

## ***Data governance and automated individual decision-making in the digital privacy General Data Protection Regulation***

**George LĂZĂROIU<sup>1</sup>, Maria KOVACOVA<sup>2</sup>, Jana KLIESTIKOVA<sup>3</sup>, Pavol KUBALA<sup>4</sup>, Katarina VALASKOVA<sup>5</sup>, Victor V. DENGOV<sup>6</sup>**

**Abstract:** *This article reviews and advances existing relevant literature concerning online data privacy. Using data from Adobe/Edelman Berland, Econsultancy/Demographics and Technology Adoption report, Flash Eurobarometer, HubSpot, MarketingCharts, Pew Research Center, Spiceworks, Statista, Talend, and TrustArc, we performed analyses and made estimates regarding actions organizations aim to take to lay the groundwork for the General Data Protection Regulation (GDPR), the proportion of executives whose corporations have taken diverse decisions in preparation for GDPR, enhancements required in organizations in the wake of GDPR compliance, customer positions to online data harvesting routines, the link between customer trustworthiness and retail data infringements, the percentage of grown-ups who indicate varying degrees of trust that the records of their operations preserved by various companies will still be private and secure, and the degree of accountability for protecting a person's online privacy. Empirical and secondary data are used to support the claim that the difficult tasks for persons to have relevant management over personal data are*

---

<sup>1</sup> Research Fellow, The Cognitive Labor Institute, New York City, USA; Associate Professor PhD, Spiru Haret University, Bucharest, Romania, lazaroiu@aa-er.org

<sup>2</sup> Engineer PhD, Department of Economics, Faculty of Operation and Economics of Transport and Communications, University of Zilina, Zilina, Slovak Republic, maria.kovacova@fpedas.uniza.sk

<sup>3</sup> JUDr. Engineer PhD, Department of Economics, Faculty of Operation and Economics of Transport and Communications, University of Zilina, Zilina, Slovak Republic, jana.kliestikova@fpedas.uniza.sk

<sup>4</sup> Engineer PhD, Department of Economics, Faculty of Operation and Economics of Transport and Communications, University of Zilina, Zilina, Slovak Republic, kubala.pavol@dpb.sk

<sup>5</sup> Engineer PhD, Department of Economics, Faculty of Operation and Economics of Transport and Communications, University of Zilina, Zilina, Slovak Republic, katarina.valaskova@fpedas.uniza.sk

<sup>6</sup> Associate Professor PhD, Department of Economics and Economic Policy, Faculty of Economics, Saint Petersburg State University, Saint Petersburg, The Russian Federation, vvdengov@mail.ru

*reflected in the GDPR that is a significantly intricate piece of law taking into account risk-based assessment and analysis by the data controller. To a certain extent, data subjects may be conferred a right to be notified about the presence of automated decision-making and system performance.*

**Keywords:** data governance, automated individual decision-making, digital privacy, GDPR

**JEL:** C81, C82, D7, D81

**DOI:** 10.24818/amp/2018.31-09

## **Introduction**

Data is the piece of change that currently bolsters the digital economy. As a consequence of the Cambridge Analytica and Facebook mismanagement outrage, the notion of data monetization is justifiably under considerable examination. As the new epoch of data privacy is advancing, from the lately carried out EU General Data Protection Regulation (GDPR) to swiftly increasing realization of the manner personal data is collected and extracted, organizations should no longer embrace a casual position to customer data (Datoo, 2018). GDPR establishes further protections for data subjects (Balica, 2017a; Campbell, Ross, and Thomson, 2017; Machan, 2016; Olssen, 2017; Pol and Reveley, 2017) and coherence concerning privacy law throughout the EU. GDPR is an intricate piece of law taking into account risk-based assessment and analysis by the data controller (Negrouk and Lacombe, 2018).

### **1. Literature Review**

The recent data protection stipulations implemented by the GDPR have affected seriously businesses activating within and outside the EU area. As it is not a directive, but a regulation, it has shortly become an enact able law in all Member States, being instrumental in the compliance of present data protection laws throughout the EU, improving simultaneously both data protection rights (Balica, 2017b; De Gregorio Hurtado, 2017; Machan, 2017a; Orlova, 2017; Popescu, Comănescu, and Manole, 2017) and business chances (Borbone, 2016; Enderstein, 2017; Machan, 2017b; Petcu, 2017; Popescu Ljungholm, 2016a) in the digital single market. Because right now a massive quantity of persons' data is gathered for the purpose of personalizing customer experience, the GDPR required users to comply to all and each individual piece of their detailed information as soon as their personal data are harvested. The rights to confidentiality, to data protection, to autonomy of expression (Bratu, 2016a; Georgiou and Rocco, 2017; Mihăilă, 2016; Peters, 2016a; Popescu Ljungholm, 2016b), and to be notified need to be harmonized in the online realm under the GDPR government that includes a huge amount of stipulations that allow national clarifications and procedures determined

by the culture, commitment and first concerns of the regulatory authorities (Politou, Alepis, and Patsakis, 2018).

## **2. Research methodology**

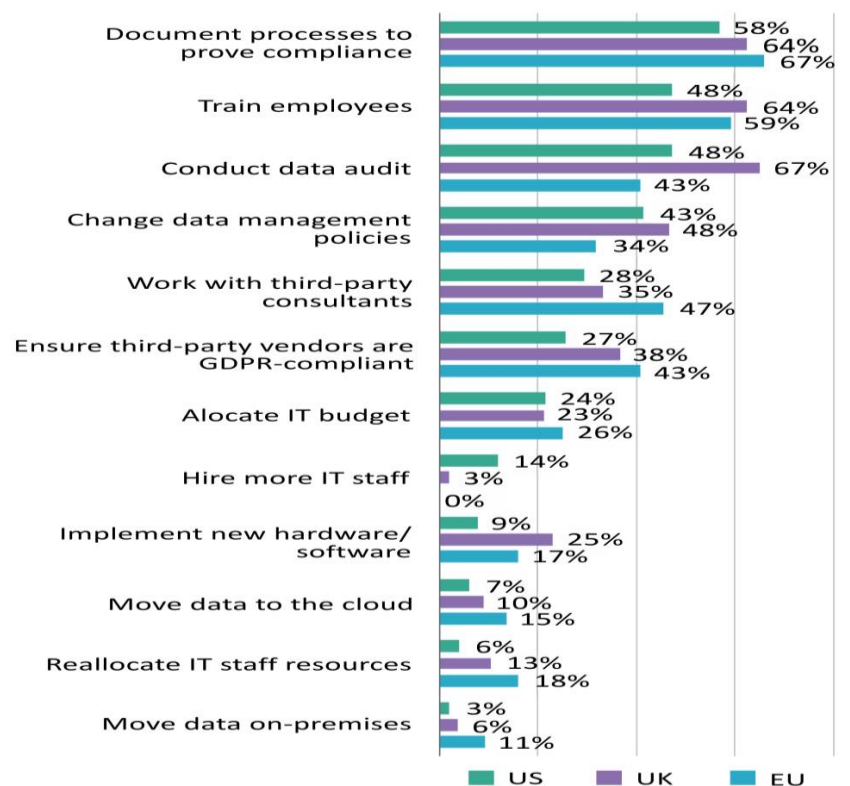
Using data from Adobe/Edelman Berland, Econsultancy/Demographics and Technology Adoption report, Flash Eurobarometer, HubSpot, MarketingCharts, Pew Research Center, Spiceworks, Statista, Talend, and TrustArc, we performed analyses and made estimates regarding actions organizations aim to take to lay the groundwork for GDPR, the proportion of executives whose corporations have taken diverse decisions in preparation for GDPR, enhancements required in organizations in the wake of GDPR compliance, customer positions to online data harvesting routines, the link between customer trustworthiness and retail data infringements, the percentage of grown-ups who indicate varying degrees of trust that the records of their operations preserved by various companies will still be private and secure, and the degree of accountability for protecting a person's online privacy. Empirical and secondary data are used to support the claim that the difficult tasks for persons to have relevant management over personal data are reflected in the GDPR.

## **3. Results and discussion**

The right to explanation is intricate and constitute a non-trivial technical difficult task to mobilize the entire capacity of machine learning or artificial intelligence systems while performing with coherence intelligible to human beings: it should be construed purposefully, compliantly, and should at least facilitate a data subject to carry out his/her rights bound by the GDPR and human rights law (Selbst and Powles, 2017). The vagueness of the right (Bratu, 2016b; Harris and Estevez, 2017; Nagel, 2016; Peters, 2016b; Popescu Ljungholm, 2017a) not to be liable to automated decision-making, together with the ambiguities and vulnerabilities it generates, indicates that the GDPR is deficient in accurate language and unequivocal and clear rights and safety nets, and thus might become ineffective. Both the right of access (Ahmed, 2016; Bratu, 2017; Hopkins Burke, 2017; Nordberg, 2017; Peters and Besley, 2016; Popescu Ljungholm, 2017b) and a subsequent right to explanation may experience important constraints as a result of the sensitivity of confidential information in trade and intellectual property rights. Clarifications presented under the right of access are typically circumscribed to system performance and considerably restricted to secure data controller interests. Unambiguous and liable automated decision-making has not yet been protected by the GDPR, together with a right to explanation of particular decisions available too. To a certain extent, data subjects may be conferred a right to be notified about the presence of automated decision-making and system performance (Wachter, Mittelstadt, and Floridi, 2017).

To lay the groundwork for GDPR, organizations mainly aim to document processes to prove compliance, train employees, conduct data audit, change data management policies, work with third-party consultants, ensure third-party vendors are GDPR-compliant, and allocate IT budget – and less to hire more IT staff, implement new hardware/software, move data to the cloud, reallocate IT staff resources, and move data on-premises. (Figure 1)

**Figure 1.** Actions organizations aim to take to lay the groundwork for GDPR



(Sources: Spiceworks. DPL/AM survey among 2,600 companies conducted November 2017)

Executives have decided to update contracts and data protection policies, liaised with vendors who process personal data to update contracts, implemented/optimized IT security, reviewed and changed products, brainstormed new marketing strategies, educated customers on GDPR and how they will comply, and changed the way they sell/market products. (Figure 2)

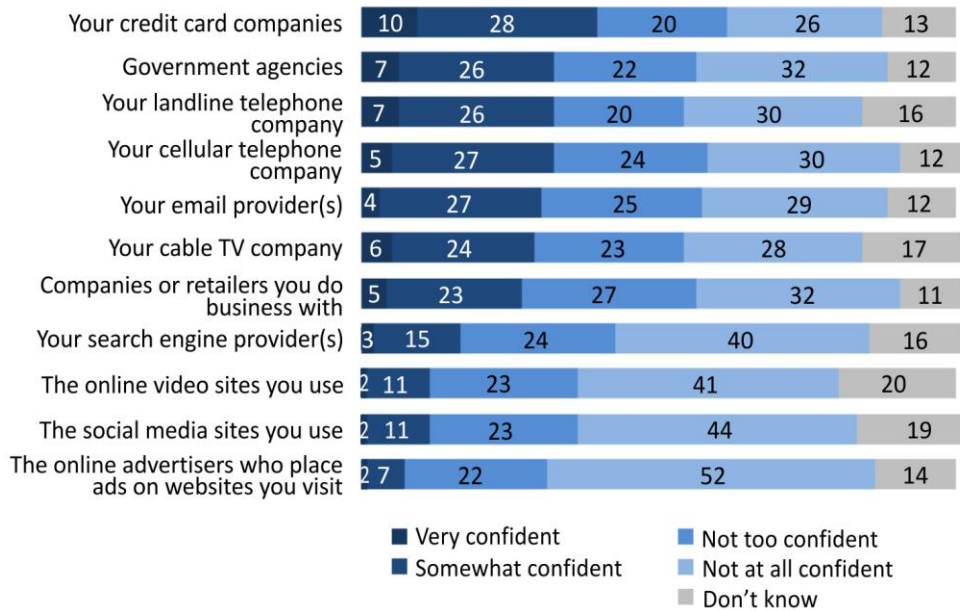
**Figure 2.** Proportion of executives whose corporations have taken the following decisions in preparation for GDPR



(Sources: HubSpot; Statista; AR/CRLSJ survey among 2,700 individuals conducted May 2017)

Customers have chiefly indicated that they are not quite confident that the records of their operations preserved by various companies will still be private and secure, i.e. credit card companies, government agencies, landline telephone companies, cellular telephone companies, email providers, cable TV companies, companies or retailers they do business with, search engine providers, online video sites, social media sites, and online advertisers who place ads on websites. (Figure 3)

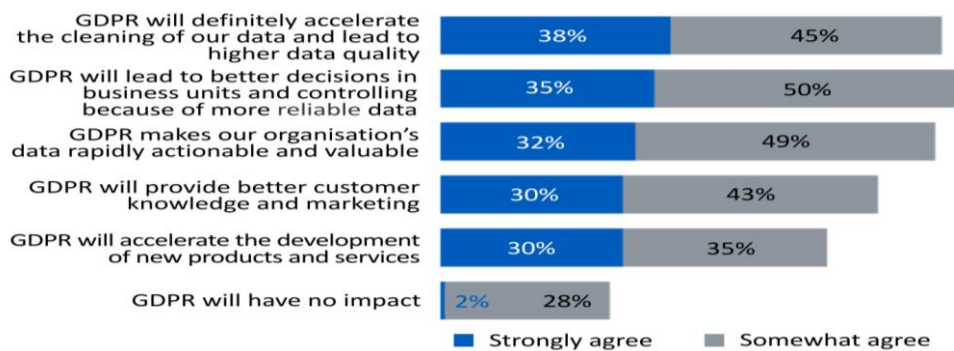
**Figure 3.** Will the records of your operations preserved by various companies still be private and secure?



(Sources: Pew Research Center. AR/CRLSJ survey among 3,800 individuals conducted June 2017. Note: Refused responses are not shown)

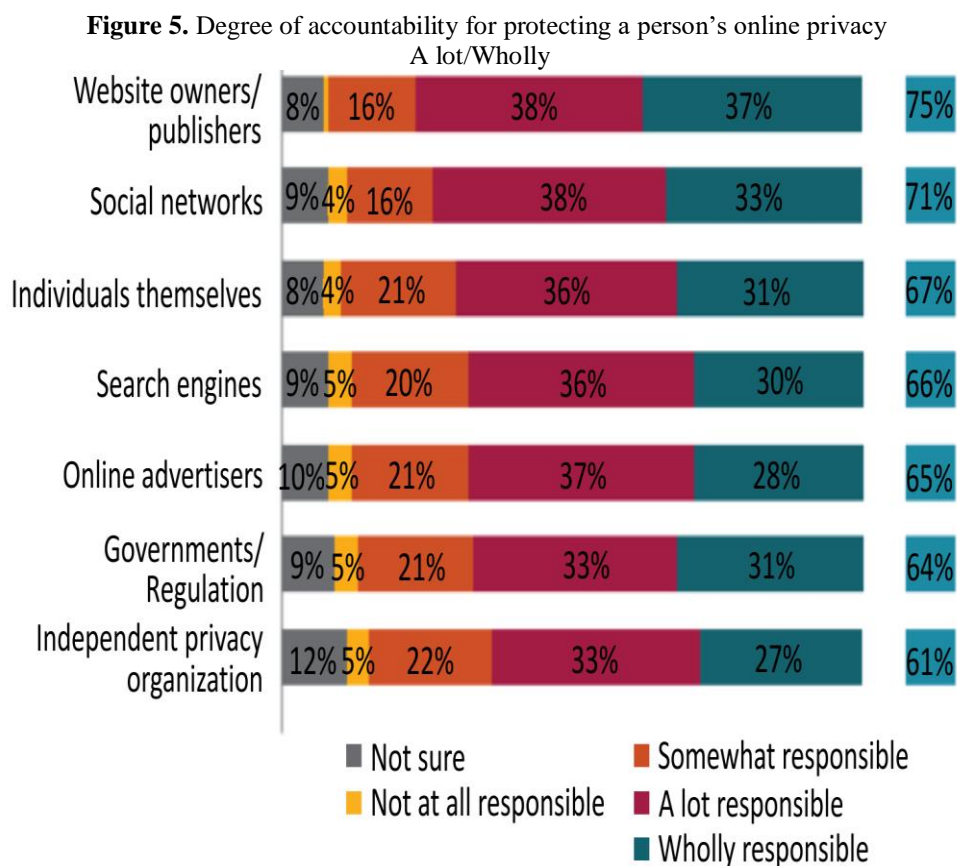
Organizations typically somewhat agree that GDPR will accelerate the cleaning of their data and lead to higher data quality, will lead to better decisions in business units and controlling because of more reliable data, makes the organization’s data rapidly actionable and valuable, will provide better customer knowledge and marketing, and will accelerate the development of new products and services. (Figure 4)

**Figure 4.** Enhancements required in organizations in the wake of GDPR compliance



(Sources: Talend. DPL/AM survey among 2,600 companies conducted November 2017)

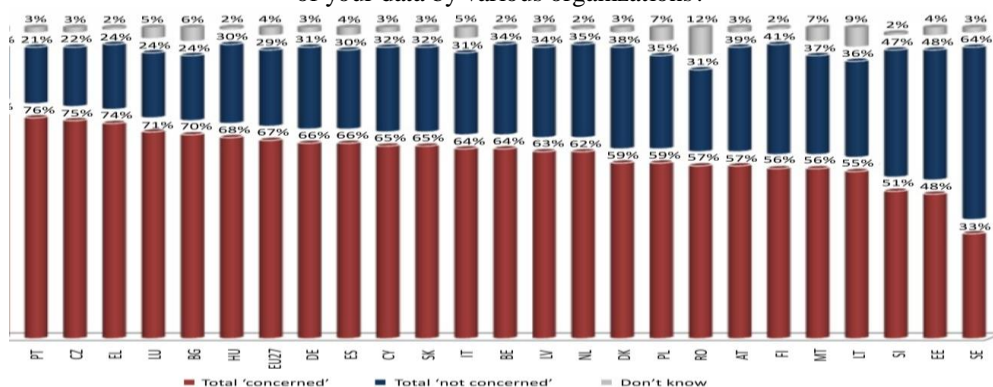
Website owners/publishers, social networks, individuals themselves, search engines, online advertisers, governments/regulation, and independent privacy organizations are somewhat wholly responsible for protecting a person’s online privacy. (Figure 5)



(Sources: Econsultancy/Demographics and Technology Adoption report & TrustArc; AR/CRLSJ survey among 2,800 individuals conducted September 2017)  
Note: Totals do not add up to 100% due to rounding.

EU citizens are generally concerned that organizations holding data about them may occasionally employ it for a distinct objective than the one it was gathered for without notifying them. (Figure 6)

Figure 6. How distressed are you concerning an improper utilization of your data by various organizations?



(Sources: Flash Eurobarometer; AR/CRLSJ survey among 3,500 individuals conducted October 2017)

Personal information goes too far from customization to breach of privacy when the information is collected without the individuals knowing it, when the information is shared with third parties, when individuals have to enter their social security numbers, when ads follow them around from one website to another, when a website knows their geographical location, when individuals are asked about their personal preferences beyond the product they are considering buying, when a website recognizes them, and when a website reminds them of past purchases. (Figure 7)

Figure 7. Online data harvesting routines go too far from customization to breach of privacy



(Sources: Adobe/Edelman Berland; MarketingCharts; AR/CRLSJ survey among 4,400 individuals conducted May 2017)



#### **4. Conclusions**

The difficult tasks for persons to have relevant management over personal data are reflected in the GDPR. New coherent criteria with reference to informed consent, alert services, privacy purposefully and in the absence of an alternative (Bratu, 2016a; Georgiou and Rocco, 2017; Mihăilă, 2016; Peters, 2016a; Popescu Ljungholm, 2016b), data protection impact evaluation, algorithmic unambiguousness, automated decision-making, and heuristic techniques have been applied throughout Europe. New instructions on Internet of Things (IoT) suppliers and data controllers to secure consumer privacy have been destabilized by the propensity of IoT devices and services to gather, distribute, and deposit sizable and diverse kinds of personal data, to function smoothly and surreptitiously, and to customize functions related to prior behavior. Permanent storage and endless re-considering of gathered data have directly disregarded the GDPR's guiding standards. To notify about the possible risks of data accumulation (Ahmed, 2016; Bratu, 2017; Hopkins Burke, 2017; Nordberg, 2017; Peters and Besley, 2016; Popescu Ljungholm, 2017b), the GDPR has set up superior criteria in respect of informed consent and alert services. With the intention of curtailing the privacy consequence of the frictions between data protection regulation and detection in the IoT, the GDPR criteria imperatively necessitate additional stipulation and carrying out into the pattern and utilization of IoT technologies (Wachter, 2018).

#### **Acknowledgments**

This paper was supported by Grant GE-1168865 from the American Association for Economic Research.

#### **References**

- Ahmed, M. (2016). Bridging the gap between alternative dispute resolution and robust adverse costs orders. *Contemporary Readings in Law and Social Justice*, 8(1), 98–126.
- Balica, R. (2017a). The criminalization of online hate speech: It's complicated. *Contemporary Readings in Law and Social Justice*, 9(2), 184-190.
- Balica, R. (2017b). The alienated language of the affective commodity in Houellebecq's novels. *Review of Contemporary Philosophy*, 16, 143-149.
- Borbone, G. (2016). The concept of idealization in Ernst Cassirer's theory of knowledge. *Analysis and Metaphysics*, 15, 88-109.
- Bratu, S. (2016a). The critical role of social media in crisis communication. *Linguistic and Philosophical Investigations*, 15, 232-238.
- Bratu, S. (2016b). Processes underlying audiences' interactions with organizations on social media. *Review of Contemporary Philosophy*, 15, 132-138.

- Bratu, S. (2017). The inexorable shift towards an increasingly hostile cyberspace environment: The adverse social impact of online trolling behavior. *Contemporary Readings in Law and Social Justice*, 9(2), 88-94.
- Campbell, J., Ross, S., Thomson, E. (2017). Recession and recovery in Scotland: The impact on women's labor market participation beyond the headline statistics. *Journal of Research in Gender Studies*, 7(1), 123-136.
- Datoo, A. (2018). Data in the post-GDPR world. *Computer Fraud & Security*, 9, 17-18.
- De Gregorio Hurtado, S. (2017). A critical approach to EU urban policy from the viewpoint of gender. *Journal of Research in Gender Studies*, 7(1), 200-217.
- Enderstein, A. (2017). European identity and gender equality policies: Shaping the practice of gender expertise. *Journal of Research in Gender Studies*, 7(2), 109-135.
- Georgiou, N. A., Rocco, A. (2017). The energy union as an instrument of global governance in EU–Russia energy relations: From fragmentation to coherence and solidarity. *Geopolitics, History, and International Relations*, 9(1), 241-268.
- Harris, E. C., Estevez, M. L. (2017). The role of gender and motherhood ideologies in perpetuating workplace inequality. *Journal of Research in Gender Studies*, 7(2), 67-85.
- Hopkins Burke, R. (2017). The case for a radical moral communitarian youth justice. *Contemporary Readings in Law and Social Justice*, 9(1), 98-119.
- Machan, T. R. (2016). Revisiting truth in philosophy. *Analysis and Metaphysics*, 15, 77-87.
- Machan, T. R. (2017a). Individualism and the vitality of community life: An update. *Psychosociological Issues in Human Resource Management*, 5(2), 7–24.
- Machan, T. R. (2017b). Moral philosophy and society. *Review of Contemporary Philosophy*, 16, 104-135.
- Mihăilă, R. (2016). Is the decrease in the gender wage gap the principal driver of the sustained rise in female labor market participation? *Journal of Research in Gender Studies*, 6(2), 146-152.
- Nagel, M. (2016). Gender and the law. *Journal of Research in Gender Studies*, 6(2), 107-119.
- Negrout, A., Lacombe, D. (2018). Does GDPR harm or benefit research participants? An EORTC point of view. *The Lancet Oncology*, 19(10), 1278-1280.
- Nordberg, D. (2017). First and second drafts of history: The case of Trump, Foucault and pre-modern governance. *Geopolitics, History, and International Relations*, 9(2), 107-117.
- Olssen, M. (2017). Exploring complexity through literature: Reframing Foucault's research project with hindsight. *Linguistic and Philosophical Investigations*, 16, 80-89.

- Orlova, A. V. (2017). 'Public interest,' judicial reasoning and violence of the law: Constructing boundaries of the 'morally acceptable.' *Contemporary Readings in Law and Social Justice*, 9(2), 51-80.
- Petcu, C. (2017). Democratic sexuality and alienated capitalism in Houellebecq's novels. *Contemporary Readings in Law and Social Justice*, 9(2), 81-87.
- Peters, M. A. (2016a). The postcolonial university. *Linguistic and Philosophical Investigations*, 15, 77-89.
- Peters, M. A. (2016b). Biopolitical economies of debt. *Analysis and Metaphysics*, 15, 7-19.
- Peters, M. A., Besley, T. (2016). 'We never expel a foreigner' – Globalism, interconnectivity and the experiment of the open society. *Geopolitics, History, and International Relations*, 8(2), 112-126.
- Pol, E., Reveley, J. (2017). Robot induced technological unemployment: Towards a youth-focused coping strategy. *Psychosociological Issues in Human Resource Management*, 5(2), 169-186.
- Politou, E., Alepis, E., Patsakis, C. (2018). Forgetting personal data and revoking consent under the GDPR: Challenges and proposed solutions. *Journal of Cybersecurity*. doi:10.1093/cybsec/tyy001
- Popescu, G. H., Comănescu, M., Manole, M. (2017). Mobile knowledge work, information routines, and digital technologies. *Psychosociological Issues in Human Resource Management*, 5(2), 187-192.
- Popescu Ljungholm, D. (2016a). Organizational social capital and performance management. *Linguistic and Philosophical Investigations*, 15, 108-114.
- Popescu Ljungholm, D. (2016b). Bureaucratic reputation management in the public sector. *Review of Contemporary Philosophy*, 15, 46-52.
- Popescu Ljungholm, D. (2017a). Democratic forms of workplace governance. *Analysis and Metaphysics*, 16, 110-116.
- Popescu Ljungholm, D. (2017b). Global policy mechanisms, intergovernmental power politics, and democratic decision-making modes of transnational public administration. *Geopolitics, History, and International Relations*, 9(2), 199-205.
- Selbst, Andrew D., and Julia Powles (2017). Meaningful information and the right to explanation. *International Data Privacy Law*, 7(4), 233-242.
- Wachter, S., Mittelstadt, B., Floridi, L. (2017). Why a right to explanation of automated decision-making does not exist in the General Data Protection Regulation. *International Data Privacy Law*, 7(2), 76-99.
- Wachter, S. (2018). Normative challenges of identification in the Internet of Things: Privacy, profiling, discrimination, and the GDPR. *Computer Law & Security Review*, 34, 436-449.