

Scientific Committee

- Acad. Florin Filip - Romanian Academy, Romania
- Acad. Grozdanka Gojkov - Belgrade University, Serbia
- Prof. Pierre-Joseph de Hillerin, PhD - University of Pitesti, Romania
- Prof. Agron Cuka, PhD - Sports University of Tirana, Albania
- Prof. Emilia Florina Grosu, PhD - “Babes-Bolyai” University of Cluj-Napoca, Romania
- Prof. Dean Madici, PhD - University of Novi Sad, Serbia
- Prof. Petruta CORNEA, PhD - Faculty of Biotechnologies, Department of Biotechnologies, University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania
- Prof. Stefana Jurcoane, PhD - Faculty of Biotechnology, University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania
- Prof. Carmen Socaciu, PhD - Department of Chemistry and Biochemistry, University of Agronomic Sciences and Veterinary Medicine, Cluj-Napoca, Romania
- Prof. Dorica Botau, PhD - Faculty of Horticulture and Forestry, University of Agronomic Sciences and Veterinary Medicine of Banat, Timisoara, Romania
- Prof. Ioan Dafinoiu, PhD - University of Bucarest, Romania
- Prof. Steliana Toma, PhD - Technical University of Construction, Bucharest, Romania
- Prof. Constantin Cucos, PhD - University of Iasi, Romania
- Prof. Doru Buzducea, PhD - University of Bucarest, Romania
- Prof. Laszlo Balogh, PhD - University of Debrecen, Hungary
- Prof. Konstantinos Karteroliotis, PhD - University of Athens, Greece
- Prof. Viorel Negru, PhD - West University of Timisoara, Romania
- Prof. Roland Iosif Moraru, PhD - Universitatea din Petroșani
- Prof. Eng. Horia Ciocârlie, PhD - "Politehnica" University of Timisoara, Romania
- Prof. Adrian Petrușel, PhD - “Babes-Bolyai” University of Cluj-Napoca, Romania
- Prof. Joao Luis de Miranda, PhD - Instituto Politecnico de Portalegre, Portugal
- Prof. Feliz Ribeiro Gouveia, PhD - Universidade Fernando Pessoa, Porto, Portugal
- Prof. Ryszard Kozłowski, PhD - Institute of Natural Fibres and Medicinal Plants, Poland
- Prof. Vito Lippolis, PhD - Cagliari University, Italy
- Prof. Alexandra Iordan, PhD - “Alexandru Ioan Cuza” University, Iasi, Romania

- Prof. Marieta Costache, PhD - University of Bucurest, Romania
- Prof. Alina Catrinel Ion, PhD. Hab - “Politehnica” University of Bucuresti, Romania
- Prof. Irina Volf, PhD. Hab - Technical University of Iasi, Romania
- Prof. Simona Bungau, PhD. Hab - Oradea University, Oradea, Romania
- Prof. Mauro Centritto, PhD - Director of Trees and Timber Institute, Florence, Italy
- Prof. Ana Virsta, PhD - University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
- Prof. Gheorghe Capatana, PhD - Moldova State University, Chisinau, Moldova
- Prof. Theodore E. Simos, PhD - Academician of the EASA, EAS, EASAL
- Prof. Emerit. Mihail Megan, PhD - AOSR, West University of Timișoara, Romania
- Prof. Dana Simian, PhD - "Lucian Blaga" University of Sibiu, Romania
- Prof. Emerit. Hans Klein, PhD - "Lucian Blaga" University of Sibiu, Romania
- Prof. Dr. Habil. Wojciech Szczerbe - Evangelical School of Theology, Wroclaw, Poland
- Prof. Mariana Man, PhD - University of Petroșani, Romania
- Prof. Gráinne Conole, PhD – Visiting professor Dublin City University/ independent consultant, UK
- Prof. Eng. Nicolae Ursu Fischer, PhD - Technical University of Cluj-Napoca, Romania
- Prof. Radu Precup, PhD - “Babes-Bolyai” University of Cluj-Napoca, Romania
- Prof. Artur Cavaco-Paulo, Ph.D - Minho University, Portugal
- Prof. Adrian Nicolescu, Ph.D - Politehnica University, Bucharest, Romania
- Prof. António Sérgio Duarte Lopes DAMÁSIO, Ph.D - Escola Superior de Educação de Coimbra/ Portugal
- Prof. Bahrim Gabriela, Ph.D - "Dunarea de Jos" University, Galati, Romania
- Prof. Burkhard Corves, Ph.D - RWTH Aachen, Germany
- Prof. Crisan Popescu, Ph.D - DWI at RWTH, Aachen, Germany
- Prof. Gabriela Stănculescu, Ph.D - Bucharest Academy of Economic Studies, Romania
- Prof. Hartwig Hocker, Ph.D - RWTH Aachen
- Prof. Iacob Hantiu, Ph.D - Romanian Council of Sport Science
- Prof. Ioan I. Lador, Ph.D - Ministry of Education, Research, Youth and Sport, Bucharest, Romania

- Prof. Ioan Oprean, Ph.D - "Babes Bolyai" University, Cluj-Napoca, Romania
- Prof. Jannick P. Rolland, Ph.D - University of Rochester, New York, USA
- Prof. Laura Muresan, Ph.D - Bucharest Academy of Economic Studies, Romania
- Prof. László Balogh, Ph.D - University of Szeged, Hungary
- Prof. Lieva van Langenhove, Ph.D - Ghent University, Belgium
- Prof. Liliana Mihăilescu, Ph.D - University of Pitești, Romania
- Prof. Luis Lezaun Martinez de Ubago, Ph.D - Zaragoza University, Spain
- Prof. Maria Dulce de Noronha Abreu e Sousa - Institute of Higher Studies of Fafe, Portugal
- Prof. Mathé Ilona, Ph.D - Universitatea Szent István, Bekescsaba, Hungary
- Prof. Miron Ionescu, Ph.D - Babes-Bolyai University, Cluj-Napoca, Romania
- Prof. Nicanor Ursua Lezaun, Ph.D. del Pais Vasco/EHU - Bilbao University, Spain
- Prof. Nicolae Mitrofan, Ph.D - Bucharest University, Romania
- Prof. Nicolae Pop, Ph.D - Bucharest Academy of Economic Studies, Romania
- Prof. Nicolae Vaszilcsin, Ph.D - Politechnica University, Timisoara, Romania
- Prof. Paul Kickens, Ph.D - Ghent University, Belgium
- Prof. Paulo Brito, Ph.D - Polytechnic Institute, Portalegre, Portugal
- Prof. Renato Rizzo, Ph.D - Naples Federico II University, Italy
- Prof. Ricardo Ferreira, Ph.D - Polytechnic Institute, Portalegre, Portugal
- Prof. Rodica Zafiu, Ph.D - Bucharest University, Romania
- Prof. Vincent Nierstrasz, Ph.D - Ghent University, Belgium
- Prof. Viorel Lefter, Ph.D - Bucharest Academy of Economic Studies, Romania
- Prof. Werner Reichart, Ph.D - Zurich University
- Prof. Adrian Hatos, Ph.D - Facultatea de Științe Socio-Umane, Universitatea din Oradea, Romania
- Prof. Danijela Kostadinovic, Ph.D - University of Belgrade, Serbia
- Prof. Ioan Albulescu, Ph.D - Facultatea de Psihologie și Științe ale Educației, Universitatea Babes – Bolyai, Cluj-Napoca
- Prof. Ildiko Eudnak, Ph.D - Szent István University, Gödöllo, Hungary
- Prof. Jelena Prtljaga, Ph.D - College of Applied Studies for Preschool Teachers "Mihailo Palov" in Vrsac, Serbia
- Prof. Laurence Fond-Harmant, Ph.D - Public Institute of Health, Luxembourg

- Prof. Lucian Ciolan, Ph.D - Facultatea de Psihologie și Științele Educației, Universitatea din București, Romania
- Prof. Luis Castanheira, Ph.D - Polytechnic Institute of Bragança, Portugal
- Prof. Mușata Dacia Bocoș, Ph.D - Facultatea de Psihologie și Științe ale Educației, Universitatea Babes - Bolyai, Cluj- Napoca, Romania
- Prof. Ovidiu Ioan Pânișoară, Ph.D - Facultatea de Psihologie și Științele Educației, Universitatea din București, Romania
- Prof. Romiță Iucu, Ph.D - Facultatea de Psihologie și Științele Educației, Universitatea din București, Romania
- Prof. Vasile Chiș, Ph.D - Facultatea de Psihologie și Științe ale Educației, Universitatea Babes - Bolyai, Cluj- Napoca, Romania
- Prof. Vera Ž. Radović - University of Belgrade, Serbia
- Prof. Michio Sugeno, PhD - Tokyo Institute of Technology, Japan
- Prof. Lakhmi C. Jain, PhD - Canberra University, Australia
- Prof. Dan Ralescu, PhD - University of Cincinnati, USA
- Prof. Anca Ralescu, PhD - University of Cincinnati, USA
- Prof. Dumitru Popescu, PhD - Politehnica University of Bucharest, Romania
- Prof. Nicolae Paraschiv, PhD - Universitatea Petrol-Gaze din Ploiesti, Romania
- Prof. Mircea Ciugudean, PhD - Politehnica University of Timisoara, Romania
- Prof. Octavian Prostean, PhD - Politehnica University of Timisoara, Romania
- Prof. Shahnaz Shahbazova, PhD - Azerbaijan Technical University, Azerbaijan
- Prof. Tsung Chih Lin, PhD - Feng Chia University, Taichung, Taiwan
- Prof. Guojun Wang, PhD - Guangzhou University, China
- Prof. Viorel Cojocaru, PhD - National University of Physical Education and Sports, Bucharest, Romania
- Prof. Adrian NAGEL, Ph.D., Vest University of Timișoara, Romania;
- Prof. Dejan MADIC, Ph.D., University of Novi Sad, Serbia
- Prof. Emilia GROSU, Ph.D., Universitatea Babeș-Bolyai Cluj Napoca
- Prof. Ioan GALEA, Ph.D., Aurel Vlaicu University
- Prof. Pierre de Hillerin, Ph.D., Romanian Institute of Sport Research
- Prof. Univ. Dr. Ing. Lucian Ionel Cioca, Universitatea Lucian Blaga Sibiu;
- Prof. Ramona LILE, PhD, Aurel Vlaicu University of Arad
- Prof. Valentina BALAȘ, PhD, Aurel Vlaicu University of Arad
- Prof. Gabriela KELEMEN, PhD, Aurel Vlaicu University of Arad
- Prof. Alexandru POPA, PhD, Aurel Vlaicu University of Arad
- Pr. Assoc Prof.. Habil. Daniel Buda - World Council of Churches, Geneva

- Assoc. Prof. Ferencz Gyor, PhD - University of Szeged, Hungary
- Assoc. Prof. Ferdinand Mara, PhD - Sports University of Tirana, Albania
- Assoc. Prof. Gabor Kiss, PhD - Obuda University, Hungary
- Assoc. Prof. Daniel Dejica-Carțis, PhD – "Politehnica" University of Timisoara, Romania
- Assoc. Prof. Riana Iren Radu, PhD - Universitatea "Dunărea de Jos" University of Galați, Romania
- Assoc. Prof. Salme Timmusk, PhD - Uppsala BioCenter, Sweden
- Assoc. Prof. Gabriela Bologa, PhD - "Agora" University of Oradea, Romania
- Assoc. Prof. Denisa Abrudan, PhD – West University of Timișoara, Romania
- Assoc. Prof. Remus Naghi, PhD – West University of Timișoara, Romania
- Assoc. Prof. Nicoleta Angelica Neculaescu, PhD – "Alexandru Ioan Cuza" University, Iași, Romania
- Assoc. Prof. Maria Tătărușanu, PhD – "Alexandru Ioan Cuza" University, Iași, Romania
- Assoc. Prof. Dr. Habil. Zsuzsanna Széles - Budapest Metropolitan University, Hungary
- Assoc. Prof. Dr. Habil. Zoltán Szabó, MBA - Budapest Business School, University of Applied Sciences, Hungary
- Assoc. Prof. Corina Georgescu, PhD - University of Pitești, Romania
- Assoc. Prof. Onur Köksal, PhD - Konya Food and Agriculture University, Turkey
- Assoc. Prof. Blanca Giorgia Grama, PhD - "Lucian Blaga" University of Sibiu, Romania
- Assoc. Prof. Ferenc Györi, Ph.D - University of Szeged, Hungary
- Assoc. Prof. Fuqian Shi, PhD - Wenzhou Medical University, China
- Assoc. Prof. Simona Dzitac, PhD - University of Oradea, Romania
- Assoc. Prof. Oana Geman, PhD - Stefan cel Mare University, Suceava
- Assoc. Prof. Antoanela Naaji, PhD - Vasile Goldis West University of Arad, Romania
- Assoc. Prof. Alberto Folchini, Ph.D., Politecnico di Milano
- Assoc. Prof. Blanca-Georgiana Grama
- Assoc. Prof. Mihaela Gavrilă-Ardelean
- Assoc. Prof. Leonard Sergiu BĂLAN, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Dana Maria COPOLOVICI, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Arhid. Caius Claudius CUȚARU, PhD, Aurel Vlaicu University of Arad;

- Assoc. Prof. Adela Ileana DRĂUCEAN, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Tiberiu Sandu DUGHI, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Anca Manuela EGERĂU, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Pr. Lucian FARCAȘIU, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Păstorel Octavian GAȘPAR, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Călin Florin LUCACI, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Dana Gina RADU, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Codruța Simona STOICA, PhD, Aurel Vlaicu University of Arad;
- Assoc. Prof. Marius Lucian TOMESCU, PhD, Aurel Vlaicu University of Arad;
- Dr. Radu Bidiugan - National Institute for Sport Research, Romania
- Dra. Olga Lucía Díaz Villamizar - Universidad Colegio Mayor de Cundinamarca, Bogotá, Colombia
- Dra. Ana Isabel Mora Bautista - Colegio Mayor de Cundinamarca, Bogotá, Colombia
- Dra. Marta Roque - Universidad Nacional del Sur, Bahía Blanca, Argentina
- Dr. Juan Carlos Valdés Godínez - Universidad Nacional Autónoma de México, Estados Unidos Mexicanos
- Dr. Efraín Cuadro - Universidad de Cartagena, Colombia
- Dr. Julián Esteban Muñoz Henao - Universidad del Rosario, Colombia
- Dr. Giulio Sarli, CNR-IBBR Centro Tematico per la Conservazione della Biodiversità Vegetale Mediterranea, Policoro, Bari, Italy
- Dr. Eduardo Maria Piccirilli - Academy School, Napoli, Italy
- Dr. Gregory T. Papanikos - President, Athens Institute for Education and Research
- Dr. D. Francisco Arcega - University of Zaragoza, Spain
- Paed. Dr. Viktoria SOLTESOVA, PhD - Matej Bel University, Banská Bystrica, Slovakia
- Dr. Susi Peacock - Queen Margaret University, Edinburgh, UK
- Dr. Craig Faulds - Food Research Institute, Norwich, UK
- Dr. Albín MASARIK - Matej Bel University, Banská Bystrica, Slovakia
- Assist. Prof. Luis Miguel Serra Coelho, PhD - Universidade do Algarve, Portugal

- Assist. Prof. Alexandru Nedelea, PhD - "Stefan Cel Mare" University of Suceava, Romania
- Assist. Prof. Sorin Bac, PhD - University of Oradea, Romania
- Assist. Prof. Özge Pinarçik, PhD - Düzce University, Turkey
- Assist. Prof. Gabriela Cioca, PhD - Lucian Blaga University of Sibiu, Romania
- Assist. Prof. Rajeeb Dey, PhD - NIT Silchar, India
- Assist. Prof. Nilanjan Dey, PhD - Techno India College of Technology, Kolkata, India
- Assist. Prof. Muhammad Arif, PhD - Guangzhou University, China
- Assist. Prof. Robert Cristian ALMAȘI, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Viorel Petru ARDELEAN, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Adina BUCEVSCHI, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Ioan Emeric KOLES, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Pr. Adrian Ioan MURG, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Lorena Camelia POPA, PhD, Aurel Vlaicu University of Arad;
- Assist. Prof. Simona REDEȘ, PhD, Aurel Vlaicu University of Arad;
- Assist. Ondina Oana TURTURICĂ, PhD, Aurel Vlaicu University of Arad.
- PhD Dalila Lino - Polytechnic Institute of Lisbon, Portugal
- PhD Jocelyn Deloyer - Centre Neuropsychiatrique Saint-Martin, Belgium
- PhD Gunilla Bradley - Royal Institute of Technology, Stockholm, Sweden
- Ribeiro Alves, PhD - Polytechnic Institute of Braganca, Portugal
- Manuel Luis Pinto Castanheira, PhD - Polytechnic Institute of Braganca, Portugal
- Danimir Mandić, PhD - University of Belgrad, Serbia
- Sanja Blagdanic - University of Belgrad, Serbia
- Grozdanca Goicov, Ph.D - Educational Academy of Virset, Serbia
- Matthias Moch, PhD - Duale Hochschule Baden-Württemberg, Germany

Editor in Chief

Bogdan Cosmin Gomoi , „Aurel Vlaicu” University of Arad

Cover

Claudiu Ionescu, „Aurel Vlaicu” University of Arad

Contents

The Impact of Women CEOs on the Leadership of Organizations	11
R. Lile, C.M. Rusu, S.I. Săplăcan	11
Nonlinear Unit Root Analysis: Energy Consumption Case of Turkey. 20	
G. Konat, M. Temiz, Y.Ozek	20
Knowledge management and its resources in small organizations	27
E. Karaś	27
Process of Introduction of the Digitalization Related to Modern Communication Systems in the Factory on the Example of Nutricia ZP Sp. z o.o. (Poland)	37
K. Mazur-Kajta	37
Study regarding the importance of closing accounts work for the preparation of annual financial statements.....	48
C. Nicolaescu, D. Tăgăduan.....	48
Digital Marketing beyond Interface. An Appraisal of Digital Channels through which Costumers Receive Information	54
S.G. Szentesi	54
Problems and challenges of teaching organizational behavior at university level.....	74
F.L. Isac, S. Rusu	74

The Impact of Women CEOs on the Leadership of Organizations

R. Lile, C.M. Rusu, S.I. Săplăcan

Ramona Lile

Faculty of Economics

“Aurel Vlaicu” University of Arad, Romania

Corina Maria Rusu

Faculty of Economics

“Aurel Vlaicu” University of Arad, Romania

Silviu Ilie Săplăcan

Faculty of Economics

“Aurel Vlaicu” University of Arad, Romania

Abstract

Leadership in virtually all areas of society has been a men-dominated affair. In the corporate world, women have arguably had the hardest time in achieving leadership roles. Major positions such as directors, managers and chief executive officers were reserved for men. Despite having the required competence and experience to run organizations, women still find themselves playing second fiddle to men. However, in the past decade or so, things have started to change for the better. Women have started to advocate for their inclusion in key leadership positions in areas predominantly run by men. The purpose of this article is to offer a general overview on women CEOs and their impact on organization's performance and on other women who have the same aspirations.

Keywords: woman, CEO, leadership, organization, performance

Introduction

Women have stormed all the sectors of the economy, setting a track record of excellent leadership skills and being overwhelmingly successful. However, climbing the leadership ladder has not been a simple task for women. They have had to overcome numerous barriers which have hampered their advancement and progress, advancement that resembles a labyrinth (Eagly, A.H., Carli, L.L., 2007).

Among those barriers we can consider discrimination, discrediting women for daring to compete for leadership roles, unfriendly environment for women in the corporate world and, as a result of these, an inferiority complex experienced by many women. These barriers, as well as the fact that women have faced historical injustices, make women's leadership very difficult to achieve.

Women who pay no attention to stereotypes manage to break free from discriminatory treatment. Such treatment holds many women down who, as a consequence, do not realize their value and potential anymore. But these special women believe in fighting for their goals no matter what. They also possess high levels of discipline and competence that they use to propel them towards leadership. Women who ignore limits and focus on making their dreams come true set the path for other women who wish to assume leading roles.

This paper aims to explore the journey of women on their way towards leadership and the impact they have on other women with the same aspirations and dreams. The paper also examines the qualities that make women a serious competition to men in leadership positions.

Our analysis shows that women CEOs rely on participative leadership characteristics which means they are relationship-oriented and tend to involve all the stakeholders in the decision-making process. In the second part of the paper, the examples of some women CEOs strengthen the assessment that women can adopt the best leadership practices.

Content Analysis

In any organization, women who reach top leadership positions usually have to overcome a lot of barriers which may deflect their ambitions and aspirations.

The most common problem is gender bias. Despite women's remarkable gains in education and work in the last fifty years, the number of men in leadership positions is much higher than women, especially in top positions (Hill, C., Miller, K., Benson, K., Handley, G., 2016, p. 9).

Despite the benefits of gender diversity in leadership and the proactive behavior of some organizations and some governments around the world, not substantial progress has been achieved. According to a study conducted by Grant Thornton on mid-market¹ businesses from all industry sectors in 35 countries, the number of women in senior positions² has risen 7% in the last five years and just 10% in the last 15 years, since 2004, the year when the research began. Though, 2019 sees the highest percentage of women in senior management on record, at 29%. Rising five percent points from 24% in 2018, 2019 also marks the highest increase in the proportion of women in senior positions around the world. Also, in 2019, the proportion of companies without any women in top management reduced to 13%. Over the last five years the proportion of global businesses having at least one woman in senior management has risen by 20 percentage points and 12 points in the last year alone (Grant Thornton, IBR 2019).

Research carried out on organizational performance have shown that the performance of the organizations that are also by women is higher than in those led only by men. Just by linking diversity and innovation significant performance results can be seen. Diversity's positive link to innovation was one of the purposes of Business Consulting Group (BCG) research in 2017. The study conducted by BCG on 171 German, Swiss and Austrian businesses showed a clear relationship between diverse management teams and revenues from innovative products and services.

¹ According to Grant Thornton International Business Report, the definition of mid-market varies across the world: in mainland China, they interviewed businesses with 100 to 1,000 employees; in the United States, those with USD 20 million to USD 2 billion in annual revenues; in Europe, those with 50 to 499 employees.

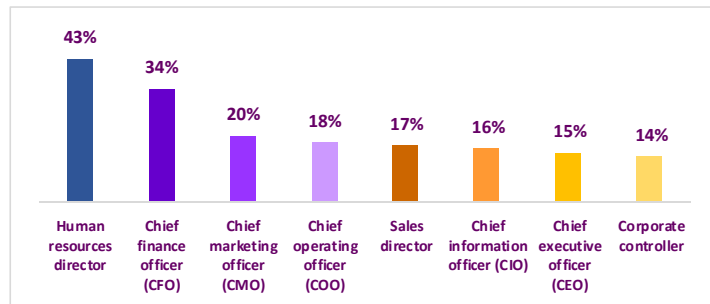
² According to Grant Thornton International Business Report, for the purposes of the research, senior management is defined as those holding C-suite jobs, such as chief executive officer (CEO), chief operating officer (COO) or chief finance officer (CFO), managing directors or partners.

It also showed that innovation performance only increased significantly when more than 20% of management positions were held by women (BCG, 2017). One of the reasons attributed to higher organizational performance is that women tend to lead the organizations in the same ways that they run their families. First of all, they create a welding structure that binds all the stakeholders together. An organization that embraces the unity enables all the people, as well as the groups within the organization to give maximum output. Leaders need followers, by definition (Kellerman, B., 2008).

Female employees subordinated to a female CEO usually tend to pursue higher executive levels, learn to be strong in leadership and avoid naivety. Women lead organizations in the same way as men, or even better. Woman CEOs inspire and motivate others to keep and match the required standards. The well-performing employees are rewarded with recognition when they excel as a team or as an individual. This boosts the morale of the employees and encourages them to try even harder to meet the goals and objectives of the organization. Ensuring that all the employees take full responsibility of their actions, the female CEOs create an environment where all the individuals can interact well, embracing the culture and the values of the organization.

Another result of the female CEO involvement in the organization is positive reputation. The majority of the organizations that are run by women manage to maintain a very good reputation to the outside world. Compared to men, women stay away from controversies and scandals. The critical scandals that threaten many organizations refers to corruption and embezzlement of funds. Women CEOs usually pay particular attention to the aspects that may ruin the reputation of the organization and make the necessary amendments before the situation gets out of control. The benefits that come with good reputation include increased customer base, employee retention, as well as positive impacts on women in leadership roles which inspires them to climb the leadership ladder.

Yet, despite these advantages, according to the same Grant Thornton's study, in 2019 just 15% of the women in the senior management are CEOs (Grant Thornton, IBR 2019).



Senior management roles held by women

(Source: Grant Thornton, IBR 2019)

For a more conclusive research we need some examples of women CEOs from around the world and their implications in leadership. The women's future is bright because they are courageous, more educated than ever, determined, passionate, motivated and willing to take intelligent risks and confront any challenge (Hoyt, C.L., 2010, p. 484-494). When women were given a chance to lead, women have proved to be good leaders and role models (Sherwin, B., 2014).

Mary T. Barra is the CEO and a member of the chair of the board of directors of General Motors. Barra started working in General Motors at the age of 18 years old as a plant engineer. She also served in other roles such as the head of product development. She moved up until she became the CEO. She has held this position for three years, during which she reached great results by her leadership in the automobile giant. Her leadership style and qualities made her so successful. Barra involved all the stakeholders in the decision-making process. She encouraged teamwork in order to achieve organization's targets. Her perseverance had a significant role when she believed that GM would survive a turmoil of bankruptcy (Ingrassia, P., 2016). As a leader of a global company, Mary Barra practiced a lot of respect. She believes that respect is a virtue that should be adopted by everyone. By showing this virtue to her employees, Barra gave employees the chance to be their own judge. Employees who are given the freedom and the trust by the management usually increase their performance considerably, as well as the probability of reaching the organization's goals.

Mary Barra is one of the 23 women in the world that lead one of the top 500 Fortune companies. She is the first female to lead an organization in the automotive industry (Ross, C., 2016).

Another woman CEO is Safra Catz. She is the president and the CEO of Oracle which is one of the top 500 Fortune companies in the world. She is the highest paid female CEO in the United States of America (Melin, A., Ritcey, A., 2016). She was born in Israel and spent six years there. Later, she moved on to pursue high education in USA. Before joining Oracle Corp, she worked as a banker, as well as a managing director of Lufkin and Jenrette (Gustin, S., 2012). Her main responsibilities at Oracle include legal operations and overseeing the finances. She is also the CFO of the company. Within Oracle, Safra has served in different roles since she joined the company in 1999. She has held the position of a senior vice-president of the company. Her main contributions to the company include bringing sanity and proper management to the company. Oracle's performances have grown significantly since she took over, thanks to her relentless efforts to ensure that the company emerges as the best in the world. She managed to create a united employee stakeholders base thus ensuring the opportunities of the company are run smoothly. Through her efforts, Oracle has grown into one of the top 500 Fortune companies in the world as well as enabling Safra to be among the top 25 women at the helm of major organizations in the world. Safra Catz has also been appreciated by many leading agencies such the Forbes and Fortune.

Indra Nooyi is the former CEO of Pepsi Company. Since assuming the CEO role, she has made many transformations to the beverage company. The best idea she has implemented for the company is focusing on changing the design as a strategy. During her time as CEO Nooyi has been leading the company's global strategy for more than ten years. She oversaw the company's acquisition of Tropicana as well as the merger with Quaker Oats Company. Through the merger Gatorade become a product of the Pepsi Company (Driver, L., 2016). Since Nooyi took over the leadership of the company, the annual profit margins have risen considerably from 2.7 billion dollars to 6.5 billion dollars. She has been featured in many journals such as Wall Street and Times, inspiring and motivating the women who may be aspiring to join leadership positions in the future.

Nooyi has received many awards from various entities for her role in developing Pepsi to the second-largest food and beverage company after Coca Cola. Fortune and Forbes magazines have ranked her in the top 100 of the most powerful and influential women in the world from the last years.

Another woman who has made outstanding contributions through her role is Lynn Good. She is the president and the CEO of Duke Energy Corporation. The company is listed in the top 500 of the biggest companies in the world. Before joining Duke Energy Corporation, Good was engaged in other companies in various domains. For example, she worked as an auditor at Arthur Andersen and as company branch manager at Cleveland. She also was a partner in Deloitte auditing company. She joined Duke Energy Corporation in the year 2011. Duke Energy Corporation is the largest company from United States in the energy supply field. Before becoming the CEO of the company, she served as the CFO and had the responsibility of leading the commercial field of the businesses (Tully, S., 2014). Under her leadership, Duke Corporation has adopted the use of technology and strategies that aim at focusing on the future. These concepts have strengthened the company immensely even in environmental stewardships. She also helped the company invest in coal and wind power thus creating a variety of energy sources for people to choose from (Sweet, C., 2016). During her leadership, the company was ranked as one of the 100 world wide sustainable companies.

Another woman CEO that this paper will focus on is Susan Cameron. Though in 2011 she has left her role as the president and CEO of Reynolds Company, her contributions to the company have been great. Her greatest achievement in the company was the acquisition of rival company Lorillard. The deal was complex since the acquisition meant that products originally under Lorillard will now be selling as Reynolds. This achievement was immense and won Cameron wide acclaim as a CEO (Coleman-Lochner, L., Wang, S., 2014). Since 2004, when Susan Cameron took over the leadership of the company, the returns to the shareholders were approximated 900%, which is a track record (Zillman, C., 2016). Cameron attributes her success to good relationship with her employees and fellow leaders, motivation and job recognition.

Cameron also advocated for women leadership initiatives and received appreciation from popular magazines such as the Fortune and the Forbes. Her exemplary performance in leadership also enables Cameron to be inducted into the North Carolina hall of fame in 2015.

Conclusion

Women are striving to get in top leadership positions such as chief executive officers. Researches carried out on aspects have shown tremendous levels of devotion and hard work offered by these women. Having the right attitude towards employees as well towards other stakeholders within the organization enables the women CEOs to create the proper work atmosphere. Women are also known to build and maintain very good reputations for themselves and for the companies they lead. They succeed in doing this by avoiding any controversy or scandals that may affect the organization and its image. Women with leadership positions focus considerable efforts towards corporate social responsibility programs. Through social responsibility the life of the community around the organization is more comfortable and safe. Women leaders struggle to make their organization attractive and respectable.

References

- Coleman-Lochner, L., Wang, S., 2014, "Reynolds Tobacco Merger Is Biggest Deal Led by Female CEO", *Bloomberg*
- Driver, L., 2016, "How Indra Nooyi Changed the Face of PepsiCo", *World Finance*
- Eagly, A. H., Carli, L. L., 2007, "Through the Labyrinth: The Truth About How Women Become Leaders", Boston, MA: *Harvard Business School Press*
- Gustin, S., 2012, "The Ten Most Influential Women in Technology", *Time*
- Hill, C., Miller, K., Benson, K., Handley, G., 2016, "Barriers and Bias: The Status of Women in Leadership", *AAUW: Empowering women since 1881*, p. 9

- Hoyt, C.L., 2010, "Women, Men and Leadership: Exploring the Gender Gap at the Top", *Social and personality psychology compass*, vol. 4, no. 7, p. 484-494
- Ingrassia, P., 2016, "How GM's Mary Barra Does It", *Fortune*
- Kellerman, B., 2008, "Followership: How Followers Are Creating Change and Changing Leaders", Boston: *Harvard Business School Press*
- Melin, A., Ritcey, A., 2016, "Oracle's Catz Becomes Top-Paid Female Executive with \$57 Million", *Bloomberg*
- Ross, C., 2016, "A Day in the Life of GM CEO Mary Barra", *The Wall Street Journal*
- Sherwin, B., 2014, "Why Women are More Effective Leader than Men", *Business Insider*
- Sweet, C., 2016, "Lynn Good on How Duke Energy Is Getting Past Coal", *The Wall Street Journal*
- Tully, S., 2014, "Is Lynn Good the Smertest (new) CEO in the Energy Industry?", *Fortune*
- Zillman, C., 2016, "Reynolds American Just Named Debra Crew Its New CEO", *Fortune*
- *** Business Consulting Group (BCG), 2017, "The Mix that Matters: Innovation Through Diversity"
- *** Grant Thornton, 2019, "Women in Business: Building a Blueprint for Action", *International Business Report 2019*

Nonlinear Unit Root Analysis: Energy Consumption Case of Turkey

G. Konat, M. Temiz, Y.Ozek

Gokhan Konat

Faculty of Economics and Administrative Sciences
Inonu University, Malatya, Turkey

Mehmet Temiz

Faculty of Economics and Administrative Sciences
Firat University, Elazig, Turkey

Yavuz Ozek

Vocational School of Social Sciences
Firat University, Elazig, Turkey

Abstract

The concept of energy is one of the issues widely used in the economics literature, because of its economic, social and political importance. Energy is the most important source for the development of a country's economy. Energy has a great importance in the economic system. By directly and indirectly affecting all activities and actions, it plays an important role in the economic system. For policy makers carrying out forward-looking plans, the issue of energy consumption is important. In this study, the question of how consistent the energy consumption plans are performed is investigated. Whether or not the energy consumption variable is resistant to shocks affects the results of econometric analyzes. Type of econometric methods used in studies is very important. Whether the variables are in linear form affect the results of unit root analysis. This study is intended to analyze the energy consumption data covering the years 1960-2015 in Turkey. Energy

consumption data per person is used as variable in the study. Data is collected from World Bank statistics database. Firstly, Harvey et al. (2008) test has been applied to see whether the series are linear or not. Then, for nonlinear series KSS unit root test developed by Kapetanios, Shin ve Snell (2003) is applied. Harvey et al. (2008) linearity test results showed that series are non-linear. According to the results of the KSS unit root tests, it is observed that the energy series has a unit root process for all three cases; the raw model, the model without intercept and the model without trend. Results of the nonlinear unit root tests showed that energy consumption series for Turkey has a non-stationary process.

Keywords: Energy consumption, linearity, nonlinear unit root test, stationary

Introduction

It is very important to analyze the stationary process of the energy consumption because of the strong relationship between energy consumption and economic activity. If energy consumption has a stationary process, then series should return to their trend path over time and it should be possible to forecast future movements in energy consumption. By contrast, if energy consumption series has a non-stationary process, then any shock to energy consumption is likely to be permanent (Chen and Lee, 2007: 3526). Besides, if shocks to energy consumption are permanent, key macroeconomic variables can be expected to follow that nonstationarity (Mishra et al., 2009: 2318). Testing for the integration of energy variables has become a new branch of interest in energy economics (Narayan et al., 2010: 1954). The idea and motivation for testing for stationarity in energy variables was first proposed by Narayan and Smyth (2007). Therefore, for countries that depend on foreign energy such as Turkey, planning of the energy consumption has a great importance. By finding out whether energy consumption series for Turkey stationary or not, we will decide that the implemented plans for energy using are consistent or not.

In the second section of the study, data set and the methods used are tried to be described. In the following section, findings of the tests applied are going to be stated. Last of all, in the conclusion section the results will be listed and interpreted.

Data Set and Method

With this study, the stability of Turkey's energy consumption is aimed to investigate. Energy consumption in Turkey between the years 1960-2015 is used as data set. The data used in the study was taken from the official website of the World Bank, <https://databank.worldbank.org>.

As a method in the study firstly, Harvey et al. (2008) linearity test has been applied to see whether the series are linear or not. After the linearity test, KSS unit root test developed by Kapetanios, Shin ve Snell (2003) is applied to see whether the series has a stationary process or not. Explanations for methods are as follow.

The analysis of the linearity structures of the macroeconomic data used recently in econometric studies comes to the forefront. Due to their characteristic properties, the series may be linear, but there will be nonlinear series too. Weakness of standard unit root tests is, including the assumption of series to be stationary. This assumption may cause misleading results of linearity analysis applied to non-stationary series.

Harvey et al. (2008) linearity test is calculated by taking the weighted average of two different tests, which differ according to the stationarity of the series. İlk olarak testin uygulanmasında zaman serisinin durağan I(0) olduğu varsayımı altında doğrusallığı test etmek için aşağıdaki regresyon modeli tahmin edilmektedir. First, the following regression model is estimated to test linearity under the assumption that the time series is stationary (I(0)) in the implementation of the test

$$y_t = \beta_0 + \beta_1 y_{t-1} + \beta_2 y_{t-2} + \beta_3 y_{t-3} + \sum_{j=1}^p \beta_{4,j} \Delta y_{t-j} + \varepsilon_t$$

Wald statistic is calculated as follow:

$$W_0 = T \left(\frac{RSS_0^r}{RSS_0^u} - 1 \right)$$

Regression model to test linearity under the assumption that the time series is stationary after taking the first difference (I(1)) is as follow:

$$\Delta y_t = \lambda_1 \Delta y_{t-1} + \lambda_2 (\Delta y_{t-1})^2 + \lambda_3 (\Delta y_{t-1})^3 + \sum_{j=1}^p \lambda_{4,j} \Delta y_{t-j} + \varepsilon_t$$

Wald statistic is calculated by following equation:

$$W_1 = T \left(\frac{RSS_1^r}{RSS_1^u} - 1 \right)$$

Harvey et al. (2008), proposed the weighted statistics given below to analyze linearity under the basic hypothesis and nonlinearity under the alternative hypothesis:

$$W_\lambda = \{1 - \lambda\} W_0 + \lambda W_1$$

Thus, λ is a function that approximates zero in probability if the series is stationary, and if series contains a unit root, approximates one in probability. Hypothesis of the Harvey et al. (2008) linearity test is as follows:

H_0 : Series is linear

H_1 : Series is non linear

After testing the linearity of the series, the analysis is will be continued with nonlinear unit root test process.

As a STAR type unit root test, KSS unit root test was developed by Kapetanious, Shin and Snell (2003). KSS test is with a soft-transition structural change STAR (Soft-Transition Threshold Autoregressive Model) type unit root test. Kapetanios et al. (2003) suggests zero-mean stochastic process y_t (Güriş et al., 2016). First order with univariate STAR(1) model is as follow:

$$y_t = \beta y_{t-1} + \gamma y_{t-1} \Theta(\theta; y_{t-d}) + \varepsilon_t, \quad t = 1, \dots, T$$

Here β and γ are unknown parameters and $\varepsilon_t \sim iid(0, \sigma^2)$. The null and alternative hypothesis of the model are;

$$H_0: \theta = 0$$

$$H_1: \theta > 0$$

and estimated by the following model (Kapetanios et al., 2003).

$$\Delta y_t = \sum_{j=1}^p p_j \Delta y_{t-j} + \delta y_{t-1}^3 + \varepsilon_t$$

Findings

In this section the results of the methods described above will be figured. First of all, in Table-1 the linearity test results are as follows:

Table 1: Harvey et al. (2008) Linearity Test Results

Harvey et al. (2008) Test Statistics	Harvey et al. (2008) Critical Values		
	%1	%5	%10
6.15	9.21	5.99	4.60

Test statistics is greater than the %5 critical value. According to the Harvey et al. linearity results, it can be stated that series are not linear at %5 significance level.

Table 2: Kapetanios et al. (2003) KSS Unit Root Test Results

	Raw Model	Model Without Intercept	Model Without Trend
Test Statistics	0.839	0.0459	-1.308
%1	-2.82	-3.48	-3.93
%5	-2.22	-2.93	-3.40
%10	-1.92	-2.66	-3.13

Note: Critical values are taken from Kapetanios et al. 2003.

After testing the linearity of the per capita energy consumption series , Kapetanios et al. (2003) KSS unit root test is applied. In Table-2 it can be seen that test statistics are lower than the critical values, in absolute values, for both 3 model. It is observed that the energy series has a unit root process for all three cases; the raw model, the model without intercept and the model without trend.

Conclusion

In this study, the stationarity of the energy consumption series is tested for the relevant period. Firstly, the linearity of the series is tested. Series found to be nonlinear. Lastly; in order to test the stationarity of the per capita energy consumption data series, nonlinear unit root test is applied. Results show that, energy consumption data for Turkey is not stationary for the period 1960-2015. It can be concluded that, effect of a shock to the energy consumption will be permanent in the future.

References

- Chen, P. F., Lee, C. C. (2007). Is energy consumption per capita broken stationary? New evidence from regional-based panels, *Energy Policy*, Vol.35 (6), p. 3526-3540.
- Güriş, B., Tıraşoğlu, Y.B., Tıraşoğlu, M., (2016). Türkiye’ de satın alma gücü paritesi geçerli mi?: Doğrusal olmayan birim kök testleri, *Social Sciences Research Journal*, Vol.5 (4), p. 30-42

- Harvey, D.I., Leybourne, S.J. and Xiao, B. (2008). A powerful test for linearity when the order of integration is unknown, *Studies in Nonlinear Dynamics & Econometrics*, Vol.12 (3), p. 1-23.
- Kapetanios G., Shin Y., Snell A. (2003). Testing for a unit root in the nonlinear STAR framework, *Journal of Econometrics* 112, p. 359-379.
- Mishra, V., Sharma, S., Smyth, R. (2009). Are fluctuations in energy consumption per capita transitory? Evidence from a panel of pacific island countries, *Energy Policy*, Vol.37 (6), p. 2318-2326.
- Narayan, P. K., Smyth, R. (2007). Are shocks to energy consumption permanent or temporary? Evidence from 182 countries, *Energy Policy*, Vol.35 (1), p. 333-341.
- Narayan, P. K., Narayan, S., Popp, S. (2010). Energy consumption at the state level: the unit root null hypothesis from Australia, *Applied Energy*, Vol. 87 (6), p. 1953-1962.

Knowledge management and its resources in small organizations

E. Karaś

Elżbieta Karaś

Faculty of Economics and Management
Opole University of Technology

Abstract

In the 21st century, the organization's management will be based on the resources of knowledge which, along with capital, labor and land, become one of the important factors of production. In such an organization, knowledge and the ability of proper knowledge management take on a fundamental meaning in shaping the values and enterprises' competitiveness. Proper sources of knowledge allow to create and implement innovations, they become an instrument to open a new horizons for enterprises

Keywords: knowledge, knowledge management, small organization

Introduction

The process of organizational learning is primarily associated with knowledge. It is now becoming the most valuable resource to many organizations. On the one hand knowledge is particularly important because it can be used in various processes, in many places and by many persons. On the other hand, knowledge is difficult to include/comprehend, it's hard to manage, or skillfully use, especially if it is a tacit knowledge. It is important to treat knowledge as a resource, which managed properly may contribute to creation of value-added in the enterprise.

Research issue

The aim of this article is to present the knowledge management and identify sources of knowledge in small organizations, the second part shows the results of own research conducted in 2012-2015 among managers employed in small enterprises located in the Opolskie Voivodeship

Literature review

The term "knowledge" is variously defined by number of authors. According to the PWN encyclopedia knowledge in the narrower sense is entirety of reliable information about reality, along with the ability to use it. In a broader sense knowledge is a collection of all the information, ideas, beliefs, etc., which posses a cognitive and/or practical value. Another author O. Harari defines knowledge as the full use and exploitation of information, combined with the optimal use of human competencies, skills, talents, thoughts, ideas, insights, commitment, motivation and imagination [Jashapara 2006, p.67].

The literature describes four levels of knowledge resources: data, information, knowledge and wisdom. The lowest level is the data, individual characters, facts, figures, certain details about the event. Data becomes information when they are properly selected, compared, processed, correctly interpreted and evaluated. According to I. Nonaki and H. Takeuchi information is a stream of messages, and disseminated information becomes a knowledge, which then can be well utilized in the organization. To be transformed into knowledge the information must be current, understandable to the recipient, legible, easy to use, associated with the present, focused on the future and must come from a reliable, trusted source. Knowledge occupies an intermediate position between information and wisdom. The highest level is the wisdom, which is not present in organizations. Generally, we can say that knowledge is something more than the data and grouping them into information. The understanding of knowledge and its relation with other elements of the organization is essential. In the organization according to Alvin Toffler, there are four attributes of knowledge [Błaszczuk, Brdulak, Guzik, Pawlaczuk 2003, pp. 17-18]:

- dominance - the dominant character of knowledge rises from the fact that knowledge is considered the most important, essential and strategic resource to the already existing: capital, land and labor; knowledge determines the future position of the organization on the market, its effective use determines how will be linked and used other resources for the achievement of the organization's objectives;
- inexhaustibility - knowledge is the only resource not consumed; the more often used, the more valuable it becomes;
- simultaneity - there are no special barriers that prevent the use of the same knowledge by several people at once, even from different organizations at the same time; in the case of conventional resources it would be unfeasible; we do not have exclusivity to knowledge, if we do not have copyrights, patents, etc. so we cannot be sure whether a competitor will not use it before us;
- non-linearity - even a little bit of knowledge can cause unimaginable consequences, and vice versa, a huge amount of knowledge may prove to be useless, and therefore having a huge amount of knowledge is not getting direct competitive advantage, but in practice it allows to obtain such an advantage over enterprises with poorer knowledge resources.

Sources and types of organization's knowledge

Knowledge management in organizations is a complex process. One should know how and where to look for information. This task is greatly complicated by the rapid development of science and the increasing degree of specialization. It happens that managers often are not aware of the intellectual assets of own organization. In the result one of the main tasks of knowledge management is to reveal and locate these assets [Probst, Raub, Romhard 2002, p. 81].

Locating sources of knowledge and the disclosure of its resources is intended to ensure that members of the organization can easily understand the internal and external environment of knowledge.

This is to increase employees involvement in the creation of their development and the development of organizational knowledge. Effectively used resources of knowledge are expanding organization's ability of fast response to new phenomena and problems [Wolny 2011, p. 599].

Method used by the organization to locate the knowledge should correspond to a situation, be adapted to the structures and should not generate too large amounts compared to the expected benefits. Such methods should be tailored to the organization and they should not hinder the work, only to ease it. The most useful knowledge from the point of view of enterprise's competitiveness usually comes from observing the behavior of customers, competitors, suppliers, participants of distribution channels and tracking development trends of technology, etc. In this aspect the services of specialized entities recording this type of observations and giving them the form of database or information are often used. Sources of knowledge can be distinguished as [Kobyłko, Morawski 2006, p. 42]:

- Internal - the organization itself records data resulting from their own observations based on its internal cognitive system and then processes it into information and knowledge;
- External - when knowledge is the result of cognitive processes conducted by an external entity or when that entity provides necessary resources for these processes - data and information.

Collected during own observations or obtained from outside the data have to be processed. The process of using these data to build information and knowledge is a typical thought processes implemented properly only in the human mind.

Using the scientific achievements the knowledge can be divided into four categories [Błaszczuk, Brdulak, Guzik, Pawlaczuk 2003, pp. 14-15]:

- to know "what" - refers to the knowledge of the facts, specific data; this knowledge can easily be put into words and numbers sent in the form of data, and it is synonymous to information;
- to know "why" - concerns the principles occurring in: nature, the human mind and society; Access to this knowledge simplifies and accelerates technological

progress, which also reduces the frequency of an errors of the experiment; This knowledge is important in medicine, chemical industry, electronics; This includes knowledge of the employees about the company's strategy and values;

- to know "how" - the ability to perform specific tasks and activities; relates mainly to the competence of employees, the process of creating a new product, methods of recruitment; These are the resources hidden in people's minds, consisting of our experience in the field, how things works, and how things are done;
- to know "who" - insights into the who's who and what knowledge they have; Shows who is a specialist in what field, what knowledge and ability to transfer it to the others has this person.

The unconventional concept, explaining how organizations use knowledge resources was developed by scientists I. Nonaka and H. Takeuchi. They accept the division of knowledge into two types: the explicit knowledge and tacit knowledge. Explicit knowledge (available, formal) is one that is formalized, contains clear facts and can be without difficulty pass on to others through words, text, numbers, characters, drawings or symbols. This knowledge in the enterprise is often entered into the computer database. It can be codified, which is clearly shown by means of computer programs, training, and handbooks. Gives the possibility of emergence of many new ideas in the organization, it is a source of innovation. Tacit knowledge (silent) is a non-verbal knowledge, obscure, more personalized, intuitive, acquired during long-term personal experience, which is difficult to identify. Such knowledge is not yet recognized in words and pictures, so it is difficult to pass on to others. Comparison of hidden and explicit knowledge is presented in the table 1.

Table no. 1. Basic differences between explicit and tacit knowledge
(I. Nonaka, H. Takeuchi 2000, p. 3)

Tacit knowledge	Explicit knowledge
Subjective	Objective
Comes from experience	Comes from rational reasoning
Practice	Theory
Hard to copy and transfer	Easy to transfer

Based on the literature the certain values that determine the ability to create and disseminate knowledge can be pointed out. The organization focused on knowledge has such features [Białasiewicz 2010, pp. 26-27]:

- is based on intangible resources and virtual networks as determinants of competitiveness, among which knowledge plays a key role and therefore initiates the use of other resources;
- management oriented on creativity, uses emerging opportunities, which, together with the competence of employees and organizations can successfully design new path of development;
- offers products soaked with knowledge in the form of technology supported by modern tools of computer science, patents;
- oriented towards setting conditions for creating a culture of cooperation, which ultimately affects the growth of ingenuity, and activity in organization;
- undertakes the cooperation in different dimensions and on different principles with specialists having the necessary competence in terms of maintaining and increasing the competitiveness of the enterprise;
- focuses on the subjectivity of competent employees and partners who, with their professionalism and intellect support processes of knowledge creation in the organization.

Research methodology and the results of the study

The problem of knowledge management is widely presented in the subject literature. Contemporary concepts related to knowledge management assign it a significant role in the enterprise's development. The importance of knowledge as a resource finds reference in the concepts of enterprise growth.

The development of entrepreneurship is currently one of the key determinants in the implementation of the knowledge-based economy. The knowledge-based economy is characterized by high innovation activity, which is understood as the intense implementation of new products, technologies and management innovations. It focuses on the transfer of ideas, research results and skills between scientific and research units and users groups.

Small enterprises currently occupy the area of interest of many researchers, because they constitute a huge driving power of the economy. It is expected that the structure of the small and medium-sized enterprises sector in Poland will change due to the decrease in the number of medium-sized companies that will either grow and become big companies, or transform into smaller organizations (according to the report of the State Agency for Enterprise Development, 2013).

The article presents the results of own research conducted in 2012-2015 among managers employed in small enterprises located in the Opolskie Voivodeship.

The aim of the study was to identify factors that are a source of knowledge in small enterprises which employed less than 10 workers and their annual turnover (assets and liabilities) was below 2 million EUR (specification by the guidelines of the European Commission). The research was carried out using direct interviews, surveys, interviews with experts and analyzes of documents and reports.

Based on the conducted research, in which 40 companies participated, conclusions on knowledge management were formulated. According to the respondents' opinions, there are certain categories of knowledge which are important and developed in enterprise. In terms of management, the following important categories of knowledge were indicated:

- planning and forecasting the company's development (80%);
- IT techniques used to communicate with the environment and for internal communication (80%);
- specialist knowledge necessary to perform duties (70%);
- marketing in the area of information about clients and their needs (60%);
- legal and tax regulations (60%);
- economy and management (40%);
- information on the availability of training and courses, and employee education in the field of university and post-graduate studies (40%);
- sources of financing (30%).

In many answers about knowledge management in a group of employees it was stressed that knowledge is identified by them only with technology appropriate for the given industry or branch in which the enterprise operates (as many as 80% of indications); they did not see any need to acquire knowledge from other areas.

As sources of knowledge, the respondents indicated university studies (60%) and trainings (50%), employees' experience (40%), Internet (20%), consultations (10%), meetings with customers (20%), fairs, exhibitions (10%). According to the respondents, the most important were university studies as a source of knowledge. Acquiring knowledge at fairs and exhibitions takes the last position as a source of knowledge. This may be due to the lack of funds to cover the costs of participation in these events.

The statements of managers on in their opinion the less important activities concerned the following elements of knowledge management:

- continuous maintaining and acquisition of new knowledge and new skills and news,
- creating own R&D facilities,
- cooperation with the sphere of science,
- introducing new projects and organizational improvements, designing new technologies,
- use of studies from the B+R.

Obtained results of the research allowed to identify individual sources of knowledge, pointing to the need to acquire highly specialist knowledge as a key resource for building the competitiveness of the enterprise. There is still a lack of skills in acquiring and collecting modern solutions that would allow the introduction of innovations and new projects, poor knowledge of new management methods and low use of the Internet and other IT tools.

Conclusions

Enterprises must develop their knowledge, employ knowledgeable employees who are able to apply it in complex operating conditions. Enterprises should seek to find a model for building key competencies that allow for permanent development of enterprise.

References

- Białasiewicz, M. (2010). *Kompetencje menedżerów w przedsiębiorstwie zorientowanym na wiedzę*, [in:] Zarządzanie wartością przedsiębiorstwa w warunkach kryzysu, ed. E. Urbańczyk, Zeszyty Naukowe Uniwersytetu Szczecińskiego nr 635, Seria Finanse, Rynki Finansowe, Ubezpieczenia nr 35, Uniwersytet Szczeciński, Szczecin.
- Błaszczuk, A., Brdulak, J., Guzik, M., Pawlaczuk, A. (2003). *Zarządzanie wiedzą w przedsiębiorstwach*, SGH, Warszawa.
- Brzezińska, E., Paszkowska-Rogacz, A. (2009). *Człowiek w firmie. Bez obaw i z ochotą*, Difin, Warszawa.
- Jashapara, A. (2006). *Zarządzanie wiedzą*, Polskie Wydawnictwo Ekonomiczne, Warszawa.
- Glińska-Neweś, A. (2007). *Kulturowe uwarunkowania zarządzania wiedzą w przedsiębiorstwie*, Wyd. „Dom Organizatora”, Toruń.
- Kisielnicki, J. (2008). *Zarządzanie*, PWE, Warszawa.
- Klincewicz, K. (2008). *Cele zarządzania wiedzą* [in:] D. Jemielniak, A. K. Koźmiński (ed.), *Zarządzanie wiedzą*, Wydawnictwa Akademickie i Profesjonalne, Warszawa.
- Kobyłko, G., Morawski, M. (2006). *Przedsiębiorstwo zorientowane na wiedzę*, Difin, Warszawa.

- Kowalczuk, A., Nogalski, B. (2007). *Zarządzanie wiedzą, koncepcje i narzędzia*, Difin, Warszawa.
- Nonaka, I., Takeuchi, H. (2000). *Kreowanie wiedzy w organizacji. Jak spółki japońskie dynamizują procesy innowacyjne*, Poltex, Warszawa.
- Podkowińska, M. (2010). *Motywacyjna funkcja komunikacji i kultury organizacyjnej*, „Edukacja Ekonomistów i Menedżerów”, no 3.
- Probst, G., Raub, S., Romhard, K. (2002). *Zarządzanie wiedzą w organizacji*, Oficyna Ekonomiczna, Kraków.
- Wolny, W. (2011). *Procesy zarządzania wiedzą w przedsiębiorstwie*, [in:] Drogi dochodzenia do społeczeństwa informacyjnego. Stan obecny, perspektywy rozwoju i ograniczenia, Tom II, Zeszyty Naukowe Uniwersytetu Szczecińskiego no. 651, Seria Ekonomiczne Problemy Usług nr 68, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin.

**Process of Introduction of the Digitalization Related to Modern
Communication Systems in the Factory on the Example of Nutricia
ZP Sp. z o.o. (Poland)³**

K. Mazur-Kajta

Katarzyna Mazur-Kajta

Department of International Economic Relations, Faculty of Economics
and Management, Opole University of Technology, Poland

Abstract

The article presents a model of introducing changes which is the process of digitalization in the factory prepared by Nutricia Zakłady Produkcyjne Sp. z o.o. (Poland) as part of the *Factory Digital 4.0.* project. The algorithm was prepared in order to create video-booklets for other Danone group companies planning to join the Fourth Technological Revolution - creating an intelligent factory using modern communication systems between employees and between employees and devices/machines. This model has been prepared divided into three components - levels: skills, organization and culture.

Keywords: communication systems, communication, introducing changes, digitalization, Factory Digital 4.0.

Introduction

Introducing a change is a necessary process in every developing enterprise. *The change* itself is interpreted as “a deliberate and conscious course of action which involves transition of an organization from its current state to a different, unequivocally distinct one” (B. Kożuch, 1999).

³ The article was created as part of an agreement on scientific cooperation between the author and Nutricia Zakłady Produkcyjne Sp. z o.o. as part of the project *Factory Digital 4.0.* All materials used in it were officially made available by the company or are the result of the author's conceptual work.

Another definition shows *the change* as a cultural, organizational or material value, which in given time and spatial conditions is treated by people as a new one (M. Sobka, 2014/ p. 9). Its emergence is a result of other changes, which concern psychological, social, political, cultural, economic and technological aspects, occurring in both the external and internal organization environment. Introducing changes relates to employees' involvement, adjustment abilities which go together with natural reluctance towards the new and the unknown and to something that considerably differs from what has been known.

The change might be associated with the sense of danger, with fear of losing personal benefits, potential failure, lack of trust or lack of information accessibility as well as fear of rapid pace or the change range. It might even get to the point where reluctant alterations in own habits or proceedings will be necessary. What is more, a change is not carried out in one step, it requires a sequence of actions and prospective thinking, due to several outcomes it might have. Therefore, the process of carrying out a change is demanding and related to several steps which need to be taken to make a change more accessible.

A change introducing model presented by J. Kotter highlights the necessity of creating a sense of need for alteration by organization. According to the scientist, apart from creating the need for a change, its implementation demands teamwork to introduce the change, develop its vision and strategy which would indicate the direction of changes. It also requires communicating about them through as many communication channels as possible, removing obstacles standing on the way of a change, using milestones (short-term planning related to rewarding for effects of introducing changes) and then introducing subsequent stages of changes as well as consolidating changes in an organizational culture of an enterprise (J.P. Kotter, p. 1, 4).

This article deals with changes, namely introducing digitization in a production facility. Changes within an enterprise might be performed on a few levels: individual, group and organizational. Digitization space of a production facility is important, because it does not concern separate areas of an enterprise, but the whole of it. The presented change introducing model - digitization in a workplace - was prepared by Nutricia Zakłady Produkcyjne Sp. z o.o. as a part of *Factory Digital 4.0.* project.

Research issue

The aim of this article is to present a model of introducing changes which is the process of digitalization in the factory prepared by Nutricia Zakłady Produkcyjne Sp. z o.o. (Poland) as part of the *Factory Digital 4.0.* project. The issue discussed in the article are important mainly because it is part of a very new trend in Poland devoted to digitization within the workplace - a manufacturing plant, which has not yet been fully elaborated both from the literature on the subject as well as in the practical application in economic reality.

Literature review - the digitalization process at the work place in Poland

The term *digitization* could be understood in two ways: it refers to the change of material data (paper, audio records etc.) to their digital form, or it could be understood as introducing network infrastructure which enables communication and creation of electronic resources by means of information technology (*Digitalizacja dokumentów – poradnik dla firm*). In this article, this term will refer to both of those meanings. Digitization becomes a standard in European companies, however the process in this area is rather slow. According to IDC report from 2016, only one third of European managers plan thorough digitization of data (*Biała księga IDC - cyfrowa rewolucja i rola MFP w miejscu pracy*). Similarly, basing on a report of the European Commission from 2018, the same situation takes place in Poland which occupies the 24th position among 28 member states due to DESI index (Digital Economy and Society Index), which is about digital efficiency in Europe as well as evolution of EU member states in terms of digital competitiveness (*Raport KE: cyfrowa przepaść*). Taking this into consideration, both the European Commission and the decision-makers, who support Polish side, noticed the necessity to interfere in this area. One of the results was introducing new regulations in Poland as of 2019, concerning digital data storage (personal and payroll files) without the necessity to create paper copies.

Research methodology and the results of the study

Due to the existing deficiencies in the literature on the subject regarding to the implementation of the digitization process in Poland in the space of a production only one method was used in the research – the observation. However, the enterprise itself was selected for the study due to its pilot nature not only within the Opolskie Voivodeship but also within the entire DANONE group.

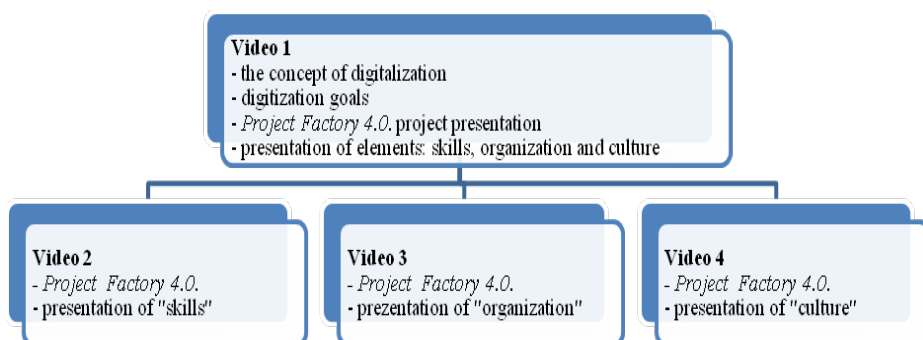
The enterprise Nutricia Zakłady Produkcyjne Sp. z o.o. (Nutricia⁴) as a member of Danone group is one of the biggest enterprises in Opole Voivodeship. Due to the fact that in the company the newest management systems in production are used and that it regularly receives prizes and honours given by consumers, a Danone project group, whose task is to share their experience in introducing changes, was created. The effects of the group work will be presented in a booklet, which will reveal details about digitization in a production facility. The aim of the booklet is to help other companies in making changes and the Opole enterprise has been chosen as a pilot company to carry out the project. In relation to the character of the task, namely the subject of digitization, it was decided that the booklet will also be released in the digital form. It was also suggested that the brochure should take the form of a several videos (*Explainer Video* - e.g. with use of SeeWidely.edu), which thanks to drawings (*Whiteboard Animation*) and narration connected with the *NanoLearning* method will allow to efficiently pass the knowledge.

The process of introducing digitization in Nutricia enterprise has been analyzed in terms of three aspects: ability, organization and culture. To get a better sense of the core of the digitization process, its aims and essence of the *Project Factory 4.0.*, before presenting them a preparation of an additional video for all the employees of the company was suggested, it would present the main idea of the digitization, its aims, project presentation and it would stress the fact that the process will take place with division into the three above mentioned aspects.

⁴ Nutricia is a leading company on food market for infants and children in Poland, it also specializes in medical food. In this branch it is the biggest factory in Europe. In Poland Nutricia includes Production Facilities in Opole and a sales company based in Warsaw. Source: <https://www.nutricia.com.pl/o-nas/nutricia-w-polsce> , access 05.04.2019.

Then, there will be a separate video devoted to each of the three aspects. In each of the videos the term digitization is represented in blue colour (in both of the meanings). As for the first video, three terms will be highlighted: *efficient facilitation*, *self development* and *intelligent change*. In other videos (2-4) *digitization* and *virtualization* will be highlighted.

Diagram no. 1. Algorithm for making changes in the factory, which is also the main sketch of instructional videos about digitalization in the company (own elaboration)



Video 1 (duration time about 3 minutes) in its first part gives the idea of the term *digitization* to the viewer. It informs that *digitization* is saving written and printed materials in digital form or changing the material world information (analog) to their digital counterparts. It depicts an open book and its “computer” equivalent made from matrix of zeros and ones (binary system) in the same time to stress similarities and visually ensure that there are no differences between the analog and digital version when it comes to the amount of material for the recipient of the message.

The second part of the video shows aims of digitization, it highlights the archiving process which facilitates sorting out the data, protection of the original from damage associated with preserving the material, efficient facilitation of work through wide and easy access to information, possibility to search through the data at any moment, at any place by the number of users, it stresses simple and intuitive use, financial savings, developing skills of the employees, improving

organization of work and organizational culture and the need to introduce changes in order to follow the constantly changing and developing environment of the enterprise side by side.

The third part of the video focuses on *Factory Digital 4.0*. project. It refers to the fourth industrial revolution (which takes place after the first one associated with the use of water vapor/mechanization; then the second one when electricity/mass production was introduced and the third when computerization and automatization took place). The project aims at common creation of an intelligent factory that uses modern communication systems between people and between people and machines. The movie ends with a conclusion that Nutricia proposes introducing intelligent changes - digitization process in three aspects:

1. developing of employees' skills;
2. improving of organization of work in a production facility;
3. improving organizational culture.

The video 2 (duration time about 5 minutes) in the first part informs that *Factory Digital 4.0*. is a project that aims at common creating of an intelligent factory which uses modern communication systems. It persuades that intelligent changes in relation to digitization process are worth introducing in three fields: employees' skills, work organization in a production facility and organizational culture. Introducing of digitization through employees' skills is connected with the main purposes: maximization of effects of the project and protection of future needs which were analyzed in terms of recruitment and training activities.

Taking into consideration the purpose of maximization of effects, it was assumed that recruitment is related to monitoring human resources in Opole region, both in the progress and after digitization, which was carried out in given position and in accordance with planned results. Trainings also base on monitoring of human resources in Opole region, also in the progress and after introducing digitization, and, similarly, they are oriented towards needed skills and planned results. As for another purpose related to future needs, recruitment concerns newly created workplaces and most of all it is related to internal market and then, secondly, to the external market (creating new profile).

In terms of external recruitment connected with short-term strategy, it is carried out in cooperation with professional recruitment agencies, more technologically developed enterprises and *start-ups* (which create new products and services in an innovative way). On the other hand, long-term recruitment is held in cooperation with universities as a part of *Junior Manager Digital* programme (young generations of people who in an intuitive way use both foreign languages and new, intelligent technologies on a daily basis) and through internal career paths. Recruitment is also oriented to *geek communities* (groups of people who in an exceptional way deepen their knowledge and skills in intelligent communication systems - modern technologies). Trainings in the initial stage are prepared for those who show interest in digitization.

Their purpose is to update skill matrix and description of workplaces (which is held from a project to a project and it was started through pilot activities and then extended). Trainings are conducted in accordance with development plans and ongoing search for solutions. They are organized in the enterprise and are about mentoring by people who use intuitive, modern technologies for those who start learning about them, they are also a part of employees' skill development TWI (conducted from project to project by *geeks*). On the other hand, trainings for managers are mostly about updating skills and workplaces descriptions, digital way of thinking, *agile* methodology which refers to management that depicts a change as a natural element of the project and *vuca* environment. *Vuca* environment is described as volatile, uncertain, complex and ambiguous, therefore requiring to predict the unpredictable.

Trainings for employees from human resources department focus mainly on: updating skills and workplaces descriptions, digital way of thinking, *agile* methodology of new abilities, positions and digital methodologies as well as *vuca* environment. Trainings for *Digital Managers* and *geeks* involve passing good practice, they are conducted in an enterprise and in cooperation with *start-ups*, they are as well held outside the company. Digitization is made accessible to all employees as a new element of *Danone Manufacturing Way* codes.

In a long period, work profiles are updated, assessment is made and new career paths are created, whereas salaries and benefits depend on flexibility and efficiency of human resources.

Video 3 (duration time also around 5 minutes) similarly to the previous one, in its first part informs again about the importance of the project *Factory Digital 4.0.* and its three aspects: ability, organization and culture. Introducing of digitization through work organization of the production facility is conducted through:

- monthly meetings of management teams which are held in accordance with project list and key indicators of KPI efficiency in terms of red and blue zone (aspects which need to be done - *must to have* and those that would be nice to do - *nice to have*);
- *geek community* by using integrated, strategic communication of WOW type, submitting new ideas and their rapid introducing, additionally in cooperation with mentors of geek community and with change ambassadors;
- project management and digital reception (in form of a humanoid robot Peeper);
- communication with focus on elements such as: update, interest creating and motivation to coming up with new ideas and sharing feedback;
- mentoring programme introduced as employees' skills developing programme TWI;
- inductive digital programme which takes form of digital videos;
- an overview of new projects with a possibility of using digital solutions with security access;
- projects related to digitization that are considered a part of management strategy by MBO purposes (which stress the influence of motivation, initiative and employees' activity on results of a company) used in balanced score card BSC (a tool that supports introducing long-term strategies) and key indicators of KPI efficiency in determining annual goals and establishing strategy.

Video 4 (duration time 5 minutes) similarly to videos 2 and 3 shows general outlines of *Factory Digital 4.0.* programme and three aspects of introducing digitization. It says that introducing of digitization through organizational culture is conducted by:

- involvement in creating digital awareness, introducing of term digitization to everyday communication, but also through PR campaigns (also through logo), through cooperation with *start-ups* as well as through understanding of new methods - use of *agile* methodology;
- involvement in projects through communication channels and preparation of system of honours characterized by: access to digitization for everyone - in every workplace, way of work *Talent4All* (workshops to search for talents, prepared for the employees of the company); weekly reports on TV, "News" and in common areas such as canteen; introducing of a prize for achievements in digitization - *Digital Award 2020* and other honours; preparation of digital reception - the heart of the main building;
- involvement in effective change management which concerns changes ambassadors in terms of carrying out the project and altering the course of action;
- involvement in searching for talented people - *Talent4All* as an element of creating new ideas, digital efficacy and work flexibility;
- involvement in creating of the project *Opole 4.0.* and popularizing its idea, inclusion of the industrial revolution project 4.0 in the vision and mission of Opole;
- awareness stimulation related to *agile* communication as an element of new digital projects, developed through regular communication in a workplace, watching digital news from Opole region;
- awareness stimulation connected with balanced motivating, communication and knowledge management through digital scientific expeditions;
- awareness stimulation in relation to *Yoomap* (common innovation platform, common platform for *start-ups*), held as a part of projects management;
- awareness stimulation related to local *Hackathon* (project marathon dedicated to people interested in intelligent communication systems - modern technologies), held also as a part of projects management.

Conclusions

Change is a necessary factor in every developing organization, it shows that an enterprise extends knowledge. Nutricia approached the subject of introducing digitization in relation to three fields: employees' skills development (shown from the perspective of recruitment and trainings), improving work organization (combining digitization with projects management, management through purposes and change management in cooperation with people who are the most familiar with it - *geek community* representatives and also through mentoring programme) and organizational culture (shown from the side of digital awareness development). Within each of the analyzed aspects, attention was paid to the importance of communication, among others, the one related to creating of digital reception (which is the first stage of contact between people from the outside who come to the company), preparing digital videos; motivation to creating new ideas and sharing feedback; PR campaigns that convey information from the company to wider environment, articles published in magazines and information about the process of digitization that are put in common areas of the company; introducing of prizes for achievements related to digitization, changes ambassadors and local *Hackathon*. The whole of changes related to introducing of digitization is supported throughout the whole process with modern digital techniques so that a skillfully made change becomes the basis for introducing further innovations. Observation of the process and effects of introducing the change in Nutricia enterprise and preparation of the booklet on that basis about good practice might be a beneficial initiative, not only for Opole region.

References

- Andries, P., Debackere, K. (2006). Adaptation and performance in new business: understanding the moderating effects of independence and industry, *Small business economics* (2007) 29: p. 81-99 Springer
- Abrahamson, E. (2003). *Bezbolesne zarządzanie zmianą*, Harvard Business Review Polska.
- Bielski, M. (2004). *Podstawy teorii organizacji i zarządzania*, Wydawnictwo C.H. Beck, Warszawa.

- Griffin, R.W. (2002). *Podstawy zarządzania organizacjami*, Wydawnictwo Naukowe PWN, Warszawa.
- Kmiotek, K., Piecuch, T. (2012). *Zachowania organizacyjne teoria i przykłady*, Wydawnictwo Difin, Warszawa.
- Kotter, J.P., *Leading change. Why Transformation Efforts Fail*, Harvard Business Review, https://wdhb.org.nz/contented/clientfiles/whanganui-district-health-board/files/rttc_leading-change-by-j-kotter-harvard-business-review.pdf , access 05.04.2019.
- Koźuch, B. (1999). *Wstęp do teorii zarządzania*, Warszawa.
- Mrówka, R. (2001). *Przywództwo w procesie planowania i wdrażania zmiany organizacyjnej*, Szkoła Główna Handlowa w Warszawie, Warszawa.
- Sobka, M. (2014). *Zmiany organizacyjne w teorii i praktyce*, Politechnika Lubelska, Lublin.
- Sokołowska, S. (2009). *Organizacja i zarządzanie. Ujęcie teoretyczne*, Wydawnictwo Uniwersytetu Opolskiego, Opole.
- Biała księga IDC - cyfrowa rewolucja i rola MFP w miejscu pracy*, <https://www.oki.com/pl/printing/about-us/news-room/press-releases/2016/0114/index.html> , access 05.04.2019.
- Digitalizacja dokumentacji pracowniczej zaoszczędzi gospodarce 130 mln zł*, <https://ceo.com.pl/digitalizacja-dokumentacji-pracowniczej-zaoszczedzi-gospodarce-130-mln-zl-59483> , access 05.04.2019.
- Digitalizacja dokumentów – poradnik dla firm*, <https://biznes.newseria.pl/komunikaty/digitalizacja-dokumentow,b1692105955> , access 05.04.2019.
- Nutricia, <https://www.nutricia.com.pl/o-nas/nutricia-w-polsce>, access 05.04.2019.
- Raport KE: cyfrowa przepaść*, https://ec.europa.eu/poland/news/170303_digital_pl, access 05.04.2019.
- SeeWidely, <https://seewidely.com/> , access 05.04.2019.
- The Digital Economy and Society Index (DESI)*, <https://ec.europa.eu/digital-single-market/desi>, access 05.04.2019.

Study regarding the importance of closing accounts work for the preparation of annual financial statements

C. Nicolaescu, D. Tăgăduan

Cristina Nicolaescu

Faculty of Economics

"Aurel Vlaicu" University of Arad, Romania

Diana Tăgăduan

Faculty of Economics

"Aurel Vlaicu" University of Arad, Romania

Abstract

Closing a financial exercise is of great importance not only for accountants but especially for the management of the entity as it is the basis for future business and budgeting strategies. Closure accounting work is a series of preliminary accounting operations that are performed at the end of the financial year, usually on December 31, and which precede the preparation of annual financial reports. This article has as its primary purpose to capture, both theoretically and practically, the main aspects regarding these works. Another goal is to discover how the quality of these works influences the image of the entity reflected in the annual financial statements, and more than that, the decisions of the users of accounting information and their impact on the future of the entity.

Keywords: yearly financial reports, closure accounting works

Introduction

The fundamental condition that the yearly financial reports have to fulfil is to reflect the reality regarding the active and passive elements found at the hand of the economic entity, of the revenues, expenses and results achieved by it.

To this purpose it is necessary that the economic operations be registered completely, correctly and in due time, based on the justifying documents in which they were made visible. Equally, it is mandatory to periodically compare (confront) the operations from the accounts with the situation on the ground, as well as checking the accuracy of the data in the accounts, for which the procedures of accountancy are used and... specifically the inventory and the verification balances in view of reflecting, by the synthesis accounting documents, of the loyal image over the patrimony and results of the entity activity.

Reaching this objective involves, on one hand, entering in the current accountancy, all the patrimony changes determined by the economic operations which the entity participates to along a certain period given, and, on the other hand, doing certain accounting works specific for the closure of the financial exercise. These works do not take place after certain economic operations, but are imposed either by applying the accounting principles, or by the application of some fiscal or legislative stipulations. The closure accounting works are finalized with drawing the synthesis documents and financial reporting.

The main accounting works are: drawing the verification balance before the inventory, the inventory of the patrimony and entering the results of the inventory, the calculus of the result, of the taxable profit and of the profit tax owed, drawing the verification balance, drawing the accounting balance (balance, results account, earnings, the situation for the change of the own capitals, the situation of the cash flows, explanatory notes), drawing further financial reports (according to the Order of Finances Minister 1802//2014 with the later changes and completions).

Research methodology and results of the study

The research methods used for drawing this article are: analysing the laws in force and of the specialty literature, synthesizing the main aspects, the induction, the deduction as well as the study case.

By adopting the Order of Finances Minister no. 94/2001, continued by the Order of Public Finances Minister 306/2002, Order of Public Finances Minister 1752/2005 and at present Order of Public Finances Minister 1802/2014, the accountant profession in Romania has been suffering a few significant mutations.

The main win is represented by the adoption of a general frame for drawing and presenting the financial reports which establishes the main concepts used to this purpose.

The purpose assigned to book keeping, its fundamental objective, is presenting periodic financial reports, called „yearly accounts” or synthesis documents (balance, profit and loss account, the chart or the treasury flows, the situation of the own capitals change, accounting policies and explanatory notes), which form an indissociable whole and which has to offer a loyal image of the patrimony, of the financial situation and of the results of the enterprise in view of providing information useful to the ensemble of users for making economic decisions (Ristea, Olimid, Calu, 2006).

The principle of the economic reality - specific to the anglo-saxon conception became known in Romania too, especially within the multinational enterprise groups due to the fundamental role that these have in the economic and social life and to the strong influence they have on the financial market and in financing the various entities determining also the expansion of the consolidated accounts surface, in the majority of the cases the ones with American capital, which obey the anglo-saxon rules (Feleagă, 2000), being dominant.

Drawing the loyal image, although it is differently conceived in the two conceptions, involves that the yearly financial reports reflect the economic reality of the entity, as it is, purpose which cannot be reached without the works foregoing to the drawing of the yearly financial reports, respectively the closure accounting works of the financial exercise.

In order to monitor the importance of the closure accounting works we will analyse the report of an entity which in the end of the financial exercise 2018, in view of drawing the yearly financial reports makes the closure accounting works based on the stipulations of the *Order of the Public Finances Minister no. 10/2019 regarding the main aspects related to the drawing up and handing in of the yearly financial reports*.

The analysed entity is a small size enterprise (total assets less than 1.500.000 lei, net turnover for year 2018 below 3.000.000 lei and employees number below 10) which applies the stipulations of the *Order of Public Finances 1802/2014*, as a consequence will hand in

financial reports consisting of: short version balance sheet, short version of profit and loss account, informative data and the situation of the fixed assets.

The first work done will be the inventory of the patrimony according to the stipulations of the *Order of Public Finances Minister no. 2.861/2009 for approving the Norms regarding the organization and performing the inventory of the elements such as assets, debts and own capitals*. The role of this work is to correct the possible errors in the written evidence, in the accounting, based on the data seen physically, fact-like, by inventory.

According to the Inventory Registry for the month of December 2018 the goods of the analysed company at the time of the inventory are:

- a construction for which the amortisation has been calculated. In accounting this construction is found in the account 212 "*Constructions*", and the amortisation corresponding to account 2812 "*Amortisation of constructions*".
- a fixed asset in the shape of a heating appliance. In accounting the fixed means is mirrored by 2131 "*Technologic equipment (machines, appliances and work installations)*", and the amortisation of the heating appliance is shown in account 2813 "*Amortisation of the installations, transport means, animals and plantations*".
- various inventory objects, including work equipment items, because, according to the present legislation, the expense with the inventory objects is acknowledged when they start to be used; these goods will be reflected in an account outside the *extra-patrimonial* balance, from class 8, respectively 8034 "*Stock, like inventory objects given into use*".

As there were noticed no inventory differences there are no accounting records for capitalizing the inventory.

Among the closure operations, for the financial exercise 2018, respectively the month of December 2018, in the entity analysed we meet: the regularization of the VAT, the re-assessment of the patrimonial structures in currency, according to the exchange rate on 31.12.2018, and noticing the expenses/revenues from differences of exchange rate (updating the currency cash in the bank accounts, the associates being foreign natural persons, they credited the company in foreign currency, therefore the debts towards the associates, expressed

in the account 4551 „Associates – current accounts”, will also have to be updated, updating the debts expressed in foreign currency towards the providers and the debts towards these generated by the advance money awarded, etc.) entering the amortisations, closing the accounts for expenses and revenues, determining the result and the profit tax.

After these operations, the crediting end balance of the account 121 „Profit or loss” reflects the net profit of the financial exercise 2018.

After finalizing the closure accounting works one does *The verification balance for the month of December 2018*.

Based on this balance one elaborates the yearly synthesis financial reports and for financial reporting.

Conclusions

Being a complete set of synthesis documents, the yearly financial reports, generally speaking, and especially the balance, must, in all circumstances, give a loyal, clear and complete image of the patrimony, of the financial situation and over the results obtained by the economic entity.

These involve: respecting in good will the rules regarding the assessment of the patrimony, respecting these principles: caution, permanence of methods, continuity of the activity, of the non-compensation, the posts entered in the balance have to correspond to the data entered in the accountancy, harmonized with the inventory. All these desiderata may be achieved by performing quality closure accounting works which may, eventually, enable the reflection by the yearly financial reports the loyal image on the patrimony and results of the entity so that the users of the accounting information may make right decisions.

As a suggestion, taking into consideration that in the Romanian accountancy the principle of the commitment accountancy is applied, it would be useful, in our opinion, to enforce the obligation for all the economic entities to draw the situation of the treasury flows.

Why do we make this suggestion? Because, after the study case, we noticed that many users are interested in the cash flows of the entity, respectively the incomes and payments of the period, information that is not provided by other documents.

Also, we must highlight the responsibility that the accounting professionals have for the accuracy of the information provided by the financial reports, information which will influence the decisions of the users with all later consequences.

References

- Feleagă, N. (2000), *Sisteme contabile comparate*, vol.II, Ed. Economică, București;
- Ristea M., Olimid Lavinia, Calu Daniela Artemisa, (2006) *Sisteme contabile comparate*, Ed. CECCAR, București;
- Order of Finances Minister 1802//2014 with the later changes and completions*
- Order of the Public Finances Minister no. 10/2019 regarding the main aspects related to the drawing up and handing in of the yearly financial reports.*
- Order of Public Finances Minister no. 2.861/2009 for approving the Norms regarding the organization and performing the inventory of the elements such as assets, debts and own capitals.*

Digital Marketing beyond Interface. An Appraisal of Digital Channels through which Costumers Receive Information

S.G. Szentesi

Silviu Gabriel Szentesi

Faculty of Economics

“Aurel Vlaicu” University of Arad, Romania

Abstract

Digital has changed the nature of customer relationships. Digital disrupts the established order and brings with it many solutions that are better suited to the changing needs of consumers. The online environment and the Internet have fundamentally changed the way people find, discover products or services, retransmit information, buy and connect. From the point of view of the theoretical approach, digital must be understood above all as a culture, with its codes, the specific way of doing things, the language used and its specificity. In digital marketing the concept of marketing is enriched. The four P classics add some new aspects of the mix marketing are: customer relationship, product / service customization, physical evidence, marketing consent. In this context, at least descriptive assessment of the use of social media, the Internet and Smartphone by customers for the purpose of obtaining commercial or personal information is useful.

Keywords: digital marketing, marketing mix, inbound marketing, communication, evaluation

Introduction

Digital has changed the nature of customer relationships and puts the user in the right place at every stage of the buying experience. This approach favors searching for feedback, consumer reaction, continuous improvement, dialogue to build a lasting, meaningful relationship. Digital disrupts the established order and brings with it many solutions that are better suited to the changing needs of consumers.

There is no opposition between traditional marketing and digital marketing. However, the latter is characterized by cultural elements that are specific to it and that it is necessary to understand them in terms of the commercial opportunity and the considerable contribution that they bring to the development of marketing strategies. Ignoring the changes of the digital era in marketing would be a great mistake. Starting from the fact that the adaptation is complex, it is an interesting and essential adventure for surviving a business.

The online environment and the Internet have fundamentally changed the way people find, discover products or services, retransmit information, buy and connect. Thus conceptual emergence of inbound marketing is the opposite of the so-called outbound marketing that differs in content and approach.

While Inbound Marketing is based on the concept of gaining the attention of potential customers and making a company or brand easier to find online to create valuable content, outbound marketing refers to phone sales, postage ads, radio ads, brochure sales, and other forms of traditional advertising. Inbound marketing that focuses on creating quality content, content through which people are brought to the business and product brand of the company.

By creating a connection between the messages sent, the content of the advertisement that is published to the client's interests naturally attracts internet traffic that can be converted into a business. Inbound marketing differs from a classic strategy because it guides the consumer and wants his heart to conversion (sale). As a result, inbound marketing attracts a prospectus and leads it to lead nurturing until it becomes a client.

The four objectives of an inbound marketing strategy are: attracting, converting, selling / closing the business, re-enchanting.

To establish this long-term relationship with the consumer and the company must cross different steps that can be decomposed as a path. In this way, clients pass through successive phases such as: unknown, visitor, perspective, customer, ambassador (Marrone R., Gallic, C., 2018).

Considerations related to Digital Marketing

From the outset, when we activate in the online environment, it's good to understand that digital is more than just another tool. Within the company, the digital system comes in many situations as an optional overlap over all the other activities, while practically it should penetrate all transactions. From the point of view of the theoretical approach, digital must be understood above all as a culture, with its codes, the specific way of doing things, the language used and its specificity. At organizational level, it takes courage to stimulate and develop unlimited curiosity to understand the essence of the digital system and develop a strategic vision.

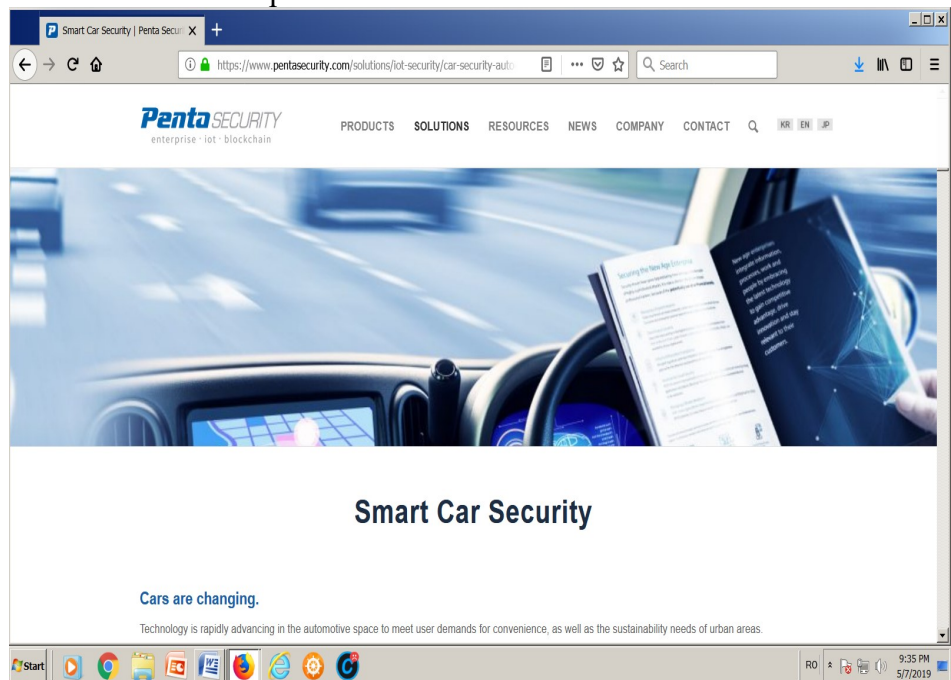
The digital system is often seen as a brake, a temporal gulf, the vision of the "instrument" is often favored at the expense of a deeper and intellectual understanding of the virtual environment, but necessary to cultivate a strategic vision. We still hear that social networks are dangerous, that the Web site is just a showcase and not a commercial lever, that the email does not work because no one responded while hundreds of messages were sent.

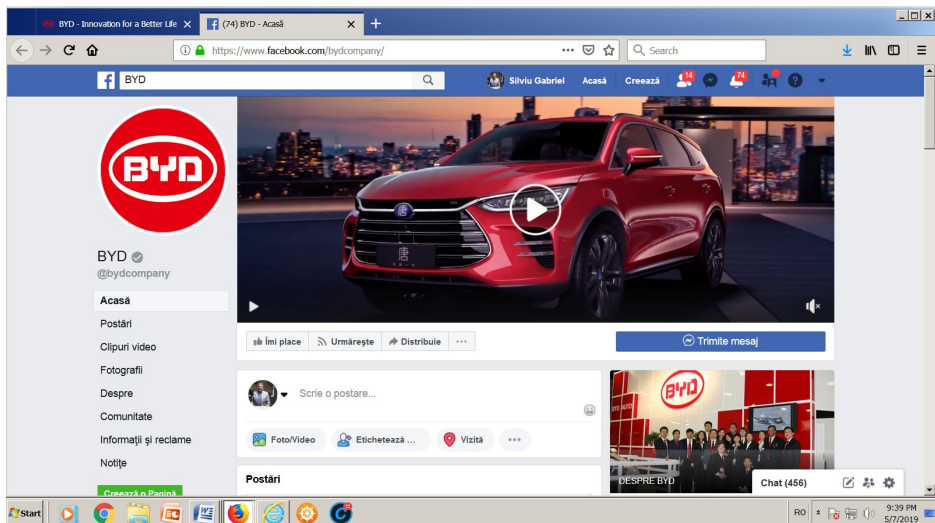
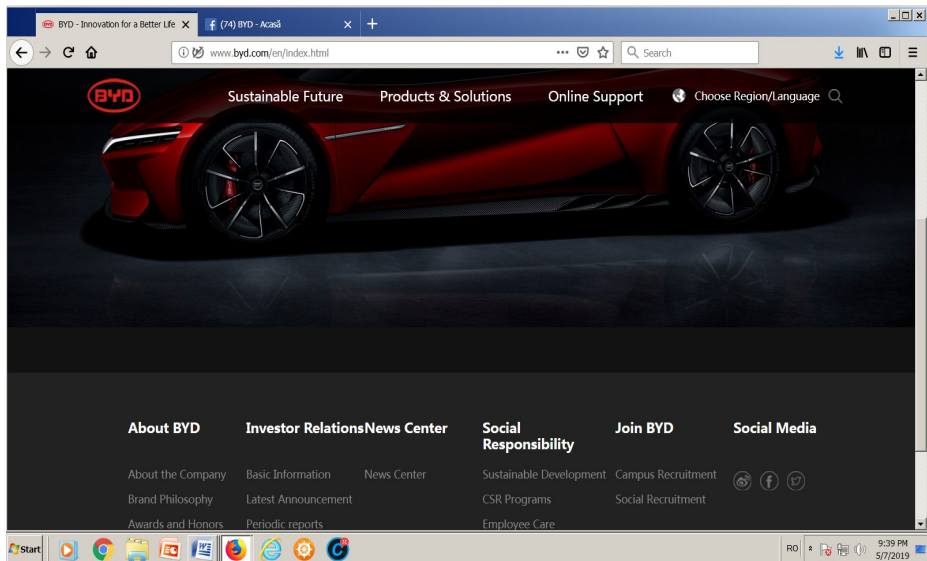
The same is true for personal branding when you are self-employed or looking for a job. Whether digital appears to be secondary, while it is important and complementary to physical procedures, whether it is used without a strategy and then becomes counterproductive and time consuming. Paradoxically, digital is everywhere and is found in all aspects of marketing. From promotional to shopping to customer relations, it is now present in any product and user contact point. Used wisely and well integrated into a global organization, digital comes to better serve customers and provide a positive experience. Outdoor advertising is no longer made up of simple billboards that rotate in posterity posters on paper.

The digital display, hidden under the term DOOH (Digital Out Of Office), has replaced the classic panels in many cities. It becomes interactive, more dynamic and the rotation of advertising is less tiring. Since 2017, digital panels have arrived in various larger cities in Romania.

Digital (virtual) world and customer relationship

While the phone and the calling network are still present, in a few cases, the only link between a market and a user (out of the shop), online chatting, contact forms, emails are now part of communication leverage to get information, dialog, to solve a problem. While some companies use digital technology as a way to limit customer interaction, others have found it to be an essential way to develop a stronger and more personalized customer relationship. Leverage to facilitate customer relationships through a website are company phone number, email, contact details, click to chat, content and useful information for a large number of customers and public. Potential levers to facilitate customer relationship are via website.





The evolution of traditional marketing in digital marketing

Talking about the evolution of traditional marketing in digital marketing inevitably evokes the marketing mix, the 4Ps that define the marketing strategy through the prism of product policy, price policy, distribution (place) and communication (promotion).

In this context of marketing, digital marketing implies and enriches this abstraction, it does not give up 4P but it is a complement to the concept of marketing mix.

The digital sphere has enriched the marketing strategies considerably in the new marketing context. Many theoreticians have developed and expanded the 4P marketing mix concept by adding other key elements that impact on the success of a product or service on a particular market. Some new aspects of mixed marketing are: customer relationship, product / service customization, physical bookkeeping, marketing consent (Marrone R., Gallic, C., 2018).

Relationship with customers

Customer relations and dialogue are significant indicators of digital technology, thanks to social networks, forums and platforms for exchange of views. This virtual exchange and information exchange space is for consumers a direct access to various goods and services markets.

Personalization of products and services

Personalization of products and services is a major issue of digital technology. Individualization of products and services can meet customer configuration requirements and send offers to meet their needs as accurately as possible. The product or service must be configurable to meet the expectations of each target platform. Changes can occur on several components: color, size, adding elements (logo, name, etc.), purchase / subscription options, number of users, features, etc. Direction, segmentation, and configuration are three actions in the form of a leitmotiv in order to satisfy the entire clientele. In the personalization concept, the idea of personalized use can also be included. Every client can match a product to transform it and use it in a way that is initially not branded.

These users, often earned for the cause of the firm and its products, can become its ambassadors. Some consumers have become true brand ambassadors, relocating their creations to dedicated websites, mutual support and sharing forums, social networks and even events organized by them.

Evidence / Physical evidence

The offer is intangible when presented online: there is no material proof of its existence. Internet users are then looking for reinsurance signals. This is materialized through all the elements on your website that help provide the user with the offer and generally with the company: phone number, labels, physical address, company photo, or physical store, etc. The phone number and opening hours of the customer service let you show that there is and that you are accessible. The physical address allows you to place your activity in a geographic area. The principle of physical proof is also reflected in the presentation of the team. What is more tangible than yours or yours? Part of brand and firm differentiation may be: to appear more real than competitors; not the company, the brand, those involved should not hide behind the virtual environment, on the contrary, even more, there are good reasons to build a reputation for the company and its products.

Marketing Access / Marketing Permission

Marketing Permission is a cornerstone of your marketing at a time when transparency and honesty are values strongly demanded by consumers to maintain a lasting relationship with a brand. Access to marketing is the place where you have the express permission of the recipient to communicate, which means you can legitimately send your marketing messages. Permission can be obtained in a variety of ways, but usually involves some incentives that encourage people to sign up actively in the database or company list.

Research issue

The four P classics add some new aspects of the mix marketing are: customer relationship, product/service customization, physical evidence, marketing consent. In this context, at least descriptive assessment of the use of social media, the Internet and Smartphone by customers for the purpose of obtaining commercial or personal information is useful. It is important to know more about interface of digital marketing and to go deeper for a further analysis.

Literature review

With the development of digital techniques and virtual space communication, there has been growing concern in marketing literature about the influence of digital on marketing and its digitization. At present, a significant part of digital marketing is related to the WEB. A 93% of web traffic is managed by search engines (Egri and Bayark, 2014). It is therefore essential that companies on the net optimize their presence on the WEB. The analysis of digital marketing literature helps to understand the concept of digital marketing, and various SEO techniques (Search Engine Optimization) / SEM (Search Engine Marketing), then the utility of social networks and finally to understand the importance of marketing as a process.

Ryan (2013) defines digital marketing as the use of digital technology (internet, software and electronic equipment) to connect people and build relationships that lead to the sale of products and services. Other authors agree with the Digital Marketing Institute's definition that using digital technology can generate integrated, direct and measurable communication to acquire and maintain customers (Wymbs, 2011). (Royle & Laing, 2014). A synthesized definition refers to digital marketing as the strategic use of digital technology resources to deliver marketing practices to improve and optimize business performance (Gutierrez et al, 2016). With a combination of push and pull strategy, it is a rhythmic and evolving marketing (Flores, 2016).

Social media like Facebook allowed companies to communicate with millions of people about products and services (Khan et al, 2013). They are a sign of motivation for them and marketing professionals (Pai and Arnott, 2013). Among the issues related to digital marketing we find the problem associated with disintermediation regarding the internet users' practices with the evolution of e-commerce, the keywords used in the search engines, the consideration of the costs and the challenges of the internet. (Ladwein, 2000; Isaac et al., 2014). Among the issues related to digital marketing, we find the question associated with disintermediation with regard to the practices of Internet users with the evolution of e-commerce, the keywords used in search engines, the consideration of costs and the challenges of the Internet and SEO issues (Ladwein, 2000, Isaac et al, 2014).

Social networks and virtual communities have completely changed the current business as they have caused significant changes in the value chain and in the structure of all types of businesses. According to Garrigos (2012), social networks and virtual communities affect the design of websites, they can increase business competitiveness, including by transforming their business models. It is a way for companies to work faster and operate on global markets. Social networks and, in particular, Facebook allow the company to increase the number of potential customers and to provide a closer relationship with consumers Nobre (2014). Facebook is useful and inexpensive for any type of business, small or medium, and regardless of its business strategy.

The use of Twitter in the professional world is a reference model in customer relationship, where the visibility of the professional can be a way to be recognized by consumers. In a professional case, it is not enough to be content to be on Twitter to create visibility but on multiple channels to have online, digital, web, visibility. Companies need to feed these social networks with personalized, planned and strategic content, where the need to enter content also arises (Domenget, 2013). Digital marketing is a management process that leads to identifying, anticipating, satisfying customer needs to make profits through digital intangible digital tools or objects distributed through electronic channels (Rowley, 2008). This technique is widespread in social networks, especially Facebook, where the number of active users in 2019 exceeds 3.5 billion (we are social 2019).

In addition, in social networks, 5% of the posted recommendations will involve 45% of the influences on a customer's decision-making process (Dussart 2016). And in Quebec, more than 40% of adults would trust their knowledge and contacts to make purchases (Forouzandeh 2014). For example, promotional messages strongly affect consumers in Indonesia (38%) and Hong Kong (40%), consumers who do not hesitate to follow a certain brand in the digital environment are high, but in China the brand should be attractive for consumers to accepts to follow it (PR Newswire Europe 2016). Figures show that the intention to act and involve consumers for a brand depends on the market.

Research methodology and the results of the study

Research Methodology

This research was conducted mostly on Facebook and Internet (Yahoo), the online / internet or mobile phone with digital or Internet response option. Data collection methodology is based on questionnaires and statistical data processing. The data are collected based on a random determined sample. The research results can be interpreted statistically. Information was collected through online survey. Online application aims to determine the marketing communication via Internet and the use of digital techniques like interface for digital marketing. The research was conducted in:

- the period of the study is 2.04.2018-30.05.2018;
- with a statistical significance of $\alpha = 10\%$.
- calculated sample size for this statistical terms is 87 people

The sample survey was drawn up in a repeated survey with the formula:

$$n = \frac{t_{\alpha, f}^2 \times p \times (1 - p)}{e^2}$$

Where: n - sample size; t – the tabular value of Student distribution; p = weight of positive answers; e - accepted error.

The tabular Student value is $t = 1.96$ for the survey results with the probability required under the objectives of the study, where α - level of significance is 0.10 and $1-\alpha = 0.90$ and f- number of degrees of freedom is considered infinitely large ∞ , $e = 7\%$ and $p = 80\%$, derived from social studies data in Europe 2018 (We Are Social and Hootsuite, 2018 Report).

$$n = \frac{(1.64)^2 \times 0.8 \times 0.2}{(0.07)^2} = \frac{2.6896 \times 0.16}{0.0049} = 87.82 \approx 87$$

The process of the composition and selection of the sample is unrepeatable. This type of survey involves randomly choosing a part of active online public. By randomly means that each person active online has exactly the same chance of being sampled.

The questionnaire development

It was used questionnaires to obtain data in the online messenger (Facebook) through private message and email on Yahoo. Shows how the responses will be made by recording responses directly into the system through the *isondaje*. Questionnaire survey is named: Questionnaire on the public communication of disease risk (Szentesi, S.G., Cîrnațu, D., Szentesi, E., (2018)).

Date collection

The date has been collected on the Internet using an application named iSondaje.ro, applied via Facebook and internet email system. The date are automatically collected and reported thru that system when somebody access and fulfill the questionnaire.

Data analysis

Customers get information through	Total disagree	Dis agree	So and so	Agree	Total agree	I do not know / No answer
from Facebook	11.5%	16.7%	32.3%	21.9%	13.5%	4.2%
on the other social	17.7%	24.0%	24.0%	16.7%	9.4%	8.3%
on Internet search on Google / other search engines	4.2%	5.2%	21.9%	35.4%	29.2%	4.2%
smartphone	19.1%	23.4%	23.4%	18.1%	7.4%	8.5%

From Facebook

Total disagree	11.50%
Disagree	16.70%
So and so	32.20%
Agree	21.90%
Total agree	13.50%
I do not know / No answer	4.20%
	100.00%

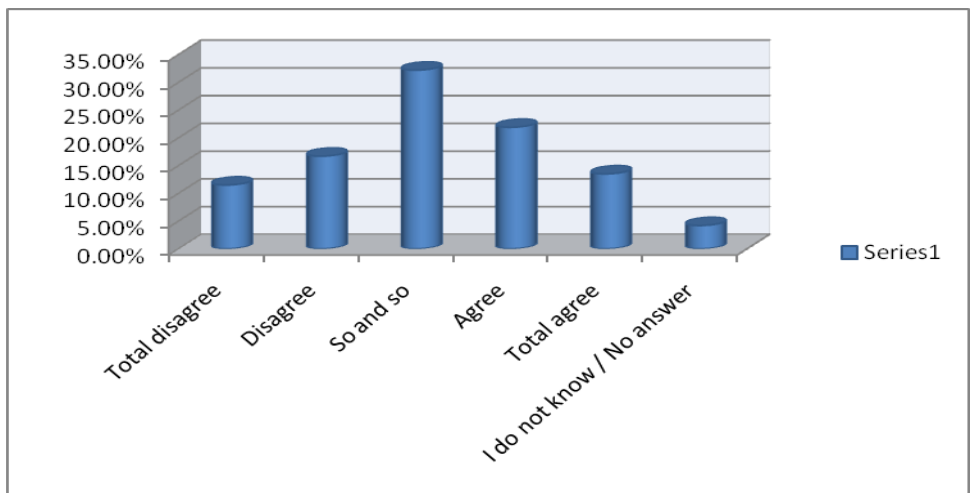


Fig.1. Customers get information through Facebook

On Internet search on Google / other search engines

Total disagree	4.20%
Disagree	5.20%
So and so	21.90%
Agree	35.30%
Total agree	29.20%
I do not know / No answer	4.20%
	100.00%

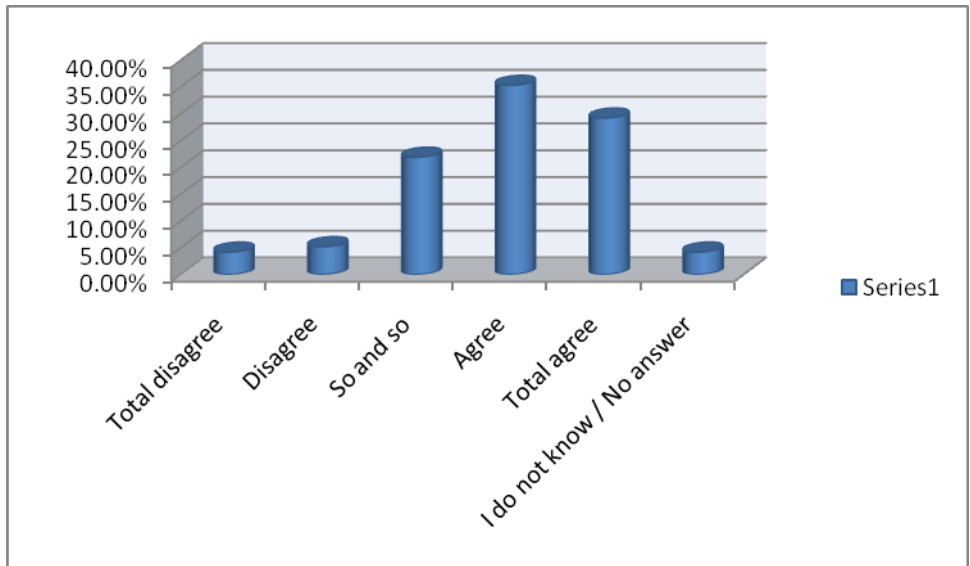


Fig.2. Customers get information through on Internet search on Google or other search engines

Customers get information through Smartphone

Total disagree	19.10%
Disagree	23.40%
So and so	23.40%
Agree	18.10%
Total agree	7.50%
I do not know / No answer	8.50%
	100.00%

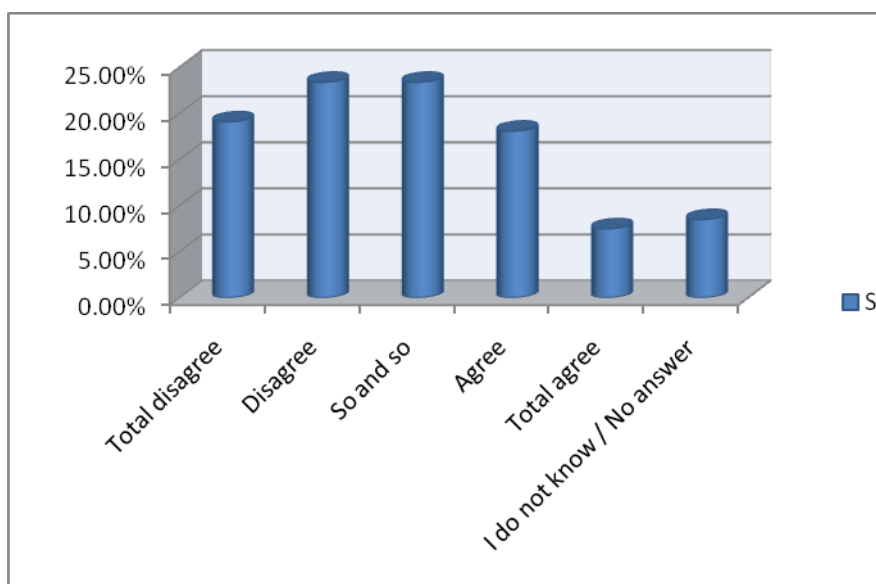


Fig.3. Customers get information through Smartphone

Appreciations on use of visual and vocal information in future
 mediatisation (%) (Szentesi, S.G., Cîrnațu, D., Szentesi, E., (2018)

appreciate quite well	21.50%
appreciate	28.00%
so and so	19.40%
less	2.00%
not at all	5.40%
don`t now yet	15.10%
can`t appreciate	8.60%
	100.00%

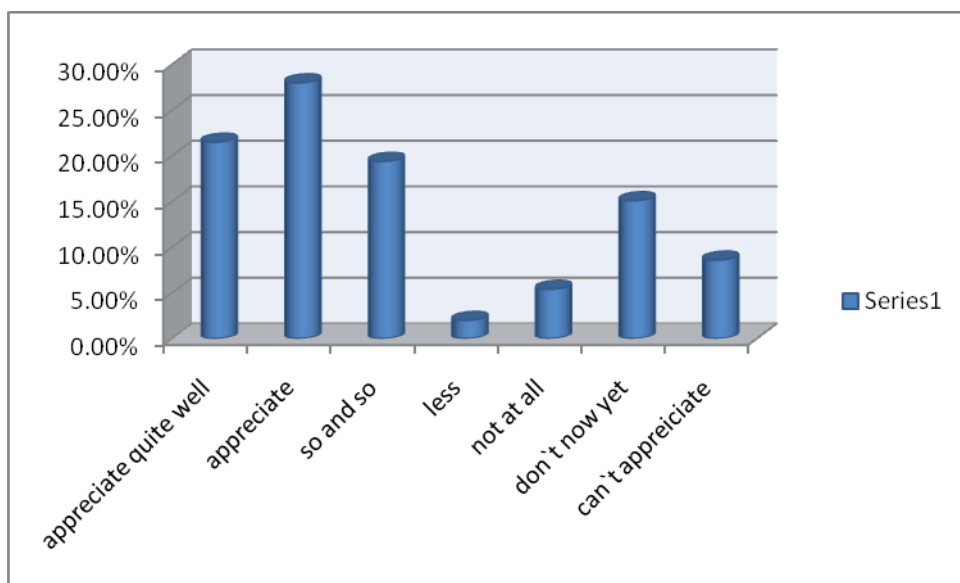
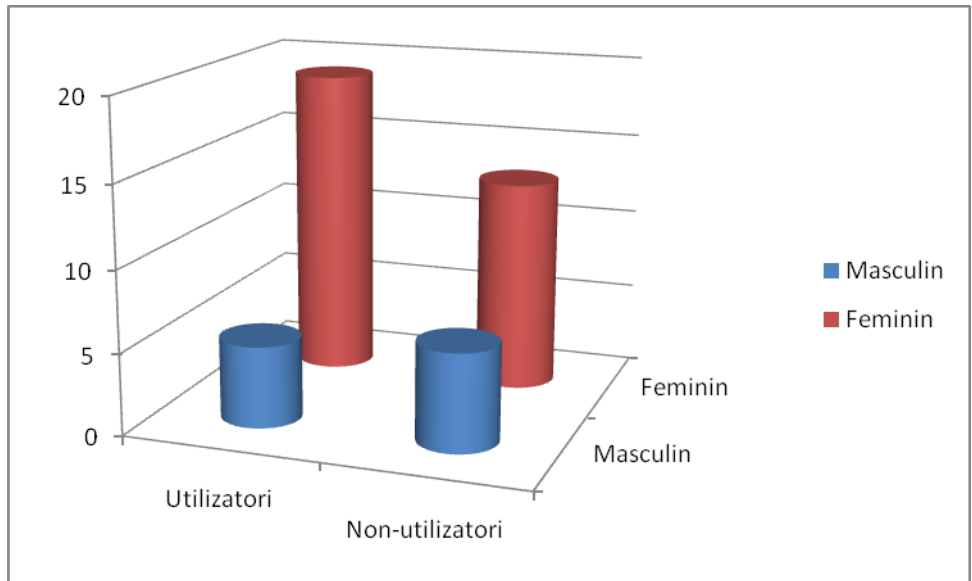


Fig.4. Appreciations on use of visual and vocal information in future mediatization (%)

The use of smartphone male versus female

Gender	Users	Non-Users	Total
Male	5	6	11
Female	19	13	32
Total	24	19	43



F-Test Two-Sample for
Variances

	<i>Users</i>	<i>Non-users</i>
Mean	12	9.5
Variance	98	24.5
Observations	2	2
df	1	1
F	4	
P(F<=f) one-tail	0.295167235	
F Critical one-tail	161.4476387	

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Users	2	24	12	98
Non-users	2	19	9.5	24.5

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	6.25	1	6.25	0.102041	0.779674	18.51282
Within Groups	122.5	2	61.25			
Total	128.75	3				

Coefficient of association is 0,2737. The association coefficient shows that the consumer gender does not have a significant influence on access to the digital environment using the Smartphone.

Conclusions

A large number of consumer (67,60% percent) are getting information from digital environment through Facebook, 86,4% are getting information on Internet search on Google / other search engines, 49% are going for information search on Smartphone and 34,4% make use of other social media (like Twitter for example).68,9% are open to the further digital interface developments and new ways of communication. Digital marketing has not fundamentally changed from classical marketing but are some developments on instruments. Are added some new specific instruments in the marketing mix.The digital sphere has enriched the marketing strategies considerably in the new marketing context. Many theoreticians have developed and expanded the 4P marketing mix concept by adding other key elements that impact on the success of a product or service on a specific market with digital interface. Some new aspects of mixed marketing are: customer relationship, product/service customization, physical bookkeeping, marketing consent. Because of quantum computing and development of artificial intelligences use of visual and vocal information in future the new communication era can bring a profound change in marketing, related especially to digital.

References

- Domenget, J. C. (2013). La visibilité sur Twitter: un enjeu professionnel. TWITTER. UN MONDE EN TOUT PETIT?.
- Dussart, C. (2016). Les médias sociaux en 8 points. GESTION, 40(4), 86– 92.
- Egri, G., & Bayrak, C. (2014). The Role of Search Engine Optimization on Keeping the User on the Site. PROCEEDIA COMPUTER SCIENCE, 36, 335–342.
- Flores, L. (2016). MESURER L'EFFICACITE DU MARKETING DIGITAL-2E ED.: ESTIMER LE ROI POUR OPTIMISER SES ACTIONS. Dunod.
- Forouzandeh, S., Soltanpanah, H., & Sheikahmadi, A. (2014). Content marketing through data mining on Facebook social network. WEBOLOGY, 11(1), 1.
- Garrigos-Simon, F. J., Lapiedra Alcamí, R., & Barberá Ribera, T. (2012). Social networks and Web 3.0: their impact on the management and marketing of organizations. MANAGEMENT DECISION, 50(10), 1880–1890.
- Gutierrez-Leefmans, C., Nava-Rogel, R. M., & Trujillo-Leon, M. A. (2016). Digital Marketing in an Emerging Country: Exploratory Study of the Marketing Mix of SMES with Trust Seal. REMARK, 15(2), 207.
- <https://wearesocial.com/global-digital-report-2019>
- Isaac, H., & Volle, P. (2014). E-COMMERCE: DE LA STRATEGIE A LA MISE EN OEUVRE OPERATIONNELLE. Pearson Education France.
- Khan, F., & Siddiqui, K. (2013). The Importance Of Digital Marketing. An Exploratory Study To Find The Perception And Effectiveness Of Digital Marketing Amongst The Marketing Professionals In Pakistan. JOURNAL OF INFORMATION SYSTEMS & OPERATIONS MANAGEMENT, 1.
- Ladwein, R. (2000). Ergonomie et accessibilité des sites Web: quelques problèmes et enjeux pour le e-commerce. DÉCISIONS MARKETING, 57–71.

- Nobre, H., & Silva, D. (2014). Social network marketing strategy and SME strategy benefits. *JOURNAL OF TRANSNATIONAL MANAGEMENT*, 19(2), 138–151.
- Pai, P., & Arnott, D. C. (2013). User adoption of social networking sites: Eliciting uses and gratifications through a means–end approach. *COMPUTERS IN HUMAN BEHAVIOR*, 29(3), 1039–1053.
- PR Newswire Europe, 2016. Report Information from ProQuest Table des matières. , (Mai).
- Rowley, J. (2008). Understanding digital content marketing. *JOURNAL OF MARKETING MANAGEMENT*, 24(5–6), 517–540.
- Royle, J., & Laing, A. (2014). The digital marketing skills gap: Developing a Digital Marketer Model for the communication industries. *INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT*, 34(2), 65–73.
- Ryan, D. (2014). *UNDERSTANDING DIGITAL MARKETING: MARKETING STRATEGIES FOR ENGAGING THE DIGITAL GENERATION*. Kogan Page Publishers.
- Wymbs, C. (2011). Digital marketing: The time for a new “academic major” has arrived. *JOURNAL OF MARKETING EDUCATION*, 027347531039254,
- Lile, R; Szenteși, S., Rusu, S , Csorba, L., Bălan, L.(2015) *Statistică economică*, – Editura Presa Universitara Clujeana, Cluj;
- Marrone R., Gallic, C., (2018) „ *Le Grand Livre du marketing Digital*” Editura Dunod Malakoff France;
- Szentesi Silviu Gabriel (2017), Book review: *Ethics and Neuromarketing. Implications for Market Research and Business practice*, Amfiteatrul Economic, July 2017, Bucharest. Factor impact 0.581
- Szentesi, S.G., Cîrnațu, D., Szentesi, E., (2018), *The impact of digitalization of communication in the way we understand the communication the Risks Related to Diseases in the present and future*. 4^e Colloque International Comsymbol Journal Essachess -IARSIC au Paul Valery Montpellier 3 France, avec l’Université Aurel Vlaicu d’Arad,

Szentesi, S.G., Lile, R., Csorba, L., Balan, L., Rusu, S., (2011), *Statistica Economică (Economic Statistics)*. Aurel Vlaicu University Publishing House, Arad. ISBN: 978-973-752-553-6, 371 pages.

We Are Social and Hootsuite. *The new 2018 Global Digital suite of reports*. <https://wearesocial.com/blog/2018/01/global-digital-report-2018>.

Problems and challenges of teaching organizational behavior at university level

F.L. Isac, S. Rusu

Florin Lucian Isac

Faculty of Economics,
“Aurel Vlaicu” University of Arad, Romania

Sergiu Rusu

Faculty of Economics,
“Aurel Vlaicu” University of Arad, Romania

Abstract

Organizational behavior is a discipline that has found its place relatively recently in the curricula of economics faculties, both in the undergraduate and master classes. Due to the interdisciplinary character and the complexity, the transmitting and especially the efficient acquiring by the students of the notions of organizational behavior raise a series of specific problems. The article seeks to propose solutions to streamline learning about organizational behavior, also taking into account a certain gap between research and teaching specific to managerial sciences

Keywords: behavior, organization, challenge, teaching, university

Introduction

The understanding of people's behavior within organizations has gained a growing importance lately, especially from a managerial perspective.

Organizational behavior is an academic discipline dedicated to understanding individual and group behavior, interpersonal processes, and organizational dynamics, in order to improve the performance of the organization and its employees. It is a platform of knowledge that can expand our potential for career success in an increasingly dynamic, complex and changing work environment. (Isac, F.L., 2015, p.5-6).

Organizational behavior forms a field of study, thus representing a distinct space of expertise with a common body of knowledge. It studies three determinants of behavior in an organization: individuals, groups and structures. In addition, organizational behavior applies the set of knowledge gained about individuals, groups, and the effect of structure on behavior in order to make work more efficient (Robbins, S.P., Judge, T.A., 2013, p.10)

Organizational behavior emerged as a distinct field of research around the 1940s, although organizations have been studied by experts in other domains for many centuries. Thus, Plato spoke of the essence of leadership, Confucius emphasized the role of ethical virtues in leadership, and in 1776, Adam Smith supported a new form of organizational structure based on the division of labor. A hundred years later, Max Weber wrote about rational organization, work ethic, and charismatic leadership, and Frederick Winslow Taylor proposed new ways to organize employees and motivate them by setting goals and rewards. In the 1920s, Elton Mayo explained how formal and informal groups functioned, and Mary Parker-Follett proposed innovative ways of thinking on concepts such as constructive conflict, team dynamics, organizational democracy or leadership (McShane, SL, von Glinow, MA, 2010, p.5). The unified organization of knowledge of organizational behavior in a stand-alone discipline took place after the Second World War.

1. Why are we studying organizational behavior?

Organizational behavior has an interdisciplinary character and is devoted to understanding and managing people in the work process. This way, it draws on the research and practice of several disciplines such as anthropology, economics, ethics, management, political science, psychology, sociology, and statistics.

Teachers of organizational behavior face a challenge. On the one hand, students at the onset of their professional career appreciate the courses they associate with specific posts (accountant, marketing consultant, financial analyst). On the other hand, organizational behavior does not provide a specific career path (for example, there is no post of „organizational behavior” manager!), So students have difficulty linking the knowledge of organizational behavior to their professional future. The perception of students with a few years of work experience over the usefulness of organizational behavior for them may be different. They will appreciate that the theories of organizational behavior provide a certain meaning to the workplace and that they give them the opportunity to analyze and rebuild their own mental models previously developed through observation and experience. (McShane, S.L., Von Glinow, M.A., 2010, p.5-6)

Johns and Saks (2017, p.6-7) offer three reasons for studying organizational behavior:

- Organizational behavior is interesting because it refers to people and human nature, provides examples of success or failure;
- Organizational behavior is important because it has influences on managers, employees and consumers;
- Organizational behavior makes the difference: the main source of competitive advantage is human capital.

The reasons identified by the two authors can be easily approved by teachers who teach this discipline. Much more difficult is teacher's task to raise students' motivation to study human behavior in organizations. This may be easier for students from master programs (who have some professional experience), and they discover how organizational behavior helps them in their work tasks. Each employee has to interact with other colleagues in the process of work, thus applying knowledge and tools of organizational behavior on a daily basis and in multiple situations (building a performing team, influencing the direct boss, managing an interpersonal conflict).

2. The nature of knowledge in the field of organizational behavior and its implications in teaching

According to Burke and Rau (2010, p.133), „learning involves a modification or increase in knowledge.” But what are the basic elements of knowledge of organizational behavior? Cummings (1978, p.93-95) identifies three dimensions of organizational behavior, namely (1) a way of thinking; (2) a collection of concepts, patterns, and facts; (3) a system of tools and technologies. Concepts, theories (models) and empirical discoveries are considered as the main elements of the content of knowledge of organizational behavior.

Pawar (2015, p.292) summarizes the main features of knowledge of organizational behavior and the problems in teaching that may result.

Table 1. Characteristics of knowledge from organizational behavior and implications in the educational process

OB knowledge content element	Features of the OB content element	Resulting issues in OB teaching
Concepts	Multiple definitions	Vagueness in the OB reality view provided by OB concepts
	Vagueness in definitions	
Theories	Multiple theories	Incoherent view of the OB reality through multiple and conflicting theories
	Conflicting theories	
	Limited validity and usefulness of theories	
	Findings scattered in a large number of individual papers	Inadequately unified view of the OB reality from empirical findings scattered in individual studies
	Presence of conflicting findings	Doubts about the OB reality view provided by individual empirical findings with methodological limitations

Empirical Findings	Findings get revised or qualified	Lack of a direct experience through empirical findings
	Methodological limitations are associated with findings	Inadequate clarity from empirical findings
	Low strength of association captured in findings	Inadequacy of OB textbooks as an aid for integrating empirical findings
	Limitations in integrating individual findings	
	Difficulty in arriving at generalizations from empirical findings	

Source: Selected from Pawar, B.S. (2015) - Some features of organizational behavior knowledge and the resulting issues in teaching organizational behavior, *The International Journal of Management Education*, 13, p.289-301 (p.292)

Numerous definitions are identified in literature for both the concept of organizational behavior and specific phenomena. Thus, Luthans (2005, p.547) said: „Unfortunately, almost everyone who studies or writes about leadership defines it differently.” We can identify a multitude of theories for some organizational behavior phenomena, motivation (the path to objectives theory, equity, expectation, needs-oriented theories) or leadership (trait, behavioral, contingency theory). A number of theories do not have adequate empirical support or validity.

Regarding the empirical findings, we identify a large number of individual studies addressing the same issue of organizational behavior (for example, Fisher (2000) identifies over 5,000 published articles and dissertations on work satisfaction).

Moreover, some associations of variables and constructs typical of organizational behavior that have been validated over time in several studies (and to which we would be tempted to attribute them to a generalizing character) can be denied in another cultural context, generalizing instability in generalization results.

3. Experiences, methods and dilemmas in teaching organizational behavior

An interesting study by Brown, Charlier, Rynes and Hosmanek (2013, p. 453-459) examined 241 syllabi of organizational behaviour courses taught in MBA programs.

Information regarding the course title, topics covered, bibliography, case studies, teaching methods and learning assessment was collected. The results show that the most present chapters in the courses investigated were those dedicated to leadership (72%), groups / teams (70%) and motivation (50%).

There is an important variety of recommended manuals and case studies, with only a very small number being included more than 10 times in the analyzed courses. The most recommended courses recommended by MBA teachers were Robbins and Judge (2007) and Whetten and Cameron (2007).

We note that if the first recommended title is fundamental to understanding the essential concepts of the field, the second provides notions for acquiring practical skills to work with different quantitative and qualitative tools, questionnaires, tests.

Regarding the teaching methods, the most frequently mentioned were case studies (88.3% of the analytical programs studied), the debate (81.2%), exercises or activities (66.7%), presentations (57.5%), lectures (39.2%) and simulations (7.9%). Regarding assessment methods, testing was the most used (33.8%), followed by individual written projects (27.3%), group projects (12.9%), group presentations (7%), collegial evaluations (1.5%), individual presentations (1.2%).

If we analyze the situation in the faculties with economic profile in Romania, we find that the discipline „Organizational Behavior” is included in the list of compulsory disciplines in the field only in the degree program „Management”, while the rest of the bachelor programs are only possible to include it as „discipline relevant for student training, available according to the options of the institutions” (Standarde de specialitate ARACIS, comisiile 6 și 7, domeniul Științe Economice).

In the master programs (which are mostly professional in the Romanian economic university education), the field is approached under various titles, including “Leadership and organizational behavior” (Strategies and Management Policies Master, Aurel Vlaicu University/UAV, SNSPA). „Consumer and Organizational Behavior”(master programs Entrepreneurship and Business Administration, Business Research, ASE Bucharest), „Organizational Behavior”: Business Consulting and Development, Human Resources Management, Business Development Management (ASE Bucharest); UAV masters programs: Entrepreneurship and Business Administration; Human Resources Management, master UBB, UAIC), „Strategic Leadership Development” (master SME’s Management, ASE Bucharest).

We mention that the study of human behavior in organizations is approached (under different names) and master programs of faculties with non-economic profile (sociology, psychology, communication sciences).

The analysis of some curricula and factsheets of the „Organizational Behavior” discipline from the „Management” bachelor's program managed by various faculties of economics in Romania reveals the presence of similar themes to those identified in other course descriptions in the USA or Europe. We observe a variety of teaching methods, especially in seminar activities: case study, use of behavioral assessment tools, debate, role play (UVT FEEA); case studies prepared by students, lecture (UBB FSEGA), interactive course with Power Point or Prezi presentation, tests, observation exercises, simulation, team-building exercise, case study (UAIC FEEA Iași).

Examination methods are grid tests + portfolio papers scoring (FSEGA), written exam + discussions, projects, case studies (UVT FEEA); exam, teacher questions in the course (bonus), intermediate test, behavior observation, results analysis (UAIC FEEA).

Regarding the recommended bibliography, we notice titles mainly from the Anglo-Saxon literature, few of the native language and some recommendations from related sciences (Organizational-Managerial Psychology, Organizational Sociology, Organizational Theories). Unfortunately, making statistics with the most recommended bibliographic titles is difficult to achieve due to the insufficiency of information and the small number of faculties in which the course is taught.

Also, the use of foreign textbooks in teaching, or their consultation by students, raises a number of problems. First of all, the understanding of concepts can be distorted by a precarious knowledge of business English by the students or a lack of motivation to read these papers due to the time needed to go through. Secondly, the case studies proposed by Anglo-American authors are very well done, but they can be hard to understand students from another culture who do not know many of the so popular companies in other business environments. Moreover, the possibility of accessing the updated bibliography by teachers or students is limited due to the high prices on the science book market, the lack of bookstores (physical or online) specialized on the scientific book, the absence of an antiquary market for valuable scientific textbooks, the motivation of university students to publish textbooks for students.

We can not identify collections of case studies proposed for sale to the public or the known „Test Bank” or „Instructor Manual” in the Anglo-Saxon literature. If we lean towards the content of the Romanian books of organizational behavior, we note an abundance of theoretical information, insufficient presentation of some models of research tools of various individual or group phenomena of organizational behavior, the lack of case studies conducted on Romanian organizations, which are more familiar to students.

Our experience

We are responsible for the discipline of „Organizational Behavior” from the Bachelor's Degree Program Management, respectively the disciplines „Leadership and Organizational Behavior” (Master Strategies and Management Policies), „Management and Organizational Behavior” (Master of Corporate Finance), „Organizational Behavior” (Master Entrepreneurship and Business Administration).

So, from the beginning, we faced a conceptual problem of didactic approach: „How can we differentiate between disciplines at the two different study cycles: bachelor and master?” The answer to this question was hampered by the fact that in the second cycle of studies with a master's degree program, the admitted students may have (and in fact have) different training in the 1st cycle, bachelor: „Candidates for the professional master's program must be graduates with a Bachelor's degree regardless of the field in which it is issued” (Standarde specifice ARACIS, Domeniul Științe Economice, p.99).

Thus, we can identify the situation in which at a master's degree in Management, we have enrolled students with bachelor degree in law, administrative sciences, psychology, engineering, philology, eager to occupy a leading position in their fields of expertise. Thus, a more in-depth approach regarding this discipline in master degree, starting from the assumption that students have basic knowledge in management, should be questioned. The solution identified and applied by us was the introduction of introductory courses addressing general management issues in order to form a common corpus and offer minimal knowledge.

Subsequently, detailing the specific themes was relatively easy to achieve, as the discipline proposes a series of transversal competences (acquainting the relational techniques in the working groups, capitalizing on the learning resources for personal development), easily internalized by a master student who wants both career and personal progress.

The teaching methods used by us at this course were the debate and case studies conducted and presented by the students. We realized students had difficulties in understanding some of the issues, including:

- The difference between motivation and work satisfaction, both conceptually and in terms of measurement;

- The idea that alongside money, there are other motivation factors at work;
- the idea that a higher salary does not necessarily imply greater work satisfaction;
- the fact that we are not, as individuals, as rational as we claim;
- the difference between manager and leader.

The examination is done by combining the theoretical themes with individual mini-essays in which we want to verify the extent to which students are able to apply theoretical notions to concrete work situations. Here, we notice the inventiveness in offering solutions by some master students, usually employed for some years in some companies.

Conclusions and perspectives

Literature tells us that the usefulness of management research for teaching is declining (Pearce and Huang, 2012), there is a gap between research and teaching (Burke and Rau, 2010), and reduced research content in organizational behavior courses has decreased the access of students from business faculties or managers to this research (Rousseau, 2006). As the well-known author of the expectation theory of motivation, Victor Vroom (2007, p.367) states: „As a researcher, I have gained a prudence in making statements about the world ...”

In our case, we are aware that we will experience with varying intensities and in different moments of our academic career, problems in teaching organizational behavior. We are proposing, for a short time horizon, to review the organizational behavior course by inserting more measuring instruments and reference to practical situations. Following the suggestion made by Mozahem and Ghanem (2018, p.273-276), we propose to ask students to make "personal journals" in which they should note their reflections on the proposed chapters, critically evaluate the topics discussed and examine your own behavior. We will also include in the curriculum the film as a training method, both artistic (proposal: 12 Angry Men) and documentary (proposal: The Corporation).

References

- Brown, K.G., Charlier, S.D., Rynes, S.L., Hosmanek, A. (2013). *What Do We Teach in Organizational Behavior? An Analysis of MBA Syllabi*, Journal of Management Education, 37(4), p.447-471
- Burke, L.A., Rau, B. (2010). *The research-teaching gap in management*, Academy of Management Learning and Education, 9(1), p.132-143
- Cummings, L.L. (1978). *Toward organizational behavior*, Academy of Management Review, 3, p.90-98
- Isac, .FL. (2015). *Comportament organizațional*, Ed. Universității Aurel Vlaicu din Arad
- Johns,G., Saks, A.M. (2017). *Organizational Behaviour. Understanding and Managing Life at Work*, Tenth edition, Pearson, Toronto.
- Luthans, F. (2005). *Organizational Behavior*, 10th edition, McGraw-Hill, New York
- McShane, S.L, Von Glinow, M.A. (2010). *Organizational Behavior. Emerging Knowledge and Practice for the Real World*, McGraw-Hill, Irwin, 5th edition
- Mozahem, N.A., Ghanem, C.M. (2018). *The University is An Organization: Teaching Organizational Behavior by Relying on Students' University Experience*, Management Teaching Review, vol3(4), p.271-286
- Pawar, B.S. (2015). *Some features of organizational behavior knowledge and the resulting issues in teaching organizational behavior*, The International Journal of Management Education, 13, p.289-301
- Pearce, J.L., Huang, L. (2012). *The decreasing value of our research to management education*, Academy of Management Learning and Education, 11(2), p.247-262
- Robbins, S.P., Judge, T.A. (2013). *Organizational Behavior*, 15th edition, Pearson Prentice Hall
- Rousseau, D.M. (2006). *Is there such a thing as "evidence-based management"*, Academy of Management Review, 31, p.256-279

Vroom, V.H. (2007). *On the synergy between research and teaching*,
Journal of Management Education, 31, p.365-375

***, *Standarde de specialitate ARACIS, comisiile 6 și 7, domeniul Științe Economice*, available online at
[http://www.aracis.ro/fileadmin/ARACIS/Legislatie -
Proceduri/2017/6. Standarde ARACIS - Comisia 6. 7-
Stiinte Economice-27.04.2017.pdf](http://www.aracis.ro/fileadmin/ARACIS/Legislatie_-_Proceduri/2017/6._Standarde_ARACIS_-_Comisia_6._7-_Stiinte_Economice-27.04.2017.pdf)