

Dynamic Relationships Management Journal

CONTENTS

Volume 8, Number 2, November 2019

From the President of the Slovenian Academy of Management

Tomaž Čater 1

Enterprise, Entrepreneurship, and Innovation: What this Means for the New HRM Professional and the New Workplace

Simon Best, Ljupčo Eftimov 3

Internal and External Perspectives on User Innovation: What Was Left Behind? A Review of Current Literature

Khatereh Ghasemzadeh..... 15

Business Ethical Behavior as a Critical Factor in HR Change Transformational Models in the Insurance Industry – The Case of the Republic of North Macedonia

Leonid Nakov, Igor Ivanovski 41

Can I Be Trained Too? An Analysis of Determinants of the Access to Training

Katerina Božič 55

Trust in Managers Revisited - Antecedents, Mediating Factors, and Consequences

Jon Aarum Andersen 65

Call for Papers: 6th International Conference on Management and Organization: Integrating Organizational Research: Individual, Team, Organizational and Multilevel Perspectives

The Slovenian Academy of Management 74

Author Guidelines 79

Aims & Scope

The Dynamic Relationships Management Journal is an international, double blind peer-reviewed bi-annual publication of academics' and practitioners' research analyses and perspectives on relationships management and organizational themes and topics. The focus of the journal is on management, organization, corporate governance and neighboring areas (including, but not limited to, organizational behavior, human resource management, sociology, organizational psychology, industrial economics etc.). Within these fields, the topical focus of the journal is above all on the establishment, development, maintenance and improvement of dynamic relationships, connections, interactions, patterns of behavior, structures and networks in social entities like firms, non-profit institutions and public administration units within and beyond individual entity boundaries. Thus, the main emphasis is on formal and informal relationships, structures and processes within and across individual, group and organizational levels.

DRMJ articles test, extend, or build theory and contribute to management and organizational practice using a variety of empirical methods (e.g., quantitative, qualitative, field, laboratory, meta-analytic, and combination). Articles format should include, but are not restricted to, traditional academic research articles, case studies, literature reviews, methodological advances, approaches to teaching, learning and management development, and interviews with prominent executives and scholars.

Material disclaimer

Responsibility for (1) the accuracy of statements of fact, (2) the authenticity of scientific findings or observations, (3) expressions of scientific or other opinion and (4) any other material published in the journal rests solely with the author(s). The Journal, its owners, publishers, editors, reviewers and staff take no responsibility for these matters.

Information for Readers

Dynamic Relationships Management Journal (ISSN 2232-5867 - printed version & ISSN 2350-367X - on-line version, available in (full text) at the DRMJ website) is published in 2 issues per year. For ordering the printed version, please contact the editor at matej.cerne@ef.uni-lj.si.

Call for papers

The Dynamic Relationships Management Journal (DRMJ) is inviting contributions for upcoming issues. The manuscript can be submitted per e-mail to the editor (matej.cerne@ef.uni-lj.si). Before the submission, authors should consult Author Guidelines. There is no submission or publication fee.

Open Access statement

This is an open access journal which means that all content is freely available without charge to the user or his/her institution. Users are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles in this journal without asking prior permission from the publisher or the author. This is in accordance with the BOAI definition of open access. Please read »Copyright / licensing conditions« statement for addition info about legal use of published material.

Copyright / licensing conditions

Authors of the articles published in DRMJ hold copyright with no restrictions and grant the journal right of first publication with the work. Authors are permitted and encouraged to post their work online (e.g., in institutional repositories or on their website) prior to and during the submission process, as it can lead to productive exchanges, as well as earlier and greater citation of published work.)

Articles published in DRMJ are licensed under a Creative Commons Attribution-NonCommercial 4.0 International Public License (CC BY-NC 4.0; <http://creativecommons.org/licenses/by-nc/4.0/>). Under this license, authors retain ownership of the copyright for their content, but allow anyone to download, reuse, reprint, modify, distribute and/or copy the content for NonCommercial purposes as long as the original authors and source are cited.



FROM THE PRESIDENT OF THE SLOVENIAN ACADEMY OF MANAGEMENT

Professor Dr. Tomaž Čater
University of Ljubljana
School of Economics and Business



Dear reader,

We all know how quickly the time can go by and I remember like it was yesterday how honored I was accepting the position of the president of the Slovenian Academy of Management in 2016. I mentioned on several occasions this was not an easy decision as I knew the previous (and founding) president, Professor Dr. Rudi Rozman, has done an excellent job of turning the Academy into a recognizable and respected organization in the Slovenian academic and business world. Now my mandate is slowly ending and in March 2020 the new elections for the president of the Slovenian Academy of Management will take place.

When I look back to what was happening with the Academy I the last three years I can only be proud. Of course, things can always be better and there is always room for improvement, but given that the whole Executive Committee worked hard on a completely voluntary basis, happiness and proudness that I can work with such professional colleagues are the first two words that come to my mind.

The Executive Committee was “refreshed” after this year’s Assembly with two new members. Associate Professor Dr. Darja Peljhan from the School of Economics and Business of the University of Ljubljana asked me to find a replacement for her due to her work overload. It’s difficult to replace a person who is in charge of the Academy’s finance and whom you can trust completely without ever checking any financial numbers. But the new chief of finance, Dr. Sabina Bogilovič from the Faculty of Administration of the University of Ljubljana, seems to be doing a great job too. The second refreshment in the Executive Committee, Assistant Professor Aleša Saša Sitar from the School of Economics and Business of the University of Ljubljana, is a hard-working professional who has been in charge of

both Academy’s conferences for many years. She replaced Professor Dr. Andrej Bertonec from the Faculty of Management of the University of Primorska as he accepted the position of the Minister of Finance in the government of the Republic of Slovenia. Darja and Andrej, thank you for your valuable contribution to the Slovenian Academy of Management! Sabina and Aleša, welcome aboard!

The rest of the executive team remains the same. Assistant Professor Dr. Nina Tomažević from the Faculty of Administration of the University of Ljubljana continues to work on the position of the Academy’s secretary and Associate Professor Dr. Matej Černe from the School of Economics and Business of the University of Ljubljana continues to successfully manage our Dynamic Relationships Management Journal as the editor-in-chief.

The Academy under my leadership in the last three years continued with its dedication towards uniting scientists, researchers and experts from the field of management in the Republic of Slovenia with the purpose of exploring, developing and expanding knowledge of management, organization, administration and similar areas. Our biggest achievements in the last three years are in my opinion (1) the new and a much improved website (<http://sam-d.si/>), (2) huge progress in the quality of the Dynamic Relationships Management Journal, (3) more and more successful conferences, and (4) stable financing of the Academy.

The new website not only presents the Academy in a much more modern light but also provides its users with the envy-worthy modern on-line dictionary (<http://sam-d.si/slovar/>) in the field of management, enable authors to submit journal and conference articles easily and securely, enables members to easily manage their personal profiles etc.

The improvements in the Dynamic Relationships Management Journal are also multiple and huge. To begin with, in 2017 the Slovenian Research Agency approved financing of the publication costs related to DRMJ for the first time in the journal's history. This enabled us to produce a better journal as the activities related to proofreading, editing and publication can be carried out more professionally. The journal's editorial board also became much stronger, not only in number but due to the inclusion of recognized international scholars in the board. Finally, the journal was included in the Scopus database in 2018 and is now receiving much greater number of quality submissions than it ever did.

Both conferences, international and domestic (they are organized alternatively on a biannual basis), have also improved considerably. The next (already 6th) International Conference will take place in Bled in 2020 and the next (already 17th) Slovenian conference will be in Ljubljana in 2021. Both past conferences (International in 2018 and Slovenian in 2019) were very successful, both in terms of quality and in the number of participants.

As mentioned, the Academy's stable finance can be seen as the fourth major success of our mandate. Unfortunately, the stable finance cannot be attributed to the increase of the Academy's membership nor to donations from the corporate world (these two tasks remain the biggest challenges in the future), but to the co-financing of both journals (Dynamic Relationships Management Journal and Izzivi managementu) by the Slovenian Research Agency and to the financially successful organization of both conferences.

There are not many people who contributed to the success of the Slovenian Academy of Management (I really wish this number would be greater and everybody willing to participate is welcome) but the sacrifice of those colleagues that decided to contribute in different Academy's activities is enormous and I can only be proud of them. That is why I'm confident that also in the future the Academy will continue to act in accordance with its mission by organizing conferences, consultations and other events, and publishing scientific and professional literature in the field of management.

I am confident that everybody can find something interesting and useful in this issue of the journal. It includes five articles focused on dynamic relationships, but containing a spectrum of different topics, research approaches and levels of analysis. The first is a theoretical overview paper by Professor Dr. Simon Best and Professor Dr. Ljupčo Eftimov, looking into the changing role of human resource management in the light of need for innovation and entrepreneurship in contemporary business world. Along the same topical vein, what follows is a review paper by Khatereh Ghasemzadeh. Her paper adds to the existing research on user innovation by focusing on its internal and external perspectives. Next in the table of contents is an article by Professor Dr. Leonid Nakov and Assistant Professor Dr. Igor Ivanovski, who use a qualitative approach to examining contemporary human capital and human resource management challenges, and in particular the transformative function of the business ethical behavioral models in the insurance industry. Next, Dr. Katerina Božič applies a quantitative analysis of secondary data from the European Working Conditions Survey 2010 for Slovenia to examine how employee access to training is related to age, type of organization, work complexity and employee level of education. Finally, the article by Professor Dr. Jon Andersen rounds up this issue by revisiting research on trust in managers, overviewing antecedents, mediating factors and consequences of employees trusting in managers. Enjoy the read!

Professor Dr. Tomaž Čater



ENTERPRISE, ENTREPRENEURSHIP, AND INNOVATION: WHAT THIS MEANS FOR THE NEW HRM PROFESSIONAL AND THE NEW WORKPLACE

Simon Best

Middlesex University London
S.Best@mdx.ac.uk

Ljupčo Eftimov

Faculty of Economics-Skopje Ss. Cyril and Methodius University
eftimov@eccf.ukim.edu.mk

Abstract

With the fourth industrial revolution underway, this paper suggests that one way of responding to the changing way we work is for HRM professionals to develop a deeper and broader understanding of enterprising, entrepreneurial, and innovative behaviors. The paper provides an overview of the changes that are beginning to occur as a result of this revolution and describes what these changes mean to employment. The paper examines the emerging skills needed for the future and argues that many if not all of these skills can be met by matching them to the competencies that make enterprising, entrepreneurial and innovative people successful. The paper looks at the implications for HRM professionals and concludes that a deeper and broader understanding of enterprising, entrepreneurial, and innovative behaviors will be critical for HRM professionals as the nature of work changes.

Keywords: industrial revolution, enterprise, entrepreneurship, innovation, work change

1. INTRODUCTION

There is little disagreement that we have entered the fourth industrial revolution (Bloem et al., 2014; Peters, 2017; Schwab, 2017; Xu, David, and Kim, 2018). Industrial revolutions are mostly defined as shifts in the sources and control of power from the human hand to mechanical means (Stearns, 2018; Wrigley, 2013). Moving from using water and steam as power sources to manufacture goods in the first industrial revolution, through the second industrial revolution that saw the use of electricity as a source of power, to the third revolution that heralded the use of electronics and IT to automate production (Xu, David, and Kim, 2018; Prisecaru, 2016), we have seen wider and greater shifts in the sources and control of power away from the human hand. Looking back, we can see that the previous

three industrial revolutions focused on automating those tasks that were easily replicated by machines. Those tasks that are not easily replicated by machines, such as persuasion, innovation, and creativity, or certain manual tasks that require specific individualized outcomes, such as cooking a specific meal or dressing the disabled, are harder to automate (Autor, Levy and Murnane, 2003). Furthermore, many tasks that were undertaken to produce goods and services in the first three revolutions relied primarily on the body of the worker (Xu, David and Kim, 2018). The fourth industrial revolution is very different.

The main difference is that the fourth industrial revolution involves the use of artificial intelligence and machine learning, as well as new sources of power, such as renewable energy, in the manufacture of products and the delivery of services (Prise-

caru, 2016; Schwab, 2017). Like previous industrial revolutions, this revolution will precipitate change, but on a scale not seen before (Xu, David, and Kim, 2018). We can draw comparisons between acceleration of the first three industrial revolutions and the fourth industrial revolution. Roughly between the year 1500 and the year 2000, productivity rose by a factor of 240 and the consumption of energy rose by a factor of 115 (Harari, 2014) as a result of the first three industrial revolutions. The velocity of change between each industrial revolution has become faster and faster over a period of 500 years. The rate of change brought by the fourth industrial revolution is anyone's guess, but if the first three are any guide, we can expect to see the way we live changing in the space of decades rather than generations or centuries.

The fourth industrial revolution has seen a move toward the use of the mind (Xu, David and Kim, 2018). It now seems that many of the tasks previously considered impossible to replicate through automation are in fact being automated (Kokkohen, 2017), even some of those tasks using the mind. Many people have explored what this means for the future of work and the way we work. Consequently, there is a wide range of views about what all of this means. This paper explores what the fourth industrial revolution means to way we work and live. It then considers the possible changes to the types of skills that will become predominant. The impact of these new skills on Human Resource Management (HRM) activities at a practical level is identified. The paper ends with some conclusions about what this means for the future of HRM, and why enterprising, entrepreneurial, and innovative behaviors are critical skills for future employees.

2. THEORETICAL BACKGROUND

2.1 The fourth industrial revolution and its consequences

There is a plethora of contrasting views about what the fourth industrial revolution means. These views range from the apocalyptic to the genesis of a bright new future (Brynjolfsson and MacAfee, 2014; Carboni 2017; Pupillo, Noam, and Waverman, 2018). At one end is the view that this revolution

brings the threat of mass unemployment, social disruption, and widespread poverty because this time robots will replace humans, and opposing this view is the belief it will create new and more jobs than ever before while providing an improved quality of life (ibid).

Using various scenarios, Hajkowicz et al. (2016) painted a picture of what work would be like in 20 years' time. Their vision is one of automation, with workers undertaking fine control of the machines (Hajkowicz, et al 2016). The implication is that most human employment will be as guardians of the robots by undertaking the more delicate activities that the robots are unable to perform. In another scenario, Brynjolfsson and MacAfee (2014) considered a darker picture, in which those who own the AI and robots seize all the economic value created, and those with just their labor to sell will have nothing because their labor has no value. A version of this prediction can be seen with social media, in which organizations such as Facebook generate huge profits and yet produce none of the content. Those who do produce the content get no reward for making Facebook so profitable. Furthermore, as with all industrial revolutions, some will lose their occupations and not substitute them with alternative occupations, but the majority of people will move on (Bakhshi et al., 2017). It is likely that rather than all forms of employment disappearing, most people will simply retrain to take on new occupations.

One of the most widely quoted views of the impact of the fourth industrial revolution on employment is that of Frey and Osborne (2017), who researched the degree of susceptibility to computerization of over 700 occupations in the USA. They argued that about 47% of jobs were susceptible to various levels of computerization or automation (Frey and Osborne, 2017). This has led to some taking a negative view. However, they demonstrated that throughout history, technical change in the way people work causes a shift in work patterns rather than leading to mass unemployment (ibid). What happened previously was that most people changed what they did as new jobs were invented or existing jobs needed new tasks (Lee, Huang, and Ashford, 2018; van Kruining, 2017). It was inevitable that some people were left behind (Bakhshi et al., 2017).

On a more positive note, a more recent study by Arntz, Gregory, and Zierahn (2016) took a very different view from that of Frey and Osbourne, arguing that just 9% of jobs are susceptible to computerization. However, this is due to two very different methodologies being used. Frey and Osbourne (2017) looked at jobs overall, whereas Arntz, Gregory, and Zierahn (2017) focused on tasks performed within various jobs. Both the Frey and Osbourne and Arntz, Gregory, and Zierahn studies are instructive for this paper. This is because the causes and range of the changes to the way people work extends beyond artificial intelligence and machine learning. MacCory et al. (2014) indicated that a small number of variables are unable to identify all the permutations that affect potential automation of work, something neither paper looked at in depth.

Artificial intelligence and machine learning are not the only factors that are changing the way we work. One of most noticeable factors is globalization (Pupillo, Noam, and Waverman, 2018). Harari (2014) discussed how we have evolved into a global community in which mutual support and integration on a global scale, as opposed to a local community scale, is becoming embedded in our lives. Evidence of this can be found in the rise of integrated labor markets in which people in different geographical locations work together (Bakhshi et al., 2017; De Stefano, 2015; Hecklau et al., 2016). This, alongside rising protectionism and shifting national alliances such as the recent referendum in the UK to leave the EU (Farrell, and Newman, 2017), has impacted how we work. The exit of the UK from the EU would see the global opportunities for employment diminish for some British people. Rising inequality in education, health, wealth consumption, and power (Colen, Krueger, and Boettner, 2018; Goldin, and Katz, 2018) also contributes to the change in the way we work. Among the concerns about inequality is the diversion of resources to a chosen few, leading to the loss of confidence in state and social institutions (Dabla-Norris et al., 2015) and possible increased social tension (Wolf, 2015). The demand for sustainable living conditions that take into consideration eco-friendly lifestyles that address concepts such as pollution impact the way we work (Safronova, Nezhnikova, and Kolhidov, 2017). Even demographic shifts such as the 50% of the popula-

tion of the world now living in urban locations and the declining birth rates and aging populations (Bloom et al., 2015; Ritchie, and Roser, 2018) are impinging on the tasks we perform in our occupations and are contributing to a growing range of new occupations.

As with previous industrial revolutions, this one brings change not only to the way people work, but also to the way we live. As living conditions change, and a new world emerges. Tied in to this are changes in the way businesses operate, creating new work spaces.

2.2 The new workplace

One outcome of this industrial revolution is that it is creating new ways of conducting business at a much faster rate than before. The world's biggest hotelier, with five times as many beds available as the next five hotel groups combined, is Airbnb (Wood, 2017). They had a turnover of \$5.5b in 2017, and yet they do not own a single bedroom and employ just 3,100 people (Forbes, 2018). Two of the five biggest online retailers are Etsy and eBay (Tyler, 2018). In 2017, Etsy had an annual turnover of \$441m and employed around 800 people (Statista, 2018). eBay turned over \$38b in 2017 and employed around 14,000 (Statista, 2018). Yet neither Etsy nor eBay carry any stock or products (Forbes, 2018). One of the biggest logistics companies in the world, mainly transporting people, is Uber. Uber has an annual turnover of \$7b and employs around 16,000 people. Like Airbnb, Etsy, and eBay, they too do not own the infrastructure required to operate their businesses—Uber does not have any vehicles (Goodwin, 2015). These are just some of more widely known new ways of doing business. The impact of this method is that we in many ways we are becoming the supplier, employer, employee, and consumer all at the same time. In other words, many of us are becoming the creators of our own employment, and this is not being restricted to the self-employment model of the likes of Airbnb, Etsy, eBay, or Uber. These changes to the structure and methods of doing business mean that the workplace, the relationships within the workplace, and the activities we do are all moving in a new direction as well.

One of the most profound changes to the workplace is the appearance of the gig economy (Abraham et al., 2018; Petriglieri, Ashford, and Wrzesniewski, 2018). The gig economy falls into two broad categories. One, known as crowdsourcing or crowdwork, involves outsourcing work over the internet to a group of people spread across a variety of locations, often with a diverse range of skills (Bergvall-Kåreborn and Howcroft, 2014; De Stefano, 2015). With crowdwork the participants generally pool their labor to work on the same task. The other version of work in the gig economy is known as work-on-demand, in which individuals sometimes bid for a single specific task such as delivery of low-scale clerical work or the transportation of people (De Stefano, 2015, Greenhouse, 2015). As a consequence, the workplace is more transparent, flatter, more competitive, and on-demand (Johannessen, 2018). It is more transparent because workers announce when they are available for work, and their work is visible and measurable most of the time. The structure is becoming flatter, because the distinction between personal and work space is disappearing, with responsibility for the quality and completion of the task lying with the worker. The tendering process of the gig economy is making work more competitive; the best and cheapest will get the gigs. Work is also becoming on-demand; work will be available and can be completed any time, any day.

The gig economy is not the only significant change in the way we work. Taylor et al. (2017) identified a number of other trends that show that the work place is changing. Both part-time work and self-employment have been on the rise, whereas on-demand employment through zero hours contracts has also grown (Taylor et al., 2017). This suggests that whereas the number of people holding multiple jobs has fallen, the number of people undertaking casual work through platforms such as eBay and Airbnb has risen (Taylor et al., 2017). This may be because people do not consider the gig economy, in which they are self-employed, as holding an additional job. Taylor et al. (2017) supported this suggestion by arguing that in fact a number of people who are earning an income are doing so from multiple sources, and this is increasing. Some of this income is likely to be through the platform economy such as Airbnb, eBay, Etsy, or Uber.

As a result, this demand for new skills and abilities with the labor market could be morphing into a two-tier structure. It has been suggested that the evolving labor market will contain either low-skilled and low-paid jobs or high-skilled and high-paid jobs, with very few jobs in the middle. Furthermore, many current high-skill jobs such as airline pilots and financial analysts could be downgraded to lower-skilled jobs as AI and machine learning takes over (Acemoglu and Restrepo, 2017; Beaudry, Green and Sand, 2016; Frey and Osborne, 2017; Schwab, 2015).

All industrial revolutions require a shift in the skills needed to perform the various tasks necessary to undertake employment. Essentially, the first three industrial revolutions led to the organization of work around the demands of the machines, and consequently our work skills have been determined by the machinery available at the time (Martin, 2017). This is because in the first three industrial revolutions, the changes to the way people worked were focused on routine tasks, leading to demand in higher cognitive and manual skills (Deming, 2017). The fourth industrial revolution is leading to more and more routine tasks being automated. In fact, there is evidence that routine cognitive and manual tasks are being replaced by non-routine cognitive and manual tasks as AI and machine learning increase in sophistication and popularity (Autor, Levy and Murnane, 2003; Reimers, and Chung, 2019). There are growing indications that soft or social skills are becoming critical requirements over and above cognitive and manual skills (Chillas, Marks, and Galloway, 2015; Deming, 2017; Heckman, and Kautz, 2012; Hurrell, 2016). This is because the increased non-routine cognitive and manual tasks involve complex thinking and high-level communication skills (Levy and Murnane, 2005; Reimers, and Chung, 2019). The demand for skills such as problem solving, creativity, and social influence is clearly growing.

The decline of routine cognitive and manual skills is visible across a wide spectrum of occupations (Neubert et al., 2015). Taking an airline pilot as an example, the skills required to fly an airplane do not change with each flight beyond some minor local conditions. Once the pilot has mastered the core skills needed to fly the airplane, it becomes routine both cognitively and manually. However, although most people would resist flying in an airplane without a pilot, because of technology the majority of planes today are capable

of flying without a pilot (Lerner, 2017). This is because technology has taken over most of the routine cognitive and manual tasks that pilots normally undertook to fly a plane. There are many other examples of changes to skills. The skills required of a chef have changed over the past 100 years because technological change has seen an increase in labor-saving devices and pre-prepared food items, thus reducing the cutting and cooking skills of many chefs. Within the authors' lifetimes there have been substantial changes to the skills and tasks performed by retail pharmacists. As a child, one author experienced retail pharmacists dispensing advice and preparing medicines either on their own basis or based on a doctor's prescription. Today, they simply put a label on a packet of tablets. The most critical routine cognitive and manual skill of a pharmacist today is the ability to read labels and stick them on the right box, meaning that the pharmacist's skill in preparing medicines accurately and their knowledge of chemicals is greatly reduced. However, they are still required to undertake three to four years of higher education study. In the past 10 years, many new occupations, such as social media managers, sustainability manager, and drone pilots, have emerged, while many others, such as fitters and turners, machine setters, telephone operators, and typists, have either already disappeared or are declining rapidly. Clearly, skills and abilities change or disappear as new ways of working emerge, and new skills and abilities are needed, but people continue to be employed.

Over time, the nature of these skills has evolved, and many different researchers have explored the changes to the way we work (Bakhshi et al., 2017). Davies, Fidler, and Gorbis (2011) came up with a list of 10 skills that would be needed by 2020. These included concepts such as sense making, design mindset, social intelligence, and novel and adaptive thinking (Davies, Fidler, and Gorbis, 2011), all skills that are difficult for AI or machine learning to replicate. Following Davies, Fidler, and Gorbis, a number of other commentators have agreed and added their own views on which future skills will be needed to survive the fourth industrial revolution, resulting in a glut of reports on future skills. Liu and Grusky (2013) developed an eight-factor framework for examining skills needed for future employment: verbal, quantitative, analytical, creative, computer, science and en-

gineering, managerial, and nurturing. Building on Davies, Fidler, and Gorbis (2011) Thijs, Fisser, and van der Hoeven (2014) produced a list of eight critical skills that they felt were necessary. In addition to social skills, they included creativity, critical thinking, and problem-solving skills (Thijs, Fisser, and van der Hoeven, 2014). More recently, Bakhshi et al. (2017) examined 120 different skills and ranked them in order of importance. Although there were differences between the lists for the USA and the UK, there were similarities to previous studies, with originality, complex problem solving, and critical thinking being in the top 10 skills (Bakhshi, 2017). The theme that emerges is that as good as artificial intelligence and machine learning is, it is not the answer to everything. Martin (2017) argued that some human intervention will always be necessary. Frey and Osborne (2017) believed that creative and social skills would be in demand. Clearly, despite Moravec's (1999) prediction that we will one day build robots that can fully replace us, a number of issues arise. Moravec argued that many of the skills that we find easy are the result of thousands of years of evolution, and therefore are much harder to reverse engineer (Moravec, 1988, Rotenberg, 2013, Yao, 2008). However, skills such as perception and imagination, which appear to be easy to humans but immensely problematic for machines, are actually skills that evolved more recently (Rotenberg, 2013). Furthermore, Madsbjerg (2017) in his somewhat controversial book argued that business leaders cannot rely solely on algorithmic intelligence, or what Madsbjerg termed thin data. This suggests that a range of non-routine cognitive skills will still be required, which can analyze and utilize what Madsbjerg (2017) termed thick data, in contrast to thin data. It is becoming clear that traditional methods of management that focus on encouraging routine cognitive and manual tasks are no longer viable (Hecklau et al., 2016). The test for fourth industrial revolution HRM professionals is to persuade employees to utilize their unique human skills for the benefit of the organization (Habraken, and Bondarouk, 2017; Shamin et al., 2016; Xu, David and Kim, 2018).

There are strong arguments that the new work environment means that many will have to create their own jobs as the age of the entrepreneur is upon us (Hajkovicz, et al 2016). However, we argue that the generation of one's own job should not be

restricted to self-employed individuals. The changes through technology, globalization, and demographics mean that many organizations will not always know exactly who or what they need. The possibility exists that the job applicant will be the one to tell the organization who they need and what tasks they need to perform. In other words, organizations could be looking to people to create their own jobs within the organization.

2.3 Is the development of enterprising, entrepreneurial, and innovative behaviors the answer?

In previous industrial revolutions the key factors enabling economic growth were machinery and investment; essentially, people were replaceable at far lower cost (Xu, David and Kim, 2018). In this next industrial revolution, it will be the individual’s creativity and innovation that will become critical in many jobs (Audenaert, Vanderstraeten, and Buyens, 2017). The rarest commodities needed for business growth and survival will not be machinery or investors, but people with usable ideas (Brynjolfsson, McAfee, and Spence 2014). All this suggests that enterprising, entrepreneurial, and innovative behaviors are a necessity in order to contribute to the survival and growth of any organization.

There are multiple definitions of enterprising, entrepreneurial, and innovative behaviors. However, one of the most widely accepted set of definitions is that developed by The Quality Assurance Agency for Higher Education (QAA). Their educators guide, “Enterprise and entrepreneurship education: Guidance for UK higher education providers,” offers succinct but detailed definitions of enterprise and entrepreneurship (see the Appendix for the full definitions). Both of these definitions focus on the fact that enterprise and entrepreneurship are sets of behaviors, and that innovation is a possible outcome of these behaviors. They include concepts such as creativity, originality, initiative, and adaptability (QAA, 2018).

Enterprising, entrepreneurial, and innovative behaviors have been seen as competencies that can be developed (Bacigalupo et al., 2016; Schmidt, 2015). Furthermore, it has been argued that these competencies are not limited to commercial activi-

ties, but can be applied to most aspects of life, from personal development to commercial intentions (Bacigalupo et al., 2016). There is a link here to the issues around the types of skills required for the fourth industrial revolution.

We have argued previously that AI and machine learning, for all their capabilities, do have limitations, and these limitations fall around the longer-evolved human abilities that we find the easiest to perform (Moravec, 1988, Rotenberg, 2013, Yao, 2008). AI and machine learning are very good at making predictions through statistical analysis, but these predictions do not consider causal relationships; understanding causal relationships and making judgements about whether to act on those predictions is uniquely human (Agrawal, Gans, and Goldfarb, 2018). AI and machine learning tend to perform tasks that are limited to one part of the brain, whereas in humans most tasks are performed by parts of the brain that are not independent of each other (Lu et al., 2018). In other words, we use multiple parts of our brains at the same time to perform multiple tasks, whereas AI follows a single function. This suggests that the skills that AI and machine learning are unable to replicate are a wide range of non-routine cognitive and manual skills, and these are going to be in demand.

One of the most comprehensive reports has been *The Future of Skills: Employment in 2030* (Bakhshi et al., 2017), which ranked 120 skills in order of importance. The top 20 are included in Table 1.

Table 1: Top 20 skills for 2030

| Top 20 skills for 2030 | |
|----------------------------------|-----------------------------------|
| 1. Judgement and decision making | 11. Critical thinking |
| 2. Fluency of ideas | 12. Instructing |
| 3. Active learning | 13. Education and training |
| 4. Learning strategies | 14. Managing personnel resources |
| 5. Originality abilities | 15. Coordination |
| 6. Systems evaluation | 16. Inductive reasoning |
| 7. Deductive reasoning | 17. Problem sensitivity |
| 8. Complex problem solving | 18. Information ordering |
| 9. Systems analysis | 19. Active listening |
| 10. Monitoring | 20. Administration and management |

Adapted from The Future of Skills: Employment in 2030 (Bakhshi et al., 2017)

Most, if not all, of these skills are uniquely human and are not easily replicated by AI or machine learning. As noted previously, AI and machine learning have problems making judgements. This is because judgments are unique to each individual human based on their own life experiences; something that AI and machine learning cannot yet replicate.

There is a correlation between many of the skills that have been determined to be critical for the future and those capabilities that determine competency in enterprising, entrepreneurial, and innovative behaviors. Although many papers have discussed the most critical skills needed for the future, there is precious little information about how competence in those skills might be recognized or measured. Several papers have pointed out this dilemma (Bamber, Bartram, and Stanton, 2017; Hecklau et al., 2016; Neubert et al., 2015).

The Entrepreneurship Competence Framework was developed to provide some consistent structure to the learning outcomes of people studying to improve their enterprising, entrepreneurial, and innovative skills (Bacigalupo et al., 2016). The framework consists of three areas that have five key competencies. These competencies are then mapped out across four specific levels—foundation, intermediate, advanced, and expert—that equate to Levels 1 to 8 within the UK higher education system. Table 2 summarizes the competencies.

Table 2: Entrepreneurial competencies

| Areas | Entrepreneurial Competencies |
|-------------------------|---|
| Ideas and opportunities | Spotting opportunities; creativity; vision; valuing ideas; ethical and sustainable thinking |
| Resources | Self-awareness and self-efficacy; motivation and perseverance; mobilizing resources; financial and economic literacy; mobilizing others |
| Into action | Taking the initiative; planning and management; coping with uncertainty, ambiguity and risk; working with others; learning through experience |

Adapted from The Entrepreneurship Competence Framework (Bacigalupo et al., 2016)

The Entrepreneurship Competence Framework maps these competencies across a range of fields. For example, the framework sets ideas and opportunities within the use of imagination to create ideas and identify the opportunities these ideas bring. A number of themes then provide the structure for a list of increasingly complex and difficult tasks that assess a person’s competency to perform in the four areas as it moves from Level 1 to Level 8.

The link between the skills in Table 1 and the competencies in Table 2 is strong. Table 3 analyzes how the top 20 skills as defined by Bakhshi et al. (2017) and the Entrepreneurship Competence Framework as defined by Bacigalupo et al. (2016) are linked.

Table 3: Link between skills and entrepreneurial competencies

| Skills | Entrepreneurial Competencies |
|-----------------------------|--|
| Judging and decision making | Spotting opportunities; valuing ideas; self-awareness and self-efficacy; taking the initiative; ambiguity, and risk |
| Fluency of ideas | Creativity; vision; financial and economic literacy; learning through experience |
| Active learning | Ethical and sustainable thinking; self-awareness and self-efficacy; motivation and perseverance; learning through experience |
| Learning strategies | Vision; ethical and sustainable thinking; self-awareness and self-efficacy; motivation and perseverance; planning and management; coping with uncertainty, |
| Original abilities | Creativity; vision; motivation and perseverance; taking the initiative; coping with uncertainty, ambiguity, and risk; working with others; learning through experience |
| Systems evaluation | Ethical and sustainable thinking; financial and economic literacy; taking the initiative; working with others |
| Deductive reasoning | Ethical and sustainable thinking; self-awareness and self-efficacy; learning through experience |
| Complex problem solving | Creativity; vision; valuing ideas; ethical and sustainable thinking; self-awareness and self-efficacy; motivation and perseverance; mobilising resources; financial and economic literacy; taking the initiative; coping with uncertainty, ambiguity, and risk; working with others; learning through experience |

| | |
|-------------------------------|---|
| Systems analysis | Spotting opportunities; valuing ideas; ethical and sustainable thinking; mobilizing resources; financial and economic literacy; mobilising others; taking the initiative; planning and management; coping with uncertainty, ambiguity, and risk; working with others; learning through experience |
| Monitoring | Ethical and sustainable thinking; self-awareness and self-efficacy; planning and management; working with others; learning through experience |
| Critical thinking | Vision; ethical and sustainable thinking; self-awareness and self-efficacy; coping with uncertainty, ambiguity, and risk; learning through experience |
| Instructing | Vision; ethical and sustainable thinking; motivation and perseverance; mobilizing others; planning and management; working with others; learning through experience |
| Education and training | Vision; ethical and sustainable thinking; motivation and perseverance; mobilizing others; planning and management; working with others; learning through experience |
| Managing personal resources | Vision; ethical and sustainable thinking; motivation and perseverance; mobilizing resources; mobilizing others; planning and management; working with others |
| Coordination | Spotting opportunities; vision; valuing ideas; mobilizing resources; mobilizing others; taking the initiative; planning and management; coping with uncertainty, ambiguity, and risk; working with others |
| Inductive reasoning | Ethical and sustainable thinking; self-awareness and self-efficacy; coping with uncertainty, ambiguity, and risk; learning through experience |
| Problem sensitivity | Spotting opportunities; creativity; vision; valuing ideas; financial and economic literacy; coping with uncertainty, ambiguity, and risk; learning through experience |
| Information ordering | Valuing ideas; ethical and sustainable thinking; valuing ideas; ethical and sustainable thinking; planning and management; working with others; learning through experience |
| Active listening | Spotting opportunities; ethical and sustainable thinking; self-awareness and self-efficacy; mobilizing others; taking the initiative; planning and management; working with others; |
| Administration and management | Valuing ideas; ethical and sustainable thinking; mobilizing resources; financial and economic literacy; mobilizing others; planning and management; working with others; learning through experience |

Adapted from The Future of Skills: Employment in 2030 (Bakhshi et al., 2017) and The Entrepreneurship Competence Framework (Bacigalupo et al., 2016)

It would be both vain and naive of us to claim that Table 3 is a definitive comparison of future skills and entrepreneurial competencies. We acknowledge that this will draw considerable debate. However, the table is drawn from programs run at our respective universities on developing enterprising, entrepreneurial, and innovative skills and abilities. What Table 3 suggests is that the skills required for the future are closely aligned with the competencies that need to be achieved in order to act enterprisingly, entrepreneurially, and innovatively. Furthermore, taking the key points from the QAA definitions, it is evident from Table 3 that most if not all the top 20 skills needed for 2030 can be defined as enterprising, entrepreneurial, or innovative. We therefore argue that enterprising, entrepreneurial, and innovative skills are critical to future employment.

3. DISCUSSION AND CONCLUSION

3.1 Implications for human resource management

Although the shortcomings of artificial intelligence and machine learning are becoming evident, much of what we have done in the past around managing labour and capital is becoming obsolete, with managers becoming less certain about what is necessary (Bloom 2018; Martin 2017). Implications for the HRM professional are emerging, and as they do it is becoming evident that the roles of the HRM professional are changing and their ability to match employees with work is becoming more complex. The need to generate economic value through the efficient and effective use of employees (Bondarouk and Brewster, 2016) and the need to retain a competitive edge continues to be of critical importance to all organisations (Nasir, 2017). However, the method of achieving these outcomes is changing and changing rapidly.

Although there is some disagreement, a widely accepted definition of HRM is that it contributes to an organization's strategic approach to achieving its objectives (Florén, Rundquist, and Fischer, 2016; Hecklau et al., 2016; Kidron, Tzafrir, and Meshoulam, 2016; Seck and Diehl, 2017). The main function of HRM is to develop a workforce that is committed and qualified to undertake the necessary tasks that enable the organization to meet its objectives (Hecklau et al., 2016;

Neubert et al., 2015; Plimmer, Bryson, and Teo, 2017; Seeck and Diehl, 2017). To do this, the general role of HRM professionals is to build competencies, foster collaboration, and contribute to the development of the organization (Hecklau et al., 2016; Paauwe and Boon, 2018; Sammarra et al., 2017). Therefore, it is imperative to recruit, support, and coach employees that can respond to the evolving skills required for the future (Bloom, 2018; Neubert et al., 2015).

As we have indicated, these skills are changing. The classical approach was to recruit people on the basis of the ability to complete routine cognitive and manual tasks (Neubert et al., 2015). The new skills that are emerging, such as originality, complex problem solving, vision, ambiguity, and risk, are tied to the competencies required to act enterprisingly, entrepreneurially, and innovatively. The growing emphasis on creativity and innovation in the workplace, along with the emerging skills required by employers of their employees is questioning traditional ways of thinking about the role of HRM (Bamber, Bartram, and Stanton, 2017; Hecklau et al., 2016). Therefore, as tasks become more non-routine and collaborative, HRM professionals will have to react in a more proactive manner.

HRM professionals have not been customarily at the center of discussions about enterprise, entrepreneurship, and innovation (Bamber, Bartram, and Stanton, 2017). However, the demand for employees who are enterprising, entrepreneurial, and innovative will grow. This means that the HRM professional will need engage in these discussion and develop a broader understanding of the competen-

cies that contribute to enterprising, entrepreneurial, and innovative behaviors, because these behaviors are the key to organizational success.

3.2 Conclusion

No one can argue that there will not be a seismic change in the way people work. This paper stimulates discussion about how HRM professionals respond to these changes. It argues that developing a deeper understanding of the competencies required to act enterprisingly, entrepreneurially, and innovatively could be the answer to ensuring that organizations are able to recruit the best person for the job. There is some evidence that successful enterprising, entrepreneurial, and innovative people tend to perform non-routine cognitive and manual tasks better than those without such an approach (Dehghanzadeh, 2016; Koudstaal, Sloof, and Van Praag, 2015). The paper offers a comparison between the predicted skill requirements of the fourth industrial revolution and the competencies required to act enterprisingly, entrepreneurially, and innovatively as evidence of how enterprising, entrepreneurial, and innovative behaviour could be part of the solution to find the most appropriate employees. There is no doubt that future employees need to take on greater tactical, collaborative, and creativity duties. To put this into context, imagine that I have two employees. One comes to me and says, "I have an idea, if we change this, we could save money, or if we do that our customers will be more satisfied." The other employee comes to me and asks, "What shall I do next?" Who am I going to dismiss from my employment?

SUMMARY IN SLOVENE / IZVLEČEK

V povezavi s četrto industrijsko revolucijo prispevek predlaga enega iz med možnih odzivov na spreminjajoče se načine dela. Natančneje, avtorji predlagajo, da se strokovnjaki osredotočijo na razvijanje globljih in širših razumevanj podjetnega, podjetniškega in inovativnega vedenja na področju človeških virov. Prispevek prikazuje pregled sprememb, ki so se začele pojavljati kot posledica omenjene revolucije, in opisuje, kaj te spremembe pomenijo za zaposlitev. Nadalje prispevek raziskuje spretnosti, ki so ključna za prihodnost in predpostavlja, da je veliko slednjih (če ne celo vseh) mogoče doseči preko pridobivanja kompetenc, ki podjetne, podjetniške in inovativne ljudi naredijo uspešne. Raziskava nenazadnje obravnava tudi posledice za strokovnjake iz področja upravljanja s človeškimi viri in ugotavlja, da je globlje in širše razumevanje podjetnega, podjetniškega in inovativnega vedenja za njih ključnega pomena, saj se narava dela spreminja.

REFERENCES

- Abraham, K.G., Haltiwanger, J.C., Sandusky, K. & Spletzer, J.R. (2018). *Measuring the gig economy: Current knowledge and open issues* (No. w24950). National Bureau of Economic Research.
- Acemoglu, D. & Restrepo, P. (2017). *Robots and jobs: Evidence from US labor markets*. Retrieved from <http://www.sipotra.it/wp-content/uploads/2017/04/Robots-and-Jobs-Evidence-from-US-Labor-Markets.pdf>
- Agrawal, A.K., Gans, J.S. & Goldfarb, A. (2018). *Exploring the impact of artificial intelligence: Prediction versus judgment* (No. w24626). National Bureau of Economic Research.
- Arntz, M., T. Gregory & U. Zierahn. (2016). The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis. *OECD Social, Employment and Migration Working Papers*, No. 189, OECD Publishing, Paris.
- Autor, D. H., Frank L., & Richard J. M. (2003). The Skill Content of Recent Technological Change: An Empirical Exploration. *Quarterly Journal of Economics*, 118(4):1279–1333.
- Forbes (2018). *Forbes lists (companies)*. Retrieved from <https://www.forbes.com/lists/list-directory/#68d22013b274>
- Statista (2018). *Etsy's annual revenue from 2012 to 2018 (in million U.S. dollars)*. Retrieved from <https://www-statista.com/statistics/409371/etsy-annual-revenue/>
- Audenaert, M., Vanderstraeten, A. & Buyens, D. (2017). When innovation requirements empower individual innovation: the role of job complexity. *Personnel Review*, 46(3), pp.608-623.
- Bamber, G.J., Bartram, T. & Stanton, P. (2017). HRM and workplace innovations: formulating research questions. *Personnel Review*, 46(7), pp.1216-1227.
- Bacigalupo, M., Kampylis, P., Punie, Y. & Van den Brande, G. (2016). *EntreComp: The Entrepreneurship Competence Framework*. Luxembourg: Publication Office of the European Union; EUR 27939 EN.
- Bakhshi, H., Downing, J.M., Osborne, M.A. & Schneider, P. (2017). *The future of skills: employment in 2030*. London: Pearson and Nesta.
- Bergvall-Kåreborn, B., & Howcroft D. (2014). "Amazon Mechanical Turk and the Commodification of Labour". *New Technology, Work and Employment*, Vol. 29, No. 3, pp. 213-223.
- Bloem, J., Van Doorn, M., Duivesteyn, S., Excoffier, D., Maas, R. & Van Ommeren, E. (2014). The Fourth Industrial Revolution. Things Tighten. *International Journal of Communications, Network and System Sciences*, 10(3).
- Bloom, P. (2018). Re-Engaging with the Future: Towards a People First 21st Century Digital Employment Contract. *Academy of Management Global Proceedings*, (2018), p.72.
- Bloom, D.E., Chatterji, S., Kowal, P., Lloyd-Sherlock, P., McKee, M., Rechel, B., Rosenberg, L. & Smith, J.P. (2015). Macroeconomic implications of population ageing and selected policy responses. *The Lancet*, 385(9968), pp.649-657.
- Beaudry, P., Green, D.A. & Sand, B.M. (2016). The great reversal in the demand for skill and cognitive tasks. *Journal of Labor Economics*, 34(S1), pp. S199-S247.
- Bondarouk, T. & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), pp.2652-2671.
- Brynjolfsson, E., & Andrew MacAfee. (2014). "The Second Machine Age", WW Norton and Company, New York.
- Brynjolfsson, E., McAfee, A., & Spence, M. (2014). *New World Order: Labor, Capital, and Ideas in the Power Law Economy*. Retrieved from <https://www.foreignaffairs.com/articles/united-states/2014-06-04/new-world-order>
- Carboni, C. (2017). Work and New Technologies in Western Societies. *Journal of Social Science for Policy Implications*, 5(2), pp.34-39.
- Chillas, S., Marks, A. and Galloway, L. (2015). Learning to labour: an evaluation of internships and employability in the ICT sector. *New Technology, Work and Employment*, 30(1), pp.1-15.
- Colen, C.G., Krueger, P.M. & Boettner, B. (2018). Do Rising Tides Lift All Boats Equally? Racial Disparities in Health across the Lifecourse among Middle-Class African-Americans and Whites. *SSM-Population Health*.
- Dabla-Norris, E., Kochhar, K., Suphaphiphat, N., Ricka, F., & Tsounta, E. (2015). Causes and consequences of income inequality: a global perspective. *International Monetary Fund*.
- Davies, A., Fidler, D., & Gorbis, M. (2011). *Future work skills 2020*. University of Phoenix Research Institute. Palo Alto, CA.
- De Stefano, V. (2015). The rise of the just-in-time workforce: On-demand work, crowdwork, and labor protection in the gig-economy. *Comp. Lab. L. & Pol'y J.*, 37, pp. 471.
- Dehghanzadeh, M.R., Kholasehzadeh, G., Birjandi, M., Antikchi, E., Sobhan, M.R. & Neamatzadeh, H. (2016). Entrepreneurship psychological characteristics of nurses. *Acta Medica Iranica*, 54(9), pp.595-599.
- Deming, D.J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, 132(4), pp.1593-1640.
- Farrell, H. & Newman, A. (2017). BREXIT, voice and loyalty: rethinking electoral politics in an age of interdependence. *Review of international political economy*, 24(2), pp.232-247.

- Florén, H., Rundquist, J. & Fischer, S. (2016). Entrepreneurial orientation and human resource management: effects from HRM practices. *Journal of Organizational Effectiveness: People and Performance*, 3(2), pp.164-180.
- Frey, C.B. & Osborne, M.A. (2017). The future of employment: how susceptible are jobs to computerisation? *Technological forecasting and social change*, 114, pp.254-280.
- Goldin, C. & Katz, L.F. (2018). The race between education and technology. In *Inequality in the 21st Century* (pp. 49-54). Routledge.
- Goodwin, T. (2015). *The Battle Is For The Customer Interface*. Retrieved from: <https://techcrunch.com/2015/03/03/in-the-age-of-disintermediation-the-battle-is-all-for-the-customer-interface/>
- Greenhouse, S. (2015). *Uber: On the Road to Nowhere*. Retrieved from: <http://prospect.org/article/road-nowhere-3>
- Habraken, M. and Bondarouk, T. (2017). Smart industry research in the field of HRM: Resetting job design as an example of upcoming challenges. In *Electronic HRM in the smart era* (pp. 221-259). Emerald Publishing Limited.
- Hajkovicz, S.A., Reeson, A., Rudd, L., Bratanova, A., Hodgson, L., Mason, C. and Boughen, N. (2016). Tomorrow's digitally enabled workforce: Megatrends and scenarios for jobs and employment in Australia over the coming twenty years. Australian Policy Online.
- Harari, Y.N., 2014. *Sapiens: A brief history of humankind*. Random House.
- Hecklau, F., Galeitzke, M., Flachs, S. and Kohl, H. (2016). Holistic approach for human resource management in Industry 4.0. *Procedia CIRP*. Volume 54, pp.1-6.
- Heckman, J.J. and Kautz, T. (2012). Hard evidence on soft skills. *Labour economics*, 19(4), pp.451-464.
- Hurrell, S.A. (2016). Rethinking the soft skills deficit blame game: Employers, skills withdrawal and the reporting of soft skills gaps. *Human Relations*, 69(3), pp.605-628.
- Johannessen, J.A. (2018). *The Workplace of the Future: The Fourth Industrial Revolution, the Precariat and the Death of Hierarchies*. Routledge.
- Kidron, A., Tzafir, S.S. and Meshoulam, I. (2016). The genetic code: HRM internal integration scale. Management Research. *Journal of the Iberoamerican Academy of Management*, 14(3), pp.298-316.
- Kokkohen, T. (2017). *The impact of automation and robotization on income distribution in post-industrial countries: Who are the winners and what steps should society take?* (Bachelor's Thesis). Aalto University School of Business.
- Koudstaal, M., Sloof, R. & Van Praag, M. (2015). Risk, uncertainty, and entrepreneurship: Evidence from a lab-in-the-field experiment. *Management Science*, 62(10), pp.2897-2915.
- Lee, C., Huang, G.H. & Ashford, S. (2018). Job Insecurity and the Changing Workplace: Recent Developments and the Future Trends. *Annual Review of Organizational Psychology and Organizational Behavior*.
- Lerner, P. (2017). *Would You Fly on an Airliner Without a Pilot? Air and Space*. Retrieved from https://www.airspacemag.com/flight-today/02_aug2017-airplanes-without-pilots-180963931/
- Levy, F. and Murnane, R.J. (2005). *The new division of labor: How computers are creating the next job market*. Princeton University Press.
- Liu, Y. and Grusky, D.B. (2013). The payoff to skill in the third industrial revolution. *American Journal of Sociology*, 118(5), pp.1330-1374.
- Lu, H., Li, Y., Chen, M., Kim, H. & Serikawa, S. (2018). Brain intelligence: go beyond artificial intelligence. *Mobile Networks and Applications*, 23(2), pp.368-375.
- Madsbjerg, C. (2017). *Sensemaking: The Power of the Humanities in the Age of the Algorithm*. Hachette Books.
- Mainert, J., Niepel, C., Murphy, K.R. & Greiff, S. (2018). The Incremental Contribution of Complex Problem-Solving Skills to the Prediction of Job Level, Job Complexity, and Salary. *Journal of Business and Psychology*, pp.1-21.
- Martin, J.M. (2017). Who's afraid of Virginia Woolf? In Bacarani C., Martin, J. (Eds.), *20th Excellence in Services International Conference (EISIC)*. Emerald Publishing Limited.
- MacCrory, F., Westerman, G., Alhammedi, Y. & Brynjolfsson, E. (2014). *Racing with and against the machine: Changes in occupational skill composition in an era of rapid technological advance*. Thirty-fifth International Conference on Information Systems, Auckland.
- Moravec, H. (1988). *Mind children, the future of robot and human intelligence*. MA, United states: Harvard University Press Cambridge.
- Moravec, H. (1999). Rise of the Robots. *Scientific American*, 281(6), pp.124-135.
- Nasir, S.Z. (2017). Emerging Challenges of HRM in 21st Century: A Theoretical Analysis. *International Journal of Academic Research in Business and Social Sciences*, 7(3), pp.216-223.
- Neubert, J.C., Mainert, J., Kretschmar, A. and Greiff, S. (2015). The assessment of 21st century skills in industrial and organizational psychology: Complex and collaborative problem solving. *Industrial and Organizational Psychology*, 8(2), pp.238-268.
- Paauwe, J. and Boon, C. (2018). Strategic HRM: A critical review. In Collings, D. G. and Wood, G. (Eds.), *Human Resource Management: A critical approach* (pp. 49-73). Abingdon, England: Routledge.

- Petriglieri, G., Ashford, S.J. and Wrzesniewski, A. (2018). Agony and ecstasy in the gig economy: Cultivating holding environments for precarious and personalized work identities. *Administrative Science Quarterly*.
- Peters, M.A. (2017). Technological unemployment: Educating for the fourth industrial revolution, *Educational Philosophy and Theory*, 49(1), pp. 1-6.
- Plimmer, G., Bryson, J. and Teo, S.T. (2017). Opening the black box: The mediating roles of organisational systems and ambidexterity in the HRM-performance link in public sector organisations. *Personnel Review*, 46(7), pp.1434-1451.
- Prisecaru, P. (2016). Challenges of the fourth industrial revolution. Knowledge Horizons. *Economics*, 8(1), pp.57.
- Pupillo, L., Noam, E. and Waverman, L. (2018). The Internet and Jobs. *CEPS Policy Insights*, 2018(6).
- QAA. (2018). *Enterprise and entrepreneurship education: Guidance for UK higher education providers*. Retrieved from https://www.qaa.ac.uk/docs/qaas/enhancement-and-development/enterprise-and-entrpreneurship-education-2018.pdf?sfvrsn=15f1f981_8
- Reimers, F.M. and Chung, C.K. eds. (2019). *Teaching and learning for the twenty-first century: Educational goals, policies, and curricula from six nations*. Harvard Education Press.
- Ritchie, H. and Roser, M. (2018). *Urbanization*. Retrieved from: <https://ourworldindata.org/urbanization>
- Rotenberg, V.S. (2013). Moravec's paradox: consideration in the context of two brain hemisphere functions. *Activitas Nervosa Superior*, 55(3), pp.108-111.
- Safronova, N., Nezhnikova, E. & Kolhidov, A. (2017). Sustainable Housing Development in Conditions of Changing Living Environment. In MATEC Web of Conferences Vol. 106, p. 08024. EDP Sciences.
- Sammarra, A., Profili, S., Maimone, F. & Gabrielli, G. (2017). Enhancing Knowledge Sharing in Age Diverse Organisations: The Role of HRM Practices. In Profili, S., Sammarra, A., Innocenti, L. (Eds.), *Age Diversity in the Workplace: An Organizational perspective* (pp.161-187). Emerald Publishing Limited.
- Schmidt, L.K.P. (2015). How to encourage enterprising behaviour in students? In Kirketep A., Doneva A. (Eds.), *1st European Networking Conference on Entrepreneurship Education* (pp. 95). VIA University College.
- Schwab, Klaus. (2017). *The fourth industrial revolution*. New York, United States: Crown Publishing Group.
- Seeck, H. & Diehl, M.R. (2017). A literature review on HRM and innovation-taking stock and future directions. *The International Journal of Human Resource Management*, 28(6), pp.913-944.
- Shamim, S. & Cang, S., Yu, H. & Li, Y. (2016). Management approaches for Industry 4.0: *A human resource management perspective*. 2016 IEEE Congress on Evolutionary Computation (CEC). 5309-5316. 10.1109/CEC.2016.7748365.
- Stearns, P.N. (2018). *The industrial revolution in world history (4th ed.)*. Boulder, United States: Westview press.
- Taylor, M., Marsh, G., Nichol, D. & Broadbent, P. (2017). Good work: The Taylor review of modern working practice. *Tech. rep., Department for Business, Energy and Industrial Strategy*.
- Tijs, A., Fisser, P., & Hoeven, M. van der (2014). 21e eeuwse vaardigheden in het curriculum van het funderend onderwijs. Enschede: SLO.
- Tyler, J. (2018). These are the biggest online shopping destinations in America. *Business Insider*. Retrieved from <https://www.businessinsider.com/biggest-online-shopping-sites-list-2018-4?r=US&IR=T>
- Van Kruining, I. (2017). The dis-app-earance of HRM: Impact of Digitization on the HRM Profession. In Tanya Bondarouk, Huub J. M. Ruël, Emma Parry (Eds.) *Electronic HRM in the Smart Era (The Changing Context of Managing People, Volume)* Emerald Publishing Limited, pp.311 – 337.
- Wolf, M. (2015). Same as It Ever Was. *Foreign Affairs.*, 94, pp.15.
- Wood, B. (2017). Airbnb is now bigger than the world's top five hotel brands put together. Retrieved from <https://thespaces.com/airbnb-now-bigger-worlds-top-five-hotel-brands-put-together/>
- Wrigley, E. (2013). Energy and the English Industrial Revolution. *Philosophical transactions. Series A, Mathematical, physical, and engineering sciences*, 371 (1986), 20110568.
- Xu, M., David, J.M. & Kim, S.H. (2018). The Fourth Industrial Revolution: Opportunities and Challenges. *International Journal of Financial Research*, 9(2), pp.90.
- Yao, Y.Y. (2008). The rise of granular computing. *Journal of Chongqing University of Posts and Telecommunications (Natural Science Edition)*, 20(3), pp.299-308.



INTERNAL AND EXTERNAL PERSPECTIVES ON USER INNOVATION: WHAT WAS LEFT BEHIND? A REVIEW OF CURRENT LITERATURE

Khatereh Ghasemzadeh

University of Udine, Udine, Italy
ghasemzadeh.khatereh@spes.uniud.it

Abstract

This paper carries out a systematic and up-to-date literature review in the domain of user innovation (UI). Unlike previous reviews, this paper scrutinizes the “locus” of UI, meaning it distinguishes between studies focusing on external-to-the-firm conditions of UI (user’s types, users’ roles, enabling platforms, etc.) and papers focusing on internal-to-the-firm conditions of UI, such as strategies, capabilities, and organizational routines that trigger and support UI processes. This review shows that internal-to-the-firm conditions represent a clearly neglected subject in the domain of UI studies. Thus, this paper encourages more research – both theoretical and empirical – to be carried out on the strategic, organizational, and managerial sides of UI.

Keywords: *user innovation, user-driven innovation, user involvement, customer-driven innovation, co-creation, co-development*

1. INTRODUCTION

The theme of user innovation (UI) has gained considerable attention in innovation studies and practices in recent decades (Hyysalo, Repo, Timonen, Hakkarainen, and Heiskanen 2016:18). Users have been renowned for a long time as vital sources to enhance innovation performance and increase competitiveness, regardless of the type and size of the company (Keinz, Hienerth, & Lettl, 2012; von Hippel, 1986). Users’ contributions to develop new products and services result in the enhancement of efficiency and effectiveness of the innovation process (Goduscheit & Jorgensen, 2013). Notably, collaboration with external stakeholders, and more specifically with users, has challenged the so-called “closed innovation” model through which innovation is the result of large laboratories inside firms (Pustovrh & Jaklič, 2018).

This research stream is nowadays characterized by a certain maturity as well as an internal structuring into multiple subtopics, such as the role of communities of users and crowdsourcing (Fuller,

Matzler, & Hoppe, 2008; Poetz & Schreier, 2012), ways and toolkits for involving users (von Hippel, 2001) and enabling them to experiment and innovate (Jeppesen & Frederiksen, 2006), not to mention a copious research stream on the different typologies of users to be involved, such as lead users (Luthje & Herstatt, 2004; von Hippel, 1986). Although an expansion in the number of papers published and an extension in the focus of UI studies is undeniable, the literature by far has paid abundant attention to the preconditions and the consequences of the process of users’ involvement (Bogers, Afuah, & Bastian, 2010; Greer & Lei, 2012). However, the literature has overlooked some aspects of the process itself, mainly planning, organizing, and managing UI processes inside firms.

This review takes a different angle by investigating the locus of UI studies. We aim to understand to what extent the existing literature has been looking at external-to-the-firm conditions of UI – such as the use of platforms, the characteristics of users, the impact of different industries and ecosystems – and internal-to-the-firm conditions. The latter refers to the

strategic, organizational, and managerial conditions that support the deployment of UI-related activities. Therefore, based on the derived concept itself and its existing streams of research as well as the theoretical foundations, a future research agenda in the domain of UI specifically pertinent to internal-to-the-firm conditions is suggested. To derive a better understanding of the phenomenon, this paper is divided into five parts. First, we outline the concept of UI as offered by the literature, followed by a snapshot of the historical evolution of the literature. Section 3 provides the methodological details of our research, and Section 4 presents the descriptive results and examines precisely papers in different streams. Section 5 provides a discussion of theoretical contributions and managerial implications as well as a future agenda.

2. THEORETICAL BACKGROUND

2.1 A snapshot of the evolution of UI literature

It is a common belief that studies of user innovation have their roots in the pioneering work done by von Hippel (1976), who examined the role of manufacturers and users in scientific-instrument innovation and subsequently found that such innovations derived from users' ideas. The results showed that users test and prototype the instruments and innovation does not belong merely to the commercializing firm. Since then, the literature has developed in long waves. Each wave was characterized by a specific research theme becoming prevalent¹. In particular, we identified

- a “*user characteristics*” wave (from 1976 to 1995)
- a “*tools for collaboration*” wave (from 1996 to 2005)
- a “*value co-creation*” wave (from 2006 to 2017)

The main – and somehow only – interest of scholars during this first period (1976–1995) was in the “lead-user” concept and the active role that users started to play in many industries within the processes of new product development (NPD) of firms. Studies of lead users, a category first introduced by von Hippel (1986), started new research

from scratch in this period. von Hippel indicated that lead users are those users who have real-world experience to solve a problem in the market. Subsequently, the success of the method was also put under empirical scrutiny. Urban and von Hippel (1988) characterized the lead-user method in terms of three components: 1) users with higher experience of a need are more capable of giving information, 2) users differ based on the benefit they gain through participating in idea generating, and 3) sometimes users lead regarding the trend of the market.

The lead-user method was introduced as a much faster and less costly way of acquiring new ideas for products and consequently creating promising outcomes for the firms (Herstatt & von Hippel, 1992). Further studies within this wave focused on developing products implementing UI in various firms. The promising examples of industries integrating users in the process of innovation are the computer-related systems industry (Urban & von Hippel, 1988), the low-tech sector (Herstatt & von Hippel, 1992), scientific-instrument factories (von Hippel, 1976), industrial products (von Hippel, 1978), and the electronics sector (von Hippel, 1977). Between 1996 and 2005, the pace of expansion of the literature moderated. Research on UI remained mainly confined to the lead-user research field, and the search for the best methods for fostering collaboration between firms and users became more and more central.

The increase of the heterogeneity of users' needs (Franke & von Hippel, 2003) triggered firms to create new toolkits to fine-tune older ones in order to better and more accurately understand users (von Hippel, 2001) and to allow customers to more effectively create their own designs and products (Franke & von Hippel, 2003; Jeppesen, 2005). Furthermore, the enhancement of the internet and internet-based technologies led to creating new areas of research into open-source software, virtual integration, and deeper ways to involve users. Open-source software gained considerable attention among scholars as a way to reveal and share innovations freely within a community of users (Lakhani & von Hippel, 2003; von Hippel & von Krogh, 2003). In addition, among the topics that started to be investigated by scholars we found an

¹ We used text analysis in VOSviewer software to provide a better view of predominant topics of each wave.

increasing interest in the role of other-than-lead users, such as everyday users (Kristensson, Gustafsson, & Archer, 2004; Magnusson, 2003).

However, in the last decade (2006–2017), the number of studies of UI increased exponentially. Regarding the growing speed of social media and internet-based communication, more studies during the third wave focused on finding newer ways to collaborate with users. Online platforms and contest communities are the most implemented ways through which users can contribute to different innovation processes (Fuller, Hutter, Hautz, & Matzler, 2014; Hienerth, von Hippel, & Jensen, 2014). Simultaneously, more tools for integrating customers' efforts started to emerge, such as living labs (Guzman, del Carpio, Colomo-Palacios, & de Diego, 2013) avatar-based innovation (Kohler, Fulller, Stieger, & Matzler, 2011; Kohler, Matzler, & Fuller, 2009), and brand communities (Brodie, Ilic, Juric, & Hollebeek, 2013; Fuller et al., 2008). Furthermore, several new topics also started to emerge and to be addressed by scholars, such as the theme of co-creation and value-creation in the context of customer involvement, which to a large extent deal with marketing issues. The research started to investigate the involvement process of users and customers in creating new products and most recently in the service sector (Alves, 2013; Gustafsson, Kristensson, & Witell, 2012). A high number of firms integrate users in the process of innovation in order to decrease market risks (Enkel, Perez-Freiye, & Gassmann, 2005).

A review of the co-creation and co-production literature revealed that these processes are considered as value themselves, and are used to attain more efficiency and more customer satisfaction (Voorberg, Bekkers, & Tummers, 2015). Bharti, Agrawal, and Sharma (2015) developed a systematic literature review of value co-creation and stressed that the aforementioned process started to gain attention especially after Prahalad and Ramaswamy (2004) introduced co-creation as a way to satisfy customers' needs. The review showed that co-creation gradually became used as a way to maintain long-term relations, diminish ethical conflicts, create customer loyalty, and build intellectual property rights. In the same line, Gronroos and Voima (2013) specified the roles of customers and firms in the

process of value and co-creation, indicating a joint value sphere of direct interactions between customers. Similar concepts which overlap with co-creation studies are co-creation design (Frow, Nenonen, Payne, & Storbacka, 2015) and co-innovation (Lee, Olson, & Trimi, 2012; Romero & Molina, 2011). Figure 1 shows the graphical maps of the three waves.

2.2 Defining UI

The paradigm of UI was brought to the literature during the 1970s by von Hippel, who, in a pioneering study, introduced the concept of the "customer-active" paradigm (CAP) through which "the would-be customer develops the idea for a new product; selects a supplier capable of making the product; and takes the initiative to send a request to the selected supplier" (von Hippel, 1978: 40). Subsequently, von Hippel (1998) provided a complementary definition of the phenomenon by indicating that users do not manufacture an innovation but integrate it into the assembly of a finished product or process. Hence, in accordance with early definitions, users are the key inputs for the innovation processes and they are also the ones who benefit exclusively from the process by using the innovation and sometimes also trying to commercialize their innovations (de Jong & von Hippel, 2009; Gault & von Hippel, 2009).

More recently, Bogers and West (2012:13) defined user innovation "conditions under which users innovate and how users can be supported to be more innovative" which bring utility for the user rather than any pecuniary benefit for the firm. Although the literature does not provide accurate differences between existing overlapping concepts related to UI, we determined and grouped the already existing concepts in the literature. A body of studies addressed the phenomenon of user-driven innovation (UDI); however, there is no complete convergence in the literature regarding its definitions. Hjalager and Nordin (2011:290) defined UDI as "the phenomenon by which new products, services, concepts, processes, distribution systems, marketing methods, etc. are inspired by or are the results of needs, ideas and opinions derived from external purchasers or users."

Within the same period, Gault (2012) showed that users can act as sources of information for firms, for example, by providing feedback to firms through the use of appropriate platforms and/or social media through user-driven innovation and user-centered innovation (UCI) processes. Gault (2012) differentiated UDI from UI, indicating that in the process of UDI it is the firm that mainly benefits from the innovations produced by users. In other studies, such as a Hyysalo et al. (2016), UDI is a broad concept consisting of various modes including UI, which varies from slight integration of users to deep collaboration. De Moor et al. (2010:53), who investigated the role of UDI in future technology, defined UDI as “the process of collecting a particular type of information about the user: it deals with insights both at an observable and a more latent level that are quite difficult to grasp.”

Affected by the necessity to comprehend the new ways of collaboration between users or customers and firms, most recent definitions focused on the concepts of co-creation and value-creation. Unlike UI studies which highlight the main role of users and their characteristics and motives, these group of studies regard users as collaborators or the inspiration for the innovation process to produce new or meaningfully improved products, services, and processes. Taking a similar point of view, Greer and Lei (2012:64) defined the process of engaging customers as the “process of engaging in the creation of new products or services in collaboration with customers or users.”

Considering the role of users and customers in product development, Hoyer, Chandy, Dorotic, Krafft, and Singh (2010:283) defined the co-creation process as “a collaborative new product development (NPD) activity in which consumers actively contribute and select various elements of a new product offering.” Bogers and West (2012) noted that co-creation is also a means to create value more generally beyond creating product innovation. Value co-creation refers to a joint problem-solving collaborative involving suppliers’ and customers’ resources (Aarikka-Stenroos & Jaakkola, 2012). Further studies expanded the concepts of customer-centered innovation or customer-driven innovation, indicating that “customers may lead to innovations, not only be attracted or retained through innovations” (Öberg, 2010:992).

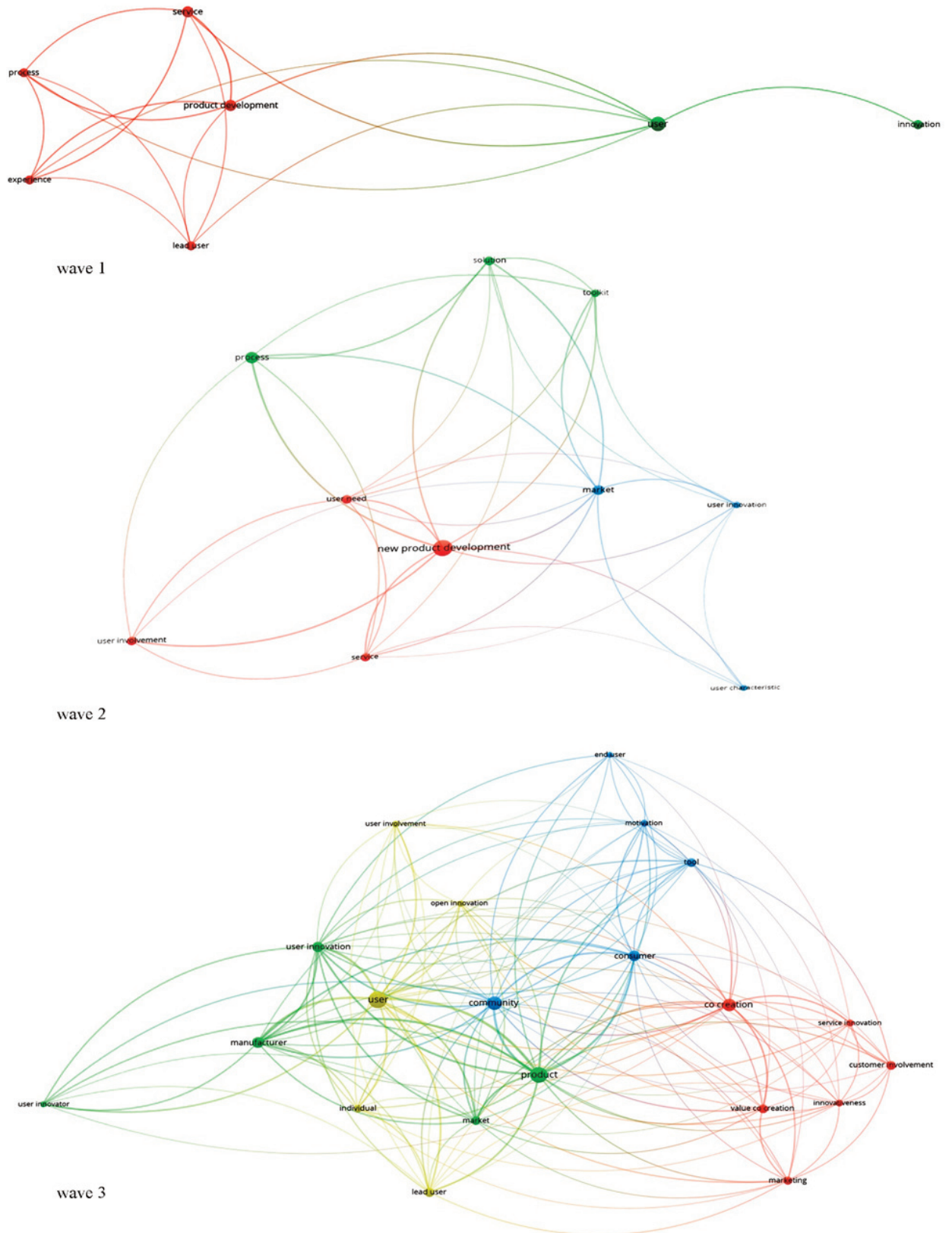
Desouza et al. (2008) emphasized that in customer-driven innovation processes, customers have the main role in innovation and the involvement of the organization is limited, in contrast to older concepts such as customer-focused innovation in which customers had fringe roles and innovation was done by the organization. Meanwhile, other similar concepts such as “participatory innovation” and in particular “participatory design” gained incredible attention; these are processes through which end-users are invited to contribute and participate in developing products and systems as co-designers (Buur & Matthews, 2008; Sleeswijk Visser, Van der Lugt, & Stappers, 2007).

3. METHODOLOGY

We carried out a systematic review of the literature. To do so, we defined a search strategy, set explicit criteria for inclusion and exclusion of papers, and carried out a deep analysis of the results (Crossan & Apaydin, 2010). A systematic literature review provides transparency (Rousseau, Manning, & Denyer, 2008) and yields an accumulated knowledge of various research fields (Tranfield, Denyer, & Smart, 2003). To carry out this review, the Web of Science database was chosen and searched using user innovation, user-innovation, and free innovation as the main keywords, which provided 206 results. Further studies resulted from combinations of 14 different but related keywords. The first step was combining the first group of keywords, namely user driven, user-driven, customer driven, customer-driven, user involvement, and customer involvement, with the second group of keywords, which were innovation and innovate.

Subsequently, a few more keywords were added to a first group, including user collaboration and customer collaboration, and co-creation, co-development, new product development and new service development were added to the second group. Two Boolean search strings were used including all 14 keywords with distinct combinations. For example, (user-driven *AND innovation), (customer driven *OR customer-driven), AND (co-creation *OR co-development) in Web of Science. Only articles published in scientific journals were considered, whereas book chapters and conference papers were not included. The total number of entries using the

Figure 1: Evolution waves of UI literature



keywords was nearly 700. We reviewed titles, journals, and abstracts in order to exclude completely unrelated papers. In the first filtering process, 355 papers were excluded because they were purely in technical (e.g., information and communication technologies) and healthcare areas and were published in journals providing no contribution to the managerial and organizational literature.

We eliminated papers that dealt not with user innovation specifically but with innovation in general. Through this filtering process, we narrowed our database to 345 articles. After retrieving the papers, bibliographic data (title, author, journal, year of publication, and abstract) were exported to an Excel table. In the next step, the whole contents of the remaining articles were scrutinized in terms of their conceptual, theoretical, and empirical development and were graded from 1 to 5 in order to determine how close each article was to the UI topic, where 1 denoted the papers least related to UI and 5 denoted the highest closeness. For this filtering, precise exclusion criteria were applied to isolate just the articles precisely focusing on UI. These criteria were chosen empirically based on an analysis of the papers remaining in the dataset. No prior criteria were applied in this phase.

The most important reasons for excluding further papers were the following: 1) the paper focused on innovation practices not strictly related to UI; 2) the paper was grounded in the open innovation theoretical framework but did not deal specifically with UI; 3) the paper dealt with user experience and not with the direct involvement of the user; 4) the paper was related to the role of users as innovators in computer science and healthcare, but had little contribution to the managerial literature on UI overall; and 5) the paper was about buyer-supplier collaboration in a B2B context and typically during a new product development phase. The articles were graded separately, and the articles not reaching a threshold of 3 out of 5 were excluded from the review. As a result of the second filtering process, the number of articles decreased to 275. All the papers were read in full and sorted out.

In order to identify the main streams of research within the UI literature, papers were coded based on 10 criteria: 1) Article type: The studies were sorted into three main kinds, empirical, con-

ceptual, and review papers. 2) Methodology: Empirical papers were conducted in qualitative and quantitative ways. 3) Method: Various methods were used in sample empirical articles, including case study, survey, interview, ethnography, netnography, experimental design, mixed methods, etc. 4) Innovation type: Because collaborating with users leads to numerous innovations in products, services, and processes, the papers were divided into incremental and radical innovation types. 5) User type: Users who collaborated on innovation activities within these articles were separated into lead users and ordinary or everyday users. 6) Collaboration type: User engagement is possible in two main types, individual engagement and collaborating in the community of users. 7) Industry type: Generally, industries in which UI practices have been conducted include manufacturing and service industries. 8) Industry activity: More specifically, papers were sorted based on activities of each industry type in order to discover in which sectors UI has been carried out. 9) Firms' age: Sample firms comprised startups and established firms. 10) Incentive type: Due to the importance of incentives which motivate users to participate in innovation activities, we classified studies dealing with incentives in terms of extrinsic and intrinsic motivations.

4. RESULTS

4.1 Descriptive results

Notwithstanding its long history, UI is a phenomenon that started collecting considerable attention in the literature only in 2008 (this research analyzed papers to the end of 2017). Descriptive results show that empirical papers represent almost four out of five papers (75%), whereas theoretical papers were fewer (19%). The remainder are reviews of previous literature. Regarding the methodologies used in the (empirical) articles, qualitative research is the most popular (43.9%), and quantitative methods hold the second position. Among the methods of analysis used, case studies (39.1%) and surveys (30.4%) are the most widespread methods. During recent years, the use of mixed methods has grown significantly, and currently accounts for more than 20% of research studies. Other methods of collecting data (such as ethnography, netnography, in-

terview, experimental design, focus group, action research, and secondary data) are used less frequently in the papers analyzed.

For the types of innovations involved in the study, the majority of papers (70%) deal with cases of radical innovation (RI), whereas a smaller percentage focus on both radical and incremental innovation. Lead users are at the center of at least half of all the articles. Not surprisingly, just 22.3% of studies focus on the everyday user as the only sources of innovation. Collaborating with firms and users is done extensively within communities (61.4%), and individual collaboration is less common (25.7%). UI practices have been implemented in different types of industries since their emergence. A large number of studies, especially during the last few years, conducted UI studies in service firms (38.4%). To better understanding the implementation of UI, we classified the specific activities of both service and manufacturing firms for all sample articles.

The results showed that most of firms within these industries were incumbent firms (83%) and startups were studied only in few papers (6.4%). When considering incentives of collaboration, a wide variety of studies consider a combination of extrinsic and intrinsic incentives to motivate users (61%), whereas extrinsic incentives alone (26.8%) and intrinsic motives alone (12.2%) are used less frequently. Intrinsic incentives include aspects such as fun, altruism, sense of efficiency, etc., whereas extrinsic incentives refer to monetary rewards, career prospect, using free services and products, etc. Table 1 summarizes the descriptive characteristics of the papers considered in this review, the list of journals with the most published articles, and the distribution of industries with higher repetition among papers.

4.2 UI research streams

On the basis of our literature review and coding procedure, we categorized the existing literature on UI into two general streams of research: (1) papers dealing with external-to-the firm conditions, accounting for 94% (258) of the papers included in this review, and (2) papers dealing with internal-to-the firm conditions, corresponding to the remaining 6% (17).

We further categorized the papers within each stream and identified three categories in each. For the papers dealing with external conditions we distinguished between:

- a) Innovation-related papers. These papers deal mainly with the types of innovation (such as radical or incremental) or the type of products (goods, services, or mixed) involved in the innovation process. We found 93 papers dealing with this topic, corresponding to 34% of the total.
- b) Users-related papers. These papers deal mainly with the different characteristics of users (lead users and everyday users); the role of users in the process of UI, both individually or on web-based platforms facilitating such processes; and incentive systems. In total, we found 158 papers, 57% of the literature.
- c) Context-related papers. These papers deal with the sectoral and the contextual conditions (location or ecosystem) that trigger, support, or hamper the deployment of UI strategies. Only approximately 3% of the papers were in this category.

For the papers dealing with internal conditions, despite their limited number (17 papers), it seemed reasonable to divide them into the following categories:

- d) Strategy-related papers. These papers deal with the strategic aspects of UI, such as business modeling, customer interaction as a strategy, or the relationship between UI and performance. We assigned two papers to this category.
- e) Organization-related papers. We grouped under this category all the papers dealing with organizational aspects (such as routines, organizational structures, and processes) that represent preconditions to the effective deployment of a UI strategy. We attributed eight papers to this category.
- f) Management-related papers. We included in this third group all the papers dealing with the management of the process itself of UI, the resources, and the capabilities needed to manage in an effective way the process of UI. We found seven papers belonging to this third category.

Table 1: Descriptive results of sample articles

| Classification variable | Values | N | % |
|---------------------------------|--|-----|------|
| 1. Paper type | Empirical | 207 | 75 |
| | Conceptual | 51 | 19 |
| | Review | 17 | 6 |
| 2. Methodology | Qualitative | 91 | 43.9 |
| | Quantitative | 75 | 36.2 |
| | Mixed | 41 | 19.8 |
| 3. Method (the most common) | Case study | 81 | 39.1 |
| | Survey | 63 | 30.4 |
| | Mixed | 47 | 22.7 |
| | Interview | 7 | 3.4 |
| 4. Innovation type | Radical | 28 | 70 |
| | Mixed | 12 | 30 |
| 5. User type | Lead user | 60 | 49.6 |
| | Mixed | 33 | 27.3 |
| | Everyday user | 27 | 22.3 |
| 6. Collaboration type | Community | 86 | 61.4 |
| | Individual | 36 | 25.7 |
| | Mixed | 18 | 12.9 |
| 7. Good type | Service | 84 | 38.4 |
| | Mixed | 63 | 28.8 |
| | Manufacture | 55 | 25.1 |
| 8. Industry (most frequent) | Sporting goods | 12 | 5.5 |
| | Telecommunication | 10 | 4.6 |
| | Information technology firms | 10 | 4.6 |
| | Software | 9 | 4.1 |
| | Computer game industry | 8 | 3.7 |
| 9. Firm age | Incumbent | 78 | 83 |
| | Mixed | 10 | 10.6 |
| | Start-up | 6 | 6.4 |
| 10. Incentive type | Mixed | 25 | 61 |
| | Extrinsic | 11 | 26.8 |
| | Intrinsic | 5 | 12.2 |
| 11. Journal (most publications) | Journal of Product Innovation Management | 29 | 10.5 |
| | Research Policy | 14 | 5.1 |
| | Management Science | 10 | 3.6 |
| | Creativity and Innovation Management | 9 | 3.3 |

4.2.1 External-to-the-firm conditions

Research stream 1: Innovation-related theme

Papers in the first research stream – innovation-related – specifically focus on innovation itself. Thus, the role of users as innovators is mainly related to the type of innovation involved, whether it be radical, incremental, disruptive, or other.

A common theme within this stream is related to innovation type: radical or incremental. There are not many studies in the literature which explore the degree of innovativeness of user-generated innovations. Radicalness of innovations and finding new solutions have always been a critical topic for UI scholars. Various scholars proposed definitions for radical innovation, which in general refers to creating new products that offer long-term sale po-

tential rather than just improving the product (Skiba & Herstatt, 2009). On the other hand, radical innovations are also connected with service innovation in a way that separates previous practices and results in fundamental changes in organizational activities (Perks, Gruber, & Edvardsson, 2012). Incremental innovations alone are not sufficient for firms in developing and quickly changing technology, and one important factor is choosing the right user at the right time and in the best form (Lettl, 2007).

The characteristic of users is a determinant element which contributes to the development of radical innovation (Lettl, Herstatt, & Gemuenden, 2005). Accordingly, due to differences between the profiles of users who contribute to RI and of others involved in conventional marketing research, firms seeking RI need to apply different marketing inquiry approaches. Exploring the techniques of providing radical changes, the lead-user method (von Hippel, 1986) and user toolkits (Herstatt & von Hippel, 1992; Oliveira & von Hippel, 2011) have been proposed as the most widespread techniques. Candi, van den Ende, and Gemser (2016) made a distinction between utilitarian radicalness, which refers to innovation in technology and functionality, and hedonic radicalness, which delivers new meanings and values to products and services. Because radical and incremental innovation are complementary concepts, a high percentage of studies compared the two types of innovation with each other.

The results of a study of a motor insurance company as a financial sector revealed that the sequence of micro-level activities related to incremental innovation in the co-creation process results in radical innovation, which indeed requires more managerial attention (Perks et al., 2012). Online and offline collaboration are two modes of involving users; online collaboration increases the probability of introducing incremental innovations, whereas offline collaboration increases the probability of introducing radical innovations in an ICT sector (Ryzhkova, 2012). Incremental innovation is considered as more frequent and customary innovation, through which both business and individual users develop upon the work of producers and other groups of users (Bogers & West, 2012).

Fuller and Matzler (2007) found that listening to customers closely will end up creating some incremental innovations, but virtual customer integration provides an opportunity to come up with really new products in order to satisfy customer needs. Notably, the type of innovation is a key factor in selecting the co-creation and communication process. Gustafsson et al. (2012) concluded that frequency, direction, and content of co-creation have the same positive effect on the product and market success in incremental innovation, whereas in radical innovation, project frequency has a positive effect and content has a negative significant effect on product success. In a study of the kayak industry, innovation moved from radical to more incremental and customer-oriented innovation by adapting the equipment to general customers and amateurs. As a result, the manufacturer could sell new products and designs to more customers every year and improved the commercialization process (Hienerth, 2006).

Studies of this stream demonstrate that design, products, and product concepts that are created together with users fit user needs' better (Pals, Steen, Langley, & Kort, 2008); these studies also outline the positive effect of UI on service sectors, such as the positive direct effect on technical quality and innovation speed (Carbonell, Rodriguez-Escudero, & Pujari, 2009). Recently, scholars have determined the important role of users in sustainable product and service innovation in addition to radical and incremental attributes (Nielsen, Reisch, & Thøgersen, 2016; Parmentier & Gandia, 2013).

Research stream 2: User-related theme

Papers belonging to the second research stream – users-related papers – are the most consistent in number. Along with this stream, three sub-themes of research were identified. The first sub-theme deals with different types of users: lead users and ordinary or everyday users. Studies dealing with lead-users and their characteristics prevail in absolute terms. A lead user has been defined as a user “(1) who has needs in a particular area before the rest of the market and (2) gain benefits from obtaining a solution and try to innovate” (von Hippel, 1986:796). The primary studies focused on the role of lead users in marketing activities and new prod-

uct development such as testing the impact of lead-user participation in the development of industrial products (Urban & von Hippel, 1988). Similarly, Herstatt and von Hippel (1992) showed that the lead-user method could bring positive results in a low-tech industry despite having users without technical training.

A large body of literature has investigated the lead-user concept within consumer products. As an example, lead users considerably contribute to the innovation process of sport equipment; for example, in the case of kitesurfing equipment, it has been proven that two main characteristics of lead users, being ahead of the trend in the market and having high expectations of benefits, result in appealing commercial innovations (Franke, von Hippel, & Schreier, 2006). The search for antecedents and consequences of consumer lead users explained that antecedents of the process are consumer knowledge, using experience, the locus of control, and innovativeness as requirements to identify users. Investigation of the consequences of the lead-user method revealed that lead users do not only participate in the idea generation process, but they also adopt new products more heavily and more quickly (Schreier & Prugl, 2008). User expertise and motivation, extreme user needs, opinion leadership, and commitment have been proposed as other characteristics of lead users in addition to being ahead of the market and having high expectations of benefits (Brem & Bilgram, 2015).

Moreover, studies indicate that lead users exhibit some new behaviors, such as participating in online communities, according to the cultural changes triggered by social media. Consequently, lead users were assigned to problem-solving stages of developing new products, including three phases of problem detection, analysis, and removal. Inventive users have some common characteristics with lead users but have a definition beyond the traditional lead user. Lettl et al. (2005) characterized inventive users as those who 1) have high motivation for the development of new solutions, and 2) face the need with extremely high precision. Surprisingly, the outcomes of a study of the role of lead users in the different stages of problem-solving of new product development demonstrated that the interference of lead users in each stage of the innovation

problem-solving process decreased productivity in spite of providing desirable products (Colazo, 2014).

On the other hand, some empirical and conceptual articles studied general and everyday users' characteristics and their input in generating new ideas. Ordinary students who were in charge of designing watches using toolkits could bring heterogeneous designs to market and increased significantly user willingness to pay high prices for them (Franke & Piller, 2004). According to Magnusson, Matthing, and Kristensson (2003), ordinary users created more original ideas than did professional users during service innovation development due to a higher level of creativity. Kristensson et al. (2004) claimed that professional developers and advanced users generated more realizable ideas, and ordinary users provided the most valuable ideas. Given the increasing role of users in service development, Magnusson (2003) studied ordinary users and professionals in the service innovation process and showed that ordinary users provided more creative and novel suggestions than did professionals, but professionals made easier ideas to produce. Despite the originality and value of ordinary users' ideas, users could not be expected to come up with ideas that immediately go to the production phase, but basically they are sources of inspiration and information of users' needs (Magnusson, 2009).

The second sub-theme sheds light on the types of collaboration between firms and users and holds a significant position within studies of individual and community-based collaboration. According to Baldwin and von Hippel (2011:9) "a single user innovator is a single firm or individual that creates innovation in order to use it." Individual users have been identified as drivers of many developments in sports products (Hienerth, 2006) and consumer products (Flowers, von Hippel, de Jong, & Sinozic, 2010). In a single case study, Hennala and Melkas (2016) emphasized the importance of formulating a collective voice of individual users and a deeper understanding of users' experiences to foster service innovation. Involving few users mostly has been common in the lead-user method, through extremely advanced users eager to create novel and radical innovations which are quite practical for projects with a limited time domain (Keinz et al., 2012).

Despite the critical role of individual users, it has proven that the group of users can be much more efficient than specialized producer innovators (Hienerth et al., 2014). Communities are no longer a place just for lead-user activities; the presence of potential and the expertise of multiple users also are necessary for the innovation process (van Oost, Verhaegh, & Oudshoorn, 2009). The internet allows less costly collaboration with a large number of customers through virtual customer integration (VCI) and making use of customers' know-how, creativity, and judgment (Bartl, Fuller, Muhlbacher, & Ernst, 2012). Therefore, user communities and platforms (normally online) have been identified as a promising approach that provides the opportunity to exchange ideas among users and generate innovative ideas around a specific theme or topic (Harhoff, Henkel, & von Hippel, 2003; von Hippel, 2007).

Platforms are defined as "the nexus for the aggregation and integration of different members (individuals and companies) in an innovation community, permitting access to a large pool of experts and contributors, benefiting from proximity to customers and user innovations and avoiding a local search bias in innovation" (Battistella & Nonino, 2012:2). Exploring the "propellerhead" community as a case study, Jeppesen and Frederiksen (2006) investigated the motivation and characteristics of users who participate in such communities and found that the motives lie in three groups: 1) being a hobbyist, 2) a response to firm recognition, and 3) trying to be a lead user. Promising examples of such communities include mystarbucksidea.com (Lee & Suh, 2016; Sigala, 2012), the Dell IdeaStorm community (Bayus, 2013), and salesforce.com (Li, Kankanhalli, & Kim, 2016), which aim at improving the effectiveness of new service and product development. Interaction among participants, information exchange, mutual support, community building, and cooperation among users in online contest communities lead to better and more innovations (Fuller et al., 2014).

Another type of such communities is virtual brand communities, in which consumers manifest loyalty, satisfaction, empowerment, connection, emotional bonding, trust, and commitment (Brodie et al., 2013). Furthermore, user toolkits became widespread, which are defined as tools that "allow

manufacturers to actually abandon their attempts to understand user needs in detail in favor of transferring need-related aspects of product and service development to users along with an appropriate toolkit" (von Hippel, 2001:247). Such user-friendly tools let users design their own preferred products and services (von Hippel & Katz, 2002). User toolkits have been applied not only by end users (Jeppesen, 2005; von Hippel, 2001; von Hippel & Katz, 2002); such toolkits are also aimed at various general users (Franke, Keinz, & Schreier, 2008; Franke, Keinz, & Steger, 2009; Goduscheit & Jorgensen, 2013). Toolkits for user innovations are considered also as a powerful marketing tool (Franke & Piller, 2004) to achieve mass customization and, in contrast to the lead-user method and user communities, do not focus only on radical new ideas (Keinz et al., 2012).

One further sub-theme of papers in this stream focuses on the process of stimulating users using different types of incentives. Generally, the literature shows that motivations for participating in the UI process fall into two groups, extrinsic and intrinsic incentives. Fuller (2010) proposed that users' decisions to engage in innovation activities are based on a combination of intrinsic (fun and altruism), internalized extrinsic motives (learning and reputation), and entirely extrinsic motives (payment and career prospects). In a study exploring the motivations to take part in platforms, drivers were categorized as intrinsic-individual motivation, intrinsic-social driven motivation, extrinsic economic motivation, extrinsic professional motivation, and extrinsic social motivation (Battistella & Nonino, 2012).

Nambisan and Baron (2009) further detailed users' incentives and motives by proposing four groups of them: cognitive or learning benefits (product-related learning), social integrative benefits (sense of belongingness and social identity), personal integrative benefits (reputation or status and the sense of self-efficacy), and hedonic benefits (pleasure and enjoyment). In contrast, Luthje (2004) underlined the importance of non-financial rewards. Luthje specified that financial motives cannot distinguish between innovating and non-innovating users, and there are fulfilled needs in the market that stimulate users to innovate. Based on the results of Luthje's research in the case of the outdoor industry, having more fun or being

faster and safer during sports activities are the main motives. Similar results showed that the engagement of customers in virtual product development is not motivated by monetary compensation or reputation. Instead, users participate for the possibilities of product development (Fuller, Faullant, & Matzler, 2010).

Research stream 3: Context-related theme

Studies focusing on the contextual elements of UI are still rare. Research within this stream has focused on the environmental and contextual dimensions covering the conditions of various sectors and industries, technological and scientific changes, marketplace fluctuations, policy making, competitors, etc. These elements are not usually the only effective factors in UI, but provide a complementary role. Context factors impact the roles of users and innovation activities in different direct and indirect ways which mostly are out of control of the firms. Addressing the uncertainty in an environment involving the unavailability of resources, instability, and unpredictability of markets, changing government regulations is of significant importance in user involvement (Gales & Mansour-Cole, 1995).

Carbonell et al. (2009) investigated the impact of technological uncertainty on customer engagement and found that technological novelty and technological turbulence affect the process of involving the customer in a positive way. Different sectors have diverse conditions and prerequisites for UI practices. Specifically, Alves (2013) identified that co-creation of value in the public sector fosters radical and discontinuous innovation through integrating citizen potential and knowledge; however, this specific sector suffers from some weaknesses such as resource limitation and citizen contests that effect the process in a negative way. Correspondingly, some other sectors, such as the electricity sector, are characterized by slow-moving and challenging attributes for UI activities; however, users have inspired innovation even within this sector (Heiskanen & Matschoss, 2016). Heiskanen and Repo (2007) indicated that, in general, micro-sociological processes, market power, and the competitive environment affect user innovations both positively and negatively.

Van Doorn et al. (2010) studied the antecedents and consequences of the customer engagement behavior process, and revealed some interesting results about context-level factors. The most affecting context-level factors include the political and legal environment which encourage or prevent the information flow, natural events, media attention, and competitive marketing atmosphere. UI has been affected by technological improvements in a positive way by, for instance, providing an opportunity for even older people to design new products and services (Ostlund, Olander, Jonsson, & Frennert, 2015). Furthermore, modern technologies such as wikis and the mobile environment let users collaborate with firms easily (Wagner & Majchrzak, 2006; Wong, Peko, Sundaram, & Piramuthu, 2016).

Technologies shift the business process to consumers, who can communicate, collaborate, and make decisions with the help of new technologies such as Web 2.0 (Nambisan & Nambisan, 2009). Most papers (57%) studied the user stream, and papers within the innovation stream held the second position (34%). As mentioned previously, papers dealing with the context level consider contextual factors as complementary conditions to apply UI practices. Papers solely contributing to this stream comprised only 3% of all papers, but in approximately 15% of papers, context-level factors were studied along with other streams. The contributions of the most relevant papers of external-to-the-firm studies are provided in Table 2.

4.2.2 Internal-to-the-firm conditions

Studies focusing on internal-to-the firm conditions are much fewer than studies focusing on external dimensions, and started to gain attention very recently. We divided this stream of studies into three sub-streams.

Research stream 4: Strategy-related theme

Among studies dealing with internal issues of organizations, less present are papers dealing with strategy-related issues (fourth stream). In particular, we found only two papers dealing with strategic aspects of UI. The first contribution, by Kristensson, Matthing, and Johansson (2008), proposed a conceptual framework and defined key strategies to pur-

sue the successful involvement of users in the process of new product development. They suggested that firms ought to provide an opportunity for users to understand their latent needs and play various roles, consider different users' situations, use analytical tools and benefits, escape from brainstorming, and provide heterogeneity. A second contribution,

by Baldassarre, Calabretta, Bocken, and Jaskiewicz (2017), consists of a theoretical contribution coupled to a qualitative study and deals with business models and UI. In particular, they suggested that the creation of sustainable value propositions through products and services takes place in a repetitive and long process of talking, thinking, and testing.

Table 2: Articles reviewing external-to-the-firm conditions

| Categories | Author | Contribution |
|---------------------------|---------------------------|--|
| Innovation-related papers | Lettl (2007) | <ul style="list-style-type: none"> - Provides insights into the interaction dimension of user involvement competence for radical innovations. - Contributes to the development of a more taxonomic approach to the firm and integrates qualified users in the radical innovation process |
| | Skiba and Herstatt (2009) | <ul style="list-style-type: none"> - Highlights the impact of radical innovation on the service industry - Proposes that service providers should focus their efforts on integration of the right users early in their innovation process |
| | Gustafsson et al. (2012) | <ul style="list-style-type: none"> - Emphasizes positive results from co-creation with customers caused by frequency, direction, and content - Argues that it is useful while working with incremental innovation to spend time with customers and become absorbed in the customer's context as much as possible |
| | Perks et al. (2012) | <ul style="list-style-type: none"> - Mentions that co-creation develops an interactional process of inducing and visualizing innovative behavior of the actors - Proposes that in order to achieve radical innovation, a sequence of incremental innovations is required and advances knowledge of the way co-creation occurs in radical service innovation |
| | Candi et al. (2016) | <ul style="list-style-type: none"> - Introduces two different kinds of radicalness: 1) hedonic, which refers to the degree to which an innovation is novel in terms of technology and functionality; and 2) utilitarian, which concerns sensorial, emotional, or symbolic aspects - Emphasizes that collaborating with users is moderated positively by utilitarian radicalness, but hedonic radicalness moderates the co-creation process negatively |
| User-related papers | Magnusson (2003) | <ul style="list-style-type: none"> - Stresses that users engaging in a service innovation process offer more original and valuable proposals than do professional developers - Outlines that the technical abilities of professional developers limit them in developing creative ideas |
| | Luthje (2004) | <ul style="list-style-type: none"> - Summarizes the characteristics that distinguish innovating from non-innovating users - Argues that the benefits which the users expect from using their innovations and their level of expertise discriminate between users - Identifies that new needs, dissatisfaction with existing products, financial reward, fun, experience, and product-related knowledge determine the participation of users |
| | Schreier and Prugl (2008) | <ul style="list-style-type: none"> - Underlines the antecedents and consequences of consumers' lead user-ness and the behavior of lead users in each stage - Shows that consumer expertise, user experience locus of control, and innovativeness as antecedents have positive relationships with lead user-ness. Consumers' lead user-ness is related to new product adoption behavior as a consequence. Lead users tend to embrace new products faster and more heavily than do ordinary users. |
| | Fuller et al. (2010) | <ul style="list-style-type: none"> - Elaborates on the role of customers during virtual customer integration and proposes that monetary reward and reputation are not sufficient to attract customers - Highlights that the possibility for product development as well as benefiting from the improved products and technologies become users' willingness to participate |

| | | |
|----------------------|--------------------------------|---|
| | Hienerth et al. (2014) | - Finds that an open, uncoordinated group of users can be more efficient than producer innovators - Emphasizes that increased efficiency of a group of users within new product development is driven by “efficiencies of scope” in problem-solving |
| Context-level papers | Gales and Mansour-Cole (1995) | - Shows that unknown uncertainty (operationalized as project radicalism and the stability of the scientific and technological foundation) is a motivation for managers to engage potential users more frequently - Indicates that known uncertainty (operationalized as the extent to which project managers believe they can meet the constraints and requirements of users) affects the number of users that a firm tries to contact |
| | Freel and Harrison (2006) | - Finds that public policy should strengthen two aspects (internal learning capabilities and absorptive capacity of firms) and increase the availability of external resources |
| | Alves (2013) | - Indicates that co-creation could be a source of radical innovation in sectors such as the public sector despite having too many insufficiencies |
| | Heiskanen and Matschoss (2016) | - Underscores that in a challenging context such as the energy industry, lead users’ ideas are helpful for marketing and the development of new relationships with consumers - Emphasizes the role of users as innovators who can also be involved to cause industry-wide innovation in industries such as the electricity industry, which is of significant public interest. |

Between strategy- and organization-related papers, Ojanen and Hallikas (2009) discussed the link between UI strategies and inter-organizational routines needed to achieve such strategies and, in particular, to balance exploitation and exploration activities in customer-centered innovation. The results of the study demonstrated that innovation collaboration requires explorative inter-organizational routines, and firms also need to apply routines enabling inter-organizational relationships, inter-organizational learning, and feedback mechanisms in order to enhance effective collaboration transformation process within the organization.

A similar position is shared by Keinz et al. (2012), who discussed the role of organizational design in the implementation of different user innovation strategies. In particular, they define four different strategies (searching, harvesting, cooperation, and ecosystem strategies) and indicate the necessity of changes in the organization design including human and structural components to implement such strategies. More specifically, searching (i.e., lead user) and harvesting (i.e., user contests) strategies need changes associated with human components, whereas for a cooperation strategy (i.e. lead user and expert cycles), firms adjust their structure to achieve radical innovation and assign some employees to manage the relationship with lead users and external parties.

Moreover, an ecosystem strategy (i.e., toolkits and communities) requires major changes related to structural components.

Research stream 5: Organization-related theme

Papers belonging to the fifth research stream – organization-related papers – are the most frequent and mainly deal with intra- and inter-organizational factors (functions, positions, roles, and routines) and behaviors facilitating UI activities in firms (Agostini, Nosella, & Filippini, 2016). One of the earliest studies within this stream, by Nambisan, Agarwal, and Tanniru (1999), explored organizational design actions in the form of mechanisms in order to enhance users’ propensity to innovate in information technology. Furthermore, they identified technology cognizance, ability to explore, and intention to explore as the main organizational antecedents to UI. Foss, Laursen, and Pedersen (2011) recognized some organizational routines – namely delegating responsibility, internal communication, and knowledge incentive – that better organize and manage the transfer of knowledge from users. They focused on practices that improve internal information flows and give more motivation, resulting in better exploitation of knowledge from the external environment. Agostini et al. (2016) analyzed the moderating effects of key factors of internal organizational con-

text – including performance management, autonomy, internal networking, and organization and culture – on the relationship between users' involvement and radical innovation performance. The results revealed that user involvement enhances radical innovation performance in the presence of organizational context; however, internal networking, organization, and culture seem to have a more crucial influence on radical innovation performance.

Research stream 6: Management-related theme

Finally, papers belonging to the sixth research stream – management-related papers – deal with the management of the process (methods and tools) and the resources and capabilities needed to do that. An example of articles belonging to this stream is the paper by Bengtsson and Ryzhkova (2013), who discussed the need to collect enough internal management competencies in order to benefit from user involvement tools. In particular, the authors argued for disclosure competence (finding and motivating users, support functions), appropriation competence (compensation issues), and integration competence (transfer and further development issues) as appropriate managerial practices for UI. Ashok, Narula, and Martinez-Noya (2016) outlined the role of knowledge management (KM) capabilities of the firm to benefit from user collaboration. They analyzed the effect of firm-level factors – in particular, collaboration with different kinds of users and KM – on innovation activities of a service sector and found that collaborating with existing users has an effect on incremental innovation, whereas to achieve radical innovation, collaboration with prospective customers is needed, which subsequently requires higher investment in KM practices.

Between managerial and organizational study, Roberts and Darler (2017) outlined the need to re-define the co-creation process by considering the importance of having a culture supporting innovation and co-creation, consumer choice with the help of top-level management, and training in business creativity and relationship-building skills. Likewise, Tseng and Chiang (2016) found that organizational culture and communication quality

moderate the relationship between co-creation and development/completion of new products. Furthermore, Bartl et al. (2012) discussed the role of managers' perspectives in applying UI (in the form of virtual customer integration). They simultaneously highlighted the effect of managers' cognition, attitudes, subjective norms, and perceived behavioral control on the process of UI. Table 3 summarizes the most relevant contributions related to internal-to-the firm conditions of UI.

5. DISCUSSION AND CONCLUSION

5.1 Theoretical contribution

Regarding the lack of well-defined theoretical foundation of UI concept (Bogers et al., 2010) we provided an overview of theoretical streams and their explanatory support for research on UI. To drive synthesized theoretical perspectives of UI, we identified four theoretical frameworks: user innovation, service-dominant (S-D)_logic, process management, and open innovation perspectives. User innovation (52.1%) is the most applied perspective, followed by the S-D logic perspective (22.3%). We assume that classifying the papers in terms of theoretical perspective could provide a better and clearer picture of the phenomenon.

More than half of the studies are grounded purely in strategies to exploit users' novel ideas in order to derive innovation in various firms. Based on the user innovation theoretical framework, innovating by individual users and user firms have replaced producer innovation. A user innovator aims to benefit from the innovation by using it, whereas a producer innovator is a single, non-collaborating firm which benefits from selling the innovation (Baldwin & von Hippel, 2011). Studies grounding on the theoretical basis of user innovation focus strongly on the characteristics of users in the process of developing new products and services, such as tracking down end users in sport field activities and products (Luthje, 2004; Luthje, Herstatt, & von Hippel, 2005; Tietz, Morrison, Luthje, & Herstatt, 2005). Lead users started to gain considerable attention because of their specific characteristics, including "high expected benefits" and "being ahead of the market trend" (von Hippel, 1986).

The former characteristic could be caused by heterogeneity and the changing nature of customers, and the latter one indicates that the costs of innovation are lower for users than for manufacturers due to the “stickiness” of preference information (von Hippel, 1994). Finding that users seek other users to fulfill the innovation process, communities became popular in the decade corresponding with the second wave, and have become a strong strategy to enable every user to contribute to the innovation activities of firms (Hienerth et al., 2014; van Oost et al., 2009). Why users often freely reveal their innovations has been studied by many scholars in various industries (Morrison, Roberts, & Midgley, 2004; von Hippel &

Finkelstein, 1979). It has been found that users benefit in a different way than they would by selling it.

Users acquire a reputation (Lerner & Tirole, 2002), have the chance that the producer would be able to produce the innovation and sell it at a lower price than users’ production costs (Harhoff et al., 2003), achieve fun and learning (Lakhani & Wolf, 2003), can increase the chance of becoming known in some communities (Franke & Shah, 2003), provide benefit for other users (von Hippel & von Krogh, 2003), and, when the opportunity costs are quite low, change roles and become producers to benefit from selling the innovation (Baldwin, Hienerth, & von Hippel, 2006).

Table 3: Articles reviewing internal-to-the-firm conditions

| Categories | Author | Contribution |
|-----------------------------|-------------------------------|---|
| Strategy-related papers | Kristensson et al. (2008) | <ul style="list-style-type: none"> - Introduces the most important strategies for user involvement during NPD process - Provides guidelines for managers to implement a successful UDI with market orientation |
| | Keinz et al. (2012) | <ul style="list-style-type: none"> - Stresses that for harvesting user innovation strategy, processes, incentives, and competencies should be developed to allow the focal producer firm to leverage the creative potential of a large number of users and to adjust the creative contributions with the corporate strategy - Provides a link between UDI strategy and organizational routines in order to develop such strategies - Argues that involving users needs to integrate changes in the human components with changes in the structural components of organizational design |
| Organization-related papers | Ojanen and Hallikas (2009) | <ul style="list-style-type: none"> - Emphasizes that collaboration in innovation practices requires more extensive usage of explorative inter-organizational routines than traditional arms-length routines - Highlights that organizational routines enable inter-organizational relationships to contribute to the driving forces and prevent restricting forces - Argues that the collaboration process needs inter-organizational learning and feedback mechanisms to increase the performance of exploitation and exploration-related routines |
| | Agostini et al. (2016) | <ul style="list-style-type: none"> - Emphasizes integrating the external dimensions of connecting with users and the internal facets of the organizational context - Argues that combining internal and external processes affects radical innovation performance |
| | Foss et al. (2011) | <ul style="list-style-type: none"> - Introduces a model through which organizational practices mediate the interaction between firms and customers. - Gives special attention to internal knowledge flow and motivation |
| Management-related papers | Ashok et al. (2016) | <ul style="list-style-type: none"> - Emphasizes that translating user’s ideas to radical innovations depends on the firm’s internal potential - Proposes that the higher managerial effort such as investing in knowledge management (KM) practices develops the absorptive capacity |
| | Bengtsson and Ryzhkova (2013) | <ul style="list-style-type: none"> - Outlines the management competences needed in different stages of the innovation process within online innovation tools - Provides a holistic and integrative perspective on management issues related to implementation of online innovation tools - Shows a detailed and managerially relevant view of the complementarities between external sourcing of knowledge and necessary internal competences such as absorptive capacity |
| | Bartl et al. (2012) | <ul style="list-style-type: none"> - Emphasizes the role of managers’ perspectives in the process of VCI - Shows that managers identify future customer needs, form a broader decision basis, increase efficiency in gathering and use of customer information, and increase customer retention |

The S-D logic perspective has become more popular in studies due to the notable increase in the number of service-oriented firms. A high number of studies in the domain of UI overlap with the holistic view of service science defined by Ostrom et al. (2010, p. 2) as an “emerging interdisciplinary field of inquiry to drive service innovation, competition, and wellbeing through co-creation of value.” S-D logic brings a new perspective to service and co-creation and implies that value is co-created with the user and customer and is experienced and evaluated when the service is understood within the user’s own context (Vargo, Maglio, & Akaka, 2008). Within customer-centric service organizations, the value is co-created with customers and is not predefined and fixed in outputs; therefore, examining new approaches that help to learn from and with customers in new service development is of crucial importance (Matthing, Sanden, & Edvardsson, 2004).

The S-D logic perspective is a powerful theoretical lens that enhances the concept of customer engagement (Brodie et al., 2013), which relates to customers’ perceived empowerment (Fuller, Muhlbacher, Matzler, & Jaweck, 2009) and could be considered as a means to share the experience (Prahalad & Ramaswamy, 2004). Kristensson et al. (2008:475) specified that firms need special strategies for involving users in the co-creation process where the S-D logic and UI perspective overlap the most. The concept of service has changed from the variety of market offerings to creating value for customers. Hence, more scholars started to scrutinize the antecedents and consequences of collaborating with users and customers in developing new services. It is argued that customer involvement influences new service performance by impacting technical quality and accelerating the development process (Carbonell et al., 2009).

Furthermore, some studies investigated areas pertaining to the methods and stages of user integration in the service development process. The results of a study of user involvement in financial services organizations revealed that users can participate in ten stages of service development, but among them user input is more significant in idea generation, service design, and service testing, with the highest intensity in idea generation and screening and less intensity for the stages of test marketing

and commercialization (Alam, 2002). In a similar vein, Edvardsson, Kristensson, Magnusson, and Sundstrom (2012) identified the dominant use modes which provide valuable information about different use situations (activities and collaborations at a specific situation) and different characteristics of users aiding service firms to integrate users.

The process management perspective concentrates on organizing and fine-tuning the new product development process considering users as the sources of innovation. Etgar (2008:98) defined co-production as a process in which “consumers participate in the performance of the various activities performed in one or more stages of the production process.” More specifically, Nambisan (2002:392) indicated that “customers can be involved not only in generating ideas for new products but also in co-creating them with firms, in testing finished products, and in providing end-user product support.” Moreover, Tietz et al. (2005) divided the process of UI into two separate phases, namely the idea generation phase which needs knowledge and experience as prerequisites, and the realization phase, which requires tools, materials, time, and some kinds of incentives. Accordingly, the developed product is tested, changed, and tested again in a single process or several circular processes.

It still remains somehow unclear how user input will be commercialized. Responding to this question, (Baldwin et al., 2006) proposed a model to transfer user innovations to commercial products which allows manufacturers to look systematically at new product opportunities provided by users and user communities and set their business strategies. The model proposes that users first try to seek “design space” and then join the communities and freely reveal their ideas and get motivated by increased efficiency. However, user-purchasers appear in some points of the process and try to buy the copies of user-innovators, which drive user-innovators to become user-manufacturers by using high-variable-cost and low-capital methods. As a consequence, co-creating with customers brings positive results in different phases of the NPD process, including ideation, product development, commercialization, and post-launch phases, for both the firm and the customer (Hoyer et al., 2010).

Lynch, O'Toole, and Biemans (2016) introduced some metrics to better comprehend involvement of customers in the NPD process – rationale, structure, and the process of customer network involvement – which mostly emphasize the interaction of the main parties rather than the locus of innovation. In addition, the process management perspective seeks the process of customers' and suppliers' integration. Lagrosen (2005) mentioned that cross-functional teams are necessary for a close relationship between customers and suppliers, enabling the product development process, and indicated formal methods of customer involvement. Identifying different types of customers is of critical importance during the integration process, and for this purpose some studies emphasize the importance of detecting customers' perspectives, abilities, and social identities during new product development (Brockhoff, 2003; Dahl, Fuchs, & Schreier, 2015).

Regarding the final theoretical background, there are two opposing and competing definitions of open innovation that characterize the innovation literature. According to Chesbrough (2003), open innovation refers to a specific and planned strategy aimed at gaining novel ideas from outside and commercialize innovations. Based on this paradigm, companies try to exploit on purpose the innovation potential of customers, employees, partners, and other interested innovators in order to accelerate their innovation process. On the other hand, von Hippel conceived of open innovation as free innovation in which all information related to the innovation is a public good, non-rivalrous and non-excludable, in contrast to the definition provided by Chesbrough that refers to "organizational permeability."

Accordingly, open collaborative innovation is defined as "the work of generating a design and also reveal the outputs from their individual and collective design efforts openly for anyone to use" (Baldwin & von Hippel, 2011). Corresponding to the latter definition, communities act as contributors through which ideas are generated, and the results are exposed for everyone to use through a process called "freely reveal," such as in open source software projects (Baldwin & von Hippel, 2011; David & Rullani, 2008; de Jong & von Hippel, 2009; Lakhani & von Hippel, 2003; von Hippel &

von Krogh, 2003) and innovation-contest communities (Fuller et al., 2014). Open collaborative innovation provides the opportunity for user contributors to take responsibility for some work and let others fulfill the rest (Baldwin & von Hippel, 2011)

Because the focus of this study is on reviewing papers dealing specifically with users, the number of papers in the sample that were based in open innovation is quite low. The open innovation literature classifies external stakeholders into individual contributors, extra-organizational groups, and wider network and ecosystem (Bogers et al., 2017). We only stressed papers related to open innovation and similar strategies that considered user innovation as one specific channel for opening their innovation processes. In an open collaboration process, everyone – suppliers, customers, designers, research institutions, inventors, students, hobbyists, and even competitors – can participate (Pisano & Verganti, 2008). Battistella and Nonino (2012:18) defined the so-called open community as "places where companies can find the collective intelligence of stakeholders' communities, capture outstanding ideas, and do crowdsourcing by fostering bottom-up innovation within or beyond organizational boundaries."

They also found good strategies to motivate users to take part in such platforms. Building a case study at Get Satisfaction (a social media platform which enables various participants from all around the world to share ideas about new products), Andersen and Morch (2016) examined the process of mass collaboration through a platform in order to determine the pattern of interaction between end users and professional developers. They suggested four patterns of mass collaboration in mutual development: 1) gatekeeping, 2) bridge building, 3) general development, and 4) user-user collaboration. Crowdsourcing of ideas within a consumer product firm competing with professionals and users revealed that crowdsourcing is a good way to absorb user ideas which are highly important in terms of originality and customer benefit (Poetz & Schreier, 2012). Crowdsourcing and netnography, which are open calls for ideas, could be potential sources for identifying lead users (Brem & Bilgram, 2015).

5.2 Limitations with future research agenda

UI is positioned within the broader management topic of open innovation that has been discussed comprehensively throughout the literature and was therefore not examined in detail in this paper. Although this study covers a broad range of studies and themes, it is possible that we neglected some studies while searching in the database. Regarding potential gaps found in this study by reviewing a large volume of academic literature, we provide some direction for future studies to address gaps in relation to the discussed UI topics. Suggestions at the strategic level of research opportunities can be found at the crossroads of strategy, business modeling, and UI. As discussed by Baldassarre et al. (2017), more knowledge is urged on the interplay between business modeling, strategy, and dynamic capabilities. This is true also for UI studies. More theoretical contributions and further empirical validation are needed to understand how such different but complementary dimensions interact with each other in determining the success of UI strategies.

Furthermore, we agree with Kristensson et al. (2008) that future studies need to explore more deeply the surrounding factors (financial, remoteness from R&D laboratories, and relationship with R&D strategies) that enable specific UI strategies to succeed. At the organizational level, we see a huge research potential in the relationship between organizational design and UI, with particular reference to the theme of organizational structures and routines enhancing/hampering the deployment of UI strategies in firms. More research on the interplay between formal and informal organizations is also needed, as suggested by Foss et al. (2011) in order to better understand which organizational setting can better capture and take advantage of the knowledge and the results obtained from informal networks (such as communities of consumers). At the managerial level, we agree with Ashok et al. (2016) about the need to better understand how knowledge from users can be transformed into firm-specific capabilities, and, specifically, the role of knowledge management in this process. In general, a deeper investigation is urged concerning the approaches, practices, and processes used by organizations to manage UI processes.

Regarding research opportunities in the domain of external-to-the-firm conditions, we fully back the suggestion by Ojanen & Hallikas (2009) to carry out more empirical research on the role of industries and contexts – and their characteristics – in determining the success of UI strategies carried out by firms. Although research on users and their characteristics is scarce, we also see some potential in examining individual attitudes and behaviors more explicitly (Foss et al., 2011). In particular, a closer evaluation of the role of mindsets, the values, and the cultures of individuals could enrich our knowledge of which micro-foundations better support the development of innovation capabilities in users and, in turn, in firms.

6. RESEARCH IMPLICATIONS AND CONCLUSION

Overall, this systematic literature review of UI and findings showed that in a period of tremendous growth of studies related to UI, the phenomenon has been investigated mainly from an “external” perspective so far. Because of this, understanding of the internal preconditions favoring and supporting UI is still far from complete. This study has useful implications both for the academic community and for practical application. Referring to academic implications, firstly, we distinguished between scientific papers focusing on the external-to-the-firm conditions of UI and papers focusing on the firms’ internal conditions, with more attention on the latter branch as an ignored part of the literature. We advanced knowledge about the importance of combining an external with an internal perspective in an attempt to provide a holistic view of UI and open an interesting path for future research in this specific field.

In addition, theoretical contributions of studies in the literature were provided in response to the scarcity of a systematic argument associated with theoretical basis of UI. This review makes a unique contribution by enlarging the borders of UI, looking at different aspects of the phenomenon from user and innovation perspectives to environmental effects and firm-related angles. The paper has some managerial implications for firms that wish to engage users for innovation activities. Dealing with practical implications, reviewing the potential and threats of

UI processes in different sectors and industries will help managers to benefit from previous experiences of companies. Regarding the benefits of involving users in the process of innovations, managers should devote more effort to apply such process along with

a supportive internal environment. More specifically, our discussion indicated that applying UI requires a firm to focus on formal and informal relationships, processes, and procedures both within and across organizational borders.

SUMMARY IN SLOVENE / IZVLEČEK

Prispevek predstavlja sistematičen in aktualen pregled literature na področju odprtih inovacij (OI). Za razliko od prejšnjih raziskav, se slednja osredotoča na "lokus" odprtih inovacij, kar pomeni, da razlikuje med študijami, ki se osredotočajo na zunanje dejavnike podjetji (tj. vrste uporabnikov, vloge uporabnikov, platforme, itd.) in študije, ki se osredotočajo na notranje dejavnike podjetji, kot so strategije, zmogljivosti in organizacija, ki sprožajo in podpirajo procese odprtih inovacij. Raziskva je pokazala, da so notrajni dejavniki podjetji na področju odprtih inovacij velikokrat spregledani oz. zanemarjeni. Ravno zato prispevek spodbuja k novim raziskavam - tako teoretičnim kot empiričnim - z vidika strateških, organizacijskih in vodstvenih vidikov odprtih inovacij.

REFERENCES

- Aarikka-Stenroos, L., & Jaakkola, E. (2012). Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. *Industrial marketing management*, 41(1), pp. 15-26.
- Agostini, L., Nosella, A., & Filippini, R. (2016). Users and radical innovation performance: the moderating role of the organisational context. *Technology Analysis & Strategic Management*, 28(7), pp. 798-810.
- Alam, I. (2002). An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science*, 30(3), pp. 250-261.
- Alves, H. (2013). Co-creation and innovation in public services. *Service Industries Journal*, 33(7-8), pp. 671-682.
- Andersen, R., & Morch, A. I. (2016). Mutual development in mass collaboration: Identifying interaction patterns in customer-initiated software product development. *Computers in Human Behavior*, 65, pp. 77-91.
- Ashok, M., Narula, R., & Martinez-Noya, A. (2016). How do collaboration and investments in knowledge management affect process innovation in services? *Journal of Knowledge Management*, 20(5), pp. 1004-1024.
- Baldassarre, B., Calabretta, G., Bocken, N., & Jaskiewicz, T. (2017). Bridging sustainable business model innovation and user-driven innovation: A process for sustainable value proposition design. *Journal of Cleaner Production*, 147, pp. 175-186.
- Baldwin, C., Hienerth, C., & von Hippel, E. (2006). How user innovations become commercial products: A theoretical investigation and case study. *Research policy*, 35(9), pp. 1291-1313.
- Baldwin, C., & von Hippel, E. (2011). Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation. *Organization science*, 22(6), pp. 1399-1417.
- Bartl, M., Fuller, J., Muhlbacher, H., & Ernst, H. (2012). A Manager's Perspective on Virtual Customer Integration for New Product Development. *Journal of product innovation management*, 29(6), pp. 1031-1046.
- Battistella, C., & Nonino, F. (2012). What drives collective innovation? Exploring the system of drivers for motivations in open innovation, Web-based platforms. *Information Research-an International Electronic Journal*, 17(1).
- Bayus, B. L. (2013). Crowdsourcing new product ideas over time: An analysis of the Dell IdeaStorm community. *Management science*, 59(1), pp. 226-244.
- Bengtsson, L., & Ryzhkova, N. (2013). Managing a strategic source of innovation: Online users. *International Journal of Information Management*, 33(4), pp. 655-662.
- Bharti, K., Agrawal, R., & Sharma, V. (2015). Value co-creation Literature review and proposed conceptual framework. *International Journal of Market Research*, 57(4), pp. 571-603.
- Bogers, M., Afuah, A., & Bastian, B. (2010). Users as Innovators: A Review, Critique, and Future Research Directions. *Journal of Management*, 36(4), pp. 857-875.

- Bogers, M., & West, J. (2012). Managing Distributed Innovation: Strategic Utilization of Open and User Innovation. *Creativity and Innovation Management*, 21(1), pp. 61-75.
- Bogers, M., Zobel, A.-K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., . . . Haefliger, S. (2017). The open innovation research landscape: Established perspectives and emerging themes across different levels of analysis. *Industry and Innovation*, 24(1), pp. 8-40.
- Brem, A., & Bilgram, V. (2015). The search for innovative partners in co-creation: Identifying lead users in social media through netnography and crowdsourcing. *Journal of Engineering and Technology Management*, 37, pp. 40-51.
- Brockhoff, K. (2003). Customers' perspectives of involvement in new product development. *International Journal of Technology Management*, 26(5-6), pp. 464-481.
- Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), pp. 105-114.
- Buur, J., & Matthews, B. (2008). Participatory innovation. *International Journal of Innovation Management*, 12(03), pp. 255-273.
- Candi, M., van den Ende, J., & Gemser, G. (2016). Benefits of Customer Codevelopment of New Products: The Moderating Effects of Utilitarian and Hedonic Radicalness. *Journal of product innovation management*, 33(4), pp. 418-434.
- Carbonell, P., Rodriguez-Escudero, A. I., & Pujari, D. (2009). Customer Involvement in New Service Development: An Examination of Antecedents and Outcomes. *Journal of product innovation management*, 26(5), pp. 536-550.
- Chesbrough, H. (2003). Open innovation: Boston: Harvard Business School Press.
- Colazo, J. (2014). Performance implications of stage-wise lead user participation in software development problem solving. *Decision Support Systems*, 67, pp. 100-108.
- Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies*, 47(6), pp. 1154-1191.
- Dahl, D. W., Fuchs, C., & Schreier, M. (2015). Why and When Consumers Prefer Products of User-Driven Firms: A Social Identification Account. *Management science*, 61(8), pp. 1978-1988.
- David, P. A., & Rullani, F. (2008). Dynamics of innovation in an "open source" collaboration environment: lurking, laboring, and launching FLOSS projects on SourceForge. *Industrial and Corporate Change*, 17(4), pp. 647-710.
- de Jong, J. P. J., & von Hippel, E. (2009). Transfers of user process innovations to process equipment producers: A study of Dutch high-tech firms. *Research policy*, 38(7), 1181-1191.
- De Moor, K., Berte, K., De Marez, L., Joseph, W., Deryckere, T., & Martens, L. (2010). User-driven innovation? Challenges of user involvement in future technology analysis. *Science and Public Policy*, 37(1), pp. 51-61.
- Desouza, K. C., Awazu, Y., Jha, S., Dombrowski, C., Papagari, S., Baloh, P., & Kim, J. Y. (2008). Customer-driven innovation. *Research-Technology Management*, 51(3), pp. 35-44.
- Edvardsson, B., Kristensson, P., Magnusson, P., & Sundstrom, E. (2012). Customer integration within service development-A review of methods and an analysis of insitu and exsitu contributions. *Technovation*, 32(7-8), pp. 419-429.
- Enkel, E., Perez-Freije, J., & Gassmann, O. (2005). Minimizing market risks through customer integration in new product development: learning from bad practice. *Creativity and Innovation Management*, 14(4), pp. 425-437.
- Etgar, M. (2008). A descriptive model of the consumer co-production process. *Journal of the Academy of Marketing Science*, 36(1), pp. 97-108.
- Flowers, S., von Hippel, E., de Jong, J., & Sinozic, T. (2010). Measuring user innovation in the UK: The importance of product creation by users.
- Foss, N. J., Laursen, K., & Pedersen, T. (2011). Linking Customer Interaction and Innovation: The Mediating Role of New Organizational Practices. *Organization science*, 22(4), pp. 980-999.
- Franke, N., Keinz, P., & Schreier, M. (2008). Complementing mass customization toolkits with user communities: How peer input improves customer self-design. *Journal of product innovation management*, 25(6), pp. 546-559.
- Franke, N., Keinz, P., & Steger, C. J. (2009). Testing the value of customization: when do customers really prefer products tailored to their preferences? *Journal of marketing*, 73(5), pp. 103-121.
- Franke, N., & Piller, F. (2004). Value creation by toolkits for user innovation and design: The case of the watch market. *Journal of product innovation management*, 21(6), pp. 401-415.
- Franke, N., & Shah, S. (2003). How communities support innovative activities: an exploration of assistance and sharing among end-users. *Research policy*, 32(1), pp. 157-178.
- Franke, N., & von Hippel, E. (2003). Satisfying heterogeneous user needs via innovation toolkits: the case of Apache security software. *Research policy*, 32(7), pp. 1199-1215.

- Franke, N., von Hippel, E., & Schreier, M. (2006). Finding commercially attractive user innovations: A test of lead-user theory. *Journal of product innovation management*, 23(4), pp. 301-315.
- Freel, M. S., & Harrison, R. T. (2006). Innovation and cooperation in the small firm sector: Evidence from 'Northern Britain'. *Regional Studies*, 40(4), pp. 289-305.
- Frow, P., Nenonen, S., Payne, A., & Storbacka, K. (2015). Managing Co-creation Design: A Strategic Approach to Innovation. *British journal of management*, 26(3), pp. 463-483.
- Fuller, J. (2010). Refining Virtual Co-Creation from a Consumer Perspective. *California Management Review*, 52(2), pp. 98-122.
- Fuller, J., Faullant, R., & Matzler, K. (2010). Triggers for virtual customer integration in the development of medical equipment - From a manufacturer and a user's perspective. *Industrial marketing management*, 39(8), pp. 1376-1383.
- Fuller, J., Hutter, K., Hautz, J., & Matzler, K. (2014). User Roles and Contributions in Innovation-Contest Communities. *Journal of Management Information Systems*, 31(1), pp. 273-307.
- Fuller, J., & Matzler, K. (2007). Virtual product experience and customer participation - A chance for customer-centred, really new products. *Technovation*, 27(6-7), pp. 378-387.
- Fuller, J., Matzler, K., & Hoppe, M. (2008). Brand community members as a source of innovation. *Journal of product innovation management*, 25(6), pp. 608-619.
- Fuller, J., Muhlbacher, H., Matzler, K., & Jaweck, G. (2009). Consumer Empowerment Through Internet-Based Co-creation. *Journal of Management Information Systems*, 26(3), pp. 71-102.
- Gales, L., & Mansour-Cole, D. (1995). User involvement in innovation projects: Toward an information processing model. *Journal of Engineering and Technology Management*, 12(1-2), pp. 77-109.
- Gault, F. (2012). User innovation and the market. *Science and Public Policy*, 39(1), pp. 118-128.
- Gault, F., & von Hippel, E. (2009). The prevalence of user innovation and free innovation transfers: Implications for statistical indicators and innovation policy.
- Goduscheit, R. C., & Jorgensen, J. H. (2013). User toolkits for innovation - a literature review. *International Journal of Technology Management*, 61(3-4), pp. 274-292.
- Greer, C. R., & Lei, D. (2012). Collaborative Innovation with Customers: A Review of the Literature and Suggestions for Future Research. *International Journal of Management Reviews*, 14(1), pp. 63-84.
- Gronroos, C., & Voima, P. (2013). Critical service logic: making sense of value creation and co-creation. *Journal of the Academy of Marketing Science*, 41(2), pp.133-150.
- Gustafsson, A., Kristensson, P., & Witell, L. (2012). Customer co-creation in service innovation: a matter of communication? *Journal of Service Management*, 23(3), pp. 311-327.
- Guzman, J. G., del Carpio, A. F., Colomo-Palacios, R., & de Diego, M. V. (2013). Living Labs for User-Driven Innovation A Process Reference Model. *Research-Technology Management*, 56(3), pp. 29-39.
- Harhoff, D., Henkel, J., & von Hippel, E. (2003). Profiting from voluntary information spillovers: how users benefit by freely revealing their innovations. *Research policy*, 32(10), pp.1753-1769.
- Heiskanen, E., & Matschoss, K. (2016). Consumers as innovators in the electricity sector? Consumer perceptions on smart grid services. *International Journal of Consumer Studies*, 40(6), pp. 665-674.
- Heiskanen, E., & Repo, P. (2007). User involvement and entrepreneurial action. *Human Technology: An Interdisciplinary Journal on Humans in ICT Environments*.
- Hennala, L., & Melkas, H. (2016). Understanding users' collective voice in public service innovation. *Knowledge and Process Management*, 23(1), pp. 62-72.
- Herstatt, C., & von Hippel, E. (1992). FROM EXPERIENCE - DEVELOPING NEW PRODUCT CONCEPTS VIA THE LEAD USER METHOD - A CASE-STUDY IN A LOW-TECH FIELD. *Journal of product innovation management*, 9(3),pp. 213-221.
- Hiernerth, C. (2006). The commercialization of user innovations: the development of the rodeo kayak industry. *R & D Management*, 36(3), pp. 273-294.
- Hiernerth, C., von Hippel, E., & Jensen, M. B. (2014). User community vs. producer innovation development efficiency: A first empirical study. *Research policy*, 43(1), pp. 190-201.
- Hjalager, A.-M., & Nordin, S. (2011). User-driven innovation in tourism—A review of methodologies. *Journal of Quality Assurance in Hospitality & Tourism*, 12(4), pp. 289-315.
- Hoyer, W. D., Chandy, R., Dorotic, M., Krafft, M., & Singh, S. S. (2010). Consumer Cocreation in New Product Development. *Journal of Service Research*, 13(3), pp. 283-296.
- Hyysalo, S., Repo, P., Timonen, P., Hakkarainen, L., & Heiskanen, E. (2016). Diversity and Change of User Driven Innovation Modes in Companies. *International Journal of Innovation Management*, 20(02).
- Jeppesen, L. B. (2005). User toolkits for innovation: Consumers support each other. *Journal of product innovation management*, 22(4), pp. 347-362.
- Jeppesen, L. B., & Frederiksen, L. (2006). Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments. *Organization science*, 17(1), pp. 45-63.

- Keinz, P., Hiennerth, C., & Lettl, C. (2012). Designing the organization for user innovation.
- Kohler, T., Fueller, J., Stieger, D., & Matzler, K. (2011). Avatar-based innovation: Consequences of the virtual co-creation experience. *Computers in Human Behavior*, 27(1), pp. 160-168.
- Kohler, T., Matzler, K., & Fuller, J. (2009). Avatar-based innovation: Using virtual worlds for real-world innovation. *Technovation*, 29(6-7), pp. 395-407.
- Kristensson, P., Gustafsson, A., & Archer, T. (2004). Harnessing the creative potential among users. *Journal of product innovation management*, 21(1), pp. 4-14.
- Kristensson, P., Matthing, J., & Johansson, N. (2008). Key strategies for the successful involvement of customers in the co-creation of new technology-based services. *International Journal of Service Industry Management*, 19(3-4), pp. 474-491.
- Lagrosen, S. (2005). Customer involvement in new product development: A relationship marketing perspective. *European Journal of Innovation Management*, 8(4), pp. 424-436.
- Lakhani, K. R., & von Hippel, E. (2003). How open source software works: "free" user-to-user assistance. *Research policy*, 32(6), pp. 923-943.
- Lakhani, K. R., & Wolf, R. G. (2003). Why hackers do what they do: Understanding motivation and effort in free/open source software projects.
- Lee, H., & Suh, Y. (2016). Who creates value in a user innovation community? A case study of MyStarbucksIdea.com. *Online Information Review*, 40(2), pp. 170-186.
- Lee, S. M., Olson, D. L., & Trimi, S. (2012). Co-innovation: convergenomics, collaboration, and co-creation for organizational values. *Management Decision*, 50(5), pp. 817-831.
- Lerner, J., & Tirole, J. (2002). Some simple economics of open source. *The journal of industrial economics*, 50(2), pp. 197-234.
- Lettl, C. (2007). User involvement competence for radical innovation. *Journal of Engineering and Technology Management*, 24(1-2), pp. 53-75.
- Lettl, C., Herstatt, C., & Gemuenden, H. G. (2005). Learning from users for radical innovation. *International Journal of Technology Management*, 33(1), pp. 25-45.
- Li, M., Kankanhalli, A., & Kim, S. H. (2016). Which ideas are more likely to be implemented in online user innovation communities? An empirical analysis. *Decision Support Systems*, 84, pp. 28-40.
- Luthje, C. (2004). Characteristics of innovating users in a consumer goods field - An empirical study of sport-related product consumers. *Technovation*, 24(9), pp. 683-695.
- Luthje, C., & Herstatt, C. (2004). The Lead User method: an outline of empirical findings and issues for future research. *R & D Management*, 34(5), pp. 553-568.
- Luthje, C., Herstatt, C., & von Hippel, E. (2005). User-innovators and "local" information: The case of mountain biking. *Research policy*, 34(6), pp. 951-965.
- Lynch, P., O'Toole, T., & Biemans, W. (2016). Measuring Involvement of a Network of Customers in NPD. *Journal of product innovation management*, 33(2), pp.166-180.
- Magnusson, P. R. (2003). Benefits of involving users in service innovation. *European Journal of Innovation Management*, 6(4), pp. 228-238.
- Magnusson, P. R. (2009). Exploring the Contributions of Involving Ordinary Users in Ideation of Technology-Based Services. *Journal of product innovation management*, 26(5), pp.578-593.
- Magnusson, P. R., Matthing, J., & Kristensson, P. (2003). Managing user involvement in service innovation: Experiments with innovating end users. *Journal of Service Research*, 6(2), pp. 111-124.
- Matthing, J., Sanden, B., & Edvardsson, B. (2004). New service development: learning from and with customers. *International Journal of Service Industry Management*, 15(5), pp. 479-498.
- Morrison, P. D., Roberts, J. H., & Midgley, D. F. (2004). The nature of lead users and measurement of leading edge status. *Research policy*, 33(2), pp.351-362.
- Nambisan, P., & Nambisan, S. (2009). Models of consumer value cocreation in health care. *Health Care Management Review*, 34(4), pp.344-354.
- Nambisan, S. (2002). Designing virtual customer environments for new product development: Toward a theory. *Academy of Management Review*, 27(3), pp.392-413.
- Nambisan, S., Agarwal, R., & Tanniru, M. (1999). Organizational mechanisms for enhancing user innovation in information technology. *MIS quarterly*, pp. 365-395.
- Nambisan, S., & Baron, R. A. (2009). Virtual Customer Environments: Testing a Model of Voluntary Participation in Value Co-creation Activities. *Journal of product innovation management*, 26(4), pp.388-406.
- Nielsen, K. R., Reisch, L. A., & Thøgersen, J. (2016). Sustainable user innovation from a policy perspective: a systematic literature review. *Journal of Cleaner Production*, 133, pp. 65-77.
- Öberg, C. (2010). Customer roles in innovations. *International Journal of Innovation Management*, 14(06), pp.989-1011.
- Ojanen, V., & Hallikas, J. (2009). Inter-organisational routines and transformation of customer relationships in collaborative innovation. *International Journal of Technology Management*, 45(3-4), pp. 306-322.
- Oliveira, P., & von Hippel, E. (2011). Users as service innovators: The case of banking services. *Research policy*, 40(6), pp. 806-818.

- Ostlund, B., Olander, E., Jonsson, O., & Frennert, S. (2015). STS-inspired design to meet the challenges of modern aging. Welfare technology as a tool to promote user driven innovations or another way to keep older users hostage? *Technological Forecasting and Social Change, 93*, pp. 82-90.
- Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., . . . Rabinovich, E. (2010). Moving forward and making a difference: research priorities for the science of service. *Journal of Service Research, 13*(1), pp. 4-36.
- Pals, N., Steen, M. G., Langley, D. J., & Kort, J. (2008). Three approaches to take the user perspective into account during new product design. *International Journal of Innovation Management, 12*(03), pp. 275-294.
- Parmentier, G., & Gandia, R. (2013). Managing Sustainable Innovation with a User Community Toolkit: The Case of the Video Game Trackmania. *Creativity and Innovation Management, 22*(2), pp. 195-208.
- Perks, H., Gruber, T., & Edvardsson, B. (2012). Co-creation in Radical Service Innovation: A Systematic Analysis of Microlevel Processes. *Journal of product innovation management, 29*(6), pp. 935-951.
- Pisano, G. P., & Verganti, R. (2008). Which Kind of Collaboration Is Right for You? *Harvard Business Review, 86*(12), pp. 78-86.
- Poetz, M. K., & Schreier, M. (2012). The value of crowdsourcing: can users really compete with professionals in generating new product ideas? *Journal of product innovation management, 29*(2), pp. 245-256.
- Prahalad, C. K., & Ramaswamy, V. (2004). Co-creating unique value with customers. *Strategy & leadership, 32*(3), pp. 4-9.
- Pustovrh, A., & Jaklič, M. (2018). INTELLECTUAL STRUCTURE OF THE OPEN INNOVATION FIELD: STATE OF THE ART AND A CRITICAL LITERATURE REVIEW. *Economic & Business Review, 20*(3).
- Roberts, D. L., & Darler, W. (2017). Consumer co-creation An opportunity to humanise the new product development process. *International Journal of Market Research, 59*(1), pp. 13-33.
- Romero, D., & Molina, A. (2011). Collaborative networked organisations and customer communities: value co-creation and co-innovation in the networking era. *Production Planning & Control, 22*(5-6), pp. 447-472.
- Rousseau, D. M., Manning, J., & Denyer, D. (2008). 11 Evidence in management and organizational science: assembling the field's full weight of scientific knowledge through syntheses. *Academy of Management Annals, 2*(1), pp. 475-515.
- Ryzhkova, N. (2012). Web-based customer innovation: A replication with extension. *Innovation-Management Policy & Practice, 14*(3), pp. 416-430.
- Schreier, M., & Prugl, R. (2008). Extending lead-user theory: Antecedents and consequences of consumers' lead useriness. *Journal of product innovation management, 25*(4), pp. 331-346.
- Sigala, M. (2012). Social networks and customer involvement in new service development (NSD) The case of www.mystarbucksidea.com. *International Journal of Contemporary Hospitality Management, 24*(7), pp. 966-990.
- Skiba, F., & Herstatt, C. (2009). Users as sources for radical service innovations: opportunities from collaboration with service lead users. *International Journal of Services Technology and Management, 12*(3), pp. 317-337.
- Sleeswijk Visser, F., Van der Lugt, R., & Stappers, P. J. (2007). Sharing user experiences in the product innovation process: Participatory design needs participatory communication. *Creativity and Innovation Management, 16*(1), pp. 35-45.
- Tietz, R., Morrison, P. D., Luthje, C., & Herstatt, C. (2005). The process of user-innovation: a case study in a consumer goods setting. *International Journal of Product Development, 2*(4), pp. 321-338.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management, 14*(3), pp. 207-222.
- Tseng, F. M., & Chiang, L. L. (2016). Why does customer co-creation improve new travel product performance? *Journal of Business Research, 69*(6), pp. 2309-2317.
- Urban, G. L., & von Hippel, E. (1988). Lead user analyses for the development of new industrial products. *Management science, 34*(5), pp. 569-582.
- Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research, 13*(3), pp. 253-266.
- van Oost, E., Verhaegh, S., & Oudshoorn, N. (2009). From Innovation Community to Community Innovation User-initiated Innovation in Wireless Leiden. *Science Technology & Human Values, 34*(2), pp.182-205.
- Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value co-creation: A service systems and service logic perspective. *European management journal, 26*(3), pp. 145-152.
- von Hippel, E. (1976). The dominant role of users in the scientific instrument innovation process. *Research policy, 5*(3), pp.212-239.
- von Hippel, E. (1977). The dominant role of the user in semiconductor and electronic subassembly process innovation. *IEEE Transactions on Engineering Management*(2), pp. 60-71.
- von Hippel, E. (1978). Successful industrial products from customer ideas. *The Journal of Marketing, pp. 39-49.*

- von Hippel, E. (1986). LEAD USERS - A SOURCE OF NOVEL PRODUCT CONCEPTS. *Management science*, 32(7), pp.791-805.
- von Hippel, E. (1994). "Sticky information" and the locus of problem solving: implications for innovation. *Management science*, 40(4), pp. 429-439.
- von Hippel, E. (1998). Economics of product development by users: The impact of "sticky" local information. *Management science*, 44(5), pp. 629-644.
- von Hippel, E. (2001). PERSPECTIVE: User toolkits for innovation. *Journal of product innovation management*, 18(4), pp. 247-257.
- von Hippel, E. (2007). Horizontal innovation networks - by and for users. *Industrial and Corporate Change*, 16(2), pp. 293-315.
- von Hippel, E., & Finkelstein, S. N. (1979). Analysis of innovation in automated clinical chemistry analyzers. *Science and Public Policy*, 6(1), pp.24-37.
- von Hippel, E., & Katz, R. (2002). Shifting innovation to users via toolkits. *Management science*, 48(7), pp. 821-833.
- von Hippel, E., & von Krogh, G. (2003). Open source software and the "private-collective" innovation model: Issues for organization science. *Organization science*, 14(2), pp. 209-223.
- Voorberg, W. H., Bekkers, V., & Tummers, L. G. (2015). A Systematic Review of Co-Creation and Co-Production: Embarking on the social innovation journey. *Public Management Review*, 17(9), pp.1333-1357.
- Wagner, C., & Majchrzak, A. (2006). Enabling customer-centricity using wikis and the wiki way. *Journal of Management Information Systems*, 23(3), pp.17-43.
- Wong, T. Y. T., Peko, G., Sundaram, D., & Piramuthu, S. (2016). Mobile environments and innovation co-creation processes & ecosystems. *Information & Management*, 53(3), pp. 336-344.



BUSINESS ETHICAL BEHAVIOR AS A CRITICAL FACTOR IN HR CHANGE TRANSFORMATIONAL MODELS IN THE INSURANCE INDUSTRY – THE CASE OF THE REPUBLIC OF NORTH MACEDONIA

Leonid Nakov

Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia
lnakov@eccf.ukim.edu.mk

Igor Ivanovski

Ss Cyril and Methodius University in Skopje, Republic of North Macedonia
ivanovski@eccf.ukim.edu.mk

Abstract

The insurance industry is in the continuous process of facing fundamental change, predominantly due to applying new technologies at diversified insurance portfolio, while still remaining heavily dependent on the potential of the human factor for advancing the business. Insurance managers are constantly attempting to implement changes at internal insurance processes, which derive from increased industry competitive pressure, regulation and evolving and modified customers' needs, as well as from the tendency for increasing the importance of the human resources management (HRM). Organizational changes at insurance companies are struggling to impose more transparent and sustainable models of ethical behavior and particularly to increase the importance of insurance intermediaries, especially as their influence in overall insurance industry constantly rises. Moreover, the contemporary InsurTech models are extending the improved application of classical insurance business concepts and techniques and, therefore, revolutionizing and transforming the future of current insurance business models, according to the current internal and external challenges. In that regard, HRM needs to be systematically and carefully developed and oriented to specific consumers' needs and expectations for achieving sustained competitive level, particularly while solving numerous insurance ethical constraints and challenges, in order to increase the transformative capacity of the insurance industry, as a whole. The insurance industry in the Republic of North Macedonia is achieving sustainable and relatively high growth. However, additional stimulus can be created by imposing and practicing advanced ethical business models, predominantly understood as a model for increased competitiveness and profitability, rather than as a formal regulative prerequisite. HR developmental models in the industry are weak and limited, whereas the interactions with distribution channels are quite poor. The absence of effective, executive and interactive ethical models at insurance companies, aimed at obtaining higher value from the insurance human capital management (HCM), is one of the critical factors for stimulating the industry's sustainable growth and creation of higher insurance culture. This paper profoundly analyzes the contemporary HCM challenges and, in particular, emphasizes the transformative function of business ethical behavioral models in the modern insurance industry, in close inter-dependence with the change management practices at insurance industry.

Keywords: *Business ethics in transformational change, HRMP (Human resource management practices) and HCM (Human capital management), insurance industry, Republic of North Macedonia*

1. INTRODUCTION

The key analytical and research focus of this paper is placed on identifying, validating and further

improving the current position, managerial effects, as well as behavioral capacity of undertaking competitive actions for advanced application of HRM, which would influence implementing crucial change

and development at overall insurance industry, especially needed in times of digital transformation and increased regulation of the industry. Intensive and diversified competitive pressure, accompanied by low interest rates and significant entrance of new insurance technology, have forced numerous companies which were performing on mature, emerging markets to introduce new business models, that pay increased attention on sustaining price competitiveness, enrich entire portfolio with new and modified insurance offers, both dependent on the development of employees and higher importance of human resources in insurance developmental processes and behavior. These change management approaches have reshaped the way the industry creates and sustains value in overall insurance business. However, it is rather important to emphasize that, although the role of digital technologies is profoundly increasing insurance processes productivity, especially in the areas of risk management and measurement, customer relations, and claims settlement, they should not be entirely perceived as a magic tool for improving the performances of overall insurance business.

The managerial capacity for planning and implementing changes in insurance industry predominantly relies on the structural market analyses of the importance of various insurance categories, as well as on the intensity and success of industry developmental tendencies, in order to interconnect the potential of the insurance companies with the insurance market expectations. The academic debate for illustrating existing challenges, in this narrow sense, is quite limited. As an analytical illustration, in the empiric survey analyses conducted by KPMG in 2018, which included CEO's from U.S. insurance companies, particularly has been pointed-out that, among other concluding implications, 77% of CEO's are planning to up-skill 41-60 % of their workforce in the field of digital capabilities, which is a clear indication of preparing their human resources for more advanced managing, as a methodological pathway for broader application of the concept of HCM, rather than the existing HRM.

In practice, it seems that particular research in expert and academic analyses are rather converging with the changes arising from insurance technology advancements, having especially in mind that the regulatory and supervisory regimes are pretty vary-

ing across markets. There is a substantial need for frequent, in-depth, and empirical analyses of the important role of HCM in shaping the industry's challenges, positioning it as a key driver for change, because, in fact, these are lacking. Or, as an anonymous insuring company CEO claimed in the Korn Ferry Survey (2017), "I am not afraid about insurance companies, I am afraid if Google decides to get into insurance," justifying the issue of industry re-evaluation and the need for reorientation.

This paper offers a contribution to low-level insurance industry-focused academic and expert debate, examining the role of HCM for business model transformation and changes and, locating it as an important factor for companies' development and growth, rather than for short-term profitability. In emphasizing the transformative and change value of HCM in the insurance industry, we bring the "put aside" issues to the forefront of the academic debate. Kwon (2014) clearly argued that the human capital attraction and retention challenge is becoming acute in the insurance industry and the need for a supply of workers, especially talent workers with a passion for risk management and insurance (RMI), remains a critical issue for insurers of all sizes in all economies, or in general that human capital is what is most lacking in insurance operations in these changing and volatile times. Kwon reiterated the findings of several academic works and surveys, namely the work of Sweet et al. (2010) and McKinsey & Company (2010) that showed that the work force in the insurance industry is aging, as the 55-64 workers proportion raised by 38 percent and the part of the 55+ workers in the insurance industry have risen by 75 percent in the period of 2000-2008. This particular insurance industry's developments and the Lloyds's Risk Index finding that the "shortage of talent and skills" becomes a second operational business risk globally, affects, in specific manner, the insurance industry and profiles its reputational risk while the Kwon would underline that, "the insurance industry, as well as most insurance companies, has not attained a high reputation or wide recognition in most of the countries", based on the Reputation Institute Survey from 2012.

A new insurance awareness is needed, because previous work has shown that employees, as a key element of HCM, exercise pressure to produce results

in highly, competitive markets (Coetzer & Rothmann, 2006), and that insurance employees are facing high levels of stress caused by dealing with difficult clients, challenges of meeting deadlines, and the constant drive to achieve targets (Lai, Chan, Ko & Boey, 2000), because the whole industry is changing and the HCM remains even more important for a company's performance, organizational climate, and competitiveness in relation to its employees (Bressler, 2014), especially by involving people who possess higher levels of individual competence (Dae-Bong, 2009).

Therefore, two inter-dependent research issues were evaluated in an integrated manner:

1. *Identifying and categorizing the factors and areas of behavioral ethical changes that influence the transformative capacity of human capital in insurance industry.*
2. *Diagnosing the potential influence of pre-conditions for HCM advancements toward future principal change management pathways of the insurance industry of North Macedonia.*

These research issues represent our thorough intention to establish and further increase the importance of proper management of the human capital, on one hand, and clearly to inter-connect the HCM advancements with applying change management techniques for sustained development of the overall insurance industry, on the other hand.

Holistically, the application of the entire potential of HCM defines the character of managerial decisions for ethical models and the pace of insurance industry change and transformation, and therefore greatly shapes the future of insurance industry performance, particularly its productivity.

2. THEORETICAL BACKGROUND

2.1 Advancements from Human Resource Management to Human Capital Management in sectoral analyses

In attempting to advance from treating employees *from the traditional view point of human resources toward the modern understanding of their being organizations' or institutions' human capital*, it is important to identify the core analytical expert's managerial approaches that incorporate the con-

temporary attempt to underline the potential, direction, and inter-functional use of the entire staff, as a function of the previously determined mission, vision, strategy, and goals.

Principally, "'best practice' at employee performances is no longer good enough to survive in today's incredibly challenging global marketplace" (Collins, 2001; Collins & Hansen, 2011; Anderson & Caldwell, 2017a), whereas "the quickly evolving nature of the world market place demands the companies to become constant risk-takers, agents of change, and willing innovators" (Collins & Hansen, 2011). Therefore, initial understanding of *effective human resource management* as a "concept that enables employees to contribute effectively and productively to the overall company direction and the accomplishment of the organization's goal and objectives" (Madsen, 2012) is to a large extent interconnected with its determination as "resource management that refers to the policies and practices involved in carrying out the human resources aspect of management position including human resource planning, job analysis, recruitment, selection, orientation, compensation, performance appraisal, training and development and labor relations" (Dressler, 2007).

In this context, effective human resource management practices (HRMP), as the inter-dependending behavioral linkage between human resource management and human capital management, implies "a practice in the organization that will enable employees to contribute effectively and fruitfully to the attainment of the organization's goals and objectives. It makes employees to be committed to their work and elicit positive behavior that will increase the organization's effectiveness" (Sabi, Ringim, Mei & Joarder, 2019), which is a clear indicator that the practical view point of human resource management addresses far more employee efficiency and potential for future development, especially through management goal setting and expectancy theories, fundamentally leading to the managerial importance of the concept of organizational performances, i.e., ethical climate, identified as a "set of norms, procedures, policies and practices walled in the organizational life cycle that usually guided employees to conduct their behavior with a high level of ethics for organizational development" (Martin and Cullen, 2006).

Constant and progressive advancement to a higher ethical climate requires internal and external changes in relation to human resource development. In addition, we should state that “the usual reaction of the employees to change is resistance, however, it is acknowledged that the management who understands and prepares plans to cope with such employee concerns generally develops an instinctual protective reaction” (Born, 1995). In sustaining the overall ethical climate, the CSR concept plays a highly recognizable behavioral role, which applied in practice to human resources leads to their mutual inter-influence: “the relationship between CSR and HRM appears to be a reciprocal one, whereby CSR can affect HRM practices and HRM practices can affect a firm’s choice in CSR” (Voegtlin & Greenwood, 2016). On the other hand, the role of HR employees is often taken as dedicated to “leading and educating employees on the value of CSR, developing responsible and sustainable practices, communicating CSR activities to employees and other stakeholders, and providing direction, control and action plans for implementing the program in the organization” (Iniayang, Awa and Enuoh, 2011).

To manage the overall workflow of each employee, i.e., quantitatively and qualitatively, human resources should be subject to planned and continuous development, with a focus on human resource development, understood as “the organized activities arranged within an organization in order to improve performance and/or perform general growth for the purpose of improving the jobs, the individual/or the organization. It includes planning and development, career development, organization development” (Okoye & Ezejiofor, 2013). As a transformative method for measuring and re-orientating the performance of employees, to a high extent due to the inevitable importance of contingency leadership, the human capital management system has been developed as the proper design and re-design of the work place and of managerial systems for creating and disseminating enriched and completely new knowledge, skills, and experiences, especially in the sectorial application of IT. As such, it is a complex iterative process that fundamentally comprises of the following three methodological steps for identifying *HCM maturity level* (Bassi & McMurrer, 2007):

- *Step 1* – Employees and managers are surveyed to quantify variations in HCM maturity across functions, business units, regions, and job categories and also to document organizational HCM strengths and weaknesses.
- *Step 2* – Variations in HCM maturity are linked to variations in key organizational outcomes, either financial or non-financial. This step identifies which HCM factors are most critical to organizational performance,
- *Step 3* – Findings from the first two steps are then used to identify the HCM factors that significantly drive organizational performance as well as those that represent areas of relative weakness.

Finally, the degree of HCM maturity is expressed in range of 1 (poor organizational performance – low maturity) to 5 (strong performance – high maturity).

2.2 Principal ethical constructs to increase the transformative capacity for managing changes in a particular business sector

The prior managerial determination to create an environment to thoroughly and systematically develop a transformative system that will simultaneously initiate and implement changes which possess a distinctive ethical capacity, implies, at the initial level, identifying the values that can guide managerial orientation toward *transformative ethics*, determined as “newly developed ethical standard that mirrors greatness as related to moral behaviors” (Al Lawati, Syed, & Caldwell, 2019). In applying ethical standards of greatness to a particular industry, as is the case of the insurance industry in our analyses, it is of utmost importance, on the second level, to enable a competitive pressure that will incorporate *disruptive innovation*, as a managerial pathway for technology adaptation, especially information technology, ; *ethical accountability*, as an integral element of a profound corporate social-responsibility ethical model; and an *ethical climate*, which is crucial for increasing the overall organizational productivity.

Contemporary integration of above *triple distinctive competitiveness components* implies iden-

tifying the following *behavioral managerial analytical dimensions* that add value to the overall potential of human resources in each advancing and changing industry, such as the insurance industry:

- *Human Capital Management* is focused principally on identifying and implementing human resource managerial approaches that are focused on increasing and sustaining the degree of organizational performance, analyzed from the viewpoint of better managing the capacity of employees through particular HCM drivers (Bassi & McMurrer, 2007), such as *learning capacity, knowledge accessibility, employee engagement, workforce optimization, and leadership practices*, best illustrated through the implications of HCM drivers toward HCM practices (Table 1).

- *Human Resource Management Practices* as a function of enhanced organizational performance –refers to the potential to apply the concept of HRMP (Sabiu, Ringim, Mei & Joarder, 2019), understood as a “unique approach to employment management that aims to attain competitive advantage through the strategic improvement of well dedicated and competent workers by means of an incorporated collection of cultural, structural and human resources techniques” to the field of the most influential dimension of organizational performance, i.e. *performance appraisal (PA)*. Because in the terminology of HRMP, performance appraisal is also perceived as *performance review, employee appraisal, etc.*, analyzed through behavior, time, costs, quality, and quantity, it should lead to increasing the overall career

Table 1: Human Capital Management Drivers – Practices

| HCM Drivers | Leadership Practices | Employee Engagement | Knowledge Accessibility | Workforce Optimization | Learning Capacity |
|----------------------|---|---|---|--|--|
| HCM Practices | Communication Management’s communication is open and effective. | Job Design Work is well organized and taps employees’ skills. | Availability Job-related information and training are readily available. | Processes Work processes are well defined, and training is effective. | Innovation Now ideas are welcome. |
| | Inclusiveness Management collaborates with employees and invites input. | Commitment Jobs are secure, employees are recognized, and advancement is possible. | Collaboration Teamwork is encouraged and enabled. | Conditions Working conditions support high performance. | Training Training is practical and supports organizational goals. |
| | Supervisory skills Managers eliminate barriers, provide feedback, and inspire confidence. | Time Workload allows employees to do jobs well and enables good work/life balance. | Information sharing Best practices are shared and improved. | Accountability High performance is expected and rewarded. | Development Employees have formal career development plans |
| | Executive skills Senior executives eliminate barriers, provide feedback, and inspire confidence. | Systems Employee engagement is continually evaluated. | Systems Collection systems make information easily available. | Hiring Hires are chosen on the basis of skill; new hires complete a thorough orientation. | Value and support Leaders demonstrate that learning is valued. |
| | Systems Leadership-development and transition systems are effective. | | | Systems Employee performance management systems are effective. | Systems A learning management system automates aspects of training. |

Source: Bassi & McMurrer (2007)

potential of each and every employee, prescribed through the following performance appraisal determination: “a part of measuring, comparing, finding, guiding, correcting and managing career development of the employees” (Mullins, 2007). Therefore, the linkage of HRMP and PA states that in order to achieve excellence in the majority of employees, especially managers, the evaluation process should integrate behavior that respects business ethical constraints, especially the ethical climate, which has a large influence on the most applicative dimension of the organizational performance, organizational productivity. The process of planning and implementing the concepts of HCM and HRMP is dependent on a successful methodological selection from various change management techniques which possess ethical considerations and lead to identifying change

management imperatives for each business sectoral analysis with the following *management developmental approaches*:

- *Behavioral change techniques* reflect the necessity to support “designing interventions to yield behavior that is best done with an understanding of behavior change theories and an ability to use them in practice” (Glanz, Lewis, & Rimers, 1990). In practical industry analyses this implies imposing such changes that change the attitude and develop behavioral manifestations that are crucial for increased organizational performances, especially productivity. The exact determination of certain behavioral change initiative, usually called “interventionist action behavior,” is dependent to *a proper selection among majority of strategies for behavioral changes, which determine the potential of behavioral change techniques* (Table 2).

Table 2: Elements and Strategies of Behavioral Change – Social Learning Theory

| Element | Definition | Strategies for Behavioral Change |
|-------------------|--|--|
| Threat | A danger or a harmful event of which people may or may not be aware | Raise awareness that the threat exists, focusing on severity and susceptibility |
| Fear | Emotional arousal caused by perceiving a significant and personally relevant threat | Fear can powerfully influence behavior and, if it is channeled in the appropriate way, can motivate people to seek information, but it also can cause people to deny that they are at-risk |
| Response Efficacy | Perception that a recommended response will prevent the threat from happening | Provide evidence of examples that the recommended response will avert the threat |
| Self - Efficacy | An individual’s perception of or confidence in their ability to perform a recommended response | Raise individuals’ confidence that they can perform the response and help ensure that they can avert the threat |
| Barriers | Something that would prevent an individual from carrying out a recommended response | Be aware of physical or cultural barriers that might exist, and attempt to remove these barriers |
| Benefits | Positive consequences of performing recommended response | Communicate the benefits of performing the recommended response |
| Subjective Norms | What an individual thinks other people think they should do | Understand with whom individuals are likely to comply |
| Attitudes | An individual’s evaluation of or beliefs about a recommended response | Measure existing attitudes before attempting to change them |
| Intentions | An individual’s plans to carry out the recommended response | Determine if intentions are genuine or are proxies for actual behavior |
| Cues to Actions | External or internal factors that help individuals make decisions about a response | Provide communication that might trigger individuals to make decisions |
| Reactance | When an individual reacts against a recommended response | Ensure that individuals do not feel that they have been manipulated or are unable to avert the threat |

Source: Witte (1997)

Each of above strategies for behavioral change is linked to different behavioral developmental approach, such as *social learning behavioral theory*, which exists alongside *social cognitive theory*, *planned behavior*, etc.

- *Transformative capacity for ethical sectoral changes* fundamentally focuses the interest of a fast-growing industry, such as the insurance industry, on the *key transformative ethical determinants*, including *clear organizational purpose*, i.e., explaining that companies with a customer-focused virtuous purpose as the driving focus of their organization were inevitably more successful financially than companies that emphasized creating profits as their driving objective (Kollins & Porras, 2004); *ethical virtues*, i.e., individuals who do not believe that they can realistically achieve a result rarely make the effort to pursue that goal (Vroom, 1994); *culture of trust, respect. and support*, i.e., creating an organizational culture of mutual trust and respect is usually far more influential than possessing expert employees who do not collaborate; and *building an environment of multidisciplinary interests from changes, current or potential*, i.e., ensuring that the majority of stakeholders feel the implications of industry changes in order to increase the overall competitiveness of the insurance industry. In the process of achieving the highest industry standards of the insurance industry, it is important to pay great attention to tendencies for *internal integration and external adaptation*.

2.3 Current and future challenges and perspectives of the insurance industry – Analytical framework of sectoral human capital management

The global insurance industry is witnessing profound changes caused by the *overall changes in financial systems, macroeconomic factors, and in particular the influence of the intensifying digital transformation and customers' behavioral orientation*. To understand the depth, structure, and directions of the changes, we must act holistically and in a comprehensive and coherent manner. It is common to stress the implications of the application of the modalities of new technological advancements and their convergence to InsurTech models worldwide, as well as the fact that

the growth globally is driven by emerging markets. Eventually, *it is all about the change, willingness, and determination to adapt to the future predicted conditions and, capacity and maturity, of HCM in the insurance industry to apply it in a consistent manner*.

It is important to note the *key managerial insurance industry constraints, which form the basis of research limitations* which principally must be taken into account, best identified by us as:

1. *The insurance industry is a highly regulated mechanism*.
2. *HRM is crucial for organizing, but even more so to accomplish customer contracts and in particular for customer retention*, because the price (for simpler classes of insurance) already is highly competitive.
3. *The technology is open to everyone, including suppliers (companies) and intermediaries*, often creating intense vertical and horizontal price competition, so that issues of the basic and advanced role of HCM remain extremely important, understood *primarily* as a crucial factor for innovation and transformation of the business processes, behavior, and customization of the use of digital technologies in new product and service developments, and *secondarily* as a key component for upgraded ethical behavior as a factor for internal organizational culture, sustainability, and growth, and especially for external differentiation, market recognition, and customers' added-value implications.

Principally taken, in the insurance industry as a whole, even though the major success influencer relates to the information and digital technology that significantly reshaped the business processes for reaching customers, underwriting, distributing products and services within the new intermediaries, and in particular to risk assessment and claim settlement, *it is HCM that, as a major behavioral change factor, enabled reaching and sustaining the desired level of application of IT*, aimed at constant progress. However, we can claim that the insurance industry still is lagging and challenging its business model for the future, to a great extent because of the *inappropriate and limited industry importance of the influence of change management techniques benefiting in full from the HCM behavioral concept*.

As an industry that is predominantly focused and relies on human resources, it is evident that HCM is one of the most challenging factors for creating and achieving insurance companies' competitiveness and market success. Specifically, HCM has been and remains the key component for companies' differentiation, because it is responsible for building the culture and climate for innovation and constant change toward critical change areas such as optimal use of the technologies for cutting costs and offering innovative models for acquiring and retaining customers; advanced customer focus, in particular for innovative, affordable, and useful products and services; compliance to the enhanced human capital requirements and regulations and integration of ethical behavior as a factor in sustainable business; and new approaches to leadership that would need to correlate to the adequacy of talent pipelines for effective use in the future. (Mercer Survey, 2014)

The tremendous impact of technology in the insurance business rapidly changed the maturity of markets and offered great opportunities for emerging markets. It redefined the measurement and management of risk and increased cost-effective distribution channels, among other positive consequences, but at the forefront of a company's successes or failures lies consistent HCM processes transformation. In addition, the technological advancement created *new risks, unprecedented for*

classic insurance, and imposed higher differentiation between incumbent firms and the InsurTech market entrants. Moreover, we should always have in mind that the digital insurance progress cannot and is not simply to be imported and easy transferred and its results can be briefly summarized from the viewpoint that "a successful business strategy for a digital transformation ... requires a comprehensive digitization talent strategy to complete the mission" (Vickers, F., Hammerich, K., Landis, D., Lewis, J., Zes, D., Moreno, J., & Ramos, B., 2016)

In any case, the insurance industry perspective heavily depends on internal understanding of the challenges and its orientation toward innovative, new business trends. A recent survey of more than 60.000 insurance employees in the U.S. showed *worsened industry perception of internal change compared to the perception for changes within the General Industry* (Korn Ferry Institute, 2017), as shown in Table 3, in which an index ratings over 75% means clearly favorable, an index between 65% and 75% means moderately favorable, an index between 50% and 60% is a warning sign, and an index below 50% is a red flag.

The same survey addressed the possible critical factors for decreasing the insurance industry change, primarily indicating *the element of missing resources for digitalization and focus on technologies, and especially the top management focus on execution rather than innovation.*

Table 3: Insurance Industry Survey Perception vs. General Industry Norm Perception

| Statement | General Industry Norm 2013 | General Industry Norm 2015 | Gap for General Ind. Norm | Insurance 2013 | Insurance 2015 | Gap for Insurance |
|---|----------------------------|----------------------------|---------------------------|----------------|----------------|-------------------|
| The company is effectively managed and well-run. | 62 | 63 | +1 | 75 | 68 | -7 |
| The company provides a high- quality customer experience. | 66 | 69 | +3 | 73 | 67 | -6 |
| I believe my pay is fair considering the pay of people doing similar work in other companies. | 49 | 43 | -6 | 53 | 48 | -5 |
| There is a clear link between my performance and my compensation. | 44 | 45 | +1 | 58 | 54 | -4 |

Source: Korn Ferry Institute, (2017)

At the same time, it indicates the internal and overall significance of consistent and sustainable transformation of the industry based on advanced HCM. Although the relevant analyses predict severe decreases of some job positions due to insurance digitalization (Institute of International Finance, 2016) (Figure 1), that classic and static insurance models pose threats to market success, and that new digital opportunities create new risks as well as new opportunities for the industry, we can *define HCM as a critical factor for creativity, innovation, and ethical changes in the technology model of insurance business implementation, rather than as a clear eradicator of jobs and employment in the industry.*

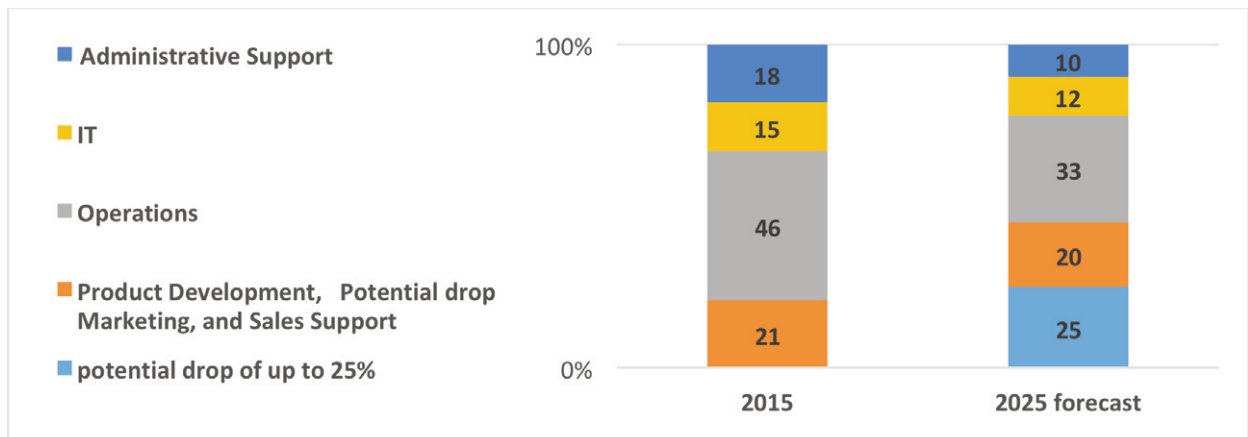
In emphasizing HCM as important for introducing and managing the ethical technological advancements in the insurance industry through its “ability to recruit, develop, and retain workers with proficiencies in fields related to computer programming and data engineering, as well as the industry will be forced to pay more attention to devising effective strategies outlining how to entice top technical talent” (Institute of International Finance, 2016), consequent innovative answers and actions should address contemporary challenges for faster developing the insurance industry.

The adequate matrix enabling the HCM changes could be found at the *four-step LITE (Learn-Insight-Test-Enhance) approach to marketing, distribution, product design, new business, operations,*

and servicing (PWC, 2015), on one hand, as well as at the *more detailed and systematic business processes* (Korn Ferry Institute, 2017) on the other hand. The latter include:

- *Evolving customer expectations through substantial organizational change that will co-integrate with the digitization and allow employers to fully leverage their communications teams internally and externally for full, timely, and integrated fulfillment of the future needs of the insurance consumer;*
- *Improving the communication strategy for employees in terms of the company’s future development, technology involvement, product roadmap, and customers feedback, as well as raising the internal trust and confidence as a result of HCM might prevent lowering trust and confidence as a result of lower and moderate business growth rates;*
- *Dealing with the issues for actual workforce overload or structurally insufficient staff by reinventing processes and focusing on the targeted need for specific talents and specialized workers;*
- *Focusing on innovation based on knowledge and HCM and its differentiation rather than on common insurance business processes execution; and*
- *Careful evolution of the company’s organizational culture by conceptualized and innovative functional approaches to HCM basic and advance functions.*

Figure 1: Forecast on insurance industry workforce volume in Western Europe



Source: Institute of International Finance Report, (2016)

Overall, the focus on HCM as a transformative factor will *raise insurance industry awareness of and ability to adopt to the new trends*. Even though the innovations and changes are led by start-ups and new market entrants, it is the core insurance business carriers, regardless of their maturity and market share, that should carry out the major planned transformative changes.

2.4 Interconnecting the advancements in HCM in the insurance industry with sectoral productivity and increased behavioral ethical accountability

Each systematized and integrated attempt to interconnect the ethical considerations that are interwoven within the model of change management practices lead to *enabling the model of human capital management in order to increase the potential and overall performances*, especially organizational productivity in a particular industry, e.g., the insurance industry. It undoubtedly implies the necessity of applying the *developmental preconditions for the HCM advancements, human resource planning*, which leads to “a strategy for the acquisition, utilization, improvement and preservation of the human resources of an organization. It is the activity of the management which is aimed at coordinating the requirement for and the availability of different types of employees. This involves ensuring that the company has enough of the right kind of people at the right time and also adjusting the requirement to the available supply” (Lazar, 2001).

Principally, the *synergetic and symbiotic ethical construct in human resource planning* lies in creating a relationship between the available, not nominal, quantity and quality of human capital, with the required level of employee’s performance appraisal, particularly from the viewpoint of its future effective potential, as a critical element in increasing the workload of a majority of employees, especially at managers.

An additional important factor identifies the significance of model of employee training and development, through *the development of specific programs to increase the overall capacities of the human capital*, which is fundamentally linked to *accommodating the prevalent employee engagement with the learning capacity of each category of the workforce, which in return creates an environment for workforce optimization that is dependent on*

knowledge accessibility and further utilization. In practice, each training and development model is concerned with proper *application of ethical climate, while preparing and implementing specific, i.e. distinctive and competitive, modalities of disruptive innovation of managerial approaches to benefit from human capital*. Eventually, it is aimed at reaching the desired level of ethical accountability of changes within the insurance industry as a whole.

The insurance industry should pay great attention to and take steps toward productivity-stimulating mechanisms. Specifically, while preparing the prevalent business philosophy for benefitting from the current concept of HCM, systematic and coherent short- and medium-term strategies should aim at achieving, as much as possible, numerous *preconditions for higher organizational productivity*, among which most the influential are the following (Okoye & Ezejiolor, 2013): *production targets, planning and workflow of outputs, physical working conditions, incentives, job allocation, and effective supervision*.

It is highly recommended that a fast-growing and innovative industry such as the insurance industry develops *challenging targets, with an optimal allocation of resources, especially support and training of employees for multi-tasking activities, stimulating work environment, incentives that are dependent on a combination of qualitative and quantitative performance, allocation of job responsibilities in accordance with the degree of authority and influence, and supervision of critical performance points*.

2.5 Change management pathway for HCM advancement in the insurance industry in the Republic of North Macedonia

Challenges of the strategic, systematic, and national market–orientated HCM changes are a key component of the insurance market of the Republic of North Macedonia. The process is far from being at the top of the insurance companies’ management agenda and internal strategies. Practically, the *insurance market suffers from developmental constraints inherent in the category of small, late-developed markets with low insurance culture, i.e., the companies and the intermediaries focus on gaining larger market share by the conventional approach of price competition per se and*

competitiveness in limited mandatory classes of insurance, rather than on strategies for demand creation by offering customized, tailored, and insured beneficiary services. Even though the competition results in the growth of the industry, this growth is driven by GDP growth as a crucial factor, instead of recognizable and sustainable industry outcomes such as new customers, products, and business processes. Our profound analytical framework principally included qualitative, predominantly secondary, information sources and reporting frameworks that are most illustratively detailing the reality that such limited national markets, as in North Macedonia, do not have the possibility to evolve. The pace and intensity of the digital transformation of the insurance industry and customer's needs for behavioral transformation necessarily urgently require insurance entities' change and transformation.

The following *key determinants of the insurance market*, which serve as *indicators of the potential for developing overall performance in insurance industry*, can be evaluated and explored: (1) *lack of viable HCM management*—the strategic orientation of the companies prevents major transformation and ownership of the sustainable development as an internal process; (2) *prioritization of HCM solely in the sales processes, rather than emphasis on attracting a skilled work force*—the continuous training and development of employees as a critical component of the new product development and customer orientation processes, is seen as particularly important in adding value in the value chain and a basis for innovative and ethical business behavior; (3) *supply driven industry, with limited orientation to and business actions for transformation of the industry to a demand-driven industry*, as a consequence of the internal transformation and changes; (4) *significant role of the intermediaries for the industry and missing HCM training and ethical responsibility awareness in the distributive channels*, thus increasing the risk of their involvement in preserving the customers' existing entry barriers, low retention, and, in particular, low trust and confidence, as the major problem; and (5) *a low level of company management's acceptance of the concepts for continuous and recognizable change through increasing the HCM capacity*, as a factor for high customer volume exclusion from the market, resulting in the dominant "classical" insurance processes and management practices in a rapidly changing environment.

In this context, *no easy, fast, and unified prescription is available and achievable.* However, the key issue of implementing the advanced behavioral concept of HCM must be emphasized through an in-depth and profound managerial approach. On an integral basis, as an initial point for behavioral ethical transformations in the insurance industry of our country, the following *principal change management pathways* are perceived as being of crucial importance:

- The change of the awareness of companies' top management of *the HCM maturity priority.*
- Underpinning the importance of the internal HCM transformation as a crucial factor for *innovative business, new customized product development and creation of demand for particular products and services.*
- Increasing demand can be sustainably achieved by a *unique convergence of the concepts of micro-insurance*, which is not present in the market, and *the evolving paradigm of inclusive insurance*, by prior demystification of the insurance products and mechanisms, thus opening new customer bases and adding value to the companies' business model. *We cannot expect changes in the market without prior change of insurance leaders; in addition the change determinants must comply with systematic improvements in the actuarial processes and behavioral ethical accountability.* The industry must accept that the market is underserved and the possibilities for affordable and appropriate products are vast.
- The industry must introduce *sustainable business models with HCM as their centerpiece*, as a key prerequisite for transformation of consumer trust and confidence, and of the insurance culture. Because the industry is heavily dependent on HCM, we can hardly correlate the future increase of the demand exclusively with decreasing the transaction and claim settlement costs, including the slow introduction of information technologies to the business models, and claim the utmost importance of human capital to its sustainability and growth,
- The processes of *ethical changes and transformation should be internally driven and "owned by the industry"* as their organizational culture determinant and "must do" approach, serving as their best strategy for competitiveness and sustainable leadership in the

insurance market. Behavioral biases of customers, in this sense, should be transformed into companies' new product development processes, and should be related to the corporate behavioral adaptation, diversified demand creation, and perpetual business model innovation, based on internal HCM.

The dynamism of advancing through the above *steps of the principal change management insurance industry pathway is dependent on the potential for increasing HCM maturity through behavioral change techniques, in order to enable the productivity-stimulating mechanism of the prevalent training and development model in the national insurance industry.*

3. DISCUSSION AND CONCLUSION

The insurance industry in developing country, such as North Macedonia, is witnessing continuous and profound transformation and change. It appears that industry changes are more externally influenced and driven, compared to the internally comprehensive advancements, predominantly related to the capacity of the insurance employees. However, the industry is, to a large extent, understood as being traditional with quite slower degree of acceptance of changes, principally introduced by the ICT insurance industry environment, as well as by already practiced FinTech models. As an illustration, previous concerns that non-insurance companies such as Google, Amazon or Tesla for instance, would enter the insurance business, are more than evident and fast approaching.

The role of the national regulators is an additional critical industry factor, as certain markets are perceived as crucial for enabling changes. In this regard, the introduction of the InsurTech models, is expected fundamentally to go in-line and converging to the inclusive process of technological and distributional industry changes debate, predominantly referring to advancement of treatment of employees from human resources to the concept of human capital, through intensive application of human resource management practices that possess immense ethical and social responsibility. The importance of identifying a proper ethical behavior possesses an intensive applicative importance in establishing an industry organizational culture based on trust and respect, which, along with the regulators role in the field of consumer's education, in-

formation consent and companies' supervision, in particular to the Solvency 2 determinants, constitute a contemporary change managerial industry framework.

Empirical insurance analyzes and experiences vary, principally in relation to the industries' level of capacity for development. As the developed and mature markets are witnessing profound transformation of their industry and continuous growth of the InsurTech daily operations, the developing markets are still struggling to define an optimal use of the technologies and, yet, to converge to the regulative and behavioral constraints and challenges for the future, such as managerial attempt for increased direct and intermediate sales by new, low-cost sales and distribution channels. In that regards, as the technology transfer would be, somewhat an "easy" and yet "understood as cost challenging operation", in particular at current periods of low interest rates and profitability, it would be precisely the human capital maturity, being manifested as critical factor for companies' competitive advantage and sustained business model, predominantly in internal initiating industry qualitative changes and, therefore, advancing the overall change capacity of the insurance industry, as one of the most dynamic national financial sectors.

The transformation towards HCM imposes an orientation towards implementing disruptive innovations, ethical accountability, and proper ethical climate. Therefore, it is evident that current HRM techniques would clearly evolve, in the pathway of creating a clear distinction of companies' departments and employee's task and duties, while the use of the ICT models would prevail, as more accurate, productive and faster productivity mechanism, in particular for the low complex operations. The importance of integrating new industry developmental targets, with more intensive, continuous human capital education and training, leads to enabling a positive and encouraging work environment, transformation of the incentives into more dependable on qualitative rather than on quantitative performance indicators, and benefiting from the HCM system as a tool in function of preventing internal human resource risks, while solving external customer adaptation challenges.

The priority change managerial action at HCM of insurance industry is to comprehend, accept and harmonize behavioral changes, which are aimed at imple-

menting the LITE industry approach, i.e. learn-insight-test-enhance. In this context, models of InsurTech define the contemporary industry developmental needs for better risk management and re-define the role of distribution channels. In that regard, the core action should be placed at transformation of the “consumers pull” to “consumers push and retain” philosophy in parallel to the shift of the product to service supply. It is rather expected that the managerial focus on establishing viable HCM, applying it in all departments, not only in sales, increasing the importance of the demand industry side along with the supply one, placing proper role of intermediaries, and, enabling a permanent and sustained behavioral changes, would all increase the overall potential of the insurance industry.

This paper attempts to scratch the surface of the immense developmental managerial insurance challenges, particularly having in mind the lack of previous

empirical academic work at insurance industry in our country. Additionally, research limitations lie in the variety of market levels and specific behavioral pre-determinants of the insurance culture within transformative economies. We intend to overcome and solve these obstacles in our future research industry analyses, in a close linkage with the quantitative research methodology of the insurance market, as well as HCM developments in the region of South-East Europe. However, as a prior research and analytical basis for our further comprehensive scientific-research work, we conclude that the dynamism of advancing through the steps of the principal change management insurance industry pathway in the Republic of North Macedonia is dependent on the potential for increasing HCM maturity, through behavioral change techniques, in order to enable the productivity-stimulating mechanisms of the prevalent training and development model in the overall national insurance industry.

SUMMARY IN SLOVENE / IZVLEČEK

Kljub temu, da se zavarovalniška panoga nenehno sooča s temeljnimi spremembami, predvsem zaradi uporabe novih tehnologij pri raznovrstnem zavarovalnem portfelju, je še vedno močno odvisna od potenciala človeškega dejavnika za napredovanje poslovanja. Upravljalci zavarovanj poskušajo nenehno uvajati spremembe v notranjih procesih, ki izhajajo iz povečanega pritiska, nadzora, razvoja in spreminjanja potreb strank ter tudi iz težnje po povečanju pomena ravnanja s človeškimi viri (HRM). S pomočjo organizacijskih sprememb si zavarovalnice prizadevajo, da bi postavile bolj pregledne in trajnostne modele etičnega vedenja in še posebej povečevale pomen zavarovalniških posrednikov, saj njihov vpliv na splošno zavarovalništvo stalno narašča. Poleg tega sodobni modeli InsurTech razširjajo izboljšano uporabo klasičnih konceptov in tehnik zavarovalniškega poslovanja in s tem revolucijo in preoblikovanje prihodnosti sedanjih zavarovalniških poslov v skladu s trenutnimi notranjimi in zunanjimi izzivi. V zvezi s tem je treba HRM sistematično in skrbno razvijati ter se usmeriti v posebne potrebe in pričakovanja potrošnikov za doseganje trajne konkurenčne ravni, zlasti ob reševanju številnih zavarovalnih etičnih omejitev in izzivov, da bi v celoti povečali transformacijsko sposobnost zavarovalništva. Preučevana zavarovalnica v Republiki Severni Makedoniji dosega trajnostno in razmeroma visoko rast. Dodatne spodbude je mogoče ustvariti z uvedbo in izvajanjem naprednih etičnih poslovnih modelov, ki jih večinoma razumemo kot modele za večjo konkurenčnost in dobičkonosnost, ne pa kot formalno predpisane pogoje. Modeli razvoja kadrov v industriji so šibki in omejeni, medtem ko so interakcije s kanali distribucije precej slabe. Odsotnost učinkovitih, izvršilnih in interaktivnih etičnih modelov v zavarovalnicah, katerih cilj je pridobivanje večje vrednosti pri ravnanju s človeškim kapitalom zavarovalnic (HCM), je eden ključnih dejavnikov za spodbujanje trajnostne rasti industrije in ustvarjanje višje kulture zavarovalništva. Ta prispevek poglobljeno analizira sodobne izzive na področju HCM in zlasti poudarja transformacijsko funkcijo poslovnih etičnih vedenjskih modelov v sodobni zavarovalniški industriji v tesni soodvisnosti s praksami ravnanja s spremembami v zavarovalništvu.

REFERENCES

- Al Lawati, H.A.H, Syed,R.T.& Caldwell,C. (2019). Transformative Ethics and Moving Toward” Greatness”-Problems and Realities. *The Journal of Values-Based Leadership*, Vol.12, Issue 1, Article 10, p.2
- Anderson, V. & Caldwell, C. (2017a). *Strategy, Competitive Advantage, and Performance in Competitive Advantage: Strategies, Management, and Performance* (C. Caldwell and V. Anderson ed.). New York: NOVA Publishing, 1-12
- Bassi.L. & McMurrer,D. (2007). Maximizing your return on people. *Harvard Business Review*. March 2007
- Born, G. (1995). *Business Process Reengineering-A Short Guide, Electronic Aids for Increased Profits*, IEE Seminar on 29 June 1995 pp7/1-7/5
- Bressler, M S. (2014) ‘How Small Businesses Master the Art of Competition through Superior Competitive Advantage,’ *Journal of Management and Marketing Research*, 11, 1-12.
- Coetzer, W J. and Rothmann, S. (2006) Occupational Stress of Employees in an Insurance Company, *S.Afr. J.Bus.Manage*, 37 (3), 29-39.
- Collins J. and Porras, J. (2004). *Built to Last: Successful Habits of Visionary Companies* (3rd ed.). New York: Harper Business.
- Collins, J. and Hansen, M. (2011). *Great by Choice: Uncertainty, Chaos, and Luck – Why Some Thrive Despite Them All*. New York: Harper Business.
- Collins, J., (2001). *Good to Great: Why Some Companies Make the Leap . . . And Others Don’t*. New York: HarperCollins.
- Dae-Bong, K. (2009) *Human Capital and its Measurement*. The 3rd OECD World Forum on “Statistics, Knowledge and Policy” Charting Progress, Building Visions, Improving Life, Busan, Korea.
- Dressler, G.(2007). *Human Resource Management*. Prentice Hall.
- Glanz, K., Lewis, F. M., & Rimer, B. K. (Eds.). (1990). *Health Behavior and Health Education: Theory, Research, and Practice*. San Francisco, CA: Jossey-Bass., p. 17
- Iniyang,B.J., Awa, H.O.& Enuoh, R.O.(2011). CSR-HRM Nexus: Defining the role engagement of the human resources professionals. *Special Issue on Contemporary Issues in Business and Economics*, Vol. 2,118-126
- Institute of International Finance Report (2016). *Innovation in Insurance: How Technology is changing the Industry*.
- Korn Ferry Institute (2017). *Workforce challenges as insurance companies go digital*. Korn Ferry Institute.
- Kwon, W.J. (2014). Human Capital Risk and Talent Management Issues in the Insurance Market: Public Policy, Industry and Collegiate Education Perspectives. *The Geneva Papers*, 39, (173–196)
- Lai, G., Chan, K B., Ko, Y C. and Boey, K W. (2000) ‘Institutional Context and Stress Appraisal: the Experience of Life Insurance Agents in Singapore,’ *Journal of Asian & African Studies*, 35, 209-228
- Lazar, I. (2001). *Competitive Advantage, Creating and Sustaining Superior Performance*, USA: The Free Press
- Lloyd’s. (2011). *Lloyd’s Risk Index 2011*, London: Lloyd’s.
- Madsen, S. R. (2012). Women and Leadership in Higher Education Current Realities, Challenges, and Future Directions. *Advances in Developing Human Resources*, 14(2), 131-139.
- Martin,K.D. & Cullen, J.B.(2006).Continuities and Extensions of Ethical Climate Theory: A Meta-Analytical Review. *Journal of Business Ethics*, December 2016,Vol.69, Issue 2, pp.175-169
- Mercer (2014). *Business and workforce challenges in the global insurance industry*. Mercer LLC
- Mullins, L. J., (2007). *Management and Organizational Behavior*. 8th ed. Harlow: Financial Times, Prentice Hall.
- Okoye.P.V.C. & Ezejiolor R.A. (2013).The effect of Human Resources Development on Organizational Productivity. *International Journal of Academic Research in Business and Social Science*, Vol.3,No.10,250-268.
- Perry, C. L., Barnowski, T., & Parcel, G. S. (1990). *How individuals, environments, and health behavior interact: Social learning theory*. In K. Glanz, F. M. Lewis & B. K. Rimer (Eds.), *Health Behavior and Health Education: Theory Research and Practice*. San Francisco, CA: Jossey-Bass.
- PWC.(2015). *Insurance 2020 & beyond: Necessity is the mother of reinvention*.
- Sabiu, M.S. Ringim,K.J., Mei,T.S. & Joarder, M.H.R. (2019). Relationship between human resource management practices, ethical climates and organizational performance, the missing link: An empirical analysis., *PSU Research Review*.
- Vickers, F., Hammerich, K., Landis, D., Lewis, J., Zes, D., Moreno, J., & Ramos, B. (2016). *Leaders for a digital transformation*, Minneapolis, MN: Korn Ferry Institute.
- Voegtlin,C. & Greenwood, M.(2016).Corporate social responsibility and human resources management: A systematic review and conceptual analyses. *Human Resource Management Review*, Vol.26,181-197.
- Vroom, V. H. (1994). *Work and Motivation*. San Francisco, CA: Jossey-Bass.
- Witte, K. (1997). Research review theory-based interventions and evaluations of outreach efforts [electronic version]. *Planning and Evaluating Information Outreach among Minority Communities: Model Development Based on Native Americans in the Pacific Northwest*. Retrieved January 29, 2006 from <http://nml.gov/archive/pnr/eval/witte.html>.



CAN I BE TRAINED TOO? AN ANALYSIS OF DETERMINANTS OF THE ACCESS TO TRAINING

Katerina Božič

School of Economics and Business, University of Ljubljana
katerina.bozic@ef.uni-lj.si

Abstract

This article aims to provide additional knowledge of the pre-conditions for access to training, thus, how access to training is related to age, type of organization, complexity of the work and level of education of the employees. Relying on secondary data from the European Working Conditions Survey, 2010 for Slovenia (n=1440), I provide two analysis, factor analysis and binomial logistic regression with categorical predictors. The factor analysis' results revealed the importance of organizational context for the employees' willingness to train. On the other hand, the binomial logistic regression's results showed that age, different skills requirement, level of education, complex tasks involvement and private sector are significantly associated with the on-the-job training access. While there is no significant gender profile for training, age showed a significant association with the access to train, due to the necessity to address skill inequalities among older employees. Moreover, I found a positive association between private sector employment and training and up-to-high education profile and training.

Keywords: training, complexity of work, level of education, private sector, older employees

1. INTRODUCTION

The European Union is increasingly emphasizing the importance of training and adult education as a measure for meeting the Europe 2020 targets on sustainability, education, innovation, and well-being increase (Kocanova, Bourgeois, & de Almeida Coutinho, 2015). However, despite continuous attention over the years, there is still a discrepancy between the skilled workforce supply and demand. The European Union supports the development of public policies that should contribute to a more qualified labor force for the achievement of the objectives of sustainable growth. The growing number of knowledge and skill-intensive jobs increases the need for highly-qualified employees with specific skill requirements. The management of organizations is pressed to change their policies and regulations frequently. Organizations aim to attract talented, dynamic, enthusiastic employees in an organization, at the same time to keep current employees up-to-date skilled. An adaptable workforce

is needed to respond to changes in labor market needs, which emphasizes the needs for further training and continuous education.

Formal school education ensures that the potential workforce has the appropriate level of human capital for the chosen occupation but is not efficient and sufficient method of training the workforce. It is more a process of acquisition of skills that continues to upgrade and differentiate throughout employees' working lives. Thus, different types of training are offered to employees, namely on-the-job training (job instructions, internship, training, apprenticeship, and coaching) and off-the-job training (classroom lectures, simulation exercises, computer modelling, case study methods) (Koike & Kikō, 1997).

Not surprisingly, therefore, understanding the determinants of training has attracted the interest of numerous organizational scholars (Kane, Abraham, & Crawford, 1994; Karthik, 2012; Oatey, 1970; Rhodes, Lubans, Karunamuni, Kennedy, & Plotnikoff, 2017; Tan, Hall, & Boyce, 2003; Weaver & Habibov, 2017). Despite

the definitional divergence, there exists a relative consensus within the literature that well-trained workforce is a valuable asset to the organization, which helps the organization for successive growth in a dynamic and highly competitive environment. As Oatey (1970) emphasized, training is essential in facilitating both levels of productivity and personal development in any organization. Kane et al. (1994) discuss the importance of strategic organizational approaches to training and development and suggest that the training should correspond to the organization's needs and financial and human resources that can be committed. Few authors have discussed the contribution of the training to the overall profitability and effectiveness of an organization (Adeniyi, 1995; Alasadi & Al Sabbagh, 2015; Mathieu, Tannenbaum, & Salas, 1992; Olaniyan & Ojo, 2008; Riley, Michael, & Mahoney, 2017). They found the importance of training in increasing productivity, improving the quality of work, knowledge, and skills, improving workforce development and ensuring the survival and growth of the organization.

Despite the increased research interest in the determinants to training, most of the research has mainly focused on formal, of-the-job training (Korpi & Tählin, 2018). While of-the job training offers important general skills and capabilities attainment, on-the job training allows employees to attain competencies, knowledge, and skills needed to perform a specific job at the workplace successfully. Hence, there is still a gap in our knowledge with regard to the determinants that affect the access to both, on-the-job and off-the job training as well as the factors that relate with the employees' willingness to take part of the training. Therefore, the purpose of this paper is to highlight the important predictors of the job training access, while considering the organizational context. We examined this association using factor analysis and binomial logistic regression with categorical predictors. Our results extend the current line of research by highlighting the important determinant of the training access.

The remainder of this paper is structured as follows. In the first section, I provided a brief theoretical overview of the existing literature and formulated hypothesis. The second section outlines the research context and methodology, followed by the results section. The last section presents a discussion of the findings with implications for theory and practice, and limitations.

2. THEORETICAL BACKGROUND

In modern society, more than ever, companies compete with the knowledge and skills of the workforce needed for continuous improvement. According to a recent estimate, approximately 1.6% of the total wages are annually spent on employee training (investment in training activities). Thus 66% of firms provided training (Mignot, 2013). This investment is not only due to increased interest in training, but also due to the advancement of technologies and the need of organizational performance improvement - increased profit, productivity, enhanced market share and competitiveness (Salas & Cannon-Bowers, 2001). Different empirical studies have confirmed the firm increased organizational performance as a result of training, such as Seleim, Ashour, and Bontis (2007) in software companies, Bontis, Bart, Bontis, and Serenko (2009) in a financial services industry, Youndt, Snell, Dean, and Lepak (1996) in manufacturing firms.

Training programs by creating a supportive workplace environment, improve the overall satisfaction and quality of the work of the employees. Benefits from the training can be seen at both organizational and individual levels. At organizational level benefit come in the form of improved organizational performance (profitability, effectiveness) and improved organizational reputation (employee satisfaction, customer satisfaction). At an individual level, they come in the form of improved job performance (enhanced self-efficacy skills, cross-cultural adjustment, improved planning, and communication), increased declarative ("what") and procedural ("how") knowledge. Hence, before the training programs are developed, detailed organizational and job/task analysis (assessment) is needed. The organizational analysis should outline the system components of the organization that could influence the delivery of a training program (Goldstein, 1993). Hence, more factors should be analyzed as organizational goals, organizational structure, available resources, potential threats, and organizational climate and culture for knowledge and skill transfer/adaptation. Job/task analysis should outline the information necessary to create the learning objectives and factors as work functions, work conditions, abilities required for performing a job (Goldstein, 1993).

Much of the literature on training opportunities focus on the inequalities of access to training between private and public firms (Booth, 1991; Goldstein, 1993; Schraeder, Tears, & Jordan, 2005). This work provides insights into the more likely access to training in the public sector than in the private sector. Thus, private sector firms, because of the need to make a profit are more constrained for investing in training. An additional constraint is a fear of losing trained workers to competitor companies that have not invested in the training but can offer higher wages. The latter is especially the case with SMEs. Furthermore, they often have difficulties in financing the cost of training, due to the lack of resources of often expensive training programs (Loan-Clarke, Boocock, Smith, & Whittaker, 1999; Matlay & Bishop, 2008) and consequently, an only small number of workers get the opportunity to be trained.

Another problem is the small number of employees, so SMEs can experience difficulties in releasing employees for training, because of the potential disruption of day-to-day activities. However, the recent European Commission report states that financial support guaranteed by companies to employees engaged in training is greater than that guaranteed by the state (Federighi, 2013). As reported, the public sector is financing between 1.75 and 16 times less than the private sector. Private firms compete in a dynamic environment, where the educated and skilled workforce is a competitive advantage. Aguinis and Kraiger (2009) pointed out that the benefits of training programs are not assessed only regarding their financial benefits to the organization, but rather regarding productivity improvement, organization's reputation and organizational performance (effectiveness, operating revenue per employee). Thus, ensuring resources that allow access to training is prioritized from the private sector.

Hypothesis 1: Access to training (on-the-job training, off-the-job training) will be positively related to private sector organization's jobs.

Another claim of the recent European Commission report is the fairness of the distribution of access to training for different age and education groups (Federighi, 2013). As is identified there is a need to address skills inequalities among older employees. As the overall age of the workforce is increasing due to later re-

tirement, organizations started to recognize the importance of retaining the skills updated to manage them effectively. Firms are prepared to invest more in training of the older workforce due to lack of fear of financial and knowledge losses because of the mobility of the workforce. Namely, the older workforce is assumed to be more resistant to change and more loyal to organizations compared with the younger employees. Also, as pointed out by Ntatsopoulos (2002) they have higher output because of their experience and greater organizational commitment and stability.

Hypothesis 2: Access to training (on-the-job training, off-the-job training) will be positively related to employees' age.

The access to training is unevenly distributed among employees depending on their level of education. In the literature, the reasons for this unequal distribution of training opportunities is discussed on organizational and individual, worker's level (Zupan, Eftimov, Božič, & Petrovski, 2017). As identified in the literature, unevenly distribution on an organizational level is due to larger economic returns for high-educated workers (Arulampalam & Booth, 1998; Kuckulenz & Zwick, 2003). The economic returns from training depending on the level of education differ across studies (vary on the county and period). Few studies show larger economic returns for high-educated workers (Arulampalam & Booth, 1998; Kuckulenz & Zwick, 2003). Conversely, other studies show a higher return for low-educated workers (Brunello & De Paola, 2004; Budría & Pereira, 2007). However, Maximiano (2011) found that the firms' willingness to train low- and high-educated workers is not significantly different. Therefore, he found reasons for lesser willingness to train on the individual, worker's level. Hence, Fouarge, Schils, and De Grip (2013) noted that low-educated workers are less willing to participate in training, but when participating, economic returns are positive and not significantly different from high-educated workers economic returns. They showed that the lesser willingness for training is due to economic preferences and personality traits. Hence, I hypothesize:

Hypothesis 3: Access to training (on-the-job training, off-the-job training) will be positively related to employees' educational level.

Acquisition and maintenance of relevant skills are crucial for sustainable and strong growth and adaptation to a rapidly changing environment. Development of workforce with required job skills is a strategic concern in the development outlooks. Nowadays, more than ever required skills within a different occupation are evolving, due to the intense knowledge economy. Employers invest in training of the employees in the hope of increasing the productivity, competitiveness and firm profitability in the future. Advantages are visible in both new product innovations and adaptation of production processes to new developments and technology (Agarwala, 2003; Bishop, 1994). Investment in the human capital of the employees is not only short term business goal but rather a long-term goal of sustainable growth.

Effective training for the acquisition of complex skills is long and effortful processes. As Van Merriënboer (1997) noted, to reach proficiency in a complex cognitive skill at least 100 hours of training are required. A true expert level can require up to a few years of experience and training. Diversity skilled workforce gives the firm a competitive edge and increases the firms' productivity. As nowadays dynamic environment requires flexible and rapid accommodation to different market needs, different skills from the workforce are required. The formal education gives to the potential workforce very limited skills that must be upgraded after enrolling at work. The firms often find training as an appropriate measure for developing competitive skills for keeping in step with the last technological improvements and changes.

Hypothesis 4: Access to training (on-the-job training, off-the-job training) will be positively related to the job's complexity and job's different skills requirement.

Effective training as a systematic approach to learning and development of employees and organization, it is highly dependent on the contextual pre-conditions for training. The work environment can influence the employees' willingness to train. Organizations that build on the inherent value of the employees as well motivated and committed are growing faster than competitive organizations (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). A positive and cooperative atmosphere within an or-

ganization can contribute to the creation of a motivated and committed workforce, thus, improving the overall effectiveness of an organization. Emotions can affect communication, thinking, and effective acting. Emotions, if negative can harm employees and cause low productivity and poor results. The negative consequences arise if there is a need for employees to suppress emotion expression. "Toxic" working environment is characterized by poor performance, high levels of employee dissatisfaction and stress well beyond workload issues (Coccia, 1998). Research findings have indicated the importance of not only extrinsic (outcomes), but intrinsic purposes of work (finding a purpose in work) for many employees (Salancik & Pfeffer, 1978; Wrzesniewski & Dutton, 2001). Meaningful work is related to jobs with characteristics as identity, self-actualization, significance, feedback, autonomy and task variety (Kulik, Oldham, & Hackman, 1987). Having a meaningful work in long-term can enhance organization' performance and stimulate innovation. Organizations need analysis of contextual pre-conditions before the development of training program to determine who needs training (criterion development process), what kind of training is needed (specification of training objectives and design of the program), and where the training should be conducted (delivery of the training).

3. METHODOLOGY

3.1 Sample and data collection

One thousand four hundred four employees aged 15 and over, who were employed during the reference period and with a place of residence in the territory of Slovenia from the European Working Condition Survey 2010 were included. Individuals were selected using a random sampling procedure (a random sample of workers, a random selection of individual from the population registry). I sought to examine the access to training within different sectors, different age and education groups and different job requirements. Hence, of the participants, 46.2% were men (648 employees), the mean age was 41 years old, and approximately 72.3% held a maximum of a four-year high school.

3.2 Measures

To capture the access to training, the participants were asked to define whether they work in a public, private, or joint public/private sector organization, in non-for-profit sector or other; what is the highest level of education or training that they have successfully completed (ranging from primary education not completed to Ph.D. degree); do their main paid job involve complex tasks; do the tasks require different skills; over the past 12 months, have they undergone any of types of training to improve their skills or not?

Binomial regression with categorical and continuous exploratory variables was applied to provide knowledge on the relationships and strengths among the variables. The dependent variable is the access to training over the past 12 months, and it is categorical (consist of two groups: yes, versus not). Also, exploratory factor analysis was applied to simplify the employment status information to a few representative factors (16 questions analyzed).

4. RESULTS

4.1 Exploratory Factor Analysis

Initially, the factorability of the 16 items was examined. The Principal Component Analysis was used as an extraction method and Oblimin with Kaiser Normalization as a rotation method. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.816, above the recommended value of 0.6, and Bartlett's test of sphericity was significant ($\chi^2(120) = 3960.144, p < 0.01$). The first four factors explained 53.1% of the variance. However, additionally parallel analysis was applied, and the analysis identified only three factors that should be retained for interpretation and subsequent rotation. As the missing cases for individual observations were under 10%, the missing cases were excluded listwise.

Importance for the work, ability to influence decisions that are important for the work, involvement in improving the work organization, been consulted before targets for work are set, having a say in the choice of the working partners, ability to apply own ideas in the work, having support and help from the colleagues and from the manager,

and possibility to take break when wish have gone to the first factor.

Experiencing stress at work, been emotionally involved, and job requirement to hide feelings have gone to the second factor. Having the feeling of doing useful work, feeling of work well done, and having clear expectation from work have gone to the third factor. Table 1 presents the exploratory factor analysis results.

Factor 1 contains eight items that reflect **job involvement** (role, importance, influence, creativity, support). Factor 2 contains three items that reflect **toxicity in the workplace** (stress, emotions involvement, emotions hiding). Factor 3 contains three items that reflect having **meaningful work** (usefulness, clear expectations, satisfaction).

4.2 Binomial Logical Regression analysis

Table 2 presents the binomial logistic regression analysis results. As hypothesized, all independent variables, except the gender were significantly associated with the access to training for improving the skills over the past 12 months. Hypotheses 1 to 3 predicted that the private sector organization jobs, employees' age, and employees' educational level are positively related to access to training. The regression model reveals that the private sector access to training is greater compared with public, private/public and NGO sectors ($p < 0.05$). Employees with educational level up-to-high school got greater access to training ($p < 0.05$). High level of education was not statistically significant in predicting access to training. Employees' age is highly important in access to training for improving skills. Job complexity is a very important factor in employer decision for investing in training ($p < 0.01$). Also, jobs that require different skills are significantly related to access to training. Thus, hypothesis 1 to 4 were supported.

The Omnibus Tests of Model Coefficients yielded a chi-square value of 163.312 with 11 degrees of freedom and significance. Thus, the overall model is statistically significant. Adding the 11 predictor variables to the model significantly increased our ability to predict whether the person had or had not undergone training for improving the skills over the past 12 months.

For assessing the overall model fit three measures were used. The first two ones, the Cox and Snell R^2 and the Nagelkerke R^2 are measures of the pseudo- R -square. The value of the Cox and Snell R^2 in this analysis has been (0.152) and the value of Nagelkerke R^2 (0.203). The third one, Hosmer and Lemeshow test result has been $\chi^2 (df=8) = 4.296, p = 0.829 > 0.05$, which means there is a non-significant difference in the distribution of the actual and predicted dependent values. The classification results showed an overall success rate of 66.4 %.

5. DISCUSSION AND CONCLUSION

I advance our understanding of the employees' access to training in different organizations. In doing so, I explained who of the employees get the

chance to train within an organization, thereby establishing pre-training context conceptualization. Specifically, I found that private organizations are more likely to train their employees than in the private sector. Private firms find highly skilled and educated workforce as a competitive advantage (Javalgi, Gross, Benoy Joseph, & Granot, 2011). In the dynamic and competitive environment, private firms invest in training not only due to financial benefits but rather due to increased organization' reputation, improved productivity and increased effectiveness. Greater opportunities to training are offered to the older workforce, that can be explained by the need to address skills inequalities among older employees to manage them effectively (Lee, Czaja, & Sharit, 2008). There is an additional incentive due to greater loyalty and lower

Table 1: Exploratory factor analysis results

| Item/Factor | Job involvement | Toxicity in the workplace | Meaningful work | Community |
|--|-----------------|---------------------------|-----------------|-----------|
| Select the response which best describes your work situation | | | | |
| You can influence decisions that are important for your work | 0.738 | 0.180 | 0.040 | 0.571 |
| You are involved in improving the work organization | 0.724 | 0.126 | 0.059 | 0.545 |
| You are consulted before targets for your work are set | 0.669 | -0.200 | 0.064 | 0.524 |
| You have a say in the choice of your working partners | 0.667 | 0.174 | -0.042 | 0.459 |
| You are able to apply your own ideas in your work | 0.643 | 0.172 | 0.242 | 0.523 |
| You can take a break when you wish | 0.574 | -0.128 | -0.290 | 0.374 |
| Your manager helps and supports you | 0.541 | -0.411 | 0.096 | 0.524 |
| Your colleagues help and support you | 0.490 | -0.330 | 0.099 | 0.402 |
| You experience stress in your work | 0.011 | 0.758 | 0.034 | 0.566 |
| You get emotionally involved in your work | 0.176 | 0.616 | 0.057 | 0.393 |
| Your job requires that you hide your feelings | -0.020 | 0.592 | 0.041 | 0.345 |
| You have enough time to get the job done | 0.130 | -0.550 | 0.134 | 0.376 |
| Your job involves tasks that are in conflict | 0.106 | 0.332 | -0.290 | 0.225 |
| You have the feeling of doing useful work | 0.078 | 0.081 | 0.807 | 0.660 |
| Your job gives you the feeling of work well done | 0.105 | -0.127 | 0.709 | 0.585 |
| You know what is expected of you at work | -0.039 | 0.024 | 0.705 | 0.486 |
| Share of variance explained (%) | 23.48 | 14.17 | 9.58 | 47.24 |
| Cronbach's alpha | 0.793 | 0.546 | 0.642 | |

Note: Extraction Method: Principal Component Analysis; Rotation Method: Oblimin with Kaiser Normalization.

Table 2: Binomial logistic regression analysis of undergone training for improving the skills over the past 12 months

| Independent variable | b | se | z ratio | Prob. | Odds |
|-------------------------------------|------------------|-------|---------|----------|-------|
| Age | 0.017 | 0.006 | 7.063 | 0.008*** | 1.017 |
| Gender | -0.114 | 0.145 | .620 | 0.431 | 0.892 |
| Education | | | | | |
| Up-to-high school | 1.143 | 0.542 | 4.453 | 0.035** | 3.137 |
| High education | 0.049 | 0.552 | .008 | 0.930 | 1.050 |
| Sector | | | | | |
| Private sector | 1.197 | 0.534 | 5.031 | 0.025** | 3.309 |
| Public sector | 0.043 | 0.534 | .006 | 0.936 | 1.044 |
| Joint public/private organization | 0.455 | 0.584 | .607 | 0.436 | 1.575 |
| NGO | 1.471 | 1.072 | 1.883 | 0.170 | 4.354 |
| Different skills requirement | | | | | |
| Complex tasks | -0.465 | 0.231 | 4.068 | 0.044** | 0.628 |
| Constant | | | | | |
| Constant | -1.492 | 0.870 | 2.941 | 0.086 | 0.225 |
| Model χ^2 | 163.821 p. < .05 | | | | |
| Pseudo R^2 | 0.203 | | | | |
| n= | 1404 | | | | |

Note: The dependent variable in this analysis is undergone training for improving the skills over the past 12 months coded so that 1 = yes, undergone training over the past 12 months and 2=No, no training over the past 12 months.

*, ** and *** indicate significant at 90%, 95% and 99% level of significance respectively.

Source: European Working Conditions Survey (2010)

mobility of the older workforce compared to younger employees. Thus, the fear of financial and knowledge losses is minimized.

Employees with an educational level up-to-high school got greater access to training. This can be explained on both an organizational and individual level. Employers find a motivation to invest in the low-educated workers' human capital because of their skills shortcomings that are crucial to the knowledge economy. At an individual level, employees can find a motivation to train because of extrinsic motivation (economic preferences) and because of intrinsic motivation (desire for reward, improving capabilities, self-efficacy) (Groot & De Brink, 2000). Investment in training can be explained by the need

for an acquisition and maintenance of relevant skills for sustainable and strong growth. Formal education is insufficient in the acquisition of skills in the intense knowledge economy (Brabeck, 1983). Due to different market needs, nowadays' workforce needs diverse skills to accommodate rapidly. Training plays an important role in developing competitive skills for keeping in step with the work changing context. This is especially the case with the acquisition of skills needed for complex jobs. As effective training in the latter case is a long process, better access to training for these employees is expected.

With the factor analysis, I advance our understanding of the contextual pre-condition for training. Namely, three unobserved latent variables

showed up: job involvement, toxicity in the workplace and meaningful work. As the work environment influences the employees' willingness to train, organizations should aim to build on the committed and motivated human resources. Having meaningful work and being involved in the job can contribute to the creating of positive and cooperative organization culture, thus, improving the effectiveness of an organization. On the other hand, having a "toxic" work environment can cause poor result and dissatisfaction. Wider analysis of the organization is needed before developing training programs.

The present research offers several contributions to theory and practice. First, my findings advance the literature on access to training within organizations by providing new insights into which parameters can influence the opportunities to train. Scholars have studied different aspects. However, joint analysis has not been done. This research also illuminates the contextual pre-condition for training important for practice. I found that three parameters can influence the employees' willingness to train. Thus, employers should prepare an analysis of the organization context before developing training programs, to maximize the effect of training.

My research has aimed to examine how access to training is related to age, type of organi-

zation, the complexity of the work and level of education of the employees. My research, however, is not without limitations. While this approach provides greater knowledge of the pre-conditions for access to training, it does not provide knowledge of how access to training is related to the particular profession, work experience, and different economies. Therefore, a useful next step would be to examine the causal relationship between access to training and different professions, different countries, and different work experience.

As organizations aim to keep current employees up-to-date skilled to respond to changes in market needs, training is strategically important. Access to training is determined by age, type of organization, the complexity of the work and level of education of the employees. There is a positive association between training and private sector employment, high education profile and job complexity. Age shows a significant effect on the access to train, due to the necessity to address skill inequalities among older employees. The employees' willingness to train is dependent on the organization context. Therefore, an analysis is needed before preparing training programs. The present research offers a richer and more precise perspective on the determinants of access to training.

SUMMARY IN SLOVENE / IZVLEČEK

Namen prispevka je poglobiti poznavanje predpogojev za dostop do usposabljanja in preko tega ugotoviti, kako je dostop do usposabljanja povezan s starostjo, vrsto organizacije, zahtevnostjo dela in stopnjo izobrazbe zaposlenih. Na temelju sekundarnih podatkov Evropske raziskave o delovnih razmerah za Slovenijo 2010 (n = 1440) sta v članku predstavljeni dve analizi: faktorska analiza in binomna logistična regresija s kategoričnimi napovedniki. Rezultati faktorskih analiz so pokazali pomen organizacijskega konteksta za pripravljenost zaposlenih, da se usposablajo. Po drugi strani so rezultati binomske logistične regresije pokazali, da so starost, različne spretnostne zahteve, stopnja izobrazbe, vključevanje kompleksnih nalog in delovanje v zasebnem sektorju pomembno povezani z dostopom do usposabljanja na delovnem mestu. Medtem ko spol za usposabljanje ni pomemben, je starost močno povezana z dostopom do usposabljanja zaradi potrebe po odpravljanju neenakosti med usposobljenostjo starejših zaposlenih. Poleg tega je bila ugotovljena pozitivna povezava med zaposlovanjem in usposabljanjem v zasebnem sektorju ter visokošolskim profilom in usposabljanjem.

REFERENCES

- Adeniyi, O. (1995). Staff training and development. *Reading in Organizational Behaviour in Nigeria, Lagos. Maltho use Press Ltd*, 159-167.
- Agarwala, T. (2003). Innovative human resource practices and organizational commitment: an empirical investigation. *International Journal of Human Resource Management*, 14(2), 175-197.
- Aguinis, H., & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *Annual review of psychology*, 60, 451-474.
- Alasadi, R., & Al Sabbagh, H. (2015). The role of training in small business performance. *International Journal of Information, Business and Management*, 7(1), 293.
- Arulampalam, W., & Booth, A. L. (1998). Training and labour market flexibility: is there a trade-off? *British Journal of Industrial Relations*, 36(4), 521-536.
- Bishop, J. (1994). The impact of previous training on productivity and wages. *Training and the private sector* (pp. 161-200): University of Chicago Press.
- Bontis, N., Bart, C., Bontis, N., & Serenko, A. (2009). A causal model of human capital antecedents and consequents in the financial services industry. *Journal of Intellectual Capital*, 10(1), 53-69.
- Booth, A. L. (1991). Job-related formal training: who receives it and what is it worth? *Oxford Bulletin of Economics and Statistics*, 53(3), 281-294.
- Brabeck, M. M. (1983). Critical thinking skills and reflective judgment development: Redefining the aims of higher education. *Journal of Applied Developmental Psychology*, 4(1), 23-34.
- Brunello, G., & De Paola, M. (2004). Market failures and the under-provision of training.
- Budría, S., & Pereira, P. T. (2007). The wage effects of training in Portugal: differences across skill groups, genders, sectors and training types. *Applied Economics*, 39(6), 787-807.
- Coccia, C. (1998). Avoiding a "toxic" organization. *Nursing management*, 29(5), 40B.
- Conditions, E. F. f. t. I. o. L. a. W. (2010). *European Working Conditions Survey* [computer file]. Retrieved from: dx.doi.org/10.5255/UKDA-SN-6971-1
- Federighi, P. (2013). Adult and continuing education in Europe: using public policy to secure a growth in skills. Luxembourg: European Commission, Directorate-General for Research & Innovation.
- Fouarge, D., Schils, T., & De Grip, A. (2013). Why do low-educated workers invest less in further training? *Applied Economics*, 45(18), 2587-2601.
- Goldstein, I. L. (1993). *Training in organizations: Needs assessment, development, and evaluation*: Thomson Brooks/Cole Publishing Co.
- Groot, W., & De Brink, H. M. V. (2000). Education, training and employability. *Applied economics*, 32(5), 573-581.
- Javalgi, R. G., Gross, A. C., Benoy Joseph, W., & Granot, E. (2011). Assessing competitive advantage of emerging markets in knowledge intensive business services. *Journal of Business & Industrial Marketing*, 26(3), 171-180.
- Kane, R. L., Abraham, M., & Crawford, J. D. (1994). Training and Staff Development: Integrated or Isolated?*. *Asia Pacific Journal of Human Resources*, 32(2), 112-132.
- Karthik, R. (2012). Training and Development in ITI Limited-Bangalore. *Advances In Management*. Vol. 5 (2), pp. 54-60.
- Kocanova, D., Bourgeois, A., & de Almeida Coutinho, A. S. (2015). Adult Education and Training in Europe: Widening Access to Learning Opportunities. Eurydice Report. *Education, Audiovisual and Culture Executive Agency, European Commission*.
- Koike, K., & Kikō, N. R. K. (1997). *Human resource development*: The Japan Institute of Labour.
- Korpi, T., & Tählin, M. (2018). On-the-job training: A skill match approach to the determinants and outcomes of lifelong learning. (Working paper No. 7/2018). Retrieved from the Swedish Institute for Social Research: <http://www.diva-portal.org/smash/get/diva2:1206143/FULLTEXT01.pdf>
- Kuckulenz, A., & Zwick, T. (2003). The impact of training on earnings: Differences between participant groups and training forms: ZEW Discussion Papers.
- Kulik, C. T., Oldham, G. R., & Hackman, J. R. (1987). Work design as an approach to person-environment fit. *Journal of vocational behavior*, 31(3), 278-296.
- Lee, C. C., Czaja, S. J., & Sharit, J. (2008). Training older workers for technology-based employment. *Educational Gerontology*, 35(1), 15-31.
- Loan-Clarke, J., Boocock, G., Smith, A., & Whittaker, J. (1999). Investment in management training and development by small businesses. *Employee relations*, 21(3), 296-311.
- Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of management journal*, 35(4), 828-847.
- Matlay, H., & Bishop, D. (2008). The small enterprise in the training market. *Education+ Training*, 50(8/9), 661-673.
- Maximiano, S. (2011). Two to tango: the determinants of workers' and firms' willingness to participate in job-related training: Mimeo, Purdue University.
- Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D., & Jackson, D. N. (1989). Organizational commitment and job performance: It's the nature of the commitment that counts. *Journal of applied Psychology*, 74(1), 152.

- Mignot, J.-F. (2013). Continuing training for employees in Europe: the differences between countries continue to narrow. *Training and Employment*(106), 4-8.
- Ntatsopoulos, J. (2002). Managing a blended workforce. *Australian Master Human Resources Guide*, 1055-1069.
- Oatey, M. (1970). The economics of training with respect to the firm. *British Journal of Industrial Relations*, 8(1), 1-21.
- Olaniyan, D., & Ojo, L. B. (2008). Staff training and development: a vital tool for organisational effectiveness. *European Journal of Scientific Research*, 24(3), 326-331.
- Rhodes, R. E., Lubans, D. R., Karunamuni, N., Kennedy, S., & Plotnikoff, R. (2017). Factors associated with participation in resistance training: a systematic review. *Br J Sports Med*, 51(20), 1466-1472.
- Riley, S. M., Michael, S. C., & Mahoney, J. T. (2017). Human capital matters: Market valuation of firm investments in training and the role of complementary assets. *Strategic Management Journal*, 38(9), 1895-1914.
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative science quarterly*, 224-253.
- Salas, E., & Cannon-Bowers, J. A. (2001). The science of training: A decade of progress. *Annual review of psychology*, 52(1), 471-499.
- Schraeder, M., Tears, R. S., & Jordan, M. H. (2005). Organizational culture in public sector organizations: Promoting change through training and leading by example. *Leadership & Organization Development Journal*, 26(6), 492-502.
- Seleim, A., Ashour, A., & Bontis, N. (2007). Human capital and organizational performance: a study of Egyptian software companies. *Management Decision*, 45(4), 789-801.
- Tan, J. A., Hall, R. J., & Boyce, C. (2003). The role of employee reactions in predicting training effectiveness. *Human Resource Development Quarterly*, 14(4), 397-411.
- Weaver, R., & Habibov, N. (2017). Determinants of participating in training: a Canadian-based analysis. *International Journal of Sociology and Social Policy*, 37(1/2), 69-85.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26(2), 179-201.
- Youndt, M. A., Snell, S. A., Dean, J. W., & Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of management Journal*, 39(4), 836-866.
- Zupan, N., Eftimov, L., Božič, K., & Petrovski, D. (2017). Joining efforts of employers and educational institutions to develop competent graduates. *Dynamic relationships management journal*, 6(2), 31-45.



TRUST IN MANAGERS REVISITED - ANTECEDENTS, MEDIATING FACTORS, AND CONSEQUENCES

Jon Aarum Andersen

Örebro University School of Business
jon.andersen@oru.se

Abstract

The first purpose of this paper is to find the reasons why subordinates trust their managers in private organizations. The second purpose is related to whether there are national differences in the degree of subordinates' trust in their managers. Studies from two European countries are presented which were based on the same instrument for measuring subordinates' trust. These studies concluded that managers' actions are the antecedent to trust. Managers are, however, trusted to different degrees. It appears that managers need to show by their actions that they trust their subordinates, offer help and guidance, show appreciation to the subordinates, and solve problems adequately. The antecedent was the managers' proximity to the subordinates. Other studies found more antecedents. Additionally, a number of positive consequences of trust in managers – reported in other studies – are work performance, job satisfaction, and subordinates' motivation. Some questions regarding trust in managers still need answers. They are formulated but not answered in this paper.

Keywords: trust, definitions, managers, subordinates, proximity, cultural values, national characteristics

1. INTRODUCTION

Trust is a key concept in leadership scholarship (Marturano & Gosling, 2008). The importance of trust related to human actions is generally acknowledged. Organizations are confronted by rapid changes that imply uncertainty for people at work. Uncertainty about the future makes trust important. However, there is no agreement on how to define it. Some definitions, however, are widely used. Rotter (1971:444) defined trust as “a generalised expectancy held by any individual or group that the word, promise, verbal, or written statement of another individual or group can be relied on.” Rotter regarded trust as a relatively stable personality trait, whereas psychologists view trust as an expectation that is specific to a transaction and the person with whom one is transacting. Sabel (1993:1133) defined trust as “the mutual confidence that no party in the interaction will exploit the vulnerability of others.” Gambetta (1988:217) defined trust as “a specific

level of subjective probability that an agent or group will do a specific action before he (she) can monitor such an act ... and in a situation where this action influences his own action.”

Trust is important and useful in a range of organisational activities. It is co-related to good (non-negative) outcomes, and appears to be a crucial component of leadership (Andersen, 2008). Without trust, it may be difficult to communicate a vision to subordinates and to maintain cohesion when visions, objectives, threats, and opportunities are unclear. Rotter (1967) claimed that the effectiveness of organizations to a large extent depends on people in the organizations being prepared to trust others. Fukuyama (1995) emphasized how the degree of trust within nations impacts the national welfare. The higher the level of trust, the more easily employees will accept decisions by managers. Trust can explain the outcome of many organizational activities, such as leadership, ethical behavior, teamwork, goal setting, performance appraisal, development of

labor relations, and negotiations. Conditions leading to changes in organizations increase the importance of trust because organizational performance and the well-being of the employees are affected by trust.

A number of scholars have insisted on the need to appreciate the importance of actions and behaviors in order to understand the phenomenon of trust (Sitkin & Roth, 1993; Gambetta, 1988; Luhmann, 1988; Coleman, 1990; Whitener *et al.*, 1998; Sheppard and Sherman, 1998). Bhattacharya *et al.* (1998) concluded that trust is dependent not only on actions but also on outcomes and consequences. Trust, then, is a condition for interaction between individuals (Seligman, 1997).

A few studies have addressed the question of trust between subordinates and managers. Empirical studies of this relationship are still scant. Additionally, globalization introduces a need to understand the role of sociocultural contexts of trust in workplaces. With this consideration in mind, a number of studies have investigated subordinates' trust in managers and examined whether subordinate–manager relationships vary with societal context.

The role of trust between managers and their subordinates has been the subject of research in different disciplines. Trust is a crucial element in effective leader behavior (Fleishman & Harris, 1962; Bass, 2008). Other researchers have shown that managers' efforts to build trust comprise key mechanisms which enhance organizational effectiveness (Barney & Hansen, 1994; Dirks, 2000; Morgan & Zeffane, 2003; Bijlsma *et al.*, 2008). Drawing from these observations, it may be concluded that trust in superiors is advantageous for both individuals and organizations.

Whitener *et al.* (1998) identified a series of managerial behaviors that may affect employees' trust in managers. Dirks (2000) also studied how trust can be built through the actions of the managers. Bijlsma and van de Bunt (2003) found that monitoring performance, guidance to improve individual performance, support in case of trouble with others, openness to ideas of subordinates, and cooperation-related problem solving were relevant trust-related behaviors of managers. Appreciation of good work was not significantly related to trust in managers (*ibid.*).

2. TRUST IN MANAGERS – ONE COMPANY AND ONE COUNTRY

2.1 Introduction

It is reasonable to assume that the conditions for acting in a leadership position have changed. They may change even more in the future. Some of the new theoretical suggestions emphasize the relationship between leaders and subordinates. This relationship may be seen as a process in which influences are constituted and developed mutually. Interdependence and mutuality become vital for leaders. Trust in management may determine ethical behavior and organizational effectiveness.

Andersen (2005) investigated trust in an organization during a period of change. The importance of trust in periods of change also was addressed by Bijlsma-Frankema (2002), who studied trust in a hospital during a period of organizational change. The very fact that organizations went through transitions may have an impact on the degree of trust in management. Conditions leading to changes in the organization increase the importance of trust because organizational performance and the well-being of the employees are affected in a positive way (Gilkey 1991; Mishra 1996; Bijlsma-Frankema 2000, 2002; Schein 2004).

Andersen (2005) studied a Swedish manufacturing company, examining trust in eight managers (all the production managers, the marketing manager, and the managing director) during 2002 and 2003. The company had 590 employees. The company surveyed was chosen because major changes in market strategy were implemented at the time, possibly the most fundamental changes in the company over the last 20 years. The new strategy implied in essence that the six production units all specialized in a smaller number of products. The marketing and sales personnel, who previously were part of the production units, now belonged to the new marketing department reporting to the marketing manager. This strategy and reorganization made it possible to handle a smaller number of considerably larger customers abroad.

2.2 Measurement and sample

The performed factor analysis revealed both discriminant and convergent validity. The study by Andersen (2005) was based on a questionnaire with 38 items, which were hypothesized to explain the degree of trust (independent variables). The Likert questionnaire contained only one item measuring the degree of trust. The study by Bijlsma-Frankema (2000) provided the theoretical basis for each statement on the questionnaire. The questionnaire items were generated from interviews with managers and subordinates. Bijlsma-Frankema (2000) suggested 38 explanations for subordinates' trust in their managers.

This instrument was distributed to the closest subordinates to eight managers. An exploratory factor analysis showed that the 38 items formed three factors with a total of 20 items. The items formed three main groups: (1) the manager has confidence in me; (2) manager's actions and support, and (3) the manager shows me appreciation. "The manager solves problems" had a high degree of internal consistency. The research by Andersen (2005) was based on the shorter (21 items) versions of the questionnaire.

2.3 Conclusions

Managers enjoy different degrees of trust from their subordinates. The analyses performed confirmed the hypothesis that trust is created through actions, because factor 2 (Manager's actions and support) mainly captures the manager and his actions. This factor alone explains 76% of the subordinates' trust in their managers.

The hypothesis that trust in managers differs between the closest subordinates and other employees also received support from this study. It was, however, impossible to establish the causality of trust based on these analyses because there may be causes of trust other than the factors investigated. It may be that a high degree of trust makes the subordinates perceive that the manager trusts them when the manager offers help, shows appreciation, and solves problems. On the other hand, the causality may be in the other direction: trust may be the independent variable. Luo (2002) made this point by saying that some theorists have used the concept of trust as an independent, a dependent, or a moderating variable.

There are some important implications for management from the study of Andersen (2005). It may give managers guidance for how to work in order to establish, maintain, or increase their subordinates' trust. Manager need to show by their actions that they trusts their subordinates, offer help and guidance, show appreciation to their subordinates, and solve problems adequately.

There are also some implications for trust theory, because the objective of empirical studies is not primarily the results they give, but to what degree the results contribute to strengthening or challenging the theory on which the investigation is based. Andersen (2005) concluded that trust in managers was higher in their closest subordinates than in other employees. This is an empirical finding, not a theoretical conclusion. Being able to work closely with and observe the manager daily may just as well create personal experience, causing a low degree of trust. A strong association was found between the actions of managers and the degree of trust in managers. Trust-creating leadership is action or is perceived as action. Trust among individuals in organizations appears to be a crucial component of the new leadership context.

3. TRUST IN MANAGERS – TWO COMPANIES AND TWO COUNTRIES

3.1 Introduction

Andersen and Kovac (2012) addressed subordinates' trust in managers and investigated whether subordinate–manager relationships vary with societal and national characteristics. Several studies of managerial behavior across nations have shown significant differences even between managers in European countries (Smith *et al.*, 2002, Smith *et al.* 2003, Smith & Peterson, 2005). All in all, these studies have shown that the national cultures and cultural values explain differences in managers' behavioral patterns across nations. With this in mind, this study concentrated on subordinates' trust in managers and investigated whether subordinate–manager relationships varied with national characteristics.

The intention was to compare the data from the Swedish study (Andersen, 2005) with data from another country, and preferably one with markedly different sociocultural characteristics, to test the ro-

bustness of the conclusions. Data from a Slovenian organization, therefore, appeared to be appropriate for this comparative study.

The Swedish study showed that managers enjoyed different degrees of trust. Additionally, the managers' actions and support created trust, and explained the subordinates' trust in them. Two specific problems were addressed in the study by Andersen and Kovac (2012): (1) whether the conclusions on trust in managers based on the Swedish study were valid for Slovenian managers, and (2) whether aspects of trust are dependent on societal characteristics.

The Swedish study (Andersen, 2005) showed that managers enjoyed different degrees of trust. Additionally, the managers' actions and support created trust, and explained the subordinates' trust in them. The two specific problems addressed were (1) whether these conclusions on trust in managers based on a Swedish study are valid for Slovenian managers, and (2) whether aspects of trust are dependent on national characteristics.

3.2 Sample

The Slovenian and the Swedish companies were almost identical with respect to such parameters as the number of hierarchical levels and the number of organizational units.

Additionally, the position of the managers in this study was virtually identical, most being production managers. The number of respondents in the Swedish study was 138, and in the Slovenian study, 108 subordinates responded. In Sweden, 44 people were in a directly subordinate position (closest subordinates of the managers), and 94 were classified as other employees. In Slovenia, 51 of the surveyed people were directly subordinate (25 of those were close coworkers), and 57 were other employees. The study by Andersen and Kovac (2012) used the same refined version of the questionnaire with 21 items (including the dependent-variable item) as used by Andersen (2005).

3.3 Factor analyses

The factor analyses included all 20 independent variables from the Swedish study and the same items from the Slovenian study. The results of the factor anal-

yses of both studies showed that both the Swedish and Slovenian factor analyses yielded three factors: (1) improvements, working conditions, and atmosphere; (2) managers' actions and support; and (3) goals, development, and achievements. A *t*-test of the two samples informed that the difference between the average trust was significant, with $t = 4.633$, $p < 0.05$.

3.4 Reliability – Cronbach's alpha

To assess the reliability of the respondents' choice of individual statements, the Andersen and Kovac (2012) study contained a Cronbach's alpha test. The answers of the 44 respondents directly subordinate to all managers and the 94 other employees in the Swedish study, and the 51 respondents directly subordinate to all managers (of which 25 were close coworkers), and the 57 other employees in the Slovenian study. In the Swedish and Slovenian studies, all three factors, which emerged from the factor analysis, had a very high degree of internal consistency according to Cronbach's alpha. In general, a value higher than 0.70 is necessary to affirm reliability with Cronbach's alpha. Trust vested in Slovenian managers was higher than trust given to Swedish managers by their subordinates. A *t*-test of the two samples showed that the difference between the average trust was significant, with $t = 4.633$, $p < 0.05$. Trust vested in Slovenian managers was higher than trust given to the Swedish managers.

3.5 Conclusions

Both the studies by Andersen (2005) and Andersen and Kovac (2012) showed that managers enjoyed different degrees of trust from their subordinates, as hypothesized. The level of trust vested in Slovenian managers by their subordinates was significantly higher than that vested in Swedish managers. The study by Andersen and Kovac (2012) did not explore the reasons for this difference, but the difference may be due to the greater remoteness to power in Sweden. The analysis revealed a degree of similarity regarding the managers' actions and support between the Swedish and the Slovenian samples, because five out of eight items were identical. Sociocultural contexts may explain why the items in the factor "Managers' actions and support" were not identical. The actions of managers were decisive for the development of trust.

The actions and support of Swedish managers explained 76% of the degree of trust that the subordinates had in them (Andersen, 2005). This result is also in agreement with the findings of the Slovenian study (Andersen & Kovac, 2012), in which managerial actions explained 82% of the degree of subordinates' trust. These results may imply that both Swedish and Slovenian subordinates perceived leadership through managerial actions. Trust was strongly associated with such terms as "the manager has confidence in me," "the manager promotes our interests," "the manager shows me appreciation," "the manager supports me," and "the manager solves problems." In both these national samples, the other two factors were insignificantly related to trust. Trust in managers differed between the closest subordinates and other employees. The Swedish study found that the closest subordinates had a significantly higher degree of trust in their manager than did more remote subordinates. The Slovenian data also supported this finding. The Swedish and Slovenian studies addressed only subordinates' trust in their managers, and not managers' trust in their subordinates (e.g., Erdem & Özen-Aytemur, 2014), nor trust in organizational arrangements (e.g., Sitkin & Roth, 1993).

4. ANTECEDENTS AND CONSEQUENCES OF TRUST

Rich (1997) developed a conceptual framework that related role-modeling behavior of sales managers to trust in sales managers, overall performance, and job satisfaction. A set of key outcome variables assessed the validity of the framework using a cross-sectional sample of salespeople and sales managers drawn from a variety of business-to-business sales organizations. The findings indicated that salespeople's perceptions of their managers' role-modeling behavior related positively to trust in the sales manager. Trust was measured by a five item Likert-scale questionnaire. Salespeople's trust in sales managers was related to both job satisfaction and overall performance of sales people. The argument here is that role modeling explains the degree of trust in managers, which in turn leads to subordinates' overall performance and job satisfaction.

Bijlsma and van de Bunt (2003) combined an interview and survey data, but the questionnaire by Bijlsma-Frankema (2000) was not used. Main reasons for building subordinates' trust in their man-

agers were identical to the main findings in study of Andersen (2005) and Andersen and Kovac (2012), that is that the manager solves problems.

Other researchers have shown that managers' efforts to build trust involve key mechanisms for enhancing organizational effectiveness. Bijlsma-Frankema *et al.* (2008) concluded that trust in supervisors is an important factor in promoting team performance. Drawing from these observations, we may conclude that trust in superiors is advantageous for both individuals and organizations. The longitudinal study by Bijlsma-Frankema *et al.* (2008) aimed to explain performance differences of knowledge intensive project teams. The questionnaire used in the study by Bijlsma-Frankema (2000) was not used, and the respondents were students. Team-level data were gathered on three different occasions. Antecedents of performance studied were (1) trust in team members, (2) trust in supervisors, and (3) monitoring by team members and monitoring by supervisors. Correlation analysis and structural equation modelling were used to analyze the data. The results showed that heedful interrelating of team members, built on a combination of trust and monitoring by team members and trust in supervisors, was an important factor in promoting team performance.

Warnock *et al.* (2011) showed a direct and significant relationship between the level of employees' trust toward management and desirable outcomes (e.g., organizational effectiveness, continuous and collaborative improvement, organizational citizenship behaviors, and favorable leader-member exchange).

Erdem and Özen-Aytemur (2014) addressed the question of trust in managers, trust in coworkers, and trust in subordinates, and the meaning of trust in a cultural context. The purpose of their study was to determine the dimensions of trust relationships among managers, subordinates, and coworkers in organizations. The research consisted of a qualitative analysis exploring the dimensions and meanings of trust in the framework of varying organizational relationships. Open-ended questionnaires were developed. Subsequently, a questionnaire containing 109 items for three sub-scales (63 items for trust in managers, 24 items for trust in coworkers, 22 items for trust in subordinates) was designed according to a five-point Likert scale. A trust questionnaire was used and data were collected from 550 middle-level managers from

organizations operating in different regions of Turkey. Results from both qualitative and quantitative research methods indicated that the dimensions of trust varied in organizational relationships between managers and subordinates and between coworkers. Erdem and Özen-Aytemur (2014) argued that a culture-specific meaning is attributed to trust. Their study contributed to trust literature by developing three original sub-scales and by indicating that the meaning of trust in organizational relationships is influenced by cultural context. Erdem and Özen-Aytemur (2014) also included the managers’ trust in their subordinates, whereas a number of previous studies studied only the subordinates’ trust in their managers.

Crews (2015) referred to a meta-analysis on trust in leadership by Dirks and Ferrin (2002) which found that the proximity of leaders to employees was more strongly associated with employee outcomes, such as job satisfaction and performance, compared with leaders who were distant. This finding supported the research by Andersen (2005), which focused on why Swedish subordinates trusted their managers. Andersen (2005) found the level of trust to be high among employees who had a close relationship with their manager and among those who could observe the manager’s behavior more directly than could other employees. The concepts of proximity and trustworthiness

also were evident in the research. Senior executives tended to consider ethical formal leaders (managers) to be individuals with whom they had a close working relationship. Many respondents regarded ethical leaders to be those who had influenced their careers before they became senior executives themselves. They were individuals in whom the respondents placed trust and sought guidance during the development of their careers, according to Crews (2015).

Håvold and Håvold (2019) studied how different kinds of power influenced trust and motivation in hospitals. The links between power, trust, and motivation were analyzed. Trust was measured based on the work of Rich (1997). Quantitative data from 137 respondents were collected. Legitimate, referent, and reward power had a positive influence on trust, whereas coercive power had a negative influence on trust. In total, 41.8% of the variation in trust in managers was explained by power. Trust, reward power, and expert power explained 30.9% of the variation in motivation.

5. RESEARCH ON TRUST REVISITED

Table 1 presents antecedents, mediating factors, and consequences of the study object, trust in managers. Six of the nine studies focused on the an-

Table 1: Overview of studies – antecedents, mediating factors, and consequences of trust

| Studies | Antecedents to trust | Mediating factors | Study object: Trust | Consequences of trust |
|--------------------------------|--|---------------------------------------|-------------------------|---|
| Andersen (2005) | Manager’s actions and support | Proximity to subordinates | Degree of trust differs | |
| Bijlsma & van de Bunt (2003) | Managers’ actions | | Degree of trust differs | |
| Bijlsma-Frankema et al. (2008) | | | Trust in managers | Team performance |
| Andersen & Kovac (2012) | Manager’s actions and support | Societal and national characteristics | Degree of trust differs | |
| Rich (1997) | Role modeling | | Trust in managers | Overall performance Job satisfaction |
| Warnock et al. (2011) | The level of employees’ trust in management | | | Organizational outcomes |
| Erdem and Özen-Aytemur (2014) | Managers’ trust in subordinates; subordinates’ trust in managers | Cultural context | | |
| Crews (2015) | Trust | Proximity to subordinates | | Job satisfaction Performance |
| Håvold & Håvold (2019) | Power | | Degree of trust | Motivation |

tecedents or reasons for subordinates' trust in their managers. Two studies focused on the mediating factors of proximity, whereas two studies addressed the mediating factor of national and societal factors. Five studies were concerned with the consequences of subordinates' trust in managers, mainly regarding the performance of teams or organizational performance. Two studies addressed the relationship between trust and job satisfaction and motivation, factors which may have a positive impact on group and organizational performance.

When revisiting the scholarship on trust, it is evident that some questions remain unanswered. Yukl (2010) pointed out that much of the literature on leadership focuses on the relationship between leaders and subordinates even though research has found that managers typically spend considerable time with persons other than direct subordinates or

the manager's superiors. Kotter (1986), Kanter (1983), and Kaplan (1988) addressed the number of individual contacts with whom managers spend time, as well as the networks needed for managers to achieve organizational goals. A manager's network of contacts contains no fewer than 12 groups of people (lateral superiors, peers, lateral juniors, higher executives, boss, direct subordinates, indirect subordinates, officials in government agencies, clients, suppliers, colleagues in the same profession, and important people in the community). The trust that individuals in these groups have in corporate managers needs to be investigated, because this may have dramatic consequences on the performance of their enterprises. Additionally, we need to appreciate the public-private distinction (Rainey, Backoff & Levine, 1976), which urges us ask whether public managers are more or less trusted by their subordinates than are corporate managers.

SUMMARY IN SLOVENE / IZVLEČEK

Namen članka je določiti razloge, na podlagi katerih podrejeni zaupajo svojim vodjem v zasebnih organizacijah. Avtorji so želeli ugotoviti, ali obstajajo nacionalne razlike v stopnji zaupanja podrejenih v njihove vodje. Predstavljene so študije iz dveh evropskih držav, ki so temeljile na istem instrumentu za merjenje zaupanja podrejenih. V obeh študijah je bilo ugotovljeno, da zaupanje temelji na dejanjih vodje ter da se stopnje zaupanja v vodjo razlikujejo. Dokazano je bilo, da morajo vodje s svojimi dejanji pokazati, da zaupajo svojim podrejenim, ponuditi pomoč in smernice ter ustrezno rešiti težave. Omenjena raziskava je predstavila en dejavnik, in sicer razdaljo med podrejenimi in vodjem. Druge študije so pokazale več dejavnikov. Zaupanje v vodjo prinese številne pozitivne posledice, kar je bilo dokazano v drugih študijah. Te so: delovna uspešnost, zadovoljstvo z delom in motivacija podrejenih. Kljub temu vprašanja v povezavi z zaupanjem podrejenih v vodje še vedno ostajajo odprta.

REFERENCES

- Andersen, J.A. (2005). Trust in managers: a study of why Swedish subordinates trust their managers. *Business Ethics - A European Review*, 14 (4), 392-404.
- Andersen, J.A. (2008). Trust. In Marturano, A. & Gosling, J. (Eds.), *Leadership. The key concepts*, pp. 174-178. Routledge, New York.
- Andersen, J.A. & Kovac, J. (2012). Why European subordinates trust their managers. *Journal of Management, Informatics and Human Resources*, 45 (6), 300-309.
- Bass, B. (2008). *The Bass Handbook of Leadership: Theory, Research, and Managerial Applications*. Free Press, New York.
- Barney, J.B. & Hansen, M.H. (1994). Trustworthiness as a source of competitive advantage. *Strategic Management Journal*, 15 (8), 175-190.
- Bhattacharya, R., Devinney, T.M. & Pillutla, M. M. (1998). A formal model of trust based on outcomes. *Academy of Management Review*, 23 (3), 459-472.
- Bijlsma-Frankema, K. (2000). Correlates of trust in a general hospital. In: Rahim, A. Golembiewski, R.T. & Mackenzie, K.D. (Eds.). *Current topics in management*, pp. 141-166. Greenwich, CT: JAI Press.

- Bijlsma, K.M. & van de Bunt, G. (2003). Antecedents to trust in managers: a 'bottom-up' approach. *Personnel Review*, 32, 638-664.
- Bijlsma-Frankema, K. & de Jong, B. & van de Bunt, G. (2008). Heed, a missing link between trust, monitoring and performance in knowledge intensive teams. *The International Journal of Human Resource Management*, 19 (1), 19-40.
- Bleicher, K. (2009). Die Vision von der intelligenten Unternehmung als Organisationsform der Wissensgesellschaft. *Zeitschrift Führung und Organisation*, 78 (2), 72-79.
- Coleman, J.S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.
- Crews, J. (2015). What is an ethical leader? The characteristics of ethical leadership from the perceptions held by Australian senior executives. *Journal of Business and Management*, 21 (1), 29-58.
- Dirks, K.T. (2000). Trust in leadership and team performance: Evidence from NCAA Basketball, *Journal of Applied Psychology*, 85, 1004-1012.
- Dirks, K.T. & Ferrin, D.L. (2002). Trust in leadership: Meta-analytic findings and implication for research and practice. *Journal of Applied Psychology*, 87 (4), 611-628.
- Dirks, K.T. & Skarlicki, D.P. (2004). Trust in leaders: Existing research and emerging issues, in: Kramer, R.M. & Cook, K.S. (eds.): *Trust and distrust in organizations*. New York: Russell Sage.
- Erdem, F. & Özen-Aytemur, J. (2014). Context-specific dimensions of trust in manager, subordinate and co-worker in organizations. *Journal of Arts & Humanities*, 3 (10), 28-40.
- Fleishman, E.A. & Harris, E.F. (1962). Patterns of leadership behavior related to employee grievances and turnover. *Personnel Psychology*, 15 (1), 43-56.
- Fukuyama, F. 1995. *Trust. The social virtues and the creation of prosperity*. New York: Free Press.
- Gambetta, D. (1988). Can we trust? In D. Gambetta (Ed.), *Trust: Making and breaking co-operative relations*: 213-237. Oxford: Basil Blackwell.
- Gilkey, R. (1991). The psychodynamics of upheaval: intervening in merger and acquisitions transitions. In: Kets de Fries, M.F.R. (Ed.), *Organizations on the couch*: 331-361. San Francisco, CA: Jossey-Bass.
- Ghilic-Micu, B. & Stoica, M. (2003). Trust and fear in the virtual organization. *Economy Informatics*, 3 (24), 16-20.
- Håvold, J.I. & Håvold, O.K. (2019). Power, trust and motivation in hospitals, *Leadership in Health Services*, 32 (2), 195-211.
- Kanter, R.M. (1983). *The change masters*. New York: Simon & Schuster.
- Kaplan, R.E. (1988). The warp and woof of the general manager's job. In Schoorman, D.F. & Schneider, B. (Eds.). *Facilitating work effectiveness*, (pp. 183-211). Lexington MA: Lexington Books.
- Kotter, J.P. (1986). *The General Managers*. New York: The Free Press.
- Lou, Y. (2002). Building trust in cross-cultural collaborations: towards a contingency perspective. *Journal of Management*, 28 (5), 669-694.
- Luhmann, N. (1988). Familiarity, confidence and trust: problems and alternatives. In D. Gambetta (Ed.), *Trust: Making and breaking co-operative relations*: 213-237. Oxford: Basil Blackwell.
- Marturano, A. & Gosling, J. (2008). *Leadership. The key concepts*. Routledge, London.
- Mishra, A. (1996). Organizational response to crisis: the centrality of trust. In: Kramer, R.M. & Tyler, T.R. (Eds.), *Trust in organisations: Frontiers of theory and research*: 261-288. Sage: London.
- Morgan, D.E. & Zeffane, R. (2003). Employee involvement, organizational change and trust in management. *International Journal of Human Resource Management*, 14 (1), 55-75.
- Rainey, H.G., Backoff, R.W. & Levine, C.H. (1976). Comparing Public and Private Organizations, *Public Administration Review*, 36 (2), 233-44.
- Rich, G.A. (1997). The sales manager as a role model: effects on trust, job satisfaction and performance of salespeople, *Academy of Marketing Science*, 25 (4), 319-328.
- Robbins, S.P. & DeCenzo, D.A. (2001). *Management*. New Jersey: Prentice Hall.
- Rotter, J.B. (1967). A new scale for measurement of interpersonal trust. *Journal of Personality*, 35, 651-665
- Rotter, J.B. (1971). Generalized expectations for interpersonal trust. *American Psychologist*, 35, 1-17.
- Rousseau, D.M., Sitkin, S.B., Burt, R.S. & Camerer, C. (1998). Not so different after all: a cross-discipline view of trust. *Academy of Management Review*, 23 (3), 393-404.
- Sabel, C.F. (1993). Studied trust: Building new forms of cooperation in a volatile economy. *Human Relations*, 46, 1133-1170.
- Schein, E. (2004). *Organizational culture and leadership*. Jossey Bass, San Francisco, CA.
- Schweer, M. & Thies, B. (2003). *Vertrauen als Organisationsprinzip*. Bern: Hans Huber Verlag.
- Seligman, A.B. (1997). *The Problem of Trust*. Princeton, NJ: Princeton University Press.
- Sheppard, B.H. & Sherman, D.M. (1998). The grammars of trust: a model and general implications", *Academy of Management Review*, 23, 422-437.

- Sitkin, S.B. & Roth, N.L. (1993). Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. *Organization Science*, 4 (3), 367-403.
- Smith, P.B., Peterson, M.F. & Schwartz, S.H. (2002). Cultural values, sources of guidance and their relevance to managerial behaviour: A 47 nation study. *Journal of Cross-Cultural Psychology*, 33 (2), 188-208.
- Smith, P.B., Andersen, J.A., Ekelund, B., Graversen, G. & Ropo, A. (2003). In search of Nordic management styles. *Scandinavian Journal of Management*, 19, 491-507.
- Smith, P.B. & Peterson, M.F. (2005). Demographic effects on the use of vertical sources of guidance by managers in widely differing cultural contexts. *International Journal of Cross Cultural Management*, 5 (1), 5-26.
- Warnock, S.H., Browne, J.H., Gordon, G.A. & Flores, I.B. (2011). Validation of Robinson’s trust scale for use in Mexico. *International Journal of Business Competition and Growth*, 1 (3), 202–216.
- Whitener, E.M., Brodt, S.E., Korsgaard, M.A. & Werner, J.M. (1998). Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behavior”, *Academy of Management Review*, 23, 513-530.
- Zeffane, R. & Connell, J. (2003). Trust and HRM in the new millennium. *International Journal of Human Resource Management*, 14 (1), 1-11.



**The Slovenian
Academy of Management**
The Slovenian Academy of Management
Kardeljeva ploščad 17
1000 Ljubljana
Slovenia

University of Ljubljana



The Slovenian Academy of Management,
together with *School of Economics and Business, University of Ljubljana*, and
Faculty of Economics and Business, University of Zagreb
is announcing its

6th International Conference on Management and Organization:

INTEGRATING ORGANIZATIONAL RESEARCH: INDIVIDUAL, TEAM, ORGANIZATIONAL AND MULTILEVEL PERSPECTIVES

to be held on June 11-12, 2020 in Bled, Slovenia

SINGLE- AND CROSS-LEVEL ORGANIZATIONAL RESEARCH: THEORY, METHOD AND PRACTICE

Organizations are multilevel social systems where (1) diverse employees are assigned to various jobs, embedded in multiple dyadic relationships and expected to play diverse team roles; (2) functional and/or cross-functional teams integrate individual efforts and develop intra- and intergroup dynamics; and (3) multiple departments and business processes nested within or spanning across organizational boundaries deliver value through mutual interaction. In addition, as organizations are not static entities but series of ongoing actions and recurring processes, all of these layer-specific subjects also exist across time, thus drawing our attention to time horizon as another highly relevant level of analysis.

Whereas the managerial priority in the globally digitalized world is to execute competitive strategic initiatives and achieve challenging business goals by vigilantly managing and continuously improving dynamic interactions between organizational system levels, the majority of scholars still populate

disciplinary, specialized micro (organizational behavior and organizational psychology), meso (social psychology, business process management, project management) or macro (strategic management, organizational theory and design, engineering/systems management) research camps. These different thought worlds – each traditionally focused on studying organizational phenomena at different units/levels of analysis (i.e. individual/job, team/unit and organization/system) – will certainly stay strong and continue to offer valuable domain-specific insights. Nevertheless, single-level perspectives might also be incomplete and thus not always adequate for addressing the rising complexity of organizational life.

Fortunately, we are witnessing an ever-increasing amount of multilevel research in organizational studies that integrates delineated research domains and offers new lenses for understanding business practice. For instance, organizational/industrial psychologists – primarily focusing on individuals and small groups – started to investigate macro-organizational behavioral issues. Likewise, organizational/work sociologists and

strategy/management scholars – mostly concerned with system-wide problems and organizational and/or industry-level issues – are showing interest in the micro-foundations of strategic management and organizational configurations across multiple levels. What is promising is that the need to bridge the macro-micro divide has been recognized by organizational science, particularly within certain research subdomains such as human resource management, leadership, organizational behavior, innovation management and organizational learning. Recent methodological advances in multilevel modeling certainly represent an additional push in putting the issue of levels upfront in scholarly discussions.

Following the key assumption of multilevel organizational research that various phenomena can be better explained by combining factors at different levels of analysis, the purpose and scope of this conference is to identify, discuss and grapple with single- and cross-level theory, research and method issues, so as to make substantive progress in our understanding of the multilevel nature of organizations. We strive to provide much needed synthesis of underlying theories and methodological approaches within the loosely-coupled community of organizational scholars by taking account of the fact that micro phenomena are embedded in macro contexts, while macro phenomena often emerge through the interaction and dynamics of lower-level elements. Such an approach may add depth and richness to our theoretical reasoning and likewise improve conversations between researchers and practitioners, by providing insightful details concerning how organizations operate and behave.

PLENARY and KEYNOTE SPEAKERS

We are proud to have some highly distinguished world-leading scholars as our plenary and keynote speakers.

| | |
|------------------|---|
| Plenary speakers | <ul style="list-style-type: none"> • Arnold B. Bakker, Erasmus University Rotterdam • James M. LeBreton, Penn State University |
| Keynote speakers | <ul style="list-style-type: none"> • Oliver Baumann, University of Southern Denmark • Kim van Oorschot, BI Norwegian Business School • Kristina Potočnik, University of Edinburgh Business School |

TRACK THEMES and TOPICS

We hope to encourage discussion around the multilevel issues in organization and management through the following track themes and related (non-exclusive) list of topics:

Track A: *Strategy and organization design* (track chair: Ana Aleksić Mirić)

- Organizational configurations
- Strategy execution and renewal
- Micro-foundations of strategic management
- Inter- and intra-organizational networking
- Complementarity of dynamic/ordinary capabilities
- Corporate and business diversification
- Dynamics of organizational (mis)fits
- Ambidexterity in multiunit contexts
- Technological developments and emerging business models
- Macroeconomic aspects of industry dynamism and organizational change

Track B: *Business process management and project organizing* (track chair: Amy van Looy)

- Intra-organizational and inter-organizational process maturity
- Integrative project management
- Orchestrating individual creativity and team innovation
- Temporal challenges of project teamwork
- Integrating multiple roles and teams in organizations
- Multilevel perspective of business process management
- Digitalization of business process management
- Aligning organizational BPM efforts
- Process and project intelligence
- Knowledge transfer during team lifecycle

Track C: *HRM and organizational behavior* (track chair: Sabina Bogilović)

- Idiosyncratic versus universal HRM systems
- Team-level job design
- Knowledge hiding within and across organizations
- HR and workforce differentiation
- Personality development across the lifetime
- Temporal aspects of organizational behavior and work performance
- Culture across levels
- Developmental aspects of job design
- Multilevel organizational interventions
- Leader-member exchange within and across teams

Track D: Cross-level issues in organization and management (track chair: Robert Kaše)

- Organizational heterogeneity across levels
- Emergent processes in organizations
- Advances in multilevel measurement
- Bibliometric analysis of multilevel research
- Temporal perspective of multilevel research
- Single versus multilevel research.
- Organizational heterogeneity across levels
- Methodological concerns in multilevel modeling
- Macro-micro divide in organizational research
- Multilevel theories of organization
- Practical implications of multilevel research

SUBMISSION GUIDELINES and PUBLICATION OPPORTUNITIES

Papers and discussions will not be restricted to aforementioned topics; manuscripts connecting different track themes are also invited. Papers from organization science, management, organizational and work psychology, sociology of work and organizations, computer science, information systems, and other fields are welcome since the conference promotes an interdisciplinary approach. Theoretical and empirical papers employing qualitative or quantitative methods, as well as work-in-progress, PhD research and practical cases are all welcome.

We encourage authors to submit **extended abstracts** (not exceeding 500 words; excluding title, authors' information and references). The first page of the extended abstract should include the title, authors' affiliations as well as track theme of preference.

Extended abstracts should follow the predetermined structure and should include the following:

- Theoretical background
- Purpose of study
- Method
- Findings
- Theoretical contribution
- Practical implications
- Keywords

Abstracts may be submitted as a .pdf file, .doc file or .docx file. The number of submissions is limited to one individual paper, one individual and one co-authored paper or two co-authored papers per person. The submission of abstracts will take place via conference SAM 2020 internet site.

Papers accepted for the conference are to be published in the **conference proceedings**. You are not required to submit a full paper. However, high quality extended abstracts will be considered for publication in either the **Dynamic Relationships Management Journal** published by the Slovenian Academy of Management (SAM) or be invited for submission to a forthcoming special issue of the **European Management Journal** (the call announcement is scheduled for April 2020). Poster sessions might be organized if we receive a larger number of high-quality submissions.

VENUE, IMPORTANT DATES, and FEES

Please note the following key deadlines:

- Formal announcement of the conference and call for papers: **September 2019**
- Submission of extended abstracts: **February 15, 2020**
- Decision on extended abstracts (with feedback and reviewers' comments): **March 31, 2020**
- Registration: **April – May 2020**
- Conference: **11–12 June, 2020**

Registration fee:

| | Early bird (paid until April 30, 2020) | Full (paid until June 5, 2020) |
|--------------------|--|--------------------------------|
| Members of SAM | 190 EUR | 230 EUR |
| Not Members of SAM | 250 EUR | 290 EUR |
| PhD Students* | 175 EUR | 200 EUR |
| Master Students* | 100 EUR | 115 EUR |

* Discounted fees do not include conference gala dinner

Registration fee covers conference proceedings, refreshments during breaks, lunch, farewell lunch, and conference gala dinner.

Conference venue:

Hotel Astoria (Prešernova 44, 4260 Bled, <https://www.hotelastoria-bled.com/welcome>) – a hotel at a prime location in the center of Bled (the most visited place in Slovenia with one of the most beautiful glacial lakes in Europe located about 50 km northwest from the capital Ljubljana, <http://www.bled.si/en/>).

More information on the conference venue, payments and accommodation can be found on conference SAM 2020 internet site (<http://sam-d.si/en/konferenca/6th-international-conference-on-management-and-organization/>).

THE PROGRAM COMMITTEE

Saša Batistič, Tilburg University, the Netherlands

Sabina Bogilović, University of Ljubljana, Faculty of Administration, Slovenia

Marjolein Cäniels, Open University, Faculty of Management, Science and Technology, the Netherlands

Xavier Castaner, HEC Lausanne, Switzerland

Matej Černe, University of Ljubljana, School of Economics and Business, Slovenia

Zvonimir Galić, University of Zagreb, Faculty of Social Sciences, Croatia

Ante Glavaš, University of Vermont, USA

Luca Giustiniano, LUISS Guido Carli University, Italy

Dietfried Globocnik, Alps-Adria-University Klagenfurt, Austria

Tomislav Hernaus, University of Zagreb, Faculty of Economics and Business, Croatia

Robert Kaše, University of Ljubljana, School of Economics and Business, Slovenia

Rūta Kazlauskaitė, ISM University of Management and Economics, Lithuania

Maja Klindžić, University of Zagreb, Faculty of Economics and Business, Croatia

Amy van Looy, Ghent University, Faculty of Economics and Business Administration, Belgium

Ivan Matić, University of Split, Faculty of Economics, Croatia

Jan Mendling, Vienna University of Economics and Business, Austria

Katarina Katja Mihelič, University of Ljubljana, School of Economics and Business, Slovenia

Ana Aleksić Mirić, University of Belgrade, Faculty of Economics, Serbia

Jose F. Molina-Azorin, University of Alicante, Spain

Kristina Potočnik, University of Edinburgh Business School, Scotland

Aleša Saša Sitar, University of Ljubljana, School of Economics and Business, Slovenia

Thomas Steger, University of Regensburg, Germany

Karoline Strauss, ESSEC Business School, France

Miha Škerlavaj, University of Ljubljana, School of Economics and Business, Slovenia & BI Norwegian Business School, Norway

Peter Trkman, University of Ljubljana, School of Economics and Business, Slovenia

Jordi Trullen, Ramon Llull University, ESADE Business School, Spain

Sut I Wong, BI Norwegian Business School, Norway

CONFERENCE HIGHLIGHTS

- Distinguished (plenary and keynote) speakers
- High-quality reviews
- Meet the Editors' session
- Best paper award
- Academic meet-up session
- Conference gala dinner

ORGANIZERS and CONTACT DETAILS

The conference is organized by **the Slovenian Academy of Management (SAM)** in cooperation with the *School of Economics and Business (University of Ljubljana, Slovenia)* and *Faculty of Economics and Business (University of Zagreb, Croatia)*.

Contact persons:

- **Aleša Saša Sitar**, University of Ljubljana, School of Economics and Business (Organizing committee chair), alesa-sasa.sitar@ef.uni-lj.si
- **Tomislav Hernaus**, University of Zagreb, Faculty of Economics and Business (Program committee chair), thernaus@efzg.hr



ABOUT CONFERENCE SPEAKERS



Arnold B. Bakker

Professor of Work and Organizational Psychology

📖 job demands-resources model, flow, work engagement, virtues and strengths

★ Past president of the European Association of Work and Organizational Psychology; published in *Journal of Organizational Behavior*, *Journal of Applied Psychology*, *Journal of Vocational Behavior*, *Organizational Dynamics*



James LeBreton

Professor of Psychology

📖 personality and behavior in organizations, development and application of new statistics (including multilevel modeling)

★ Co-editor of the *Handbook of multilevel theory, measurement, and analysis*; published in *Journal of Applied Psychology*, *Journal of Management*, *Journal of Organizational Behavior*, *Journal of Business and Psychology*



Oliver Baumann

Professor of Strategic Organization Design

📖 organization design, organizing for innovation, organizational adaptation and learning, behavioral micro-foundations of strategy, computational modeling

★ published in *Administrative Science Quarterly*, *Journal of Management*, *Strategic Management Journal*, *Organization Science*



Kim van Oorschot

Professor of Project Management & System Dynamics

📖 decision-making, trade-offs and tipping points in dynamically complex settings, product development projects

★ published in *Academy of Management Journal*, *Journal of Management Studies*, *Journal of Product Innovation Management*, *Project Management Journal*



Kristina Potočnik

Senior Lecturer in Human Resource Management

📖 innovation and creativity in the workplace, leadership, teamwork, managing aging workforce, early retirement

★ published in *Journal of Management*, *Organization Science*, *European Management Journal*, *Journal of Occupational and Organizational Psychology*

We are looking forward to welcoming you in June 2020 for SAM conference in Bled, Slovenia!

AUTHOR GUIDELINES

1. GENERAL INFORMATION

All articles submitted to the Dynamic Relationships Management Journal are double-blind reviewed. The manuscript should be saved in Adobe Portable Document Format (PDF) and submitted via e-mail to the editor (matej.cerne@ef.uni-lj.si). PDF files allow automatic file compression, file concatenation, and (more importantly) manuscripts to have an identical appearance when viewed on almost any computer. Send two PDF files: one that contains author contact information along with the text, references, tables, figures, and exhibits; and one where author contact information will be deleted. Authors should keep an exact, extra copy of the manuscript for future reference.

Manuscripts are reviewed with the understanding that they are original, not under consideration by any other publisher, have not been previously published in whole or in part, have not been previously accepted for publication, and will not be submitted elsewhere until a decision is reached regarding their publication in the Dynamic Relationships Management Journal.

Manuscripts must be written in English. Authors are responsible for the quality of written English and proof reading of the text is required.

Manuscripts should be double-spaced (including references) in 12 point font, with pages numbered consecutively throughout the entire paper. (The title page is page one.) Text alignment should be justified. Margins should be one inch (2.5 cm) at the top, bottom and sides of the page. Manuscripts inclusive of all text, references, tables, figures, appendices etc. should be no longer than 30 pages and should not exceed 60.000 characters including spaces. Authors should provide a summary, which will be published in Slovene (for foreign authors, translation will be provided by editors).

Manuscripts that report quantitative analyses of data should typically include descriptive statistics, correlation matrices, the results of statistical tests and so forth. If these items are not included in the manuscript, they should be reported in a separate technical appendix. Authors of manuscripts that report data dependent results also must make available, upon request, exact information regarding their procedures and stimuli (excluding data).

If we receive files that do not conform to the above requirements, we will inform the author(s) and we will not begin the review process until we receive the corrected files.

The author(s) submitting the manuscript for review should clearly indicate to the editor the relation of the manuscript under review to any other manuscripts currently under review, in press or recently published by the authors. The editor may ask the authors to submit copies of such related papers to the Editorial Board.

2. GENERAL INSTRUCTIONS

1. First page: Name of author(s) and title; author(s) footnote, including present positions, complete address, telephone number, fax number, email address, and any acknowledgment of financial or technical assistance.
2. Second page: Title of paper (without author's name) and an abstract of no more than 250 words substantively summarizing the article. Also include up to six keywords that describe your paper for indexing and for web searches in your manuscript.

3. Next: Text alignment justified with major headings and subheadings flush with the left margin. The introduction should state clearly the objective of the paper as well as the motivation and the context of the research. The literature review should be limited to the articles, books and other items that have a direct bearing on the topic being addressed. In empirical papers, details of the empirical section tests should not be included in the paper itself. The conclusion should summarize key findings and state their importance to the field. Footnotes should be kept to an absolute minimum and must be placed at the foot of the page to which they refer. They should not be used for citing references.
4. Then: Tables, numbered consecutively, each on a separate page. If tables appear in an appendix, they should be numbered separately and consecutively, as in Table A-1, A-2, and so on.
5. Next: Figures, numbered consecutively, each placed on a separate page. If tables appear in an appendix, they should be numbered separately, as in Figure A-1, A-2, etc.
6. After conclusion: Longer summary (1-2 pp, depending on length of article) in Slovenian language (for foreign authors, translation will be provided by editors).
7. Last: References, typed in alphabetical order by author's last name and in APA style.

3. TABLES

1. The table number and title should be centered and placed above the table.
2. Source(s) should also be provided and centered below the table: i.e. Mabey & Gooderham, The impact of management development on perceptions of organizational performance in European firms, 2005: 136.
3. Designate units (e.g., %, \$) in column headings.
4. Align all decimals.
5. Refer to tables in the text by number only. Do not refer to tables by "above," "below," and "preceding."
6. If possible, combine closely related tables.
7. Clearly indicate positions of tables within the text on the page where they are introduced: e.g. Table 1 about here.
8. Measures of statistical significance should be reported within the table.

4. FIGURES, PHOTOGRAPHS AND CAMERA-READY ARTWORK

1. For graphs, label both vertical and horizontal axes. The ordinate label should be centered above the ordinate axis; the abscissa label should be placed beneath the abscissa.
2. Place all calibration tics inside the axis lines, with the values outside the axis lines.
3. The figure number and title should be typed on separate lines, centered and placed above the figure.
4. When appropriate, source(s) should also be provided and centered below the figure (see example under the Tables section).
5. Clearly indicate positions of figures within the text on the page where they are introduced.

6. Once a manuscript has been accepted for publication, complex tables and all figures must be submitted both electronically and as camera-ready (hard) copy. Do not embed figures in the Word file; instead, submit them separately in the program in which they were created (i.e., PDF, PowerPoint, Excel).
7. Lettering should be large enough to be read easily with 50% reduction.
8. Any art not done on a computer graphics program should be professionally drafted in India ink.
9. Do not submit photographs or camera-ready art until your manuscript has been accepted. If the photograph or artwork is completed, submit copies.

5. MATHEMATICAL NOTATION

1. Mathematical notation must be clear and understandable. Since not all journal readers are mathematically proficient, the authors should ensure that the text (i.e., words) also conveys the meaning expressed by the mathematical notation. We recommend that extensive mathematical notation (e.g., proofs) should be provided in a separate technical appendix.
2. Equations should be centered on the page. Equations should be numbered; type the number in parentheses flush with the left margin. If equations are too wide to fit in a single column, indicate appropriate breaks.

Unusual symbols and Greek letters should be identified by a note.

6. REFERENCE CITATIONS WITHIN THE TEXT

Cite all references at the appropriate point in the text by the surname of the author(s), year of publication, and pagination where necessary. Pagination (without 'p.' or 'pp.') to give the source of a quotation or to indicate a passage of special relevance, follows the year of publication and is preceded by a colon, i.e. Parsons (1974: 238). Page numbers should be given full out, i.e. 212-230 not 212-30. When providing quotes, these should be in italics. In general, references to published works must be cited in text according to the guidelines for APA style (for more information see the DRMJ website).

7. REFERENCE LIST STYLE

1. **Single Author:** Last name first, followed by author initials.
Berndt, T. J. (2002). Friendship quality and social development. *Current Directions in Psychological Science*, *11*, 7-10.
2. **Two Authors:** List by their last names and initials. Use the ampersand instead of "and."
Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: The hedonic contingency hypothesis. *Journal of Personality & Social Psychology*, *66*, 1034-1048.
3. **Three to Six Authors:** List by last names and initials; commas separate author names, while the last author name is preceded again by ampersand.
Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology*, *65*, 1190-1204.

4. Organization as Author

American Psychological Association. (2003).

5. Unknown Author

Merriam-Webster's collegiate dictionary (10th ed.)(1993). Springfield, MA: Merriam-Webster.

6. Two or More Works by the Same Author: Use the author's name for all entries and list the entries by the year (earliest comes first).

Berndt, T. J. (1981).

Berndt, T. J. (1999).

References that have the same first author and different second and/or third authors are arranged alphabetically by the last name of the second author, or the last name of the third if the first and second authors are the same.

For other examples, see the DRMJ website.