between HRM and CE.

Set out below activities HR practitioners can undertake to embed innovation:

- Performance management. Consistently convey the correct signals about innovation expectations to every employee within the company
- Reward and recognition. Reinforce the importance of innovation activity and outcomes through the use of recognition schemes that encourage and inspire employees to share and develop ideas – even if the ideas might fail.
- Talent management for individuals. Ensure all employees understand the

unique skills and behaviors required to successfully innovate in their organization.

- Talent management for teams. Break down internal silos and promote idea sharing by building career development frameworks which encourage resource sharing.
- Talent management for leadership. Develop leaders to continually „horizon scan" and adopt a mindset of dissatisfaction with the status quo.
- Identifying critical roles. Identify which roles disproportionately drive innovation value, develop the people filling these roles and ensure full competence in innovation processes.
- Organizational design. Architect the organization (structures, processes, roles, capabilities etc.) to support the innovation strategy, accelerating the idea lifecycle by minimizing boundaries and promoting collaboration.
- Internal communication. Leverage technology to encourage cross-organization networking and collaboration.
- Change management. Facilitate the implementation of new working practices that drive innovation.

An **entrepreneur** is a man or woman who is able to actualize his/her innate potentials and develop a character that is not dependent, but independent. He or she is that person who undertakes the voyage of creating value by pulling together a unique package of resources to exploit an opportunity. He or she has the capacity and capability to build something from practically nothing – initiating, daring, doing, achieving, and building an enterprise. They genuinely believe they have something new and special to offer, either a product or a service. To them, life will remain a fantasy unless their dreams are actualized. They could be described as people who have the ability to see and evaluate business opportunities, gather the necessary resources to take advantage of them and initiate appropriate action to ensure success (Meredith, 1991). He is a risk-taker, a man or woman who bears uncertainty, strikes out on his or her own, and through natural wit, devotion to duty and singleness of purpose, somehow creates a business and industrial activity where none existed before.

Entrepreneurship and Technology Innovation

In order to verify if the hypotheses the authors started with is valid, a qualitative research was conducted. For data gathering, the authors conducted a few face to face or telephone interviews with 33 entrepreneurs. However, the most valuable feedback was obtained through interviews with 15 Romanian entrepreneurs, aged 29 to 56, that explained how innovative technology and HRM could influence a business's success or failure.

All the interviewed entrepreneurs agreed that it exists a strong relation between
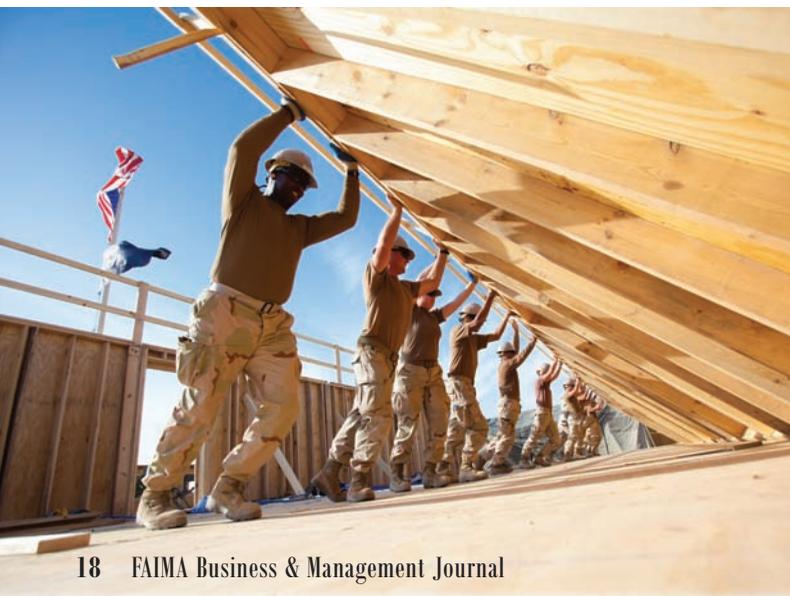
entrepreneurship and innovation in general, and technology innovation in particular. Innovativeness is considered the most important characteristic of an entrepreneur (Sharma and Dave, 2011), and after analyzing the data gathered in this study, the authors obtained the same conclusion – that 47% of the interviewed Romanian entrepreneurs consider innovativeness as being more important than any other traits when looking for business partners or employees. The second most important trait is proactiveness (34%) because, in a post-crisis economy, entrepreneurs are expected to have good business intuition and anticipate the evolution of the market in order to obtain competitive advantage (Figure 2):
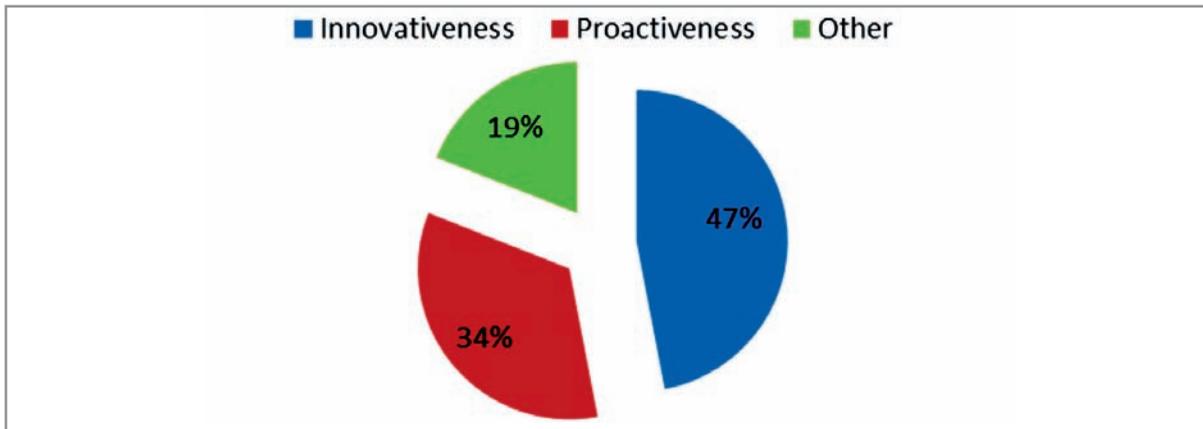
Figure 2 – *Most important characteristics of entrepreneurs*

Also, when asked about risk-taking, most entrepreneurs were a little reserved (about 62%), as they said at the moment is not a good time to take risks due to the fact that the market is not yet having a satisfying growth rate (Figure 3):
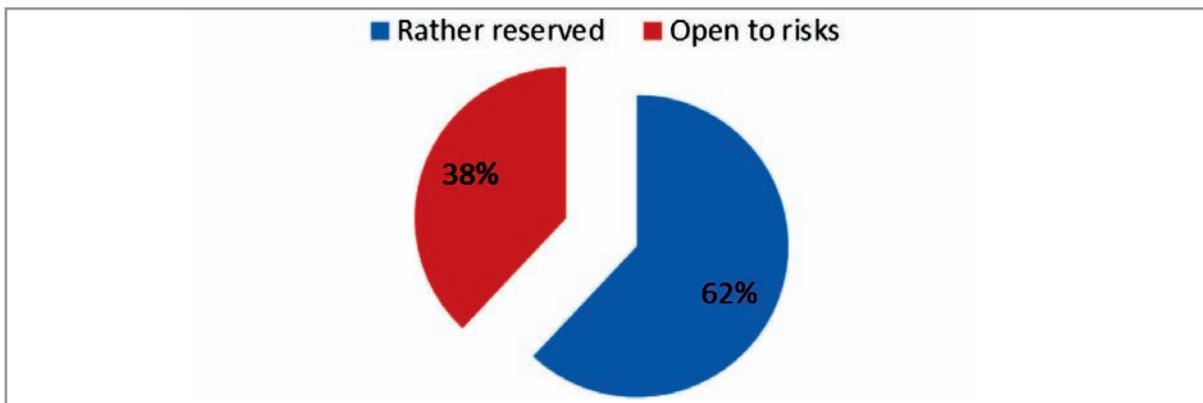
Figure 3 – *Risk-taking attitude of entrepreneurs*

They compared the actual business environment with the business environment from 1990's Romania when risk-taking was highly encouraged because in those times the success rate was much higher than today.

In the reviewed literature, entrepreneurial orientation is presented as having three

important elements, considered equally important: risk- taking, proactiveness and innovativeness (Al-Dhaafri and Al-Swidi, 2014). However, after conduccting a few interviews with Romanian entrepreneurs, they argue that innovativeness and pro-activeness are the most important and that in the present economic conditions risk-taking trait remains secondary.

When asked about correlations bet-ween the concepts of entrepreneurship and technological innovation, 75% of the interviewed entrepreneurs mentioned that innovation is more likely to happen when people with different background work to-gether for a common target, because di-versity encourages people to be creative (Figure 4):
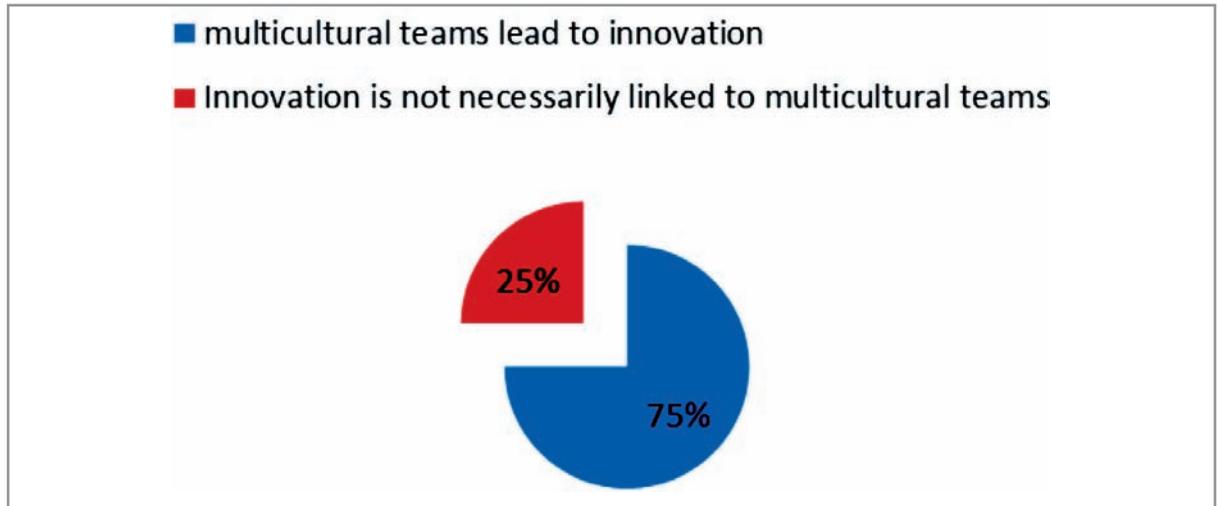
Figure 4 – *Entrepreneurs' attitude towards the idea that multicultural teams lead to innovation*

The best results in the companies owned by the interviewees were obtained when assembling multicultural teams of indivi-duals with different expertise areas, as each of them brings valuables ideas, leading to innovation. Another advantage of forming teams with very different cultural traits and the background is that they can act like filters, separating the bad ideas from the good ones.

The entrepreneurs don't rely only on their creativity and innovative ideas, but they always try to hire personnel that proves to have a creative way of thinking. Inside a company, the creative atmosphere can be obtained by asking everybody to come up with ideas, during brainstorm meetings for example, and appreciate all ideas before

choosing the suitable ones, so that the em-ployees would feel motivated to come up with new ideas during next meetings.

The creative atmosphere in the com-pany should persist from early stages of service or product development until the company reached the final version of the product, when the company should offer the customer a stable product.

From the discussions the authors had with entrepreneurs, the innovativeness is no longer the result of a „lone genius mind", but of a highly collaborative envi-ronment created by the company. The leadership skills of the entrepreneur are essential, as it is his responsibility to find the best people, motivate them, offer the right working environment, create teams

and assign tasks so that employees can come up with innovative ideas. Most entrepreneurs interviewed admitted that about 80% of the innovative products or services offered by their companies were the ideas of employees and not entrepreneurs' or managers' ideas (Figure 5):
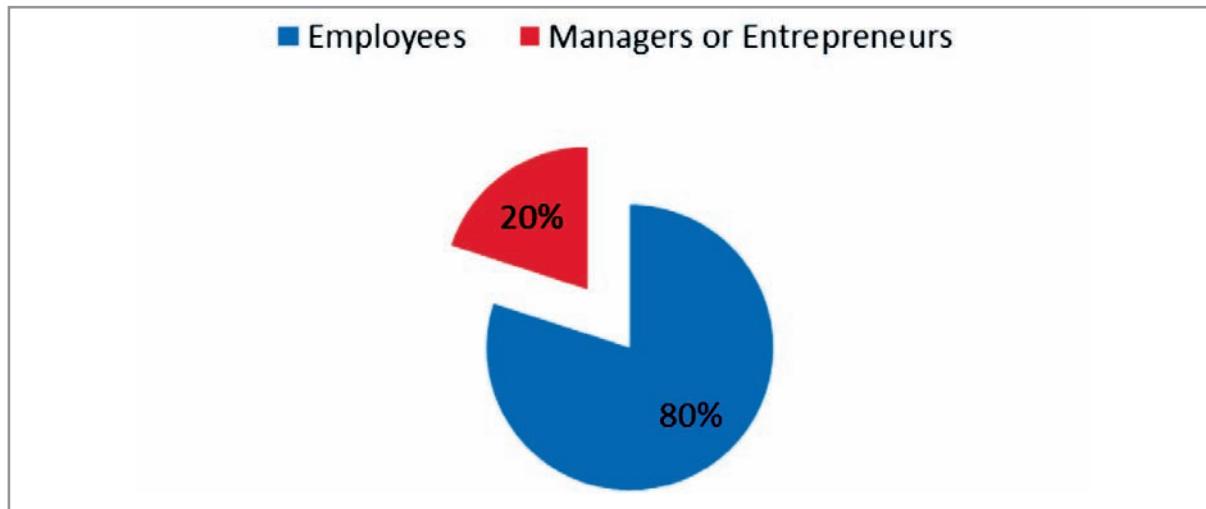
Figure 5 – *The sources of innovative products or services ideas*

When asked about innovative technologies and HRM, the entrepreneurs agree that the development of internet and social technologies together with ERP systems could lead to better collaborating for the development of the respective companies.

According to Al-Dhaafri and Al-Swidi, ERP systems integrate all business processes in an organization, such as product planning, buying of raw materials, production planning, marketing activities, sales, customer service, accounting, HRM etc. (Al-Dhaafri and Al-Swidi, 2013). Romanian entrepreneurs find these systems useful, but they should be more collaborative so that all employees could use them. In this context, we gathered a few recommendations that could improve such systems. First of all, five of the interviewed entrepreneurs that extended their business to other countries besides Romania, suggested making these ERP systems open source, so that

multinational teams could work simultaneously and exchange ideas in order to create innovation.

Davenport mentions that ERP systems are the most innovative „development in corporate information technology".

The analysis of the data gathered in this exploratory research lead the authors to a top of the most implemented modules in privately held companies.

Table 1 – *The most implemented ERP modules*
(Source: Davenport, T.H. & Prusak, L. 1998)

ERP Module	Percentage
Payroll Module	90%
Accounting and Finance Management Module	88%
Reporting Module	67%
Marketing and Sales Module	43%
Purchase and Supplier Module	27%
Human Resource Management Module	23%
Inventory Management Module	21%
Export and Documentation Module	17%
Sampling Module	10%
Quality Management Module	7%

Talent Management is a tool contained by the Human Resource Management in ERP systems and it resulted in being very useful for companies that bring innovativeness in the market, as it can bring together specialists with different backgrounds into working for improving a product or service.

The authors also noticed that the companies that were open to innovation and were using ERP systems were more likely to service in economic crisis times, comparing to those companies that did not put a value on innovation.

Conclusion

The main objective of this research was to verify if the fact that the entrepreneurs are open to technological innovation and creativity supporting HRM obtain better results within their companies. The authors found out that innovativeness comes not from the entrepreneur, as expected most of the times, but from a highly collaborative environment in which multinational teams work.

ERP systems together with social technologies create the environment where employees can perform their tasks in a creative way and collaborate with other colleagues with similar interests, but with a different background.

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„Great things in business are never done by one person; they're done by a team of people."
Steve Jobs

The Development of Relations Through Social Media

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Abstract

The article analyzes social media behavior of Erasmus students at University of Economics, Prague (VŠE). Official university's Erasmus Facebook group was analyzed and then a survey with nearly 100 Erasmus students was conducted. Findings implicate that Facebook is the most important tool for communication and connection during the first months of the program, however the group activity declined after the first month, which is a sign for a stronger independence from the social network the more real-life friendships are established. While this is a question that needs further scientific evaluation, the survey and the group analysis suggested that educational topics are of lower priority during the Erasmus program.

Keywords: Social media, communication, education, information sharing, students, Erasmus

Introduction

Taking part in an exchange program offers numerous opportunities for students, e.g. meeting new people from all over the world, learning a new language and discovering new cultures. At the same time, these opportunities are accompanied by challenges that have to be overcome by each student. Starting from scratch in a new environment can be tough and students have to face unknown conditions when they go abroad.

In order to help students overcome these challenges, universities and organizations like the Erasmus network or the Buddy System in Prague offer a number of services, e.g. a student from the receiving university supports an arriving student with

„No one can whistle a symphony. It takes a whole orchestra to play it."
H.E. Luccock
(American Professor)

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the first steps, a website with information about the most important „to do"s at the start of an exchange semester. Another way of supporting exchange students depends on the usage of new and social media. The importance of social media, e.g. Facebook, Twitter and Instagram for the society grows fast, and therefore these channels are also used for supporting exchange students during their time abroad.

Social networks are defined as a body of applications that increase and support group interaction and shared spaces for collaboration, social connections, and aggregate information exchanges in a web-based environment. (Sediva, Mullerova, 2014, Kiralova, A. *et al.*, 2015). Students can manage their networks, especially since they adopt mobile technologies that can access online social networks (Barkhuus, Tashiro, 2010). As Yang *et al.* (2004) observed almost decade ago, living in a new culture, especially in an Erasmus semester, always involves uncertainty and unfamiliarity.

Besides improving the general skills, Yang *et al.* (2004) have identified that use of mass media reduced uncertainty and unfamiliarity by e.g. learning faster about new cultures. Nowadays, social media help by sharing norms, traditions and even hidden society values via specifically created user groups. In addition, many exchange students seem to use social networking sites to connect with other exchange students, whom they have just met. Apparently, social media is used for maintaining contact with friends at home, but also to stay in contact with recently met acquaintances. Due to the same experience, Erasmus students often feel a sense of a common ground due to their similar situation. Social media might help to build up this shared fundament from scratch (Yang, 2004).

Literature review

The most popular social network service in the world is Facebook (over 1.3 billion worldwide users in 2014), which keeps the leading position for interactions with both local and international friends. According to Facebook's official statistics, „the average user is connected to 80 community pages, groups and events and creates 90 pieces of comments each month. Facebook's aim is to allow slow, detailed and thoughtful discussions and conversations among users, compared to Twitter. While it is mostly used by adults for keeping virtual communities informed via national and international news, teenagers are more likely to use it to inform their virtual surrounding about their social status (Sacks, Graves, 2012).

Today's social media paves the way to make friends, exchange information or find partners in a different way than in the last decades. People use networks for diverse purposes: maintaining existing relationships, making new relationships or taking different paths to find jobs (Mazman, Usluel, 2011) The latest statistics have shown around 42% of online adults use multiple social networking sites, while not surprisingly the majority of social media users is under the age of 30. On average, Americans spent 7.6 hours a month using social media, with the majority of individuals accessing social networking sites through cell phones (Pavlíček, 2013).

As our analysis is mainly focusing on Facebook and its influence on Erasmus students, other networks (as LinkedIn, Instagram or WhatsApp) are maybe named, but not emphasized (especially as Facebook is seen as the most popular social media among our respondents). In the following, surveys, as well as research, will show how social media influences student life in different ways.

A recent survey of Polish former Erasmus students about the use of online social networks showed the rapidly increasing role of online social networks in education, job search and other areas of life. A percent of 85.4 % of the participants kept in touch with their former fellow-students via Facebook (Bryƚ, 2014). Regarding popularity, Facebook communication was followed by email and face-to-face communication. Furthermore, the survey examined which social media is used for which purpose. Researchers came to the conclusion that Facebook is rather used for socializing, whereas LinkedIn plays an important role for professional reasons (e.g. job searches or maintaining a professional network) (Bryƚ, 2014). In conclusion, it can be said that university education and its purpose of information exchange is always present on social media, but especially in the case of Facebook – socializing is definitely extending the usage in educational interest (Bryƚ, 2014).

Another survey examined if a larger community on Facebook leads to better information exchange or if people struggle to manage the flow of information and maintain high quality, meaningful relationships with fewer fellow users in their network. The survey showed that the more friends/students belong to a group, the fewer people concentrate on meaningful relationships. The so-called „card-gathering" also appears in professional networking; where people just want to maximize their contacts instead of developing meaningful lasting relationships (Sacks, Graves, 2012). Network size reduced the network quality, as people are overwhelmed to distinguish between people who could share their interests than people who could rather be just acquaintances. Accordingly, people are putting less effort in social interactions when the size of the social network is increasing (Sacks, Graves, 2012).

Large-scale survey (Güzin Mazman, 2011) about gender differences in using social networks shows that there are significant

differences in the frequency of use and reasons for participating in social. „Maintaining existing relationships" reflects a higher ambition in using Facebook for women than for men, whereas „Making new relationships" was significantly higher on the men's side. Possible reasons on the women's side could contain the interest of hiding identity and personal information on websites or their former role in society they belonged.

Several studies have tried to find the difference between Erasmus students living in dorms compared to students living in the city center, or among American students who have lived either on- or off-campus. Even though they lived on-campus they had group work also off-campus, so that each student had multiple sets of friends and acquaintance as well as school-related contacts (e.g. teacher, fellow-dorm students). Facebook was used as a communication tool to see how students incorporate Facebook into their array of everyday activities, researchers found that students socialized less with their dorm neighbors in the residence hall than they did within other settings (e.g. Sports clubs). They found their social surroundings while „hanging around"

with rather close friends than with unknown students from the dorm (Nathan, 2005).

Comparing all mentioned surveys and research, it is becoming obvious that Erasmus students are at a stage in life where their social life is pivotal to their overall wellbeing, it's the time where friendships are made. Staying in dorms, distinguishing between gender or age or whatever students use as a purpose to use social networks, all surveys indicate that Facebook is a crucial factor when considering social networks during the Erasmus semester of young individuals (Pavlíček, 2011).

Methodology

To examine the student's behavior in the official Facebook group „Exchange/Erasmus at University of Economics Spring 2015" we captured every post between January 10 and March 28, 2015 (509 in total) with all likes and comments associated. The conclusions were confirmed by a survey with 97 exchange students (out of 227 – response rate 43%) who are members of the VŠE Facebook Erasmus group. Students answered 28 questions about their origin, their social media habits, and their goals during

the Exchange program, their Facebook usage and the meaning that Facebook has for them during their time in Prague. Next, to a minor amount of open-ended questions, our main form of questioning was multiple-choice. The survey was conducted online with the help of www.qualtrics.com.

Results and discussions

With a number of 733 members, the Facebook group „Exchange/Erasmus at University of Economics Spring 2015" offers information about the first steps in Prague and in the dorms, the VŠE introduction week and activities organized by the Buddy System Prague. Furthermore, the group provides all its members with the possibility to ask questions or post information and invites that can be commented and liked by other members. The analysis of the Facebook Erasmus group consists of three parts: **1)** we showed the frequency of posts on the Facebook group per month; **2)** we studied the most reoccurring topics per month; **3)** we analyzed the most commented and the most liked topics per month and in general.

The frequency of posting on the Facebook group

Our analysis covered 77 days in which 509 posts were created in the group. This resulted in an overall average of 6.6 posts a day. In January 2015 the group registered the lowest activity with 44 posts in 21 days. That resulted in an average of 2.1 posts a day. The maximum number of posts was achieved on January 13 with 5 posts. February 2015 showed the highest activity in the Erasmus Facebook group: in total 271 posts were made with at least three posts created on one day. This results in an average of 9.7 posts a day with a maximum of 17 posts achieved on February 11. The reason for this maximum is probably the arrival of the majority of Erasmus students in the period February 8 to 14 and the ongoing introduction week. Both factors provided enough foundation for questions and information about a number of topics. In March, the number of posts dropped: we counted only 194 posts (an average 6.9 posts a day). The maximum of 15 posts was reached on March 9.

The frequency of topics in the Facebook group

For our analysis of the Erasmus group, we categorized the content into following 10 topics: Administration; Buddy system information (e.g. travelling, general info, group events); Commercial invitations (paid sport activities, N2N, party adds); Dorm administration; Fun comments and documentation (pictures, jokes etc.); Student information by students (freely given tips for buying food, going out etc.); Student invitation for meeting people/partying or travelling; Student question about life in Prague (Where can I find food, or a doctor etc.); Student question and comments about VŠE (Who is in which course? Where do I find… etc.); Various small student requests (e.g. Does someone have a knife? Did someone see my smartphone?)

Figure 1 – *Percentage of posts by month*

When considering all 77 days for which we analyzed the Facebook group, we discovered that the most reoccurring topic was „Student Invitation for meeting people/partying or traveling" with 165 posts, indicating that most of the students want to meet new people and use different activities to accomplish this. There were as many posts asking for a casual meeting, a trip to the city or to an area outside Prague, as there were requests to do some kind of sport or invitations to various private student parties. The fact that roughly 1/3 of all posts can be included within this topic proves that students consider the Facebook Erasmus group an easy way to find fellow students with the same interests.

The second most frequently used topic was „Student question about life in Prague" with 86 posts in total. This shows that the group is used to exchange crucial information and tips about how to get along in the city. Furthermore, the high number of posts indicates that students believe in the value of the Erasmus group as a source of reliable and fast information.

The third highest peak in our analysis had the topic „Buddy system information", a service of the group owners that consisted of different offerings for a day or weekend trips and general information for Erasmus students. Posts with this topic occurred 51 times during the analyzed timeframe, and although some of the posts are reminders, they show the commitment of the Buddy System representatives to the program.

The topic „Student question and comments about VŠE" was used only 37 times and thus plays a minor role when we consider the complete timeframe. This raises the question if the Erasmus students see the educational part of their program as a lower priority. While this could be the case, we have to consider other reasons e.g. easy accessibility of suitable information about educational topics through official channels like the VŠE website. The topics described

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above are the most important factors in our analysis about the influence of Facebook on the Erasmus program.

Analysis of comments and likes

In analyzing the comments and likes of the Erasmus students in our targeted Facebook group, the authors tried to discover what type of topic becomes most viral and which topics are discussed by students. This will probably give new insights about the meaning of Facebook for the Erasmus experience of students in Prague. First, the authors examined the general numbers of likes and comments in general, and for every month. The 509 posts recorded during the 77 days in the Erasmus group, received a total of 2125 likes and 1800 comments. This results in an average of 4.2 likes and 3.7 comments per post. While this is an interesting number, it can bring further insights to compare the monthly average.
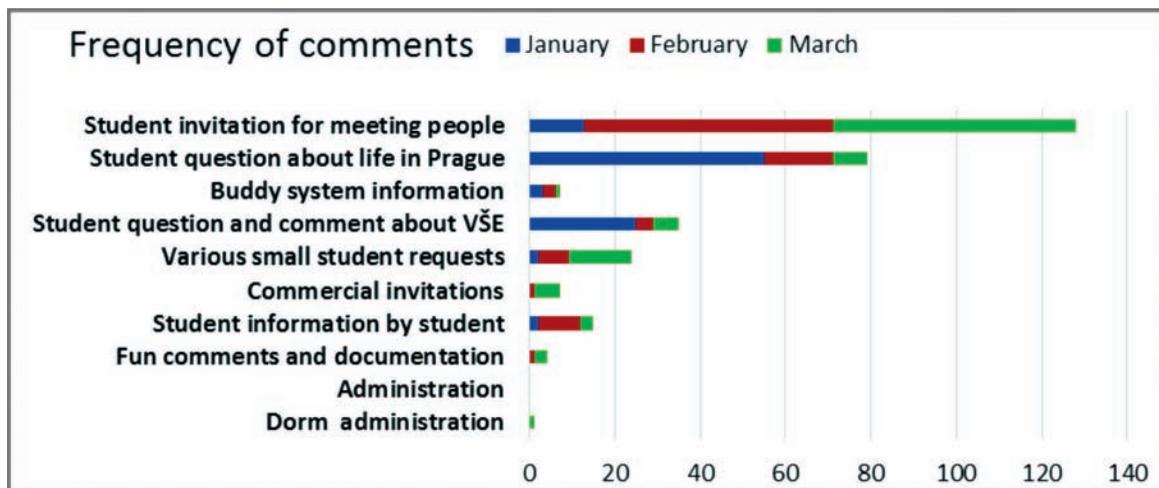
Figure 2 – *Percentage of comments by month*

A number of 42 posts created in January received a total of 311 likes and 416 comments, resulting in an average of 7.4 likes and 9.9 comments per post. These exceptional high numbers in the month in which the smallest total number of posts was created have several reasons. First, on January 14, a post was created that received 108 comments, meaning 26% of all comments written in January. This question about the rooms in the dorms became highly viral and thus had a vast effect on the statistics. The same situation happened on January 29 with a post that received 72 likes and therefore 23% of all likes given in January. While these two events had a large impact on the average number of likes and comments, it has to be noted that even without them, the average likes and comments per post in the group are higher in January than over the whole timeframe of 77 days.

A potential reason for that could be the high interest of soon-to-be Erasmus students in discussions around the Erasmus program and their insecurity before arriving in Prague. This hypothesis is supported by the topics that dominate the discussion. In the same way, „Student question about life in Prague" and „Student question and comments about VSE" had the most posts in January. They are also the most discussed topics, with 230 comments connected to Prague and 104 connected to the VŠE.

Additionally, information posted by students to help others received 76 likes. This fact underlines the high significance of the Facebook group in the preparation phase of Erasmus students.

Another interesting detail can be found when observing the end of January. It seems that some students arrived early and searched for new contacts using the Facebook group. A post generated on January 29

about „Student invitation for meeting people/partying or traveling" received 79 likes and 49 comments, boosting the average likes and comments per post of a topic that was of no significance in January. However, this shows the desire for contact with other students right after the arrival in Prague and the potential role Facebook plays in the satisfaction of it.
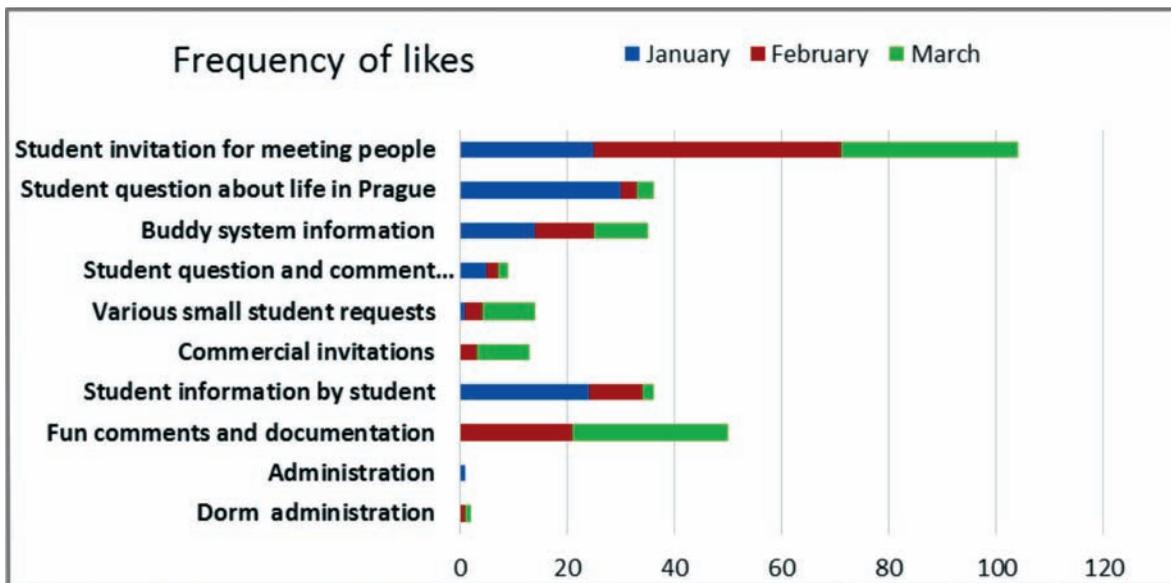
Figure 3 – *Percentage of likes by month*

In February, 247 posts received 1099 likes and 933 comments. This leads to an average 4.4 likes and 3.8 comments per post. While about 50% of all posts, likes and comments that were captured were created in February, the average likes and comments per post are not as high as in January. This can have multiple reasons. First, we can observe a kind of like/comment cannibalism, meaning that the post creation frequency in February was so high that students either lost track of all the topics, or just continued their discussion on another post. A strong indicator for this idea is the absence of one or more dominating posts as found in January. Likes and comments can be found in equal numbers for

more or less every post created. When looking at the most frequently discussed and liked topics we find that the topic „Student invitation for meeting people/partying or traveling" leads in February with 521 likes and 563 comments created for 104 posts. This topic seems to be responsible for 50% of all communication during February, proving the already mentioned desire to connect to other students at the start of the Erasmus semester. We can discover the same in the post analysis for „Student question about life in Prague" with 37 likes and 151 comments and „Student information by students" with 115 likes and 76 comments.

As already pointed out, students used the Facebook group to share and get information about the life in Prague and solve various challenges. The fact that the high number of questions created received answers, probably motivated the students to ask even more questions, because they saw the value of the group as an information source. Furthermore, the high number of likes that students received that shared information can be seen as an appreciation of their service and function as motivation to share more information, further increasing the value of the Facebook group as a source for information. At last, it should be mentioned that the topic „Student question and comments about VŠE" wasn't discussed in a significant way in February, supporting the argument that the students think of the University as a secondary priority. In contradiction to that fact the topic „Fun comments and documentation" received 237 likes for 22 posts resulting in an average of 10.8 likes per post. Students seemed to be eager to share and like special and funny pictures about recently finished events and build a closer connection with each other.

In March, 163 posts received 591 likes and 405 comments, resulting in an average of 3.6 likes and 2.5 comments per post. This decrease can have several reasons that were partly mentioned before. First of all, the number of posts in general decreased significantly in March. While this most likely resulted in fewer opportunities to like or comment, the numbers in January proved that there can be a large number of comments or likes without many posts. The absence of this phenomenon in March could be explained by an absence of interesting topics, missing interest of group members or possible alternatives to ask for, discuss and share information. It seems that the students get less dependent on the Erasmus group the longer they are in Prague.

Instead of using the Facebook group for communication, they use other ways e.g. direct contact, various messenger services or alternative, more private Facebook groups. To find a more satisfying answer for this phenomenon, a longer and more intense study that is out of the scope of this article, would be necessary. In terms of most important topics, we discovered that „Student invitation for meeting people/partying or traveling" covers about 50% of all likes and comments created in March. Furthermore, the 15 posts about the topic „Fun comments and documentation" received 190 likes, proving once more that students search for points of contact and communication in the Facebook group. While student information, questions about Prague and other various topics are still discussed, their importance is decreasing heavily for the same reasons mentioned above. Additionally, questions and comments about the University of Economics are rarer and poorly commented.

The social media survey

The survey that the authors conducted consisted in a questionnaire which was distributed through the official Facebook group of the Buddy System in Prague. Therefore, there was a sample of 733 people, of which about 227 were exchange students. The number of finished and completed surveys was 97, resulting in a response rate of about 43%. The questionnaire consisted in 28 questions divided into different parts. They were followed by general questions about age, nationality, and gender. Then there were questions about social media habits and the general use of Facebook, especially during and around the Erasmus exchange program.

Sample description

Demographic attributes of the survey participants were the following: 48% of the survey takers were female and 52% were male, resulting in equally distributed responses from both genders. The age range of participants reached from 20 to 32 years, with an average age of 22.63 years. The young average age is directly connected to the number of previous Erasmus experiences. A number of 80 of our 97 participants (82%) answered that their time in Prague is their first Erasmus experience. With a higher average age, it can be assumed that more participants would have indicated that they had already took part in an exchange program before. When looking at the nationalities of our participants, 26 of them came from France and 11 from Germany, which mirrors the nationalities of the students in the VŠE Erasmus program.

In terms of continents the participants originated, 78% of them came from Europe and 12% came from North America. In addition, there were 6% participants from Asia and South America. A percent of 70% of the students indicated that they had a room in the dorms.

Social media usage

A percent of 64% respondents stated that they use 1-3 social networks; 23% used 4-5 and only 13% used more than 5 social networks on a regular basis. When asked about the most important network for students, 94% listed Facebook as their major network. 46% mentioned the messenger service WhatsApp, 26% Snapchat, 25% Instagram and 14% Twitter. It has to be mentioned that participants were able to pick more than one answer because we wanted to find out if any other social network is used nearly as much as Facebook by the exchange students. The fact that 64% of the students use only 1-3 social networks and 94% of them state Facebook as their most important social networks indicates the high attractiveness of this platform to

students and supports our decision to focus on it in this article. Furthermore, 26% of the students who finished the survey had 0-300 friends on their most favorite platform, 35% had between 301 and 600, 22% had 601-900 and 18% had more than 900 friends.

Another indicator of the importance of Facebook compared to other networks in the social life of students is that the specific questions about how many Facebook friends they had resulted in almost the same answer as the question about contacts on their most favorite platform. About 91% of the students gave the same answer to both questions. When asked how many of their internet friends they know in real life, about 67% reported they know more than 75% and another 21% know at least more than 50%. An interesting detail is that the fewer friends a student had on Facebook, the more of these friends he knew in real life. A percent of 80% of the students who stated that they have between 0-300 friends also said that they knew more than 75% of them in real-life. This number decreased to 47% for students who chose the option for 900 or more contacts, resulting in the hypothesis that the more contacts you have on a social network, the less percentage of these contacts you know in real-life.

Facebook usage

A percent of 23% of the students use 1-5 Facebook groups, 40% use 6-10 groups and 37% use more than 10. When asked for the main purpose of their membership in Facebook groups, 85% stated educational reasons, 91% said they searched for parties and events, 32% wanted to do sports and 29% used the groups for sharing pictures. When it comes to status updates and picture sharing on Facebook, 41% of the students did not use this function and 54%

used it 1-5 times a week. Only a minority of 5% shares status updates or pictures more than 5 times a week with their friends. When combining this result with the number of friends, students have on Facebook, we find no significant connection indicating that the number of friends is no factor for the level of activity on Facebook in our study. Nevertheless, 52% of the students that knew at least 50% of their Facebook friends in real-life stated that they share status updates at least once a week. The questions about how many times the students met someone before adding him/her as a Facebook friend was answered in the following way: 22% of all participants added someone after meeting him/her the first time, 41% after the second meeting, 16% after the third meeting and 21% after more than three times. When comparing these answers with the results of the question about the total number of Facebook friends, we did not find any significant results. It seems that the number of friends a participant in our survey declared to have is not dependent on the times he/she met a new Facebook contact.

Goals and Knowledge

In this part of our survey, we shortly requested the participants to name their goals for the Erasmus program and their knowledge about Prague before arriving in the city. With 88%, most of the students answered that they wanted to meet new people while being in Prague followed by the desire for traveling, 78% and new cultural experiences, 76%. About 49% declared that they wanted to go to parties and only 44% choose to study as one of their main goals. While the Erasmus program is designed for studying at another University in a foreign country, educational factors seem to be of secondary interest to most of the students. When asked about their knowledge about Prague before starting their program, 49% answered that they gathered information about the city, 32% visited the city before and 16% answered that they did not have any knowledge about Prague before their arrival. When linking the level of knowledge about Prague with the decision about staying in the dorms or searching for an apartment we could not find any significant relationship.

The interaction of students

The fourth part of the survey focused on the interaction of students. The first subject was how many contacts the students added during their exchange program. A percentage of 60% of the students added 0-40 new friends, 33% added between 41 and 80 friends, 4% added between 81 and 120, and 3% added more than 120 new contacts to their Facebook friend list during their time in Prague. An interesting fact is that 72% of the people who added more than 80 new friends during their time in Prague had already more than 600 friends. Thus, there could be a connection between the general willingness to add new contacts on Facebook and the willingness to add new contacts during the Erasmus program.

When asked how many times the students would meet someone in Prague before adding him/her as a friend during their Erasmus program, 38% answered they would add someone after the first meeting. Another 38% would add someone after the second meeting, 11% after the third and 12% would need to meet someone more than three times to add him/her as a friend on Facebook.

When comparing this result to the general question about how often the participants met someone before adding them as friends, we found an interesting difference. In the general case, only 22% of the students would add someone as a contact on Facebook after the first meeting. During the Erasmus program, this percentage increased to 38%. Furthermore, 76% of the students said that they would add someone as a friend after two meetings, an increase of 15 percentage points compared to their general behavior.

An additional interesting finding is that all students that added more than 80 new

contacts to their friend list where adding people after a maximum of two meetings. Therefore, it can be assumed that the number of new Facebook friends a student gathers during his/her Erasmus program is directly connected to the willingness to add new contacts without meeting them very often in real-life. Another question was about the number of weeks students already used Facebook groups connected to their Erasmus program. A percent of 23% answered that they used these groups for 0-4 weeks, 42% for 5-8 weeks and 36% used them for 9-12 weeks or even longer. Since the survey was done during the last week of March, it can be assumed that most of the students started to use groups connected to the Erasmus program in the last week of January.

When analyzing if there is a difference between the answers of students living in the dorms and students who do not, we only found a small difference. A slightly higher percentage of students who do not stay in the dorms started to use groups connected to the Erasmus program earlier than the last week of January 2015.

An additional small finding is that 85% of the people who added more than 80 new Facebook friends during the Erasmus program started using groups connected to it before the last week of January. When asked how often the students use groups connected to the Erasmus program per day, 69% answered 1-3 times, 22% answered 4-6 times and only 8% answered more than 7 times. This indicates a small group of intensive users and a lot of students who use the Erasmus groups on Facebook occasionally.

When combining this question with the questions about adding friends during the Erasmus program and the time students start using groups connected to the program, we could not find any significant details. Our question about Erasmus events advertised on Facebook was answered in the following way: 28% visited only between 0 and 5 events, 39% between 6 and 10, 14% between 11 and 14 and 19% more than 15. The fact that only 28% of the students did not participate in a lot of Erasmus activities advertised in a group connected to their program proves the importance of Facebook as an organizational tool. Furthermore, we found the logical fact that the longer students used the groups connected to their Erasmus program, the more they visited events advertised in these groups.

Additionally, students who used the Erasmus groups at least four times a day were more likely to visit at least six events advertised in these groups. The last detail is that 75% of students living in the dorms visited less than ten events advertised in an Erasmus group, whereas 50% of students living outside of the dorms visited more than ten events. This could be an indication that students not living in the dorms are more dependent on the Facebook groups to stay in contact with other students. Students that live in the dorms are more likely

to see each other in person and therefore can connect easier without using Facebook. The opposing question of how many events the students visited that was not advertised in a group connected to the Erasmus program had a rather clear result with 80% of students answering that they visited less than six of these events.

Attitude towards Facebook

A percentage of 89% of the participants stated that Facebook helped them overcome the challenges they faced for the preparation and during their Erasmus program. Approximately 73% also said that Facebook is essential for a good Erasmus experience, proving the importance of this social network for current Erasmus students. While the previous results indicate a high dependency on Facebook as a communication tool, the question asking the students if they think they are dependent on Facebook was answered differently: only 59% answered that Facebook is a major factor for a satisfying Erasmus experience.

These slightly opposing results could indicate that some students are not aware or do not want to accept the value that Facebook offers them. On the other side, it could also be that students overestimate the significance of Facebook. To find the truth, it would be interesting to study two groups of students, one using Facebook extensively, the other not using Facebook at all. Both should write down their experiences and challenges before and during the Erasmus program. A comparison of the results could bring further insights about the significance of Facebook as a communication tool in the Erasmus programs.

The last question of our survey had a clear result: 99% of the students who finished the survey stated that they think that Facebook will help them to stay in touch with the friends they found during their time in Prague. This again verifies the significance of Facebook to Erasmus students.

Conclusions

In January the major concern of students was to organize there Erasmus semester and thus topics about the life in Prague and the University of Economics were of interest. This changed in February, when the highest priority was on meeting new people, partying and traveling. The fact that this continued in March and in total 33% of all posts can be connected to this topic leads to the assumption that it is the major concern of Erasmus students – an assumption that was also supported by the survey in which 88% of the students indicated that the highest priority is meeting new people during the Erasmus semester.

When examining the complete 77 days, we can conclude that February was the month with the highest activity in the Erasmus group. In March the activity decreased fast, probably resulting from the weakening dependency on the Facebook group to get in contact with other students. In February

we can also observe a kind of like/comment cannibalism in which the post creation frequency was very high and therefore no post received overwhelming participation.

We discovered that 97% of students living outside of the dorms came from a European country. This fact is almost certainly connected with the greater challenge of finding a suitable apartment while living on another continent.

Another finding is that Facebook seems to be the most important network for a vast number of students, with 94% declaring it as their main social platform. In addition, the fewer friends a student had on Facebook, the more he knew them in real-life. Furthermore, 72% of the people who added more than 80 new friends during their time in Prague had already more than 600 friends. Thus, there could be a connection between the general willingness to add new contacts on Facebook and the readiness to add new contacts during the Erasmus program. Moreover, the willingness to add people quickly as contacts on Facebook seemed to increase in the Erasmus semester, as compared to the usual behavior of students.

Another finding was that students living outside of the dorms visited more events advertised in the Facebook group than students living in the dorms. This could be a result of their decentralized position compared to the other dorm inhabitants.

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„Perfect partners don't exist. Perfect conditions exist for a limited time in which partnerships express themselves best."
Wayne Rooney
(English footballer)

The Business Value of Innovation Management

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Abstract

Innovation management describes the decisions, activities, and practices that move an idea to realization for the purpose of generating business value. Innovation management means all the activities conducted by a company and options made to foster the emergence of innovative projects, to decide their launch and achieve commercialization of new products or implementation of new business processes, to increase competitiveness. No definition is advanced as a correct one in our essay because no one definition is suitable for all problems.

Keywords: innovation, creativity, innovation architecture, knowledge management

Introduction

Schumpeter suggested that large private firms would count for the majority of product/process innovations in a dynamic (Schumpeterian) economy; the discussion continues across industries, market structures and competitive scale whether and to which extent large companies as compared to small and mid-sized firms (SMFs) will continuously generate a larger bulk of innovations (in terms of revenues or profits) (Schumpeter 1942).

Innovation competition leads to increasing economics triggering serial innovations inducing more increasing returns industries (Schumpeter, 1950). Most of the literature focused on two hypotheses associated with Schumpeter's assertion: *(i)* innovation increases more than proportionally with firm size and *(ii)* innovation increases with market concentration.

Evolutionary economists (Nelson, Winter, 1982) define innovation very broadly. It encompasses product and process innovation,

„Today businesses grow through alliances, joint ventures and customer partnerings which, by the way, very few people understand."
Peter F. Drucker
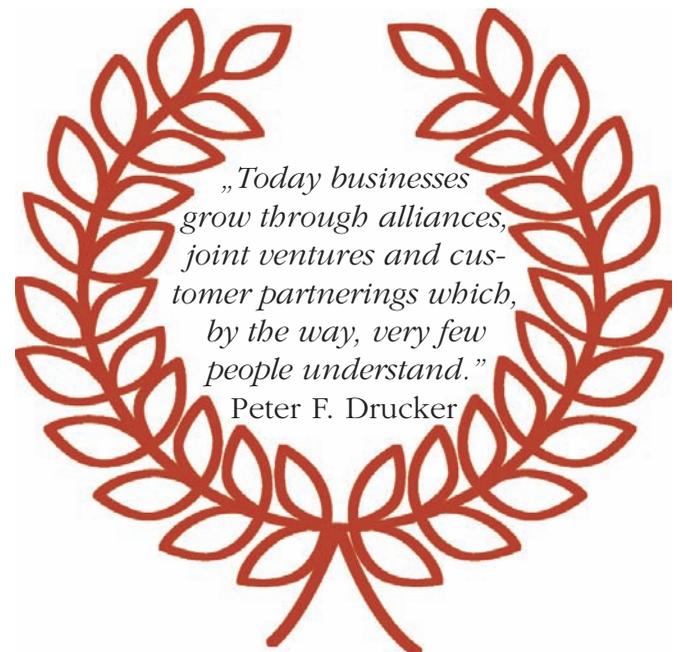
opening up new markets, and acquisition of new sources of raw material. In the absence of patent protection, large firms may exploit their innovations on a large scale over relatively short periods of time – and in this way avoid rapid imitation by competitors – by deploying their productive, marketing and financial capabilities. Large firms may also expand their rate of innovation by imitating and commercializing other firms' technologies.

Any growth process implies qualitative change, at both the micro and macro levels. It is a process of creative destruction, which cannot be reduced to an equilibrium path. Any economic change involves two entirely distinct phenomena – growth and development. While growth is a purely quantitative phenomenon, development consists of qualitative change, a „spontaneous and discontinuous" change that arises from within the economic process. „There is certainly no point in trying to conserve obsolescent industries indefinitely; but there is a point in trying to avoid their coming down with a crash and in attempting to turn a rout, which may become a center of cumulative depressive effects into orderly retreat" (Schumpeter, 1950, p. 90).

Competition has traditionally been considered by economists as a form of discipline which can raise production efficiency and which is, in principle, capable of stimulating economic growth. According to this view, the more competition there is, the better. In reality, competition affects economic development in ways which are more subtle and complex than those suggested by this sentence. It is no surprise that a contradictory view of competition still exists in the economic literature.

One of the main reasons for growth differences could be the relatively high rate of R&D investment in fast growing industries

(e.g. car, and computer manufacturers) build their market positions by continuously investing in new technology and accumulating knowledge over time. These issues are hard to think about without a proper modeling of a multi-sector economy where different sectors have different structures and are independent. The „push" effect of innovation is combined with the „pull" effect of demand by considering the impact of the dynamics of consumption and investment at the sectoral level.

An interesting problem of the new economic literature is to understand how technology races can be induced endogenously, e.g. by changes in economic variables (such as costs, prices and productivity). The success of economic growth due to diffusion of advanced technology or the possibility of leapfrogging is mainly attributable to how the social capability evolves, i.e. which effects become more influential: growing responsiveness to competition or growing obstacles to it on account of vested interests and established positions.

Even the best technology can't deliver success without a focus on business strategy and goals. It is important to have a clear vision of where the company is going, as

it will define and set the context for the role innovation will play in enabling profitable growth, help determine the type of innovation you want to drive and the way you need to organize to effect change.

Conceptualization of Notions Used

Innovation. Innovation is not a technical term; it is an economic and social term. Its criterion is not science or technology, but a change in the economic or social environment, a change in the behavior of people as consumers or producers, as citizens, as students or as teachers, and so on. But the need for innovation will be equally great in the social field (Drucker, 1986).

Innovation is defined sometimes as the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order. This definition focuses on four basic factors: new ideas, people, transactions, and institutional context. An understanding of how these factors are related

leads to four basic problems confronting most general managers:
- a human problem of managing attention;
- a process problem in managing new ideas into good currency;
- a structural problem of managing part-whole relationships, and
- a strategic problem of institutional leadership.

An innovation is a new idea, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach which is perceived as new by the individuals involved. As long as the idea is perceived as new by the people involved, it is an „innovation", even though it may appear to others to be an „imitation" of something that exists elsewhere. Included in this definition are both technical innovations (new technologies, products, and services) and administrative innovations (new procedures, policies, and organizational forms). Because we subscribe to a systems view, technical and administrative innovations are expected to be closely interrelated and co-produced (Van de Van, 1986).

Innovation is nowadays a pervasive issue in both the academic literature and policy debates; it plays a central role in firms' strategy and is a fundamental element in public policies for growth and competitiveness. Innovation has become a major field of study in economics, management, sociology, science and technology studies, and history (Malerba, Brusoni, 2007).

Innovation can manifest itself in multiple ways, whether in a technology change that determines the products and services you deliver, or a business model change that defines the value you deliver. In order to remain relevant in this new environment, your organization must be able to implement

the latest technologies quickly and ensure that when you do, they are engineered to work with your entire technology stack.

There are four key technologies that have converged to drive innovation: social networking, mobile computing, analytics, and cloud computing. These technologies enable new ways to develop products, interact with customers, partner with others, compete, and succeed. First and foremost, companies need to understand how to organize themselves around innovation and how to get the best results from innovation. The next step is to identify the technologies that are best-suited to their unique circumstances.

The study of innovation management is driven by its practice; it is an applied field. There is no unified theory of innovation management, just as there is no unified theory of innovation. There are, however, diverse theories that can help explain various aspects of innovation management as a social and economic process (Dodgson *et al.,* 2014).

Innovation management has seen a plethora of supportive tools and techniques emerge, mostly originating from academic research into a few organizations and generalized into consulting offerings. Some of these have retained value, but most have at one time or another been oversold and used inappropriately. The challenge for innovation researchers is to determine and retain the value of the tried and tested while maintaining interest in the new and emerging with sufficient degrees of circumspection and caution (Dodgson *et al.*, 2014).

Managing innovation will increasingly become a challenge to management, and especially to top management and a touchstone of its competence. To manage innovation, a manager need not be a technologist.

Creativity. To explore the sources of creativity, researchers have sought to probe the character of inventors and innovators. To this end, research has sought to understand how individuals' psychology and perceptions of their environment shape their likelihood of developing creative ideas. This research shows that individuals with a strong self-determination or intrinsic motivation are able to generate greater creative output (Amabile, 1983a), (Amabile, 1983b), (Deci, Ryan, 1985). Managing the many challenges of innovation requires the combination of resources in different business and organizational processes. Research and development are an increasingly globalized activity.

Creative ideas may provide the wellspring of inventions, but creativity is not always directed towards invention and later innovation. Creativity is as critical to the invention, as the invention is to innovation, but these concepts are separate and distinct elements of the innovation process (Salter, Alexy, 2014).

al barriers – shared problem solving achieves a new level of creativity when managed for „creative abrasion";

(ii) Implementation and integration of new internally generated methodologies and technical processes and tools. These can move beyond merely increasing efficiency when managed for learning;

(iii) Formal and informal experimentation. Experimental activities create new core competencies that move companies purposefully forward and are guards against rigidity;

(iv) Importing and absorbing technological knowledge expertise from outside the firm.

Innovation architecture. A novel tool is the innovation architecture that can be seen as a blueprint for the innovation system of any company in terms of complexity (Figure 1), systematic interaction and evolution, which should be the basis for good management and decision making:

Four key activities create and sustain flows of knowledge and direct them into core capabilities:

(i) Integrated, shared creative problem solving across cognitive and function-
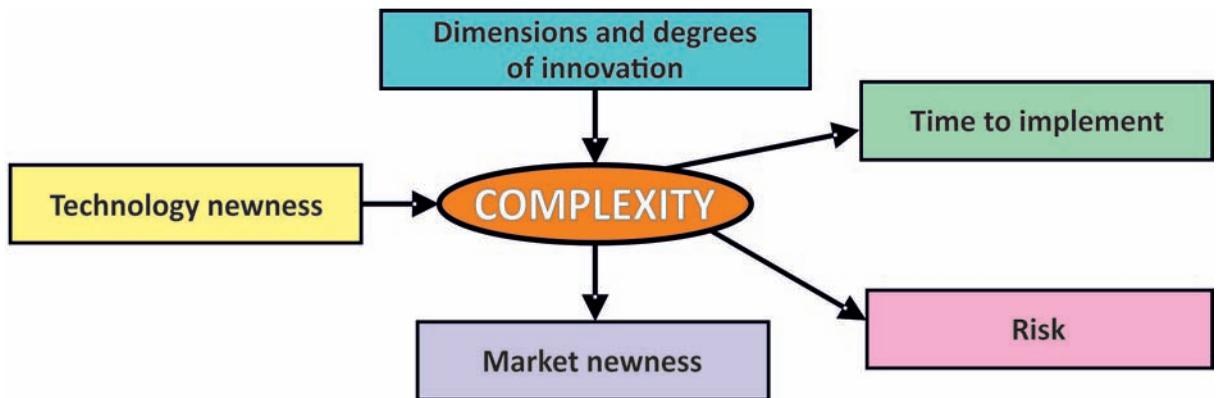
Figure 1 – *Assessing innovation complexity*

Furthermore, innovation architecture is useful a tool for encouraging creativity on a strategic level, both in technology and business innovations, and organizational innovations. Integrating innovation architecture into the designed process is the basis

for supporting practitioner-oriented management in the innovation system. The innovation architecture fosters the structuring of creativity in a company.

There are problems associated with uncertainty, knowledge appropriateness and

costs unpredictability. As a consequence, firms trying to develop organizational competitiveness in innovation will require knowledge management and organizational skills in order to learn fast (Figure 2):
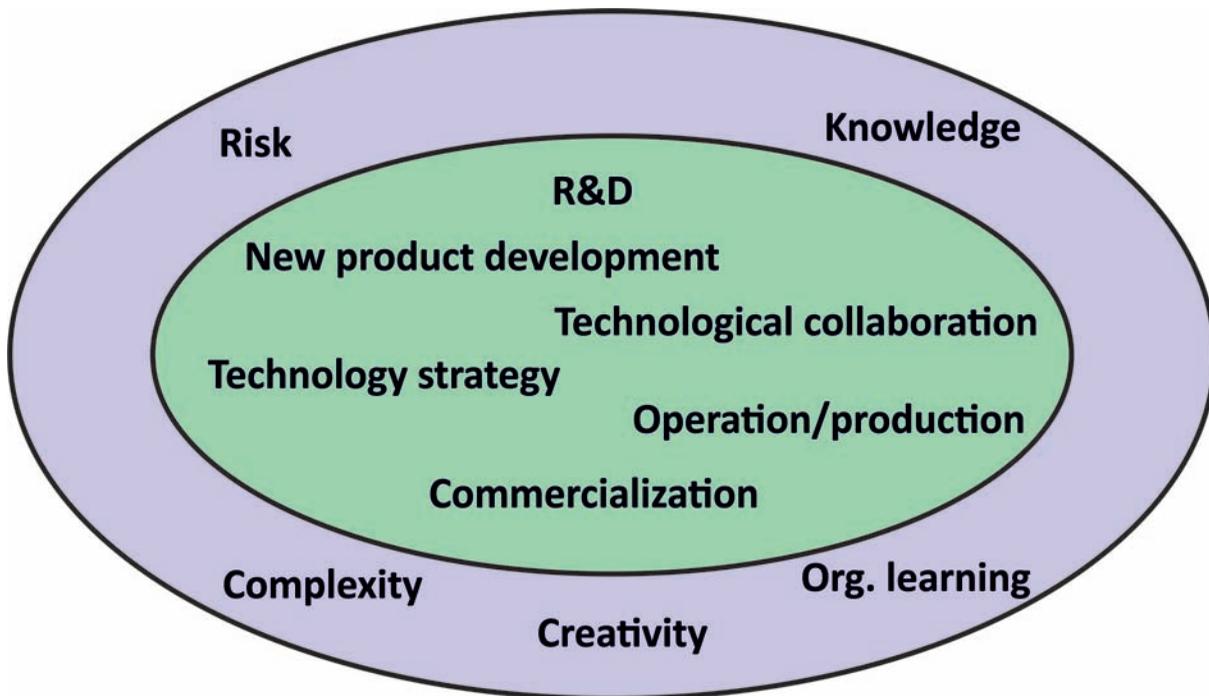
Figure 2 – *Management of technological innovation – a holistic approach (Dodgson, 2000)*

Regional clusters may emerge into hotspots of innovative activity; Silicon Valley of the Boston region in the USA are powerhouses for ground-breaking, first-to-world products and services. Other prominent examples: USA's Hollywood, and India's Bollywood in the movie industry. Innovation is a „sticky" activity in which location matters (Salter, Alexy, 2014).

Science-based entrepreneurial firms are commonly studied through the channel of academic spin-offs, for example, studies the interactions between technologies, individuals, industrial sectors, and the university environment in promoting academic entrepreneurship. This type of entrepreneurship may be seen as the result of long-term interactions between the founder and the external environment; a key issue has been how resources are moved, and reconfigured, around a university or region between many firms that are academic spin-offs (McKelvey, 2014).

Innovation management. Innovation management is the management of innovation processes. It refers both to product and organizational innovation. Innovation management includes a set of tools that allow managers and engineers to cooperate with a common understanding of processes and goals. Innovation management allows the organization to respond to external or internal opportunities, and use its creativity to introduce new ideas, processes or products. It is not relegated to R&D; it involves workers at every level in contributing creatively to a company's product development, manufacturing and marketing.

By using innovation management tools, management can trigger and deploy the creative capabilities of the workforce for the continuous development of a company. Common tools include brainstorming, virtual prototyping, product lifecycle management, idea management, TRIZ, phase-gate model, project management, product line planning and portfolio management. The process can be viewed as an evolutionary integration of organization, technology and market by iterating series of activities: search, select, implement and capture. Companies need to set up their organizations around innovation and establish appropriate processes and metrics to integrate innovation into the fabric of corporate culture.

Some define management innovation as the invention and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals.

Innovation process. The innovation process is defined as the development and selection of ideas for innovation and the transformation of these ideas into the innovation (Schon, 1971). The definition of

innovations varies across sub-fields of innovation research. Innovation comes in a variety of types; product or services. There seems to be a debate whether innovation needs to be successful in order to call it innovation. But in all cases, innovation is not only an idea, it is also the implementation of it. Independent of how you actually define innovation, it is good to know that the phenomenon of innovation is not new. Innovation processes can either be pushed or pulled through development. A pushed process is based on existing or newly invented technology, that the organization has access to, and tries to find profitable applications for. A pulled process is based on finding areas where customers' needs are not met, and then find solutions to those needs. To succeed with either method, an understanding of both the market and the technical problems are needed. By creating multi-functional development teams, containing both engineers and marketers, both dimensions can be solved.

The product lifecycle of products is getting shorter because of increased competition. This forces companies to reduce the time to market. Innovation managers must, therefore, decrease development time, without sacrificing quality or meeting the needs of the market.

Studies of innovation management have often focused their investigations on two domains: technologies and markets (Jacobs, Snijders, 2008). Technological innovation has captured the most attention, especially as far as radical technological change is concerned.

Having an idea of innovation is one thing; identify its market is another. The more radical the innovation, the less the market exists and the more uncertainty exists to prove the existence of this market and to qualify and quantify the size of this market.

Overall, the recent history of high-technology industries demonstrates that dynamic competition takes place among firms in innovation-driven (Schumpeterian) industries. This has been particularly evident in the software industry (Garcia, Calantone, 2002). Some observations on industrial patterns in Europe, the United States or Asia point to which type of racing behavior is prevalent in global high-technology industries, as exemplified by ICT (information and communications technologies) industries. The pattern evolving from such racing behavior could be benchmarked against the frontier racing type of the global technological leaders.

Innovation – understood as the first successful commercialization of something new – is considered beyond controversy as a key for competitive advantage and the long-term success of a company. This significance of innovation was analyzed in a quantitative survey in practice (Haapaniemi, 2002). When asked about how important is their company's ability to innovate in achieving success/competitive advantage, as compared to other factors, 12% of the respondents considered it the most important factor; 57% answered it is one of the 5 most important factors, with only 2% considering it not a success factor.

However, there are also some basic limitations to the process that lead to inertia and premature abandonment of some ideas. First, there tends to be a short-term problem orientation in individuals and organizations and a façade of demonstrating progress. This has the effect of inducing premature abandonment of ideas, because even if problems are not being solved, the appearance of progress requires moving on to the next batch of problems (Figure 3):
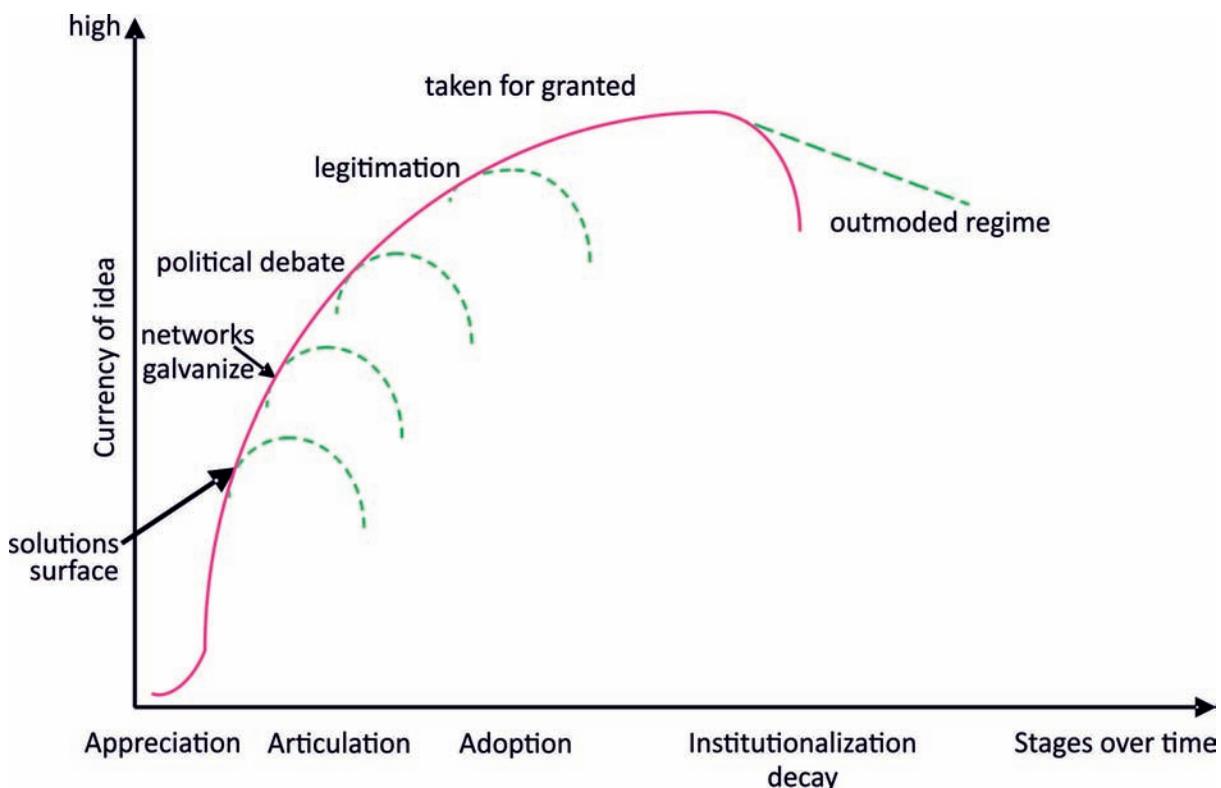

Figure 3 – *Managing life cycle of ideas in good currency (Schon, Donald, 1971)*

Thus, „old questions are not answered – they only go out of fashion" (Schon, Donald, 1971). Furthermore, given the inability to escape the interdependence of problems, old problems are relabeled as new problems. In Figure 4 is represented the relative importance of product as opposed to process innovation, over the course of the industry life cycle (Agarwal, Tripsas, 2008):
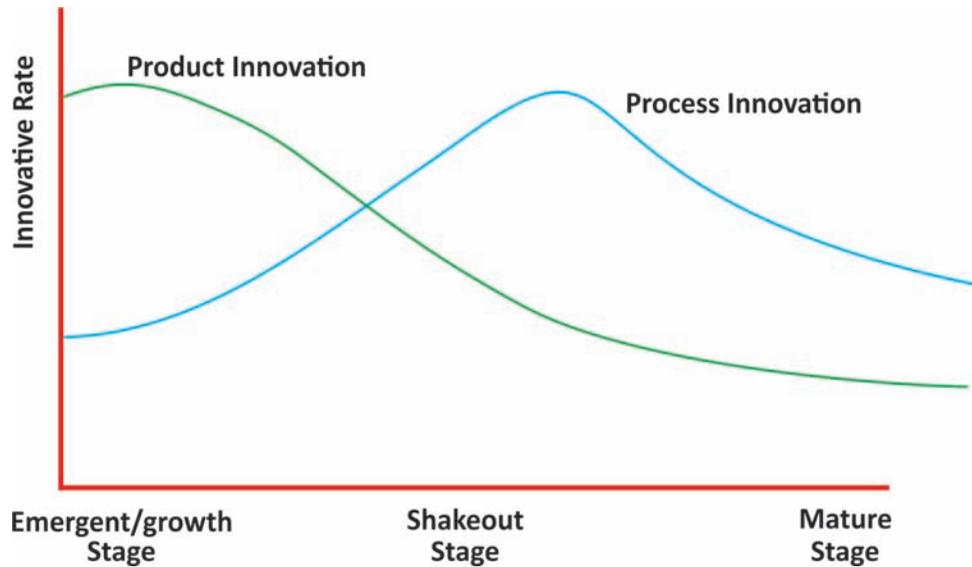
Figure 4 – *Relative importance of product as opposed to process innovation*

Changes in Architecture of Innovation

The architecture of innovation is based on five pillars: performance (economic), a (sociological) structure, people (sociology), a process (management) technology (IT) plus economic, mental and technological aspects. It is then necessary to determine the interdependencies between the different pillars (systemic approach). Finally, it is necessary to integrate the knowledge market that is linked to the company, to a network, to a nation. The knowledge is exploited by the extended enterprise strategic network (ESN): company, alliance, partner, customer, suppliers, competitor, a customer of the customer. Interdependence is associated with a force (Amidon, 2001), the collective is superior to the individual, communication is bidirectional,

the approach is holistic (being both a whole and a part of something bigger). In this structure, the human capital is predominant. Individuals are motivated, autonomous, and they have qualities (flexibility, mobility, loyalty and competence), rather than status or rank. People are recognized on how their know-how is used (Amidon, 2001). Dynamic network innovation is based on the growth of physical assets, an ESN structure, learning and autonomous people, a process involving cross-functional teams and knowing authority, a technology that processes and creates the knowledge market. The graph of Figure 5 illustrates the fact that the management of the company's technological resources is that of a stock of skills and knowledge that they master:
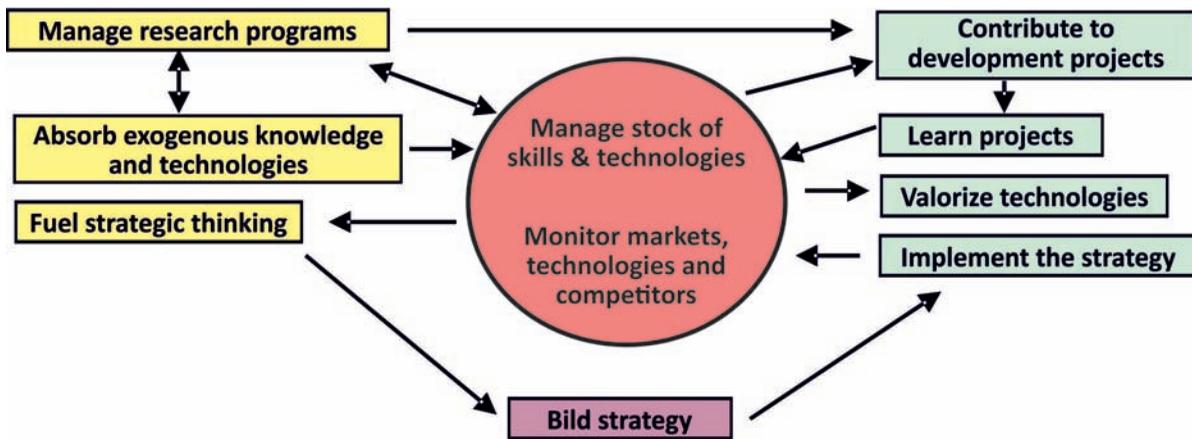
Figure 5 – *Technology management (Gassmann, 2006)*

The stock is constituted according to the anticipated needs of the development projects of the company. Its evolution is the result of monitoring and analyzing the evolution of technologies, markets, competitive environment and strategic choices of the company. The increase of this stock is made possible by the company's research programs, by absorbing or integrating technologies developed elsewhere and by capitalizing the knowledge developed during the projects. Its exploitation is done through the company's offer, but also, outside these markets, by the external evaluation of the technologies that it controls.

Drucker (1986) defines innovation as the competence of the future, therefore an internal and external audit is needed to evaluate an innovation strategy. The internal diagnosis examines the collaborative process, performance measurement, training and development, the learning network, and market positioning and economic intelligence. It is complemented by an external diagnosis that includes the ability to create products and services from knowledge, collaborative market penetration, image enhancement campaign, leadership skills and communication technologies.

The need for social innovation may be even greater than for technical innovation. Social innovation has played as large a part in social and economic change and development as technical innovation.

Business model. There are many possible choices for positioning the business model. To make this choice, when the company seeks to put innovation on the market, it is necessary to take into account several parameters: the type of innovation, the external value chain of the target industry and the company herself. Two main dimensions must be taken into account for the choice of business model in relation to innovation: the first is the type of innovation; the second is the protection of innovation.
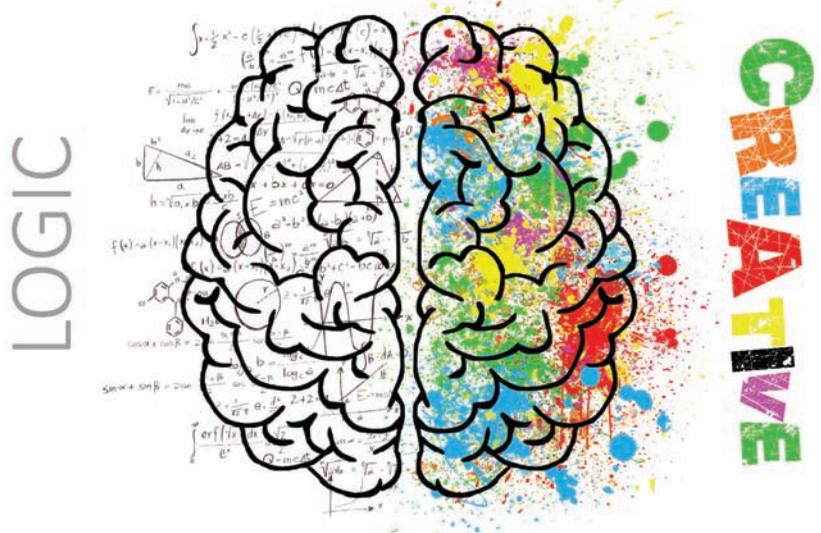
Protection of innovation. Because the necessary measures have not been taken, innovations may fall into the public domain or be used by the competition. It is, therefore, necessary to be aware of the challenges of protecting innovation from the start of an innovation project.

Knowledge management. The discipline known as Knowledge Management (KM) is a way of formalizing this process. KM is a discipline that integrates management of people, processes and technologies in order to generate, capture and use valuable knowledge in the organization. In other words, KM is a technology to multiply the organizational memory, intelligence and creativity in a continuous and systematic way.

KM operates in two directions:

(a) Managing knowledge already available within the organization;

(b) Improving the firm's capability to take advantage of new knowledge, capturing it from external sources or generating new knowledge internally. Adequate knowledge management can be beneficial to any kind of enterprise, including SMEs.

Efficient knowledge management often demands the use of a technological platform to share knowledge and information within the company. The higher the number of workers and PCs within the organization, the more essential an internal network or intranet will be. KM has great potential to improve business innovation. Its applications can be translated in terms of specific techniques that improve a firm's ability to innovate.

Conclusion

Innovation is a complicated, challenging management process, requiring insights into technology, development, changing markets and organizational structures. Understanding the concept of innovation implies that one can clearly distinguish the concrete result (product, service, process, etc.) from the act of innovation, from the abstract process by which they can be realized. Increasing pressure on the need for innovation is driven by increasingly short life cycles of products, changes occurring in innovation models, outsourcing, flexible working schemes, the increase in piracy and the transition to the knowledge economy. The management responds to planning, budgets, organization, while the leader responds to a vision of the future, an optimization of skills, motivation and inspiration that creates change. The ideal is the balance of these two dimensions.

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„The forces of a powerful ally can be useful and good to those who have recourse to them… but are perilous to those who become dependent on them."
Niccolo Machiavelli
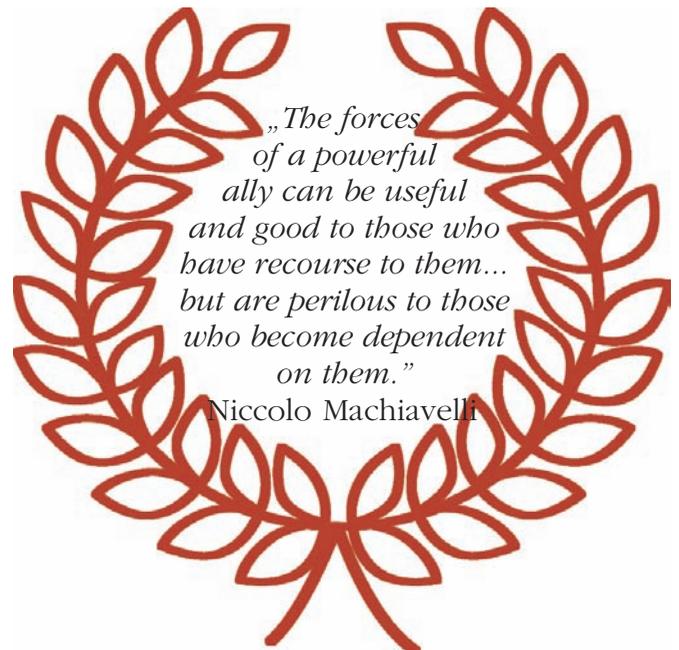
Measuring the Talent of the Employees

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Abstract

Global forces are redesigning a new landscape for both human resource management and talent management. HR departments all around the world have begun to make serious investments in collecting and analyzing data to make people decisions. The Universal Talent Score (UTS) presented in this article is a talent index that acts as an indicator of the competence and value-creating capacity of an employee – even prior to recruitment. The calculated score will help employers in workforce planning as well as in all the human resource functions of recruiting, onboarding, training, and succession planning. The „datafication" of talent management via metrics such as the UTS gives human resources professionals access to real cross-organizational employee data for the first time. Placing data at the heart of talent management processes allows them to manage their talent in the same manner they manage other assets. Because the true wealth of an organization is in its people, measuring talent is therefore very important. The suggested Universal Talent Score is a new and simple diagnostic metric that may provide decision makers with significant information about the value and importance of the talent at hand and within reach.

Keywords: talent score, talent scorecard, talent management, talent measurement, human resources

Introduction

In the past, the value of an organization was assessed by evaluating its assets (mainly land, labor, and capital) as well as its bottom line profits. Its wealth was made up of what was physically and tangibly owned. Three decades ago, however, a silent revolution started brewing with regards to what really constituted value in an organization. In the introduction of their book, Best Practices in Talent Management, Goldsmith and
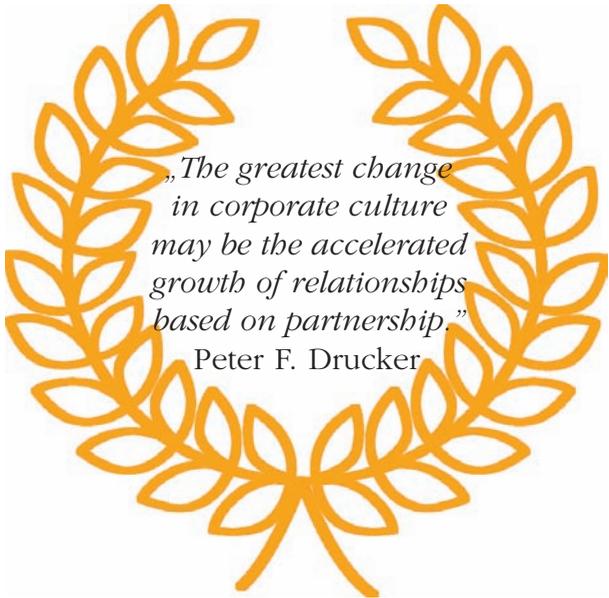
„The greatest change in corporate culture may be the accelerated growth of relationships based on partnership."
Peter F. Drucker

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Carter (2010) say that the assets of an enterprise can perhaps be divided into two parts: its people and everything else!

While, in the past, the value of an organization was measured by its tangible assets, it is said today that a company's true wealth lies in its people and the talent they possess. A dictionary definition of „talent" is a special aptitude or faculty. In organizations, talent consists of individuals who can make a difference to business performance either through their immediate contribution or, in the long-run, by demonstrating the highest levels of potential (CIPD, 2016). Today's intensely competitive economy allows no robots who submissively perform the same task over and over again. All companies no matter how big or small must be agile, creative, and ready to abandon the old methods when challenged by new paradigms: it is *talent* that infuses the human experience with vigor and creativity (Goldsmith, Carter, 2010).

At present, talent management is one of the most popular topics in business and human resource management. In reality, however, the idea of talent management is not new. It has evolved over time and grown into its own entity, just like human resource management has. In the 1970s and mid-1980s, the business function responsible for managing people was known as the personnel department. It was basically a gatekeeper for employee records, payroll activities, as well as compensation and benefits. In the late 1980s and 1990s, the concepts of strategic human resources emerged. As such, the HR department became a business partner, reaching out to support all lines of business – with that growth came the rise of the era of Talent Management (Bersin, 2016). Today, many successful businesses around the world have come to the realization that one of the most important – and valuable – assets is not what they own, but rather what they know and the talent they employ.

Although talent management is a broad and complex field, its functions apply to every organization, regardless of its size, industry or geographic location. Talent management activities include, but are not limited to, recruiting, workforce planning, onboarding, performance management, critical skills gap analysis, career development, training and development, compensation and benefits allocation, etc. (Goldsmith, Carter, 2010; Bersin, 2016).

A skill survey conducted in 2012 by the Institute for Corporate Productivity revealed that there is approximately a 20% positive correlation between market performance and talent management practices, specifically: integrating technologies and sharing data for the various talent management functions, establishing an internal culture that supports talent management, and using technology to improve talent management (Oaks, 2016). Today, successful organizations that outperform their competitors for extended periods of time excel in strategy, leadership, culture, the
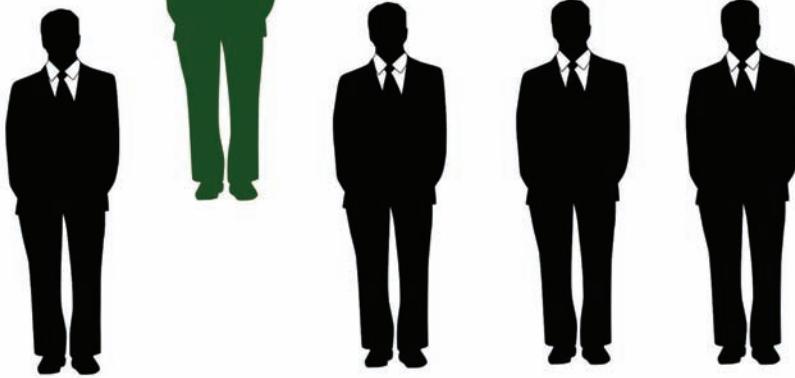
market, and *talent*. Once and again, it has been revealed that when leaders don't surround themselves with talent or when they don't identify, coach, reward, and retain employees who can sustain the corporate success they condemn their organizations to a grim future. Equally, when they fail to develop or let go of those whose behavior jeopardizes the organization, they commit a form of corporate suicide. Consequently, leaders have to develop an understanding of how their talented people do what they do, and whether they are, in fact, in the right place at the right time to do it effectively and productively.

Global Human Capital Trends

In 2016, global forces are redesigning a new landscape for human resource management. First, demographic changes have made the workforce both younger and older at the same time. Today's workplace, for the very first time in history, includes five generations working together simultaneously – Traditionalists, Baby Boomers, Generation X, Generation Y or Millennials, and Generation Z or iGen (Knight, 2014). Millennials now make up more than half

of the workforce, and they bring high expectations for a rewarding and purposeful work experience, constant learning and development opportunities, as well as dynamic career progression. At the same time, Baby Boomers are being challenged to adapt to new roles as mentors and/or coaches and are often subordinates to junior colleagues (DPT, 2016). Consequently, managers and/or leaders who are able to understand, interconnect, motivate, train, develop, and retain four or five different generations simultaneously are sought after in every industry whether in technology, healthcare, finance, or retail. This cross-generation skill set is not one that managers may naturally have, but it is one that can be developed through learning and practice (CGK, 2015).

Second, digital technology has become omnipresent. As a result, it is reforming business models and fundamentally changing the workplace and the way work is completed. Technologies such as mobile devices, 3D printing, the Internet of Things, sensors, and cognitive computing are changing the way companies design, manufacture, and deliver almost every product and/or service. Furthermore, digital disruption and social networking have changed the way organizations recruit, manage, train, develop, and support their employees. Innovative companies are figuring out how to simplify and enhance their work experiences by implementing the disciplines of design thinking and behavioral economics while embracing a new approach that is called „digital HR" (DPT, 2016).

Third, significantly fast-paced change has compelled organizations to be as agile as they could possibly be so they could survive. Swift business-model innovation from companies such as Uber and Airbnb is compelling organizations to respond and

reposition themselves quickly to meet new challenges. In our highly connected dynamic world, low probability and high impact occurrences are known as „black swan" events also seem to be very significant – all of which emphasizes the need for agility (DPT, 2016).

Finally, a new social contract has emerged between companies and their employees redefining all previous employer-employee relationships (DPT, 2016). The days when a majority of workers expected to spend a career moving up the ladder at one company are over. Today, young people expect to work for more than one employer throughout their career seeking an enriching experience at every stage. This leads to expectations for rapid career growth, an exciting and flexible workplace, and a sense of duty and purpose at work. At present, although contingent, contract, and part-time workers make up almost thirty percent of the workforce, many companies lack the HR practices, culture, or leadership support to manage this new structure (DPT, 2016).

To sum it all up, according to the annual Deloitte University Press publication, the ten global human capital trends for 2016 are: **(i)** restructuring of organizational design and the rise of teams, **(ii)** awakening leadership to manage and lead five generations side by side, **(iii)** directing organizational culture towards alignment with business goals, **(iv)** increasing employee engagement on a daily basis, **(v)** creating employee-led corporate learning departments, **(vi)** implementing design thinking that puts employee experience at heart and dissolves any unnecessary complexity at the workplace, **(vii)** changing skills of the HR department to include innovation at the top of the list, **(viii)** growing investment in and use of people analytics, **(ix)** a dawning horizon of a new world of HR technol-

ogy and digital HR, and **(x)** adopting agile workforce management with the increase of contingent and part-time workers (DPT, 2016).

The Universal Talent Score

In light of the most recent economic crisis, organizations have laid off hundreds if not thousands of their employees in an attempt to curb costs. Also, normal attrition processes have resulted in the retirement and relocation of thousands of others. The question that presents itself here is: are organizations really aware of the knowledge and talent that they have lost as a result? Have job cuts been adequately evaluated on levels beyond salaries, expenses, and costs? Could they have let go of a possible future Henry Ford, Thomas Edison, Warren Buffet, Steve Jobs or Bill Gates?

Because the true wealth of an organization is in its people, measuring talent is therefore very important for an organization to assess what it already has and/or what it might be losing. The Universal Talent Score is a talent index that acts as an indicator of the competence and value-creating capacity of an employee – even prior to recruitment. The calculated score will help employers in workforce planning as well as in all the human resource functions of recruiting, onboarding, training, and succession planning.

The Talent Scorecard. The *balanced scorecard* revolutionized mainstream thinking about performance metrics. When Kaplan and Norton's first introduced the Balanced Scorecard framework in 1992, companies were busy developing themselves to compete in the world of information. Their ability to make use of intangible assets was becoming more critical than their ability to manage tangible assets. The scorecard allowed organizations to monitor financial results while observing progress in building the capabilities required for growth. The balanced scorecard was not meant to be a substitute for financial measures but rather a complement; and that's exactly how most businesses handled it (Kaplan, Norton, 1992).

Correspondingly, a talent scorecard is a measurement and management framework linked to the talent strategy of an organization. The latter tracks and guides all actions in support of acquiring, developing and retaining critical organizational talent. It allows managers and decision-makers to get a „quick read" on an employee's present situation and helps determine where action must be taken to ensure that the organization meets its desired talent and business goals. Inspired by the field of knowledge management, and based on the scorecard valuation methods used to evaluate intellectual capital, the customized Universal Talent Score (UTS) talent scorecard has been created. Similar to Kaplan and Norton's scorecard, the UTS talent scorecard is made up of four perspectives which are *performance*, *potential*, *personality*, and *qualifications*.

First, the performance perspective describes whether the employee has what it takes to adequately perform the functions of his/her job. Second, the potential perspective describes – and predicts – the extent to which the employee has the capacity to develop and move on along his/her career path. Third, the personality perspective investigates whether the employee has the right mix of personal characteristics that help him/her succeed in today's dynamic and challenging workplace. Finally, fourth, the qualifications perspective examines whether the employee has sufficient credentials such as experience, education, training etc. The information obtained from these four perspectives creates a holistic picture of an employee's talents, strengths, aptitudes, and qualifications all of which contribute to his/her Universal Talent Score (Figure 1):

Figure 1 – *The Universal Talent Score (UTS) Talent Scorecard*

For around five years, extensive research has been made on the top talents, skills, and qualifications that are sought by employers across different industries and that are needed to succeed in today's challenging and dynamic workplace (Abi Abdallah, 2016). These talents have been narrowed down and populated into a list of seventy-five parameters that have been allocated to the four different „perspectives" or „dimensions" of the talent scorecard as shown in Table 1.

The Talent Score Assessment. The Universal Talent Score assessment is a series of 150 descriptors of talents, skills, and qualifications. To obtain the score, the respondent has to decide to what extent does he/she agree or disagree with each statement (totally disagree, moderately disagree, undecided, moderately agree, or totally agree). In order to increase objectivity as much as possible, and to narrow down the margin of error, the Universal Talent Score Assessment is timed. Respondents will have only 15 seconds to make each choice because research and experience have shown that the first instinctive answer is always the most truthful one. As such, the respondent doesn't have much time to ponder which answer serves his/her interests best so the obtained answers become as objective and accurate as possible.

Although the need for talent is universal across all industries, it becomes very specific as we zoom in onto particular job functions. In other words, the magic recipe to become a successful civil engineer is not the same as that of a successful project manager, software developer, or teacher. Although some ingredients are surely common, others are specific to one recipe and not the other. In its latest updated version, The Universal Talent Score now comprises

of four specific assessments to measure the degree of talent available or required by potential recruits or existing employees who are teachers, project managers, civil engineers, and software developers in order to succeed in their roles. As a starting point, an expert opinion was sought from established professionals in the respective fields for each of the four job functions mentioned above. Using their rich professional experience as well as their personal judgments, the experts assigned weights for each of the seventy-five parameters of the talent score assessment. With every update, the Universal Talent Score UTS will include more and more job functions to eventually comprise of an extensive and comprehensive database.

Table 1 – *The Parameters of the Universal Talent Score*

PERFORMANCE		POTENTIAL		PERSONALITY		QUALIFICATIONS	
Adaptability	Multitasking	Achievement Drive	Individualization	Accountability	Leadership	Achievement Awards	Professional Memberships
Analytical / Reasoning	Optimization	Conflict Resolution	Initiative Taking	Amiability	Loyalty	Communication Skills	Special Trainings
Competition	Organizing	Creativity	Maximization	Anger Management	Multicultural Awareness	Computer / IT Skills	Technical Skills (Industry-related)
Connectedness	Planning	Decision making	Negotiation	Command	Politeness	Education / Degrees	Volunteer Work
Consistency	Presentation	Dependability	Passion	Dedication	Positive Attitude	Industry Awareness	Work Experience (industry-related)
Critical Thinking	Problem Solving	Development	Premeditation	Emotional Intelligence	Self-Confidence	Languages	
Discipline	Professionalism	Effectiveness	Research Skills	Empathy	Self-Image	Leadership Position (Held)	
Executive	Sales Skills	Entrepreneurial	Strategic Planning	Honesty	Self-Motivation	Numeracy Skills	
Flexibility	Teamwork	Futuristic	Tenacity	Integrity	Significance	Professional Appearance	
Focus	Time Management	Ideation	Willingness to Learn	Intellection	Stress Management	Professional Certificates	

First, the weights for the teacher job function were assigned by Mr. Saad Abou Chakra, the executive founding chairman of EduGates International, a renowned educational consultancy. Mr. Saad is a veteran of the education industry with more than thirty-five years of experience in K-12 international education and world systems of education. He has established ten successful international schools in the Middle East and the Gulf. Mr. Abou Chakra holds a degree in Physics and Education from the American University of Beirut.

Second, the weights for the project manager job function were assigned by Mr. Nael Hamdan, a successful businessman with over thirty years' experience in the hotel and construction industries in the Gulf region and the entire Arab world. Mr. Hamdan has held many managerial positions including, but not limited to, general manager of Al Mashriq group, business development manager of Carillion Alawi LLC, project manager in 50+ premium projects such as Muscat Airport Control Tower, Omani Royal Opera House, Muscat City Center Mall expansion etc.

Third, the weights for the civil engineer job function were assigned by Engineer Saji Pryian. Engineer Pryian is currently the owner and managing director of Idea Constructions LLC that specializes in civil works and construction. He has more than thirty years' experience in the field. Before establishing his own business, he was a civil engineer in multiple leading firms the latest of which was Carillion PLC where he was part of many multi-million dollar projects in the Sultanate of Oman.

Finally, the weights for the software developer job function were assigned by Mr. Ayman Abi Abdallah, a young and talented Lebanese entrepreneur with more than ten years of experience in the telecommunications and ICT industry. Mr. Abi Abdallah is currently based in the Kingdom of Saudi Arabia and is the CEO of a very successful software development company – NetVariant SARL. NetVariant is the company that is programming and developing the Universal Talent Score (Figure 2).

In Phase II of the Universal Talent Score assessment, the weights for each parameter will be readjusted according to the results
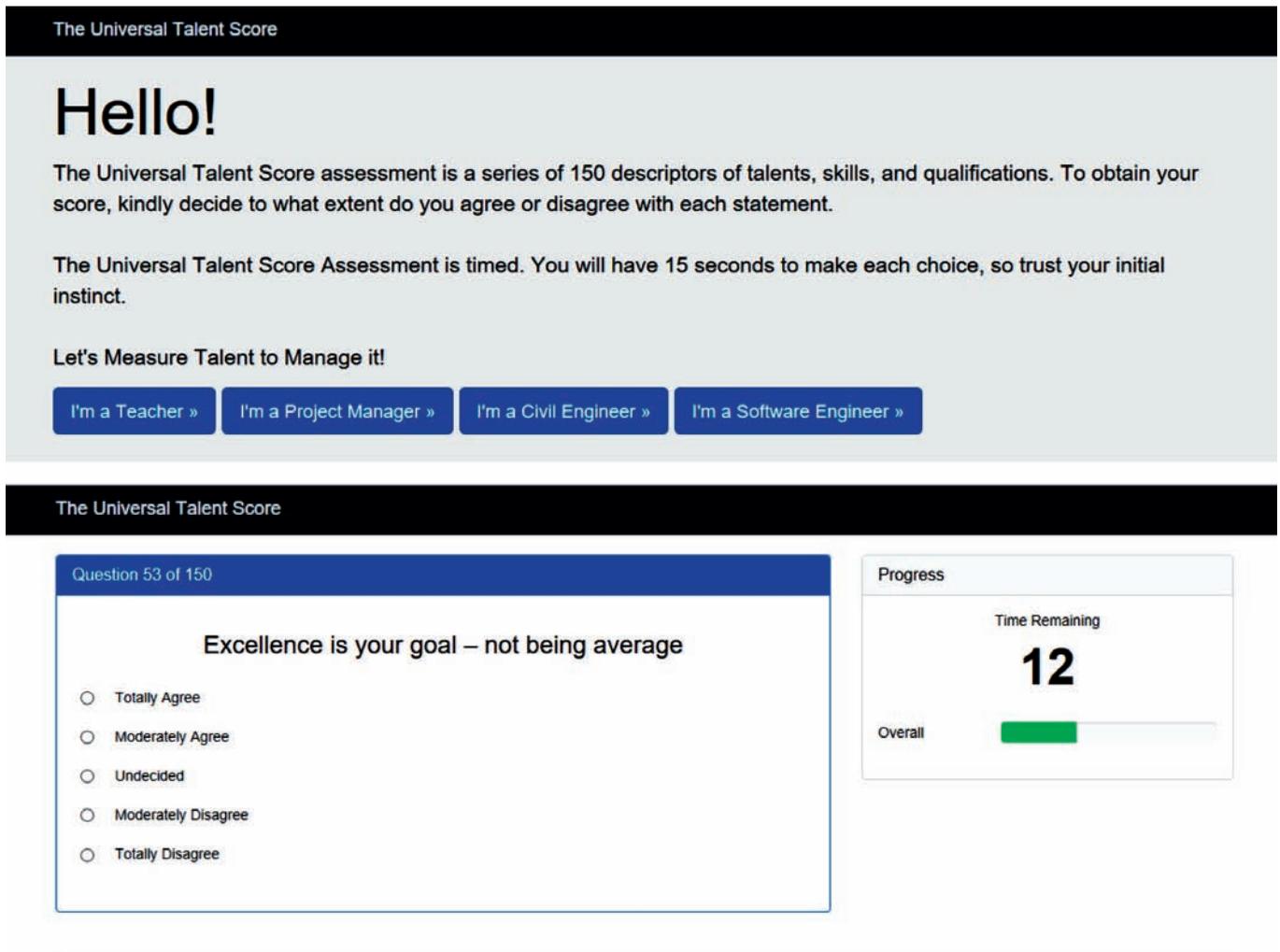
Figure 2 – *Universal Talent Score Assessment Screenshots*

of four Delphi studies that are currently being conducted. The expert evaluations of four groups of teachers/professors, civil engineers, project managers, and software developers are currently being sought. The updated weights will be the consensus weights agreed upon by the participants of each Delphi study respectively.

Score Ranges and Results. In addition to the weights allocated to parameters, another set of weights is allocated to every response. The „totally disagree" answer gets zero points. The „moderately agree" answer gets one point. The „undecided" answer gets zero points as well since it renders the question nil. The „moderately agree" answer gets two points, and the „totally agree" response gets three points. In order to obtain the Universal Talent Score, the weights of each respective parameter are multiplied by the weight of each response and then all 150 results are summed up. Once aggregated, the Universal Talent Score is obtained. The minimum score is 0 and the maximum score is 300. A sample of score ranges and score analysis for the teacher job function is shown Table 2:

Table 2 – *Score Ranges and Results of the Teacher Job Function in Phase I of the UTS*

	Teacher Job Function
0 – 100	You're a Talent Risk! You are most likely to perform below the established standard or in a manner that is inconsistent with organizational missions and goals. You lack many of the skills and talents that are sought by educational institutions today. It is advised that you develop an action plan to improve and develop your talents and qualifications because they are the keys to your success. You can do it!
101 – 200	You're a Rough Diamond! Your talents need polishing so they develop into strengths that help you shine brightly in today's challenging education industry. With some coaching, training and career development, you will be able to unleash your hidden potential and awaken your dormant talent to become a highly valuable teacher. Good Luck!
201 – 300	You're a Star! You're a valuable asset to your current organization or any future organization you may join. You are most likely to maintain performance, accomplishments, and behaviors that consistently and considerably surpass the established standards. You are equipped with all the skills and talents that are needed to succeed in today's dynamic education industry. You're a future leader and a role model to many others around you. Well done!

In the upcoming phase II of the UTS assessment, the total score will be expressed by each dimension of the talent scorecard. So, the final total score will be divided into four separate scores; one for each perspective. Instead of the existing interpretation of the aggregate score, an analysis for each category will be provided.

Business Value of the Universal Talent Score

Just like a credit score represents the credit worthiness of a person and whether he/she qualifies for a loan and then the interest rate they have to pay and credit limit they will obtain, the talent score sheds light on the implicit value of a potential recruit and/or existing employee and whether he/she will contribute to the organization's profitability.

As an HR analytic, the Universal Talent Score sheds light on the capabilities of potential recruits and to what extent they will fit the job. It is also an indicator of how big of an investment must be made in training and developing of existing employees. The talent score could also be used to analyze

and project performance in light of employee capabilities, strengths, and weaknesses. It may be compared to productivity metrics (such as sales calls per employee, units produced per employee, revenue generated per employee), efficiency metrics (such as mistakes on assembly line per employee, time taken to complete a task...), and training metrics (such as test scores, pass/fail rates). In the case of downsizings, the talent score will shed light on the competencies and capabilities the organization is letting go. Of course, it would make more business sense to let go of employees with lower talent scores.

Today, most organizations are striving to become learning organizations that employ knowledge workers. They are seeking talent and trying to figure out how to bring out the best from each and every employee regardless of his/her functions and position. The emerging domains of knowledge and talent management (TM) have revolutionized major business functions and strategies all around the world. Consequently, with the integration of these two domains into mainstream operations, organizations may attain high levels of

efficiency and effectiveness, create competitive advantage and, above all, sustain an effective balance that satisfies customers, stakeholders, the environment, the workforce, and local community needs.

In the near future, human resource departments all around the world are expected to make serious investments in collecting and analyzing data to make people decisions. People analytics, a pioneering strategy that has been evolving over the past few years within the field of talent management, has the potential to considerably change the way HR will function. However, HR organizations and departments still appear to be weak in developing the capabilities to take advantage of the potential of such analytics. Companies are entering a „golden age" of people analytics – and progress could accelerate. The „datafication" of talent management via metrics such as the UTS gives human resources professionals access to real cross-organizational employee data for the first time. Placing data at the heart of talent management processes allows them to manage their talent in the same manner they manage other assets. Consequently, in the near future, using data to connect seemingly unrelated information will become a new core competency of talent management professionals as they become experts in the close interrelationship of talent and business performance. Talent measurement will help organizations quantify skills gaps, identify plans to shore up skills in areas identified as deficient, and measure progress on learning and development programs designed to increase skills.

The science of hiring is predicated on the use of highly reliable and valid measures of human competencies to make robust predictions about future success. There are numerous options for assessment so the question becomes which assessments

to use as part of candidate and employee processes. The suggested Universal Talent Score is a new and simple diagnostic metric that may provide decision makers with significant information about the value and importance of the talent at hand and within reach.

In light of all of the above, organizations across the globe are working very hard to identify, attract, integrate, develop, motivate, and retain top talent. The Universal Talent Score discovers great talent and acts as a strong indicator and predictor of the competence and value-creating capacity of an employee at work and even prior to recruitment. As mentioned earlier, different job roles and functions require different skill sets and abilities. By no means does The Universal Talent Score capture everything. Nonetheless, it definitely includes the most important ingredients for the recipes of success across all employment sectors. The ingredients are the same – it's just the *quantities* of these ingredients that differ from one recipe to another.

Conclusion

Time is moving faster. Distances are shortened, interdependencies are increasing exponentially. Uncertainty rules and complexity puzzles. This is the environment and the context within which organ-

izations must survive and thrive today. Consequently, the fate of the modern organization greatly hinges upon its ability to recruit, retain, and when necessary, replace its most valuable asset, talent. Employees who excel and shine can move a company to greatness. On the other hand, those with poor performance and limited potential can weaken the organization as a whole. By the same token, the way talent is managed has become the x-factor that determines the success or failure of one's own career. Hopefully, the Universal Talent Score will become a commonly adopted HR metric that allows organizations to optimize their talent pool while helping employees maximize their performance and potential along the way. When planning for the future, it is important for management to evaluate talent across all levels of the organizational hierarchy. Identifying high potentials early and working to improve their development as soon as they start to shine will help build their loyalty to the organization as well as reinforce the overall well-being of the business.

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„Integration is a prerequisite for independence."
Noam Chomsky

Energy Management for Energy Efficiency

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Abstract

The present paper analyses the possibility of implementation of an energy efficiency project in a small and medium enterprise aiming at improving energy management and decreasing energy consumption, energy-related costs and total costs, and improving company's competitiveness on the market. The authors have presented today's context with regard to energy efficiency and its link to SMEs activity. There has been presented a general overview of policy in the field of energy efficiency with its main objectives, actions and barriers. There have been highlighted the role of energy management and different steps that can be carried out in an SME in order to increase energy efficiency. Finally, there has been carried out and presented a case study for implementation of an energy efficiency project at a paper production company. The energy and economic analyses of the project show that this type of energy efficiency projects are feasible from energy and economic points of view leading to energy and financial savings and improving the profitability and competitiveness of the company. The payback period for implementation of the integrated management system is about 0.5 years, which is a very attractive for such kind of projects.

Keywords: energy management, energy efficiency, energy manager, energy audit

Introduction

In the context of sustainable development, energy efficiency issue becomes more and more important for Small and Medium Enterprises (SME). The interest towards this issue is motivated by a series of economic and political events on the international level, by depleting of fossil fuels reserves simultaneously with the

„*Companies should expand beyond their existing resources through licensing arrangements, strategic alliances, and supplier relationships.*" Business Week

continuous increase of prices for fossil fuels and with the development of SME sector.

In order to be competitive and remain on the market, SMEs should be active in implementing new clean technologies (with energy efficiency and low environmental impact) as well as new measures and methods for reduction of energy consumption and thus reducing Green House Gasses emissions. EU Directive (27/2012) states that the implementation of different solutions for increasing energy efficiency can lead to increasing the competitiveness of SMEs on the market.

Implementation of measures for increasing energy efficiency within SMEs involves different elements specific to SMEs activity, such as:

❑ Various types of equipment used in different technological processes specific to different industrial sectors, e.g.: food industry, pulp and paper industry, wood processing industry, the pharmaceutical industry, textile industry, industrial chilling processes, agricultural farms of different sizes, etc.

❑ „Dimension” of industrial activity that SMEs are performing.

If the final energy users within SMEs have a large diversity, the energy generating systems, supplying SMEs, can be treated unitary having usually the same characteristics, e.g.: steam and hot water boilers, chilling machines, heat exchangers, electricity generating units, etc.

In this case, there can be developed unitary methods and methodologies for evaluating the energy efficiency of SMEs, going through the following steps:

❑ Energy analysis and energy audit of all industrial processes within an SME.

❑ Identification of the main energy consumption centers for evaluating the level of energy consumption for different technological processes and specific equipment.

❑ Based on this there can be identified points for further intervention for reducing energy consumption using measures for increasing energy efficiency applied to a specific case or using the best available technologies.

All solutions proposed for increasing energy efficiency are ranked based on economic criteria, according to Romanian Law (121/2014).

Policies for energy efficiency for SMEs

The essence of energy policy consists of establishing the equilibrium between energy demand and supply in supportable conditions from the social, economic and environmental points of view. In the past, the general tendency was to act mainly upon the energy supply, which favored irrational energy consumption, energy crises. This fact ultimately led to a new concept of energy conservation and consequently to energy demand-oriented policy, as reported by EU website (2016).

The simplified scheme of a global energy policy that acts upon energy supply as well as upon energy demand, which can be applied for SMEs, is shown in Figure 1:
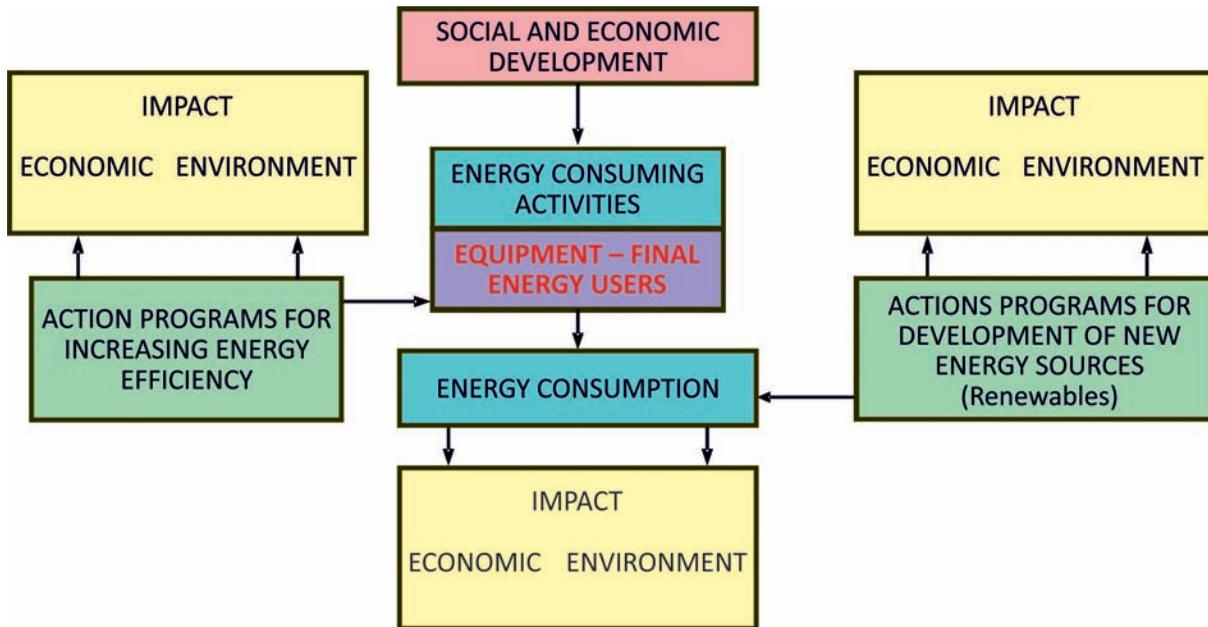

Figure 1 – *Simplified scheme of energy policy for SMEs*

The main objectives of energy policy implementation are the following: stimulation of initiatives for increasing energy efficiency in all sectors (industry, residential, tertiary, transportation etc.); increasing motivation for investment; education of industrial and residential consumers towards energy efficiency; awareness of positive effects on the environment of reduction of energy consumption.

Implementation of the above-mentioned objectives, within SMEs, involves the following types of actions: legislative initiatives for creation of framework in the field; financial support for demonstrative actions; promotion of R&D activities; free technical assistance; elaboration of a strategy for energy conservation; dissemination of results; personnel training on energy efficiency issues; periodic elaboration of analyses, energy audits and studies; development of international contacts for facilitating the implementation of best available technologies in the field of energy efficiency.

Within this approach, the role of the state is a partner of the consumers, state summing responsibility for financing different support mechanisms (Ionescu, 2014).

The implementation of actions presented above can meet different barriers, such as:

1. Technical barriers:
- Lack of modern equipment and technologies, including measuring equipment;
- Lack of knowledge and experience in the field of energy management;
- Lack of adequate framework for research and technological transfer.

2. Economic barriers:
- Energy prices that do not reflect production costs;
- The lower weight of energy cost in total product cost.

3. Financial barriers:
- ❑ Limited funds for energy efficiency projects;
- ❑ Lack of financial and fiscal tender for investment;
- ❑ Other priorities in the energy field.

4. Institutional and management barriers:
- ❑ Inadequate decision taking structures at local, regional and national levels;
- ❑ Incomplete legislation and regulations for energy efficiency field;
- ❑ Unawareness of the potential of energy conservation;
- ❑ Lack of economic and banking consulting in the field of energy efficiency;
- ❑ Lack of modern energy management within SMEs.

Knowing and understanding these barriers is the first step towards the establishment of energy efficiency strategies and achieving their objectives. It is also important to prioritize these barriers and all means needed to overcome them.

Thus, overcoming some institutional, legal and managerial problems can be sustained by an important financial support from the European Union or other international bodies interested in promoting energy efficiency and reducing environmental pollution, especially of Green House Gasses that come from industrial processes.

Role of energy management

The energy management within an industrial contour, in our case an SME, involves knowing very well the technological process, monitoring of each energy carrier, analysis of energy consumption and finally increasing energy efficiency within the analyzed contour. Due to lot information and a multidisciplinary character of energy efficiency, there are different procedures, such as: technical; organizational; economic; operational; maintenance; information gathering and analysis.

Thus, a coherent energy management, permanent and efficient, is a good tool to cope with the continuous increase in energy demand and respectively, energy-related costs. At the same time, increasing energy efficiency can lead to collateral advantages, e.g. reducing environmental impact: directly (reducing pollutant emissions due to reduction of fuel consumption) and indirectly (reducing depletion of fossil fuels reserves), which represents a priority objective of today's energy policy, according to Romanian Regulations (122/2015).

The advantages of a management program of energy resources can be the following:
- ❑ Increasing the efficiency of utilization of energy resources within a given contour;
- ❑ Reduction of energy losses;
- ❑ A good monitoring of energy flows, leading to a well-based decision-making process;
- ❑ Reducing the negative impact upon SME due to energy price increase;

❑ Providing feasible options for reducing energy consumption;

❑ Reducing environmental pollution;

❑ Increasing SME's profit.

Energy management steps within SME

The decision to evaluate and increase the energy efficiency of an SME can come from the interior or from the exterior. In the case when the initiative comes from the exterior of the company, it can be regarded with lower interest compared to the situation when it comes from the interior, situation when it will have more chances for success, in accordance with Romanian standards (2013).

The evaluation of energy efficiency starts with defining the analyzed contour and includes: the establishment of the nature of energy carriers that enter the analyzed contour and their order of magnitude; analysis of the concept and efficiency of the monitoring and control system within the analyzed company.

The experience in the field has proven that at the level of executive management of a company there are several types of attitude towards energy bills:

❑ Energy bills are paid in time without any internal analysis;

❑ Monthly energy bills are compared with data from monitoring equipment;

❑ There are calculated, on a monthly basis, different energy specific criteria;

❑ There is a system of data acquisition (not necessarily automated) that is used, on a weekly basis, to analyze all energy flows;

❑ There is implemented a sophisticated monitoring and targeting system that helps improving energy efficiency.

The concept and the way of operation of the informational equipment within the analyzed contour can be defined by the following aspects: the method and frequency of reading the measuring equipment; the way of data transmission (on paper, electric signals, IT networks, etc.); the way data analysis (model, algorithm, different criteria, etc.); the content and frequency of reporting (daily, weekly or monthly) and its destination; the way of decision making process is done for increasing energy efficiency.

The attitude of the management and the rest of personnel towards the energy efficiency issues reflects the level of awareness and involvement, the quality of monitoring equipment, the way of data analysis and their utilization and at the end influences the energy related costs (Ciubotaru, 2015).

Eduard Minciuc, Ioana Diaconescu, Roxana Pătrașcu

Implementation of an integrated management system

The opportunity for implementation

The main phases of the technological process of paper production are: preparing the raw material, grinding, gluing, paper machine operation, drying. The analyzed company operates its own heat generating facility, a boiler house, which ensures the necessary heat for technological process and also heat for space heating and warm water preparation for different purposes.

Generally, the principles of paper production are the same for all types of machinery. The paper strip is firstly formed in a water suspension of fibers on a plane or cylindrical sieve. Afterward, that strip of paper is dehydrated using a press, dried and if it is the case wrapped up. The company operates two paper machinery called hereafter PM1 and PM2.

Using the elaborated energy audit for the company there has been evaluated the energy efficiency of the entire contour and was identified areas with the potential to have energy savings and also increasing the productivity of the technological process. There has been identified PM2 as a consumption center having a potential for in-

creasing energy efficiency, in accordance with Romanian standards (2013).

There the following solutions that have been proposed by energy audit for increasing energy efficiency:

- ❑ Implementation of a two-stage heat recovery system;
- ❑ Implementation of a system for humidity monitoring and regulation of thickness of the material;
- ❑ Implementation of an integrated management system that will allow control over paper machinery and auxiliary equipment operation.

Bellow, there is presented the opportunity of implementation of an integrated management system with stressing upon all energy and economic advantages of its implementation. Implementation of the integrated management system aims at ensuring control and automated regulation of the technological process. This system includes data storage and archiving. The implementation of specific software allows calculation of different energy and economic criteria. The system contributes to the decision-making process allowing at any given moment of time access to data that can have an impact upon decisions.

This solution for increasing energy efficiency demonstrates the potential and advantages of an integrated management system implemented within a paper production

company. The result of the implementation of an integrated management system represents the concept for paper production with minimal energy specific and total specific costs.

The main objectives aimed at were: demonstration of the effectiveness of the integrated management system in operation of paper machinery; demonstration of the advantages (technological, energy and economic) of implementation of the integrated management system for correct data measurement and analysis.

Economic evaluation of the proposed solution

The integrated management system ensures control and regulation of the paper machine and auxiliary equipment (paper pasta preparing equipment, boiler house, etc.) and includes nine separate control units, each of them monitoring a lot of regulation equipment and providing a set of data. The all nine units are interconnected through a separate data highway.

Through the data highway, there are transferred only data that have been changed significantly, previously defined by the user. Thus, it is reduced the volume of information that flows through that allows increasing the speed of data transmission.

From the technical point of view, each control unit has the calculation capacity to analyze which changes are relevant that unnecessary the existence of a central control unit (master computer).

In the case of a failure in the communication system, each control unit can continue to operate separately and the production process goes on without being affected. Every periphery unit has the limited capacity of data storage and analysis.

All technological parameters are scanned at certain time intervals (under 10 seconds), stored and registered. The access to the information through periphery units is made using a password and based on a ranked system.

The configuration of the integrated management system includes the establishment of following aspects:

❑ Starting, operation and stopping sequences for all equipment of paper production process and auxiliary devices for different operational modes (normal operation, failure, planned stop, etc.);

❑ Measured units and needed signals;

❑ The configuration of regulation networks and establishment of their constant data;

❑ Establishment of measuring unit and methods for (re)calibration, of variation domains and limits for automation signaling;

❑ Establishment of compatibility of communication between measuring equipment and central storage unit;

❑ Establishment of the scanning cycle and defining relevant changes that are transmitted through a common communication channel;

❑ Establishment of compatibility domains between the integrated management system and the specialized calculation software;

❑ The form and content of the reports.

The information regarding production output, costs and parameters of paper quality are displayed in real time, offering the possibility the operation personnel and energy manager to have access to all needed information and data.

The investment expenses for this integrated management system include the following aspects: the IT system; separate communication channel; equipment for signal analysis (Table 1):

Table 1 – *Investment for the integrated management system*

Equipment	Investment, €
Control room equipment	135000
Data transmissions equipment	84400
Energy monitoring equipment	27500
Specialized software	9800
Special software	25000
Total	281700

It has been considered that the financial situation of the company allowed the only implementation of the integrated management system. For evaluating the opportunity of implementation of the proposed system there have been estimated energy savings that can be achieved due to this action, based on the criterion of specific primary energy consumption.

This analysis has been performed for a period of three years after the project implementation and the comparison has been made between the two paper machines: one that had the project implemented and another one without the proposed integrated management system.

The comparison has allowed estimation of energy savings due to project implementation. The evolution of the specific primary energy consumption for two paper machinery for the period 2012-2014 is presented in Table 2:

Table 2 – *Specific primary energy consumption for PM1 and PM2*

Paper machinery	Specific primary energy consumption, MJ/ton			
	2012	2013	2014	Average
PM2	16000	16000	16000	16000
PM1	12000	11000	11000	11330
Specific energy savings, %	25	31	31	29

For evaluating economic efficiency there have been considered financial savings determined based on annual fuel savings due to the implementation of the integrated management system. For the economic analysis there have been considered the following:

❑ Paper production output has been considered constant throughout the period of 2012-2014.

❑ Specific primary energy consumption of paper machinery PM1 has decreased due to the project implementation.

❑ The average price of fossil fuel (natural gas) for the analyzed period has been considered 25 €/MWh.

Table 3 shows energy and financial savings for the analyzed period:

Table 3 – *Energy and financial savings*

Year	Annual paper production (t/year)	Annual primary energy savings (MWh/year)	Annual financial savings (€/year)
2012	21500	23900	597500
2013	21500	29900	747500
2014	21500	29900	747500

Thus, the project implementation leads to a simple payback period of about 0.5 years, thus being feasible from the economic point of view.

Conclusions

The energy and economic analyses of the opportunity of implementation of an integrated management system on paper machinery PM1 have shown the increase of energy and economic efficiency of the technological process and the company itself leading to a reduction of about 30% of specific primary energy consumption. The technical and economic analysis has shown that the proposed solution for increasing energy efficiency has a payback period of about 0.5 years, which recommends this solution for implementation.

The easy access to all process data created due to project implementation contributes to increasing personnel skills allows continuous evaluation and determination of weak points from the energy efficiency point of view.

The implementation of this system led to other advantages that can lead to optimal operation of equipment and improving product quality, such as: uniformity of production; reduction of time needed for product change; pre-defined sequences for start-up and shut-down; flexible and rapid IT system. One feature of the system is that it can be improved in time through valorization of accumulated experience through every operational year.

Further improvements of the system are the following: production planning; extension of the monitoring system to other equipment; establishment of cost control functions; establishment of communication systems with paper machinery PM2.

Increasing energy efficiency of a technological process at an SME is a necessity that comes from a general demand to optimize and improve the overall efficiency of a company. The reduction of energy costs of a company can lead to a reduction of total costs and thus improving the competitiveness or increasing the profit.

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„Coalitions though successful have always found that their triumph has been brief."
Benjamin Disraeli

Outsourcing in the Business Processes

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Abstract

Currently, outsourcing represents a business sector which is expanding in a very fast and complex way. Outsourcing already became the common practice for companies which are looking to decrease costs and increase productivity and efficiency. Outsourcing directly contributes to the company's competitiveness on the market. In this way, companies become competitive and remain competitive in their business sector. The aim of this article is to highlight the current status of outsourcing in the biggest outsourcing countries and also the current status in Romania. The study was done based on the evolution and vision of the outsourcing companies activating on Romania's market. The advantages and disadvantages of outsourcing in these countries are also mentioned.

Keywords: outsourcing, management, competitiveness, cost savings, globalization

Introduction

The last two decades have witnessed a significant trend towards ever-increasing outsourcing by firms in most developed economies. This trend reverses an earlier pattern in the evolution and growth of large industrial firms towards greater levels of vertical integration that prevailed during most of the previous 100 years. This change in the evolutionary trajectory of firms has attracted significant research attention in recent years (Barrar, Gervais, 2006).

„Outsourcing" is a word loaded with connotations and preconceptions. Even dictionary definitions of it range from concise to exhaustive and from superficial to off-beam. Therefore, the some authors

„If you deprive yourself of outsourcing and your competitors do not, you're putting yourself out of business."
Lee Kuan Yew
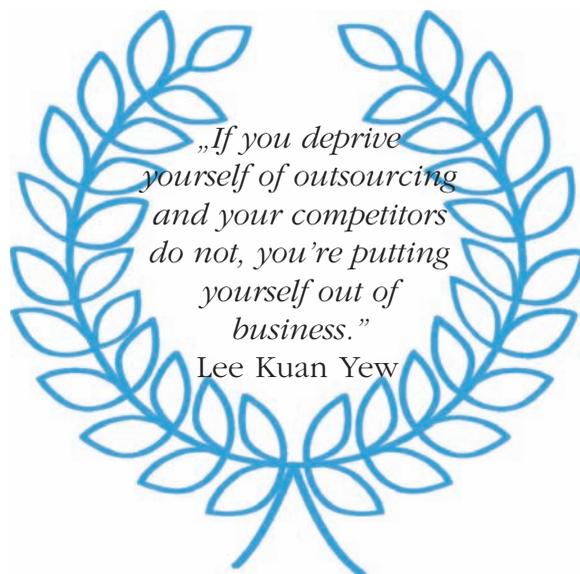
(Bravard, Morgan, 2006), provide a definition of outsourcing from the perspective of experienced people in this field: the contracted use and leverage of third-party resources, assets and skills; with guaranteed levels of quality, resilience and value to cost criteria and measurement; to deliver services previously provided in-house; possibly involving the transfer of existing staff to the service provider; and/or transformation/rejuvenation of the business support processes and technology.

Companies primarily outsource to reduce certain costs – such as peripheral or „non-core" business expenses high taxes, high energy costs, excessive government regulation/mandates, production and/or labor costs (Forey, Lockwood, 2011). According to Sitel (2014), a Business Process Outsourcing company, the top five reasons for which companies choose to outsource are:

Lower costs – reducing cost still remains the number-one reason that organizations elect to outsource.

Better experiences raise revenue – companies leave a great deal of potential revenue on the table by not up-selling and cross-selling at the right moments during inbound interactions.

Retention – one overlooked benefit of outsourced customer experience management is the ability to generate higher customer retention rates. The combination of creative programs, informed and talented agents and timely execution can lead to dramatic increases in customer retention.

Scale – one of the biggest benefits of outsourced customer care is the flexibility it provides. Partnering with an outsourcing company that has a deep stable of agents throughout the world enables a company to quickly scale up or down based on customer demand and during the peaks and valley points of the year.

Diversification – some companies want to keep part of their contact center operation internal and outsource other parts. This is because the company has experienced real success running their contact center operations internally, but is looking to supplement the program with outside expertise or geographies. Diversifying contact center operations in this manner is an excellent way for companies to keep internal benchmarks in place while still maximizing the aforementioned outsourcing benefits.

Outsourcing in the world

Both clients and vendors consider sourcing destinations, but with different goals in mind. Vendors are interested in locations where they can set up global delivery centers, while clients companies are interested in outsourcing or in setting up captive facilities abroad for R&D or customer support to service their own organization or their customers.

When talking about the evolution of global outsourcing, according to Statista (2013), one of the leading statistic online companies, the revenue of the global outsourced services industry rose steadily year over year from 45.6 billion U.S. dollars in 2000 to 99.1 billion in 2012. In 2013, however, the industry saw a drop of around 20 percent in total contract value to 82.9 billion U.S. dollars, showing a reduction in market size. The market recovered the following year, reaching 104.6 billion U.S. dollars. The largest share of revenue for this industry came from Europe, the Middle East and Africa, followed by the America. A much smaller share of global revenue came from the Asia-Pacific region.

Selecting a location is one of the major challenges when making off-shoring and outsourcing decisions. A decision to relocate a business function or set up a new captive facility (for clients) or delivery center (for suppliers) abroad is based to a large extent on the attractiveness of the sourcing locations.

Six factors were identified when choosing a sourcing location: costs, skills, business and living environment, quality of infrastructure, risk profile and market potential (Oshri *et al.*, 2011).

- *Cost* – labor costs, infrastructure costs, corporate taxes;
- *Skills* – required skills may include technical and business knowledge, management skills, languages and the ability to learn new concepts and innovate;
- *Business and living environment* – governance support, compatibility with prevailing business culture and ethics, overall quality of life, accessibility;
- *Quality infrastructure* – telecommunication and IT, real estate, transportation, power supply;
- *Risk profile* – security issues, disruptive events, regulatory risks, macroeconomic risks, intellectual property risks;
- *Market potential* – attractiveness of the local market, access to nearby markets.

Taking into consideration the above factors, the countries that appear to be in the top three preferred outsourcing locations, according to a study conducted by Ceoworld Magazine (2014) are India, China, Malaysia.

India is the most popular country for outsourcing. Companies across the world are reaching out to India because their culture is full of intelligent, efficient, and hard-working individuals. The only thing that is a real drawback is the country's environment. The weakest side of this country is their political environment.

China is a country that is still adjusting to the world's economy because it decided to begin to enter into global business. Known for having the largest populous, China has over 1.3 billion consumers in its market. Manufacturers and retailers throughout the world jumped for joy when they discovered the opportunity that is – China.

This country is a key player in the global outsourcing industry and plans to steal a significant segment of India's outsourcing revenue in the future.

With too many outsourcing newbies, Malaysia is a part of the top three global leaders. Known for its cost-effective and value-oriented services, Malaysia will be able to remain a key contender among its BPO (Business Process Outsourcing), SI (Systems Integration), and IT consulting segments. Unlike China and India, Malaysia has low people skills, which lower its attractiveness.

As a conclusion based on the weaknesses and strengths, India stands tall today amongst global contemporaries in the software and customer services market, its name having become synonymous in Outsourcing discipline. Currently, India occupies the premier position in offshore work. Perhaps, somewhat uniquely, India has made outsourcing a brand in its own way (Report Research, 2013).

Global outsourcing has been prescribed as an important tool for attaining and maintaining a competitive advantage. Global sourcing is nothing less than the wholesale restructuring of the corporation around core competencies and outside relationships. This exploratory empirical investigation into global outsourcing provides tentative avenues for increasing the probability of success of global outsourcing projects and raises many issues for the further study of the global outsourcing phenomenon (Elmuti, Kathawala, 2000).

Outsourcing in Romania

Romania is today a NATO member and a European Union member; its economy is showing considerable growth and the country's image is changing. According to JLL, Romania's human capital is the one of the most educated in EU & SEE Region due to country's long university tradition. In the academic year 2014-2015, the student population of 540,000 was enrolled in 108 universities with 614 faculties.

Romania has become a highly attractive sourcing destination for companies looking for business process outsourcing, offshore software engineering and contract manufacturing services, according to market reports.

Romania has an ever increasing reputation as an attractive outsourcing destination. Indeed, the 2014 A.T. Kearney index ranked Romania 5-th among the most attractive outsourcing destinations in Europe. Also, according to the Times Outsourcing Business supplement 2012, Romania occupies 6-th position globally in the top 10 emerging outsourcing destinations.

Thanks to Romania's abundance of professionally very well prepared, multilingual and highly skilled labor pool, and cultural

proximity to Western Europe the country has been climbing in the ranking among the most preferred outsourcing hubs for European and North American companies.

The outsourcing market has recorded tremendous growth in the last few years and there is no doubt that it will continue to grow in the future. An increase in demand is expected for different, better and more innovative services and solutions. Clients are more demanding about what services they will receive from their providers, raising expectations like never before. Service providers have started and will continue to re-define themselves; instead of their primary role as a cost-cutting tool, they will increasingly be viewed as a means of delivering high-quality services.

Various studies place Romania among the top European destination for all types of global services activities. Romania ranked 9-th in Jones Lang Lasalle's Top 10 Shoring locations 2008-2012, with 40 new projects, creating over 11,000 new jobs. Furthermore, Romania ranked 6th in the top 10 emerging outsourcing destinations in the Outsourcing Business supplement distributed on June 2012 by The Times in association with the National Outsourcing Association (NOA) (Publication 2014).

According to Telus International (2012), an outsourcing provider, Romania is named by investors the outsourcing valley for BPO, ITO, software development and research programs, knowledge process outsourcing operations, as well as for shared service centers.

The reasons for which Romania represents an outsourcing attractiveness are: geographical (1-2 hour flights) and cultural (business ethics) proximity to Western Europe facilitating close relationship between client and vendor compared to offshore locations; strong aptitude for multilingual

skills; knowledgeable and experienced IT workforce; academic readiness to back high demand in talent pool continuity; the right price-quality ratio; EU member state, which simplifies legal and financial issues; political and economic stability.

Romania is highly competitive on the market especially due to performance, even though the outsourcing services are not the lowest on the market. What might make Romania superior to other outsourcing locations is how the outsourcing service providers combine technical background, together with the soft skills, communication and flexibility.

Conclusion

Due to its many advantages, Romania has strengthened her position as an outsourcing services hub for Eastern Europe,

a region which has become a powerful competitor of India. According to KPMG, despite the fact that a large number of outsourcing company providers are being active in Romania, there is still a huge growth potential in this business sector. At the beginning, most companies which started outsourcing in the Romanian market have initially outsourced limited parts of their business, with the potential of adding new services as their Romanian entity matures in time. As the outsourcing sector is a continuous evolution, companies are constantly expanding their scope and are opening new centers.

As a result of the outsourcing sector increase and because of a large number of outsourcing companies present in Romania, the Association of Business Service Leaders in Romania was founded. The ABSL is the leading organization representing the business services sector, gathering high profile companies which conduct business in the Shared Services Center (SSC), Business Process Outsourcing (BPO), Information Technology Outsourcing (ITO), Research and Development (R&D). According to ABSL, the Romanian outsourcing market was approximately 500 mil EUR.

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„*Outsourcing is inevitable, and I don't think it's necessarily treating people like things.*"
Stephen Covey

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In union there is strength.
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THE PRICE OF EVERYTHING
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