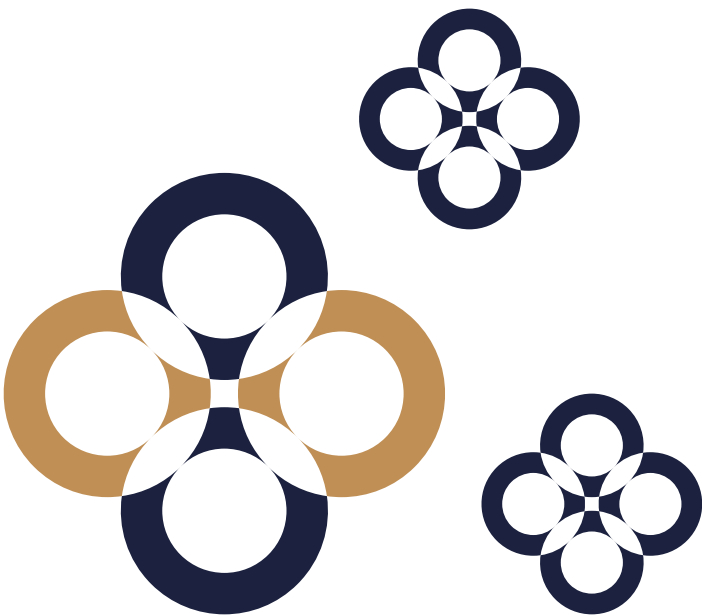


Quarterly Corvinus Research Highlights

April - June
2023





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FOREWORD



Dear Colleagues,

I am thrilled to introduce the Summer 2023 edition of the Quarterly Corvinus Research Highlights. The latest issue presents an impressive collection of 21 exceptional journal articles, accompanied by 7 book chapters published by esteemed members of the Corvinus Faculty.

The selection criteria for the journal articles were as follows: 1) publication in international Q1 journals, 2) inclusion in the Hungarian Scientific Bibliography Database (MTMT) between April and June 2023, 3) affiliation with Corvinus University, 4) a minimum Corvinus authorship rate of 20%, and 5) categorization as an article or review.

To ensure your work is considered for future editions of the Quarterly Corvinus Research Highlights, it is of utmost importance to upload them to MTMT.

Additionally, the Quarterly Corvinus Research Highlights include seven book chapters from publishers evaluated under the Corvinus Research Excellence Award (CKK) criteria, with a minimum Corvinus authorship rate of 20%.

The meticulous curation of the Highlights was overseen by a Committee led by Tamara Keszey, Vice-Rector for Research. Alongside her, Committee members Valentin Brodszky, Tamás Kristóf, and Tamás Kocsis represented the Institutes, with the valuable contribution of Zsuzsanna Nagy, Director General of the University Library.

The journal articles are thoughtfully organized based on their journal rankings, while the book chapters are presented alphabetically according to the author's name.

My heartfelt appreciation goes out to our dedicated authors and team members for their invaluable contributions. Your work has made a significant impact and has been instrumental in shaping the future of our academic community. Thank you for being an integral part of our journey towards innovation and discovery.

I strongly encourage you to explore [our website](#) and delve into more about CUB's research, development, and innovation endeavors. This presents an exceptional opportunity to gain insights into a wide range of projects and delve into the groundbreaking discoveries that are shaping our academic landscape.

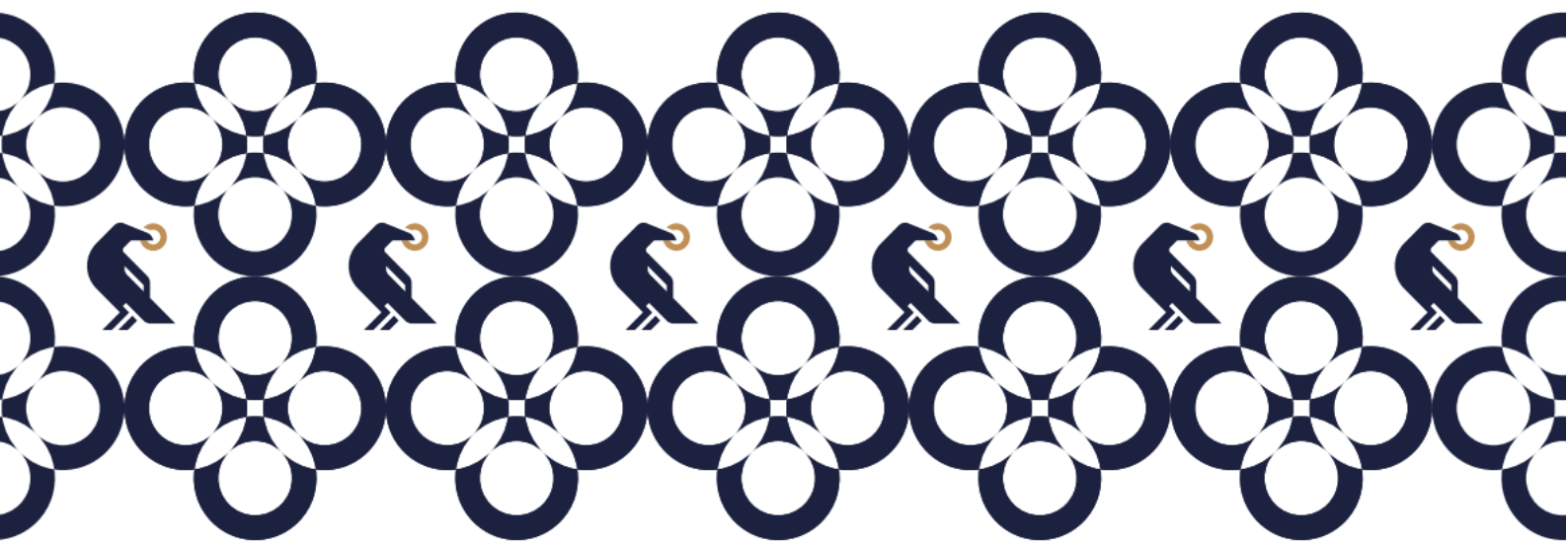
Sincerely,

Dr Tamara Keszey

Vice-Rector for Research

Habilitated Associate Professor

JOURNAL ARTICLES



01 Uniqueness of Clearing Payment Matrices in Financial Networks

PETER, CSOKA; P. JEAN-JACQUES, HERINGS

Mathematics of Operations Research (2023)

We study bankruptcy problems in financial networks in the presence of general bankruptcy laws. The set of clearing payment matrices is shown to be a lattice, which guarantees the existence of a greatest clearing payment and a least clearing payment. Multiplicity of clearing payment matrices is both a theoretical and a practical concern. We present a new condition for uniqueness that generalizes all the existing conditions proposed in the literature. Our condition depends on the decomposition of the financial network into strongly connected components. A strongly connected component that contains more than one agent is called a cycle, and the involved agents are called cyclical agents. If there is a cycle without successors, then one of the agents in such a cycle should have a strictly positive endowment. The division rule used by a cyclical agent with a strictly positive endowment should be positive monotonic, and the rule used by a cyclical agent with a zero endowment should be strictly monotonic. Because division rules involving priorities are not positive monotonic, uniqueness of the clearing payment matrix is a much bigger concern for such division rules than for proportional ones. As a final contribution of the paper, we exhibit the relationship between the uniqueness of clearing payment matrices and the continuity of bankruptcy rules, a property that is very much desired for stability of financial systems.

[Link to Paper](#)

02 Digital traces of brain drain: developers during the Russian invasion of Ukraine

JOHANNES, WACHS

EPJ Data Science 2023 12: 14

The Russian invasion of Ukraine has caused large scale destruction, significant loss of life, and the displacement of millions of people. Besides those fleeing direct conflict in Ukraine, many individuals in Russia are also thought to have moved to third countries. In particular the exodus of skilled human capital, sometimes called brain drain, out of Russia may have a significant effect on the course of the war and the Russian economy in the long run. Yet quantifying brain drain, especially during crisis situations is generally difficult. This hinders our ability to understand its drivers and to anticipate its consequences. To address this gap, I draw on and extend a large scale dataset of the locations of highly active software developers collected in February 2021, one year before the invasion. Revisiting those developers that had been located in Russia in 2021, I confirm an ongoing exodus of developers from Russia in snapshots taken in June and November 2022. By November 11.1% of Russian developers list a new country, compared with 2.8% of developers from comparable countries in the region but not directly involved in the conflict. 13.2% of Russian developers have obscured their location (vs. 2.4% in the comparison set). Developers leaving Russia were significantly more active and central in the collaboration network than those who remain. This suggests that many of the most important developers have already left Russia. In some receiving countries the number of arrivals is significant: I estimate an increase in the number of local software developers of 42% in Armenia, 60% in Cyprus and 94% in Georgia.

[Link to Paper](#)

03

Universal preschool and cognitive skills - the role of school starting age as a moderating factor

**DÁNIEL, HORN; ÁGNES, SZABÓ-MORVAI; ANNA, LOVÁSZ;
KRISTOF, DE WITTE**

Early Childhood Research Quarterly 2023 64: 278-289

Previous empirical evidence is mixed regarding the impact of universal preschool on cognitive skills. We show that preschool enrollment can impact test scores positively if it does not lead to earlier school enrollment. We examine rich student data and use different enrollment cutoff dates in Hungary to separate the beneficial direct effect of earlier preschool enrollment from a negative indirect effect that may occur through earlier school enrollment. We find significant direct impacts: 6th-grade reading (math) test scores increase by 9.0 (6.3) percent of a standard deviation for children who enroll in preschool a year earlier. This impact persists through 10th grade and is larger among disadvantaged children. The findings support the importance of universal preschool for improving cognitive skills and equity. They highlight a key consideration for policy evaluation and design and help reconcile ambiguities in the previous empirical evidence.

[Link to Paper](#)

04

Health utilities and willingness to pay in adult patients with coeliac disease in Hungary

BALÁZS, JENEI; VALENTIN, BRODSZKY; FANNI, RENCZ, MÁRIA M., ANGYAL; PÉTER L., LAKATOS

Quality of Life Research (2023): 1-14.

Background

Coeliac disease (CD) is a life-long food-related disorder with a global prevalence of approximately 1%. Patients with CD often experience reduced health-related quality of life that could improve with a strict adherence to a gluten-free diet (GFD).

Objectives

To obtain visual analogue scale (VAS), time trade-off (TTO) and willingness-to-pay (WTP) values amongst patients with CD.

Methods

In 2020–2021, a cross-sectional online survey was conducted amongst 312 adult CD patients in Hungary. Patients completed the Gastrointestinal Symptom Rating Scale (GSRS) and evaluated their current health and three hypothetical health state vignettes defined based on dietary adherence using VAS, conventional 10-year TTO and WTP. Multivariate regressions were used to explore the effect of patients' demographic and clinical characteristics on utility and WTP values.

Results

Mean VAS values for current health and 'CD with strict adherence to GFD', 'CD with loose adherence to GFD' and 'CD without GFD' hypothetical health states were 79.69 ± 18.52 , 85.36 ± 16.18 , 62.44 ± 19.91 and 36.69 ± 25.83 , respectively. Corresponding mean TTO utilities were: 0.90 ± 0.19 , 0.91 ± 0.20 , 0.87 ± 0.23 and 0.76 ± 0.29 . Mean annual WTP values for returning to full health were: €845 ± 1077, €648 ± 1002, €862 ± 1135 and €1251 ± 1496. Older age at diagnosis, male sex, more severe gastrointestinal symptoms (GSRS) and having comorbidities were associated with lower VAS and TTO or higher WTP values for current own health ($p < 0.05$).

Conclusion

This is the first study to report TTO utilities for CD health states. Strict adherence to the GFD may result in substantial health gains in symptomatic patients. Utilities and WTP results can be used to estimate benefits of GFD in cost-utility and cost-benefit analyses.

[Link to Paper](#)

05

Determinants of using formal vs informal financial sector in BRICS group

NOKULUNGA, MBONA; KLÁRA, MAJOR

Finance Research Letters 2023 55: 103956

The determinants of the usage of the formal versus the informal financial sector within the BRICS countries are analysed. Regression tree and probit methods are applied to a subset of observations from the 2021 Global Findex database. Results of these different methods are robust and complement each other. The main findings are: (a) Individuals with regular income has higher probability of using the formal financial sector; (b) There is a nonlinear relationship with age and the financial sector channels, individual above 36 are less likely to use the informal channel but are more likely to use the formal channel.

[Link to Paper](#)

06

The incomplete analytic hierarchy process and Bradley–Terry model: (In)consistency and information retrieval

ZSOMBOR, SZÁDOCZKI; SÁNDOR, BOZÓKI; LÁSZLÓ, GYARMATI;
ÉVA, MIHÁLYKÓNÉ ORBÁN; LAJOS CSABA, MIHÁLYKÓ

Expert Systems with Applications 2023 229: 120522

Several methods of preference modeling, ranking, voting and multi-criteria decision-making include pairwise comparisons. It is usually simpler to compare two objects at a time, furthermore, some relations (e.g., the outcome of sports matches) are naturally known for pairs. This paper investigates and compares pairwise comparison models and the stochastic Bradley–Terry model. It is proved that they provide the same priority vectors for consistent (complete or incomplete) comparisons. For incomplete comparisons, all filling in levels are considered. Recent results identified the optimal subsets and sequences of multiplicative/additive/reciprocal pairwise comparisons for small sizes of items (up to $n=6$). Simulations of this paper show that the same subsets and sequences are optimal in the case of the Bradley–Terry and the Thurstone models as well. This somehow surprising coincidence suggests the existence of a more general result. Further models of information and preference theory are subject to future investigation to identify optimal subsets of input data.

[Link to Paper](#)

07

Anti-democratic youth? The influence of youth cohort size and quality of democracy on young people's support for democracy

GODFRED BONNAH, NKANSAH; ATTILA, BARTHA

Contemporary Politics 2023

This paper aims to investigate whether a country's youth cohort size and quality of democracy, independently and jointly predict young people's propensity to support democracy as a political system. We use pooled data from World Values Survey Waves 5–7, comprising 81 country-waves with 25,125 observations from 39 established and new democracies, in multilevel binary logistic regression analyses. The paper finds evidence that firstly, against conventional expectations, a large youth cohort exerts a positive influence on young people's support for democracy as a political system. Secondly, the effect of youth cohort size depends on the quality of democracy of countries: young people growing as part of the youth cohorts in established democracies show stronger propensities to support democracy than their peers in new democracies. This has implications for both theory and empirical research.

[Link to Paper](#)

08

Crises as incubators of sustainable mobility patterns?

MÁRIA, CSUTORA; ÁGNES, ZSÓKA

Sustainable Development 2023

This paper promotes our understanding of how crises accelerate systemic sustainability-related changes in our transforming societies using the example of mobility. Not only is the magnitude of the mobility carbon footprint large, but its dynamics make reducing it very challenging. Our paper addresses the impact of crises on the transformation of mobility patterns, including short-distance mobility and holiday tourism. A first study was conducted after the 2008–2010 crisis using focus-group participatory systems mapping. This found that when people are forced to change their habits for financial reasons, they adapt holiday travel first. Nonetheless, participants were just as satisfied with domestic destinations, provided they could spend time with loved ones. The second study focused on the COVID-19 crisis. Participants missed foreign travel, so some rebound seems inevitable. However, the crisis has been an incubator of changes in urban mobility that could reduce carbon footprints in the longer term and offset the prospective increase in tourism. Recent changes have been more profound and innovative than those during the 2008–2010 crisis.

[Link to Paper](#)

09

The Fabulous East

TIMOTHY, HAVENS

International Journal of Communication 2023 17: 3189–3206

Major media industries across the world are increasingly shooting in studios and locations of less wealthy nations to save money. Using the case of high-end, streaming fantasy television series, which are often produced in Central and Eastern Europe, this essay develops the concept of “peripheral media capitals,” or cities that have become major sites for servicing foreign media productions, especially Hollywood productions. Based on fieldwork conducted in Budapest, Hungary, I show how peripheral media capitals across the region are at the confluence of economic, political, physical, and cultural geographies that have allowed them to establish competitive advantages in certain genres of television, particularly the high-fantasy genre. Investigating high-fantasy television production in Budapest reveals how a chain of regional peripheral media capitals must work together to service the insatiable needs of the global media industries and, through that process, attain a relatively durable competitive advantage.

[Link to Paper](#)

10

Unified Approach of Interior-Point Algorithms for $P_*(\kappa)$ -LCPs Using a New Class of Algebraically Equivalent Transformations

TIBOR ILLÉS; PETRA RENÁTA, RIGÓ; ROLAND, TÖRÖK

Journal of Optimization Theory and Applications (2023)

We propose new short-step interior-point algorithms (IPAs) for solving $P_*(\kappa)$ -linear complementarity problems (LCPs). In order to define the search directions, we use the algebraic equivalent transformation (AET) technique of the system describing the central path. A novelty of the paper is that we introduce a whole, new class of AET functions for which a unified complexity analysis of the IPAs is presented. This class of functions differs from the ones used in the literature for determining search directions, like the class of concave functions determined by Haddou, Migot and Omer, self-regular functions, eligible kernel and self-concordant functions. We prove that the IPAs using any member φ of the new class of AET functions have polynomial iteration complexity in the size of the problem, in starting point's duality gap, in the accuracy parameter and in the parameter κ .

[Link to Paper](#)

11

An insatiable hunger for charisma?

RUDOLF TAMÁS, METZ; BENDEGÚZ, PLESZ

Leadership 2023 19(4): 318-338

While scholarship often assumes that strong leaders and charismatic leadership play an important role in the emergence of populist politics, research has missed a closer exploration of charisma attribution to populists. Addressing this charismatic leadership hypothesis requires populism and charisma to be analysed from the followers' perspective. This article takes a unique look at the social-psychological dynamics behind populism. Using quantitative survey data that was collected from Hungarian voters (N = 1200), this article examines the relationship between populist attitudes as follower characteristics in modern politics and charisma attribution. To reveal how a populist worldview can affect the follower's expectations and perceptions, we break charisma attribution down into three phases: (1) the general hunger for charisma (the romance of leadership); (2) perceptions of charismatic behaviour of the top candidates in the 2022 Hungarian parliamentary elections (i.e., Viktor Orbán and Péter Márki-Zay); and (3) emotional attachment to these leaders. Our findings show that populism makes people more hungry for charisma and more sensitive to recognising charismatic behaviour but does not necessarily create an emotional bond with specific leaders. This article also sheds light on some directions of future research to explore other distinctive characteristics of populist followers that can influence social constructions of charismatic leadership. The limitations and implications are also discussed.

[Link to Paper](#)

12

The roles of geographic indication and ethnocentrism in the preferences of Central European spirit consumers

ZALÁN MÁRK, MARÓ; ÁRON, TÖRÖK; PÉTER, BALOGH; PÉTER, CZINE

Food Quality and Preference 2023 108: 104878

The purpose of this study is to examine consumer preferences towards a Central European alcoholic beverage possessing a Geographical Indication (GI), paying special attention to the role of ethnocentrism in decision-making. Pálinka is one of the best-known products in Hungary, and the regulation and perception of the product have undergone significant changes in recent years. A total of 1,000 Hungarian consumers, taken to be representative of the Hungarian alcohol consumer population, participated in the study using an online survey. A discrete choice model was applied, including a latent variable (ethnocentrism). Willingness to pay (WTP) calculations were also carried out for the product attributes examined. The presence of the most important identified product attributes (brand, GI, production method) indicated on the bottle all have a positive effect on consumer preferences; moreover, higher WTP also applies. As the level of ethnocentrism increases, the level of utility ascribed to the GI-labelled product also increases. The level of ethnocentrism is significantly higher among respondents over 60 and lower among those with higher education and who are urban. In previous literature, very little attention has been given to discrete choice experiments (DCEs) on alcoholic products, even in the case of pálinka's direct competitors (mainly whisky and vodka). Our study, however, clearly indicates that it is possible to segment the market based on different product attributes and ethnocentrism.

[Link to Paper](#)

13

Micro-coopetition: conceptualizing and operationalizing coopetitive managerial decision-making over time—a game theoretic approach

ANDREA, GELEI; IMRE, DOBOS

Review of Managerial Science (2023)

The purpose of the paper is to provide a conceptualization and an aligned game-theoretic operationalization of the dynamic coopetitive managerial decision-making process. The proposed two-step sequential game uses existing game theoretical constructs but combines them in a unique way. One of its important positive features is its capacity to make the performance implications of all potential coopetitive decisions in a relationship episode explicit, together with the interplay among them. The lack of such a feature has been recognized as a severe limitation of extant literature, hampering further theoretical and methodological development. The proposed solution gives insights into how moment-by-moment managerial decisions unfold over time and possibly result in disequilibrium states, generating tension. Managerial attributes play a key role in effectively managing such moments, it is suggested. Based on the proposed operationalization, behavioral experiments can be designed through which future empirical research can develop appropriate data sets and test the widely hypothesized roles of these attributes, which can result in more reliable and generalizable research results. Besides the theoretical and empirical value of the proposed conceptualization and operationalization, the paper is of value to decision makers, as it makes the internal complexity of the coopetitive strategizing and its inherent interdependencies explicit, providing practical insights into this complex phenomenon.

[Link to Paper](#)

14

Social, economic, and legal aspects of polder implementation for flood risk management in Poland and Hungary

GÁBOR, UNGVÁRI; ANDRÁS ,KIS; WERONIKA, WARACHOWSKA; PIOTR, MATCZAK; ZBIGNIEW, ZWOLIŃSKI

Journal of Flood Risk Management 2023: e12897

The implementation of nature-based solutions that involve natural processes to mutually decrease flood risk and protect natural ecosystems can be an answer to the demand for resilient flood risk management (FRM). As an example of a nature-based solution, flood polders have the potential to deliver those benefits; however, a need for innovation is observed in the field of redefining, combining, and reformulating existing approaches to improve the welfare and wellbeing of individuals and communities. This article aims to investigate polder implementation and management processes, perceived as a potential introduction of social innovation in Poland and Hungary, where social innovation in FRM is required but where the introduction of innovative solutions stalls at different stages. Based on a comparative analysis, a set of factors for effective social innovation was formulated regarding formal and legal conditions and economic and social aspects of polder management and implementation. Each of identified factors can either allow or hinder public engagement and successful social innovation.

[Link to Paper](#)

15

The intersectional identity work of entrepreneurs with disabilities: constructing difference through disability, gender, and entrepreneurship

ANNA LAURA, HIDEGH; CARMEN, SVASTICS; SÁRA, CSILLAG;
ZSUZSANNA GYÓRI

Culture and Organization 2023 29(3): 226-241

Despite a growing interest in intersectional entrepreneurship studies investigating the interplay of privileged and disadvantaged identities, people with disabilities still appear to be a ‘forgotten minority’ in that field. Drawing on qualitative interviews with 29 entrepreneurs with disabilities (EWD), this study examines how differences are constructed by EWD when performing intersectional identity work at the crossroads of disability, gender, and entrepreneurship. The results revealed four overlapping strategies in response to different sources of identity threats, such as disability and gender threats: bracketing, reconciling, adjusting, and neglecting. While the identity work of EWD was informed by challenging dominant entrepreneurial discourse impregnated by ableism and hegemonic masculinity, simultaneously, othering was also used in crafting positive identities, which instead reproduced power-laden social differences.

[Link to Paper](#)

16

Beyond CO₂ emissions – The role of digitalization in multi-dimensional environmental performance measurement

ORSOLYA, DIÓFÁSI-KOVÁCS; JUDIT, NAGY

Environmental and Sustainability Indicators 2023 18: 100252

The purpose of our paper is to investigate how digitalization can support environmental performance (EP) management – going beyond the CO₂ emission measurement. Digitalization can help increase company performance many ways, this paper focuses on its effect on EP.

Environmental performance is mainly assessed by output indicators, however, in our approach we prove that digitalization makes it possible to measure and manage multiple indicators by enabling better process visibility and extensive data collection.

Our methodology is based on statistical analysis, we analyze corporate EP according to a multi-dimensional model and prove that digitally advanced companies perform better in multiple dimensions of environmental sustainability.

We found that digitally advanced companies use various technologies to gather, store and process data which results in a significantly better application of environmental accounting and environmental management systems.

The originality of our paper is that next to a wide – not only technological – interpretation of digitalization we suggest and apply a multi-dimensional environmental performance measurement model.

[Link to Paper](#)

17

How job crafting is related to the individual readiness to organizational change

KLAUDIA, SZÓTS-KOVÁTS; CSABA, KISS

Heliyon, Volume 9, Issue 4, E15025, April 2023

This article aims to examine the relationship between job crafting activities and employees' readiness to change. Confirmatory factor analysis and hierarchical regression analysis were conducted on a representative sample of 500 employees. Sampling was carried out in a European country in a period strongly affected by COVID-19 to isolate the five dimensions of job crafting and their separate effects on employees' readiness to change. The findings show that the five dimensions of job crafting can be distinguished from each other and that they have differential effects on employees' readiness to change. Extending task crafting shows a positive relationship with employees' readiness to change while reducing task crafting showed no significant relationship. Surprisingly extending and reducing relationship crafting showed no significant relationship with readiness to change. Cognitive crafting was found to be significantly positively related to the dependent variable. This research contributes to the development of job crafting theory by providing empirical support that job crafting can be associated with readiness to change but that this relationship may vary across its dimensions. The results may also provide important conclusions for change leaders and HR professionals.

[Link to Paper](#)

18

How can proximal sensors help decision-making in grape production?

TAMÁS, MIZIK

Heliyon 2023 9(5): e16322

Precision viticulture (PV) aims at achieving greater profit in a more sustainable way through improved resource use efficiency and greater production. PV is based on reliable data provided by different sensors. This study aims to identify the role of proximal sensors in the decision support of PV. During the selection process, 53 of 366 articles identified were relevant for the study. These articles are classified into four groups: management zone delineation (27 articles), disease/pest prevention (11 articles), water management (11 articles), and better grape quality (5 articles). Differentiation between heterogeneous management zones is the basis for site-specific actions. The most important data that sensors provide for this are climatic and soil information. This makes it possible to predict harvesting time or identify areas for plantations. The recognition and prevention of diseases/pests are of crucial importance. Combined platforms/systems provide a good option without any compatibility problems, while variable rate spraying makes pesticide use much lower. Vine water status is the key to water management. Soil moisture and weather data can provide good insight; however, leaf water potential and canopy temperature are also used for better measurement. Although vine irrigation systems are expensive, the price premium of high-quality berries compensates for this because grape quality is closely related to its price.

[Link to Paper](#)

19

Uncovering deep place meanings in the context of urban wellbeing: The case study of Budapest

LACHIN, NAMAZ; KLAUDIA KLARA, TVERGYAK

City and Environment Interactions 2023 17: 100095

The latest directions in human-environmental relationship research focus on place-related human experiences that can help better understand pro-environmental behaviours. Investigating processes that impact the place-related self-expression and meanings of residents facilitates the understanding of potential support by citizens towards sustainability. Authors argue that understanding deep place meanings can contribute to enriching human-environment relationships through encouraging personal and collective growth towards the development of a sustainable habitat. The theoretical contribution of the study lies in the description of how the features and processes of a place may either support or interfere with its residents' ability to express their identity. This paper employs case study research methodology, particularly a theory building approach. Thematic analysis is used to analyse and present the findings. This research will help practitioners to understand how wellbeing-related place meanings can help to raise the level of the overall wellbeing of residents and what are the hindrances that can slow down this process, eventually impacting sustainability. The authors call for more research on how the mechanisms that foster deep place meanings can be incorporated into the city planning processes in Budapest.

[Link to Paper](#)

20

What works for whom? What theories may predict about the effectiveness of measures against employment discrimination

ÁRON, HAJNAL; ÁGOTA, SCHARLE

International Journal of Sociology and Social Policy 2023

Purpose

Employment discrimination persists across global labour markets inflicting considerable social and economic costs. The existing literature tends to focus on explaining and measuring discrimination or on the measures to tackle it, overlooking the links between these areas. The paper contributes to filling this gap in order to inform policy design and empirical research on the impact of anti-discrimination policies.

Design/methodology/approach

The paper assesses the potential effectiveness of commonly used policy measures in tackling the types of discrimination described in the theoretical literature. The assessment is based on the underlying incentive structure of particular policies, which is matched with the behaviour of employers predicted by particular theories.

Findings

The potential effectiveness of commonly used anti-discrimination policies varies greatly depending on the source of discrimination and the target group. Some commonly used tools, such as wage subsidies are likely to have modest effects for several target groups, while employer counselling may be a more effective and cheaper alternative in many cases. Quotas may be effective against various types of discrimination, but setting them is challenging and they may yield adverse effects.

Practical implications

The findings call for more research on and consideration of the motives behind employment discrimination in the targeting and design of anti-discrimination measures.

Originality/value

The authors propose a framework to link discrimination types with measures against discrimination and potential target groups, which allows for systematically linking the literature on theories of discrimination and research on anti-discrimination.

Link to Paper

21

Adaptive neuro-fuzzy inference system for customizing investment type based on the potential investors' demographics and feedback

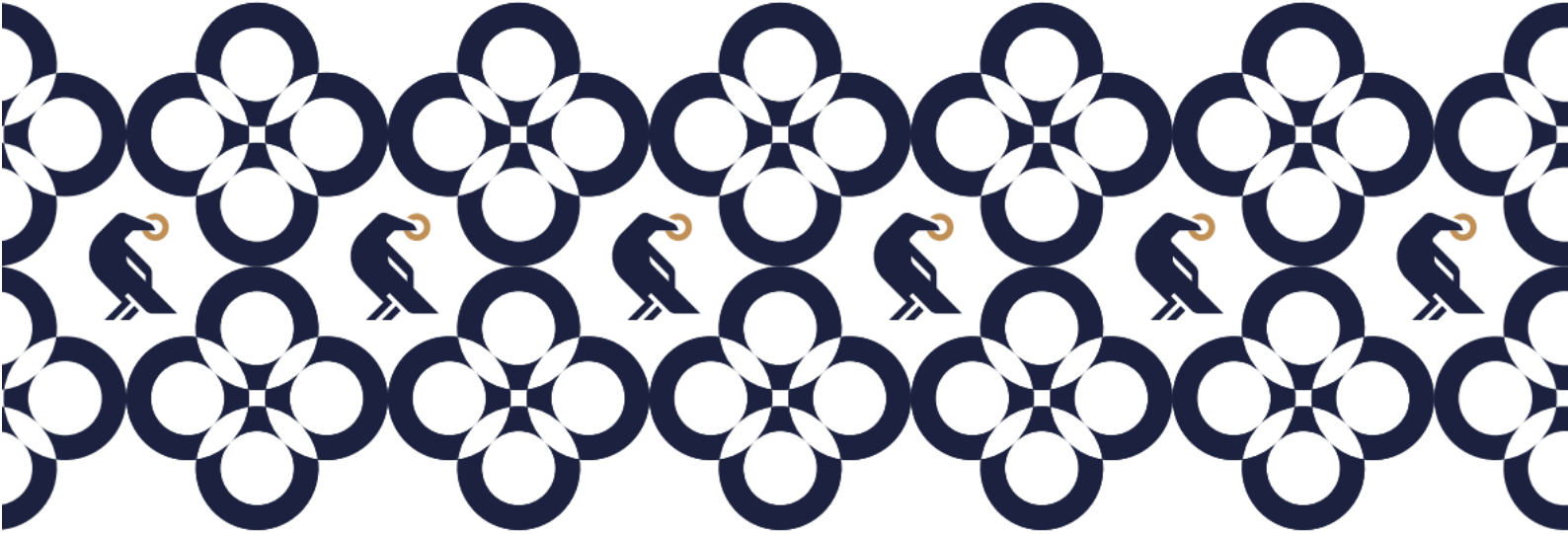
ASEFEH, ASEMI; ADELEH, ASEMI; ANDREA, KÓ

Journal of Big Data 2023 10: 87

The proposed model is an adaptive neuro-fuzzy inference recommender system that utilizes customer investment service feedback and fuzzy neural inference solutions to generate personalized investment recommendations. The model is designed to support the investment process for the customers and takes into consideration seven factors to implement the proposed investment system model through the customer or potential investor data set. These include demographic data and investment type. The model is divided into three main phases: data gathering, data analysis, and decision-making. In the data gathering phase, initial data is collected through a web-based platform, and in the data analysis phase, the potential investors' demographic criteria are extracted and grouped, and the types of investments are then clustered. The output obtained is transferred to the ANFIS layer, and investment-type recommendations are extracted for each group of potential investors. Investor feedback is received to improve and develop the system. JMP and MATLAB are used to propose the model, which serves as a framework for investment recommender systems. It demonstrates how to use this framework to offer pertinent and precise recommendations for the best sort of investment type to potential and present investors by combining the expertise of the experts and the demographic information of potential investors. Overall, this paper provides a new, novel model for investment recommender systems, which can assist investment companies, individual investors, and fund managers in their investment decisions.

[Link to Paper](#)

BOOK CHAPTERS



01

ANDREA, GELEI

Smart supply chain

In: Nagy Sándor Gyula (ed): Smart Business and Digital Transformation: An Industry 4.0 Perspective. (2023) pp. 1-21

Routledge

This chapter discusses how and why Industry 4.0 solutions might contribute to better supply chain management. It also highlights the importance of combining lean and the agile approaches using the concept of the decoupling point. The goal of supply chain management is to increase this system-level performance that is critical in today's business environment with the increasing bargaining power of customers. The key process of the SCOR model include source, make, deliver, return, plan, and enable under the heads supplier's supplier, supplier, organisation, customer, and customer's customer. Performance measurement is the first step in any supply chain management effort. Despite the differences in defining supply chain management, conceptualisations agree that increased integration between supply chain partners leads to better supply chain level performance. Managing any supply chain necessitates the aligned operation of internal and external network members. It is a well-known truth that poor supply chain visibility has been choking the supply chain and logistics industry for decades.

[Link to Book Chapter](#)

02

BETTINA, BONCZ; ZSOLT ROLAND, SZABÓ

AI's impact on the Labour Market

In: Nagy Sándor Gyula (ed): Smart Business and Digital Transformation: An Industry 4.0 Perspective. (2023), pp. 90-96

Routledge

Advances in artificial intelligence (AI) are expected to significantly reshape the labour market and more than likely change almost every job to some extent. There will be jobs that will benefit from it, but there will be jobs where human labour becomes completely unnecessary. Computers, automated systems, artificial intelligence and robots are replacing many jobs previously performed by humans. Researchers argue that labour market opportunities and outcomes for the lesser educated have diminished over recent decades, which makes them more vulnerable. In Industry 4.0. context, the arrival of intelligent machines fundamentally changes labour requirements and creates a new concept: Worker 4.0. The workers will fully utilise digital tools, such as big data analytics, the Internet of Things, cloud computing, autonomous and robotics systems, cyber security, augmented reality, simulation, system integration or additive manufacturing, which will make them able to increase their productivity.

[Link to Book Chapter](#)

03

CSERHÁTI, ILONA

Society 5.0

In: Nagy Sándor Gyula (ed): Smart Business and Digital Transformation: An Industry 4.0 Perspective. (2023) ISBN:9781032486932 pp. 180-189

Routledge

This chapter introduces some elements of the social consequences of the digitisation process on the life of employees and families and the possible solutions to the expected social issues are discussed, i.e., how Society 5.0 can solve those problems. Several great inventions of the industrial revolutions were designed to replace human labour. To fully understand the essence of Society 5.0, it is worth putting social development in a historical perspective. The evolution of human society has been characterised by a gradual liberation from constraints. Industry 4.0 aims to revolutionise industrial production through higher productivity levels, implementing new business models and new production systems. Central and local governments will use digitisation-based systems to guarantee our security. It is essential to ensure equal access to justice for all – only modern, accountable institutions can ensure the independent functioning of public institutions, which is the cornerstone of Society 5.0.

[Link to Book Chapter](#)

04

MÁTÉ SZILÁRD, CSUKÁS; ZSOLT ROLAND, SZABÓ

Smart cities

In: Nagy Sándor Gyula (ed): Smart Business and Digital Transformation: An Industry 4.0 Perspective. (2023) ISBN:9781032486932 pp. 157-165

Routledge

The megatrends of population growth, climate change and digital transformation are creating a shifting global environment where the role of cities is growing. This chapter discusses the transformation the authors witness in city administration and operation due to I4.0. In addition, they apply Porter's Five Forces model to analyse and evaluate smart city solutions. Citizens tend to have a utility-oriented view, and the “smartness” of their consumption is qualified based on the capability of the solution to eliminate citizens' former restrictions, which inhibited the consumption of a service. The development of a park took place with the involvement of the locals. The lower the bargaining power of buyers, the higher the profitability of an industry segment. High-end SC solutions and service quality, product differentiation and high brand awareness build customer loyalty which creates high barriers for new entrants that increases vendor lock-in and the profitability of the industry segment.

[Link to Book Chapter](#)

05

MIKLÓS, KOZMA; MIROSŁAW, JAROSIŃSKI; JURGITA, SEKLIUCKIENE

Born Digitals: Understanding the Sustainable Competitive Advantage Across Different Markets

In: Entrepreneurship: Exploring the Unforeseen, and Paving the Way to a Sustainable Future. (2023) pp. 41-60 Paper: Chapter 3

Springer-Verlag

Digitalization of business is one of the driving forces in today's environment and seems to be an irreversible trend. At present we can observe not only a digital transformation of firms but also the emergence of firms that are digital from inception. The born digital firms have characteristics that allow them to quickly expand on international markets and stay competitive for sustained periods of time. The purpose of this study is to analyze the characteristics of born digital firms that lead to sustainable competitive advantage and to develop a conceptual model that will serve as a basis for future research. Various sources of born digitals' competitive advantage are revealed, such as innovativeness, creativity, responsiveness, digital technology, and digital skills of their employees. One of the key findings is highlighting the role creativity plays in how responsive born digital firms can be in times of change, a characteristic that supports their sustainable competitiveness. The newly defined born digitals' characteristics and sources of competitive advantage should embrace the approach to their competitive advantage across different markets as a complex dynamic construct that is presented, which includes technology advantage, human capital advantage, but also differentiation advantage.

[Link to Book Chapter](#)

06

ORSOLYA, HEIDENWOLF; ZSOLT ROLAND, SZABÓ

Construction 4.0

In: Nagy Sándor Gyula (ed): Smart Business and Digital Transformation: An Industry 4.0 Perspective. (2023) ISBN:9781032486932 pp. 165-170

Routledge

The advent of I4.0 brought about changes in the construction industry as well. Traditionally, the construction industry was male-dominated, time-consuming and manual labour-intensive. The great promise of the Construction 4.0 revolution lies in the almost complete automation of the entire project life cycle. This chapter introduces the concept of construction 4.0 to the readers in more detail. BIM technology created the opportunity for the traditional construction value chain to move towards a digital platform. In the context of Construction 4.0, the issue of data and its management is a central drive of the development of the industry. There are numerous reasons why the digital transformation of the construction industry is relatively slow. In summary, neither the demand nor the supply market can be considered mature presently. The development of Industry 4.0 means that an increasing number of professionals are appearing in the construction industry.

[Link to Book Chapter](#)

07

ZOLTÁN, ÁDÁM

Economic Versus Authoritarian: Economic and Social Policies of Alternating Populisms in Pre- and Post-2010 Hungary

*In: Encyclopedia of New Populism and Responses in the 21st Century. (2023)
pp. 1-10 Paper: Chapter 11-1*

Springer Nature Singapore

Populism as a form of governance has played fundamentally important roles in post-WWII global history. Following Federico Finchelstein's work, populism in this chapter is understood as "a form of authoritarian democracy for the post-war world," in which the intrinsic contradictions of democracy could be addressed in economically and institutionally underdeveloped, relatively backward – yet democratic – societies. Hence, populism is conceptualized as political practice, instead of an ideology or a communication style. As a practice of governance, economic policies have dramatic distributional consequences that may reinforce social support or rejection for populist governments and may determine the viability of populist political regimes. In the particular Hungarian case, whereas both pre- and post-2010 Hungarian political regimes could be considered populist in important ways, their social and economic policies differed dramatically. The entry focuses on their comparison through which the concepts of economic and authoritarian populisms are presented.

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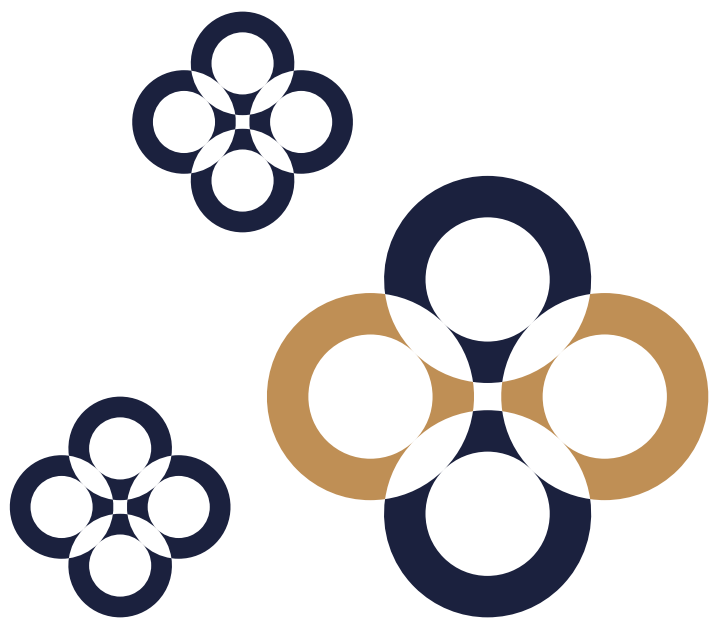
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