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against cancer by playing a hang-glider arcade type of game. During the game, the players glide in space and collect valuable space dust and at the same time identify negative elements in real genetic data. Scientists spend hours and hours to carry out the process, however, if there is a big number of players, such a task becomes a problem which takes just a few minutes to be solved. The game “Foldit” is a protein folding game, which helped to disclose the structure of enzymes causing a disease similar to AIDS in monkeys’ organisms. Researchers had been trying to solve this problem for 13 years, whereas the players solved it in only three weeks. The game “Planet Hunters” helped to find over forty planets that could be suitable for life. “Galaxy Zoo” allows looking for similarities in galaxies and classifying them according to their type and origin and, thus, creating a huge bank of collective knowledge. These are just a few examples of the existing projects that aim at invoking the players’ potential for solving real problems through collective games. The brilliance of this concept lies in the fact that people participating in the creative process do not necessarily know what important goal they are making a contribution to. Thus, it is likely that it will not take too long for the day to come when games that had been previously considered to be childish entertainment and a careless form of wasting one’s time will with the help of virtual worlds be saving thousands of lives by joining the players’ creative potential.

5.2.3. The Playful City: Using Play and Games to Foster Citizen Participation

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Introduction: the playful smart city. Since several decades, the relationship between technology, creativity and city life has been an intimate one. Following “creative city” policies popular in the late 1990s and early 2000s, “smart city” business, policy and design visions have gained considerable traction since the middle of the 2000s. Smart city agendas aim to improve services and liveability through ICTs and supporting infrastructures, such as urban labs, and rapidly gain foothold in cities worldwide. Large tech companies, such as IBM, HP, CISCO, Microsoft, etc., are forming smart city coalitions with municipalities and knowledge institutions. Among the issues that smart city policies seek to address are

mobility, clean energy, water and food production and distribution, health, living and public participation (Hollands, 2008). However, among cities, such as Rio de Janeiro, Barcelona, Amsterdam, Masdar and Songdo, the emphasis and actual implementation of smart city visions hugely differ.

Smart city visions have received wide criticism (see, for example, Greenfield, 2013; Hemment and Townsend, 2013). By and large, these criticisms have focussed on the ill-defined notion of “smartness” in smart city visions, targeted the simplified view of what cities actually are and attacked their a-political technocratic nature. What does “smart” mean and who are actually supposed to be smart? Is city life and the urban experience about control, efficiency and predictability, or about encountering the unexpected and dealing with differences? Moreover, smart city views propose “technological fixes” to complex problems. Many so-called “smart technologies” or smart interventions are implicitly driven by logics of consumption, control and capsularization but do not empower citizens to become active players in their cities (de Lange and de Waal, 2013). The push for safety with CCTV and smart risk assessing algorithms turn cities into places of pervasive control and surveillance. Smart retails solutions, location-based services and predictive algorithms push a consumerist view of urban life. Also, personal mobile technologies foster a culture of capsularization and retreat. When technology-driven solutions ignore active contributions of citizens, they may have adverse effects for urban public life and identities at large.

Alternative notions have been proposed to address these asserted shortcomings, which, among others, are the “playable city” and “playful city”²⁴¹. In these people-centered views, the issue at stake is how to engage “smart citizens” with their urban environment and each other with the aid of play and games. In this chapter, the author further explores this nascent research and design agenda that connects the world of urban research and design to the world of research and design of play and games. The aim is to contribute to debates about smart cities and smart citizenship through the particular lens of play and games, to provide a typology for analyzing and developing the playful city and to reflect on the strengths and weaknesses of this idea.

²⁴¹ See, for example, the *Playable City* program and conference at Bristol’s Watershed <<http://www.watershed.co.uk/playablecity>>; or the *Playful City* workshop held in Amsterdam in 2014 <<http://www.hetnieuweinstituut.nl/en/international/partner-programmes/asem-international-networking-programme/creative-skills-playful>>.

Play and the city: a historical overview. To gain a firmer grasp of play and games as ways to engage people in participatory city making, it is fruitful to trace some historical connections between play and the city. In various ways, play and games have been part and parcel of urban theory and practices since ancient times (see also de Lange, 2009). From Roman “bread and games” (*panem et circenses*) to the present “experience economy” (Pine and Gilmore, 1999), cities have long been conceived as centers of entertainment and fun. The city in this view is the locus for actual playful behavior and activities, and for enjoying games or other forms of entertainment. Second, with the rise of the modern metropolis, people’s behaviors and attitudes in public space have come to be understood in playful terms through the use of theatrical metaphors. Theorists, such as Simmel, Goffman and Lofland, argued that urbanites engage in continuous role-playing and information games to deal with life among strangers who meet in highly segmented roles (Simmel, 1997; Goffman, 1959; Lofland, 1973). Third, a historical strand of “ludic architecture” connects play and games to the physical form of the city. After the Second World War, Dutch architect Aldo van Eyck dotted the ruined cityscapes in the Netherlands with outdoor play spaces as a way to counter top-down functionalist planning policies and open up room for people’s own creativity (Oudenampsen, 2013). If this historical line connects play to education, civilization and *Bildung* ideals, a related yet distinct fourth strand is about play as downright subversive. The Situationists criticized mass consumer society and sought to reclaim the right to the city through subversive counter-play and everyday spatial tactics, such as *dérive* and *detournement* (Debord, 1955, 1958, 2005; De Certeau, 1984). Recent approaches in the same tradition have focused on subcultural or countercultural urban practices, such as skateboarding or *parkours* (Borden, 2001; Mould, 2009). Fifth, while not strictly playful, key notions from the world of informatics, such as networks, simulation, feedback loops and virtual reality, have come to profoundly influence architectural theory and practice as new ways to imagine, represent and design cities with digital tools (see, for instance, Wigley, 2001; Picon, 2008). Cybernetics and systems theory have been very influential ways of understanding the city as emergent rule-based systems, which can be “played” through creative recombinations and generative, algorithmic, responsive or parametric design (see, for example, Berry, 1964; Beesley

and Khan, 2009). Finally, in late capitalism, play has been absorbed by work itself, through the conflation of labor and leisure time and the concomitant ethics of the creative class, hacker ethic, etc. (Rifkin, 2000; Florida, 2002; Himanen, 2001; Scholz, 2013; Fortunati, 2015).

From this extremely compressed overview, several insights can be distilled. Historical conceptions of the “playful city” have existed on multiple levels and in various forms, across spatial, social and mental spheres of urban life. In the majority of these views, there is a clear conception of “smartness” involved in play. However, it is a rather different view of smartness: didactic and self-empowering in Van Eyck’s urban playgrounds, shrewd subversiveness in Situationism’s playful tactics, cleverness and self-confidence in playing information games in role-playing, and of almost demiurgic ambition in parametric design. Note that in some other historical strands sketched above play is equated with mere entertainment and implicitly taken as childish, stupefying or opium for the masses. Another point is that in early modern times the realms of play and everyday life became separated. More recently, they have been (again) understood as inextricably intertwined. This has been largely driven by the advent of digital technologies in the urban realm and the presumed link to creativity and smartness. A final point is that there are salient differences in play and between play and games itself. Following the work of Roger Caillois, several play activities are distinguished, such as competition, chance, pretense and sensory stimulation (Caillois, 2001). In addition, Caillois noted that play attitudes may alternate between spontaneous and intrinsically motivated free play (*paidia*) to rule-based and goal-oriented gaming (*ludus*).

In game design too, the city has often been a central source of inspiration. Alternately called pervasive/ubiquitous/location-based mobile/hybrid reality/alternate reality/urban games, a whole genre of games frames the city as a playing board in order to escape the confines of the screen and be played in hybrid physical-digital spaces (de Souza e Silva, 2006; Chang and Goodman, 2006; Montola, Stenros and Waern, 2009; de Souza e Silva and Sutko, 2009). Cities also frequently figure in game design. This may range from representations of particular cities in the US in the GTA series, to simulating the complexities of city-making in SimCity, to playing with the future of a smart city gone rogue in Ubisoft’s Watchdogs. In this chapter, we focus on the question how game designers, artists and architects

have been developing games that center on specific urban problems, and create play experiences that connect people to life in the city and to fellow urbanites. This is a relatively recent area of expertise that connects urban design with developments in the world of game design. Designing games that are not just played for their entertainment value but also for serious purposes is known under such labels as serious games, games for change, applied games, gamification, persuasive games, etc. The differences between these notions will not be discussed here. It suffices to note that while the use of games and play elements to help solve problems appears promising, a careful balance must be struck between simulating “real world” complexity and deliberate simplification, and between leveraging people’s intrinsic play motivations and achieving external goals.

Levelling city play. Play and games may foster participation and citizen-driven innovation on various levels. In this analysis, the author will move from the most applied level of using games for actual urban design to playful experiences without any immediate utilitarian purpose.

First, games may be used to engage people in the actual planning and design process itself through simulation, feedback and using outcomes in actual design. An early example from the Netherlands is *Baas op Zuid* (www.baasopzuid.nl, 2002), a project by BBVH architects in collaboration with housing corporations. The online simulation game was used for the redevelopment of two old neighbourhoods in the city of Rotterdam. Players had to make decisions about their neighbourhood. With a limited budget, would they choose more green spaces, more parking spots or more playgrounds? Players immediately could see the consequences of their choices. Outcomes were aggregated and sent to the planners. Not only did this inform the actual design and decision-making process, but inhabitants also acquired a better understanding of stakeholder deliberations in complex trajectories of city rejuvenation. People who normally would not attend a town hall meeting now had a chance to speak up. Still, in this case the professional remained the initiator and there was no far-reaching shift in the relationship between expert and amateur. Moreover, there was no true gameplay involved, except for the immediate multi-sensory feedback on decisions made (for example, seeing less coins or hearing traffic noise).

Second, games allow people to act on a wide range of specific urban issues through role-playing, building trust, forging collaborations and tapping into crowd creativity. An example is *Community PlanIt* (<http://>

engagementgamelab.org/projects/community-planit, 2011) by Eric Gordon and team (Gordon and Koo, 2008; Gordon, Schirra and Hollander, 2011). Players answer questions and complete missions to earn virtual coins that they can pledge to real-world urban planning causes. Players also earn awards, including bonus coins by participating in in-game deliberations. Through this game, citizens, municipality and other stakeholders take up different yet equivalent roles and collectively try to solve problems. Through team cooperation, these games build trust, which helps to overcome the tension between short and long term interests. Citizens now have become actual agenda-setters and problem-solvers.

Another project from the Netherlands is *Rezone the game* (de Lange, 2013). Two cultural organizations from the city of Den Bosch, together with a university for applied science's game design program, developed a game hybrid board/screen game. *Rezone* consists of a physical board game with 3D printed iconic buildings that represent the neighborhood, an augmented reality layer of real-time information about these buildings projected on a screen, and a computer algorithm programmed to let vacancy spread like a virus around already empty buildings. Players have to salvage real estate from decline by making strategic investments and forging collaborations. Participants adopt one out of four possible stakeholder roles. In the case of vacancy, these roles include proprietor (owner of real estate), mayor (representing the municipality), engineer (urban designer) and citizen (neighbors). The challenge is for players to not just pursue individual self-interest, but to strategically collaborate in order to defeat the system, which is programmed to let the city descend into decay. In a time in which architecture is under pressure – financially, but also with regard to the legitimacy of professional expertise – it is important that new processes are developed that allow citizens to become shared owners of the processes and outcomes of urban interventions. *Rezone* is an attempt to establish this sense of ownership through intrinsically motivated play and contribute to livable and lively cities. Like most other games, *Rezone* is a radical simplification of a complex issue. *Rezone* itself does not provide solutions. What it can do is to put an issue on the agenda, convene various stakeholders around an issue and allow them to discover horizons for action for themselves. When people craft their own solutions, they will have a much stronger sense of ownership over the outcomes. Already one of the largest construction and real estate companies in the Netherlands has shown interest.

Third, games are used to stimulate playful encounters and interactions with other people and places by stimulating serendipity and fun. In *Koppelkiek* (www.koppelkiek.nl, 2009), by social game maker Kars Alfrink, players in a troublesome neighborhood in Utrecht had to execute simple missions by taking a snapshot of oneself, for example, together with someone else and a randomly found number. These pictures were publicly shown in the window of a neighborhood center and acted as a conversation piece between neighbors. This game was explicitly created to promote playful interactions and serendipity. Players were invited to drop their usual defense mechanism and open themselves up. The game, thus, helped to cement social cohesion and trust between neighbors, and re-engage with the urban environment.

Fourth, games are used to foster a “sense of place”, a feeling of belonging and care for the city through emotionally powerful play experiences. An example is the “subtle mob” project *As If It Were the Last Time* (<http://wearecircumstance.com/as-if-it-were-the-last-time.html>, 2009) by artist Duncan Speakman, in which participants underwent a cinematographic experience in the streets of London. Participants downloaded an mp3 track and received a secret location and time to start the track on a portable audio player. They were divided into two teams. One team received instructions to perform a minimal scene, while the other group listened to a soundtrack and voice-over and became the audience of a filmic scene performed out on the streets. This hardly qualifies as a game, yet it creates a shared playful experience and induces a sense of connectedness. Through a minimal intervention, participants themselves turn the everyday into a magical situation. Playfulness here stimulates affective responses and emotional ties.

These examples are about applying games or play experiences to the urban realm to foster the “playful city”. The reverse also happens: the city itself can be made “playable” in different ways (on the notion of playability, see, for instance, Kücklich, 2004). Two levels can be distinguished: the *procedural* level of designing certain playable urban infrastructures and services, and the *conditional* level of opening up existing urban policies for experiments and creative “smart governance”. At the procedural level, city infrastructures and services (e.g., traffic speed meters, public transport staircases) can be made interactive and gamified to stimulate certain behavior and mentality. A well-known example is the subway staircase turned into a giant live piano as a way to seduce travelers to climb the stairs

instead of taking the escalator²⁴². At the level of urban governance, there are numerous experiments that aim to open up the city to systemic change by its inhabitants. Innovations in “playing with the rules” and “leveling the playing field” include participatory budgeting, liquid politics, opening data repositories, and urban labs for semi-autonomous innovation. It is important to note the subtle but salient difference between the “playful city”, taken here as the city in which play and games stimulate the smartness of citizens, and the “playable city”, taken here as the city that itself becomes smart at infrastructural and institutional levels.

Conclusion: the playful smart citizen. In summary, some provisional lessons that could influence how we think about, study and design the smart city are formulated. From the brief historical excavation of the relationship between play and the city, it has been shown how “smartness” in play is understood in a variety of ways. The author suggests that thinking and working along the lines of the “playful city” open up a host of ways to conceive “smartness”, instead of just a technologically-driven one. If we want citizens to be smart alongside cities, we need to better understand how people are already smart in a multitude of ways and how we could leverage this to make better and more interesting cities. Also, from this overview, an important consideration has arisen with a more critic’s dimension. Play risks becoming absorbed into goal-oriented utilitarian practices and neoliberal and self-disciplining discourses of labor as play. While this has not received much attention here, this should be born in mind when further studying and design the playful city.

From the analysis of the mentioned examples, it has been seen that stakeholders while playing meet in a joyous atmosphere, instead of intense town hall meetings or around the negotiation table. Playing together allows trustful relationships to form, which allows forging new social ties or solidifying existing ones. Play in itself probably is not enough to solve urban problems, such as vacancy or the lack of ownership and social cohesion. Playing together, however, may act as a catalyst. From the analysis, it has also become clear that urban design no longer is the exclusive domain of architects and planners. Game makers, media artists and app developers too are designers of today’s cities across physical, social and experiential ranges. Cities face ever more complex issues. This requires smart strategies to tap

²⁴² *Piano Staircase* [interactive]. <www.thefuntheory.com>. The notion of gamification has been hotly debated; see, for instance, Deterding, 2011.

into the pool of citizen wisdom and participation. Games and play seem great ways to do so. However, this requires planners to relinquish control, accept uncertain and ambiguous outcomes, and to allow failure to possibly occur.

Games are ontologically ambiguous: they are composed of a set of constitutive rules, a material setting, and actualized through the embodied activities of the players. This is comparable to what architects may recognize as program, design and use, but with a twist. Game designers create rules and settings, yet the game is only actualized by actual players. People playing are not merely end users. They are active participants. They frequently engage in active production and “meta-play”, playing with the (rules of) the game itself. Players subvert original rules, hack, cheat, exchange game tips, create derivatives and tell stories about their own play. According to Dutch historian Johan Huizinga, author of the seminal work *Homo ludens* from 1938, play is not an element in culture, but at the origin of culture (Huizinga, 1955). Play generates culture because it provides room for innovation. Play offers a safe space for experiment and collaborations in which failing does not immediately have grave consequences. Huizinga’s observation that culture emerges from play suggests that these various play interventions discussed above may contribute to a new urban planning culture in particular and participatory urban culture at large (van Westrenen, 2011; de Lange, 2013; de Lange, van Boxmeer and Peters, 2014). Playful citizens then are not passive users of their city, but adopt a more active role as co-creators of their environments or “city hackers”. This way a sense of ownership can arise (de Lange and de Waal, 2012, 2013). Instead of leaving it up to governments, corporations and (design) professionals, citizens in the playful city create their own smart urban culture.

~~5.3. Experimental Application of the CI Potential Index Methodology~~

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~~5.3.1. The Course and Methodology of the Experiment~~

~~To analyse the hypotheses on peculiarities and preconditions for CI development, a scientific experiment was launched alongside with the~~

REFERENCES

- A Digital Agenda for Europe. 2010. *European Commission* [interactive]. Communication COM (2010) 0245. Brussels: European Commission. <<http://ec.europa.eu/digital-agenda/digital-agenda-europe>>.
- Abs, H. J.; Veldhuis, R. 2006. Indicators on Active Citizenship for Democracy – the social, cultural economic domain. *Paper by Order of the Council of Europe or the CRELLNetwork on Active Citizenship for Democracy*. The European Commission's Joint Research Center in Ispra, Italy.
- Ackoff, R. L. 1999. *Ackoff's Best: His Classic Writings on Management*. John Wiley&Sons, New York.
- Adler, E. 1997. Seizing the Middle Ground: Constructivism in World Politics. *European Journal of International Relations*, 3(3): 319–363.
- Adler, P. R.; Goggin, J. 2013. What Do We Mean By “Civil Engagement”? *Journal of Transformative Education*, 3(3): 236–253.
- Akgun, A. E.; Byrne, J.; Keskin, H.; Lynn, G. S.; Imamoglu, S.Z. 2005. Knowledge Networks in New Product Development Projects: A Transactive Memory Perspective. *Information and Management*, 42(8), 1105–1120.
- Akgüna, A. E.; Dayanb, M.; Benedettoc, A. D. 2008. New Product Development Team Intelligence: Antecedents and Consequences. *Information & Management*, 45(4): 221–226.
- Akyazi, U. 2014. Possible Scenarios and Maneuvers for Cyber Operational Area. *International Conference ECCWS, Greece*.
- Alag, S. Collective Intelligence in Action. *Manning Publications Co* [interactive]. 2010 [accessed 2010-07-26]. <<http://www.bootb.com/en/about/>>.
- Alahuhta, P. P.; Nordbäck, E.; Sivunen, A.; Surakka, T. 2014. Fostering Team Creativity in Virtual Worlds. *Journal For Virtual Worlds Research*, 7(3).
- Alberghini, E.; Cricelli, L.; Grimaldi, M. 2010. Implementing Knowledge Management through IT Opportunities: Definition of a Theoretical Model Based on Tools and Processes Classification. *The Proceedings of the 2nd European Conference on Intellectual Capital*, Lisbon, Portugal, p. 22–33.
- Aleksandravičius, A.; Žukovskis, J. 2011. Kaimo bendruomenių raida ir jų veiklos tikslai: siekiant darnumo visuomenėje. *Vadybos mokslas ir studijos – kaimo verslų ir jų infrastruktūros plėtrai*, 1(25): 7–15.
- Alexander, J. C. 2009. The Democratic Struggle for Power: the 2008 Presidential Campaign in the USA. *Journal of Power*, 2(1): 65–88.
- Ali, O. G.; Faltin, F. W.; Doganaksoy, N. 1997. Practical Change Point Estimation. *Technical Information Series*. General Electric Company, Research and Development Center.

- Ališauskas, K.; Jankauskienė, A.; Kairytė, L. 2008. Nuostatų kaita kaimo bendruomenių veikloje. *Ekonomika ir vadyba: aktualijos ir perspektyvos*, 3(12): 5–13.
- Alonso, O.; Rose, D. E.; Stewart, B. 2008. Crowdsourcing for Relevance Evaluation. *ACM SIGIR Forum*, 42(2): 9–15.
- Amabile, T. M. 1988. A Model of Organizational Innovation. In B. M. Staw, & L. L. Cummings (Eds.). *Research in Organizational Behavior*, 10:123–167. Greenwich, CT: JAI Press.
- Amabile, T. M. 1997. Motivating Creativity in Organizations. *California Management Review*, 40(1): 22–26.
- Andersen, K. N. 2011. Social Technologies and Health Care: Public Sector Receding, Patients at the Steering Wheel. *Conference proceedings „Social Technologies“*, 11.
- Anderson, A.; Huttenlocher, D.; Kleinberg, J.; Leskovec, J. 2013. Steering user behavior with badges. *Proceedings of the 22nd international conference on World Wide Web*, pp. 95–106. International World Wide Web Conferences Steering Committee.
- Andrews, D. W.; Andrews K. 1993. Tests for Parameter Instability and Structural Change with Unknown Change Point. *Econometrica*, 61(4): 821–856.
- Andrews, R. 2010. Organizational Social Capital, Structure and Performance. *Human Relations*, 63(5): 583–608.
- Armstrong, A.; Hagel, J. III. 1995. Real Profits from Virtual Communities. *The McKinsey Quarterly*, 3: 127–41.
- Asvanund, A.; Clay, K.; Krishnan, R.; Smith, M. D. 2004. An Empirical Analysis of Network Externalities in Peer-to-peer music-sharing Networks. *Information Systems Research*, 15(2): 155–174.
- Aulinger, A.; Miller, L. 2014. Collective Intelligence versus Team Intelligence. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Aulinger, A.; Miller, L. 2014. Kollektive Intelligenz, Teamintelligenz, Intelligenz – Was sie verbindet – Was sie unterscheidet, Berlin. To be published in March 2014 with an english summary. Summary on www.iom-edition.org.
- Bache, I.; Flinders, M. 2004. *Multi-level Governance*. Oxford: Oxford University Press.
- Bagdonienė, D.; Daunorienė, A.; Simanavičienė, A. 2011. Nevyriausybių organizacijų veiklos kokybės ir efektyvumo vertinimas. *Ekonomika ir vadyba*, 16: 654–663.
- Bailey, K. 2008. *Methods of social research*. New York: Simon and Schuster.
- Bakhouya, M.; Gaber, J. 2014. Bio-inspired Approaches for Engineering Adaptive Systems. *Procedia Computer Science*, 32: 862–869.
- Balis, M. E.; Krakoff, I. H.; Berman, P. H.; Dancis, J. 1967. Urinary Metabolites in Congenital Hyperuricosuria. *Science*, 156(3778): 1123.

- Ball, C.; Dunn, L. 1995. *Non-Governmental Organisations: Guidelines for Good Policy and Practice*. The Commonwealth Foundation.
- Ballantyne, D.; Aitken, R. 2007. Branding in B2B Markets: Insights from the Service-dominant Logic of Marketing. *Journal of Business & Industrial Marketing*, 22(6): 363–71.
- Banks, N.; Hulme, D. 2012. The Role of NGOs and Civil Society in Development and Poverty Reduction. *BWPI Working Paper*. [accessed 2013-04-12] <<http://www.bwpi.manchester.ac.uk/resources/Working-Papers/bwpi-wp-17112.pdf>>.
- Barabasi, A. L. 2002. *Linked: the New Science of Networks*. New York: Perseus
- Barahona, M.; García, C.; Gloor, P.; Parraguez, P. 2012. Tracking the 2011 Student-led Movement in Chile through Social Media Use. *MIT, Collective Intelligence 2012*.
- Barrett, M.; Cappleman, S.; Shoib, G.; Walsham, G. 2004. Learning in Knowledge Communities: Managing Technology and Context. *European Management Journal*, 22(1): 1–11.
- Barrett, T. 2010. The problem-based learning process as finding and being in flow. *Innovations in Education and Teaching International*, 47(2): 165–174.
- Barsade, S.; Gibson, D. 2007. Why Does Affect Matter in Organizations? *Academy of Management Perspectives*, 21: 36–59.
- Bartels, A.; Daley, E.; Ashour, M. 2009. Global IT Market Outlook: 2009. *Forrester Research, Inc.*
- Bartle, R. 1996. Hearts, diamonds, clubs, spades: Players who suit MUDS. *Prieiga internete* <<http://www.mud.co.uk/richard/hclds.htm>> [accessed 2014-10-26].
- Bartle, R. 2003. *Designing Virtual Worlds*. New Riders Games.
- Bartoš, J.; Walek, B.; Klimeš, C.; Farana, R. 2014. Fuzzy Application with Expert System for Conducting Information Security Risk Analysis. *Proceedings of the 13th European Conference on Cyber warefare and Security: ECCWS 2014* (p. 33). Academic Conferences Limited.
- Batra, A.; Kaushik, P.; Kalia, L. 2010. System Thinking: Strategic Planning. *Journal of Indian Management*. October–December.
- Bauerlein, M. 2008. *The Dumbest Generation*. New York: Penguin Group.
- Baumann, Z. 2001. *Community: Seeking Safety in an Insecure World*. Oxford: Polity Press.
- Beck, T. 2007. *Web 2.0: User-generated content in online communities*. Hamburg: Diplomica Verlag.
- Beck, U. 2002. The Cosmopolitan Society and its Enemies. *Theory, culture & society*, 19(1-2): 17–44.
- Beer, S. 1967. *Cybernetics and Management*. English Universities Press, London.
- Beesley, P.; Khan, O. 2009. Responsive Architecture/Performing Instruments. In *Situated Technologies Pamphlet series*, ed Omar Khan, Trebor Scholz and Mark Shepard. New York: The Architectural League of New York.

- Beni, G. 2005. From Swarm Intelligence to Swarm Robotics. *Swarm Robotics*, 1–9.
- Bennett, V.; Koh, K. H.; Repenning, A. 2013. *Computing Creativity: Divergence in Computational Thinking*, ACM Special Interest Group on Computer Science Education Conference, (SIGCSE 2013), March 6-9, 2013, Denver, Colorado, USA.
- Berger, P. L.; Luckmann, T. 1999. *Socialinis tikrovės konstravimas: žinojimo sociologijos traktatas*. Vilnius: Pradai.
- Bernstein, A.; Klein, M.; Malone, T. W. 2012. Programming the Global Brain. *Communications of the ACM*, 55(5), 41–43.
- Berry, B. J. L. 1964. Cities as Systems within Systems of Cities. *Papers in Regional Science*, 13(1):147–163.
- Bitiukova, J. Hate speech in Lithuania. Frequently asked questions. *Human rights Monitoring Institute* [interactive]. Vilnius, 2011. [accessed 2013-05-06]. <http://www.hrmi.lt/uploaded/PDF%20dokai/Neapykantos_kurstymas_DUK_20110629.pdf>.
- Blackshaw, T. 2010. *Key Concepts in Community Studies*. London: Sage Publications.
- Blau, J. 2014. Big European Research Push on the Horizon. *Research-Technology Management*, 57(2): 3.
- Block, P. 2008. *Community: The Structure of Belonging*. San Francisco: Berrett-Koehler Publishers.
- Blockley, D. I. 2010. The Importance of Being Process. *Civil Engineering and Environmental Systems*, 27 (3): 189–199.
- Boase, J. et al. 2006. The Strength of Internet Ties. In the *Pew Internet and American Life Project*. [accessed 2014-12-8] < <http://www.pewinternet.org/Reports/2006/The-Strength-of-Internet-Ties.aspx>>.
- Bode, I. 2003. Flexible Response in Changing Environments: The German Third Sector Model in Transition. *Nonprofit and Voluntary Sector Quarterly*, 2(32): 190–206.
- Boden, M. A. 1994. *Dimensions of Creativity*. MIT Press. Cambridge: Massachusetts.
- Boder, A. 2006. Collective Intelligence: a Keystone in Knowledge Management. *Journal of Knowledge Management*, 10(1).
- Boland, R.; Tenkasi, R. 1995. Perspective Making and Perspective Taking in Communities of Knowing. *Organization Science*, 6(4): 350–372.
- Bonabeau, E. 2009. Decisions 2.0: The Power of Collective Intelligence. *MIT Sloan Management Review*, 50(2): 45–52.
- Bonabeau, E.; Dorigo, M.; Theraulaz, G. 1999. *Swarm Intelligence: from Natural to Artificial Systems*. New York: Oxford University Press.
- Bonabeau, E; Meyer, C. 2001. Swarm Intelligence: A Whole New Way to Think About Business. *Harvard Business Review*, 79 (5): 106–114.

- Booth K. Security and Self: Reflections of a Fallen Realist. 1994. *YorkSpace institutional repository* [interactive]. [accessed 2014-09-20]. <<http://yorkspace.library.yorku.ca/xmlui/bitstream/handle/10315/1414/YCI0073.pdf?sequence=1>>.
- Booyesen, F. 2002. An Overview and Evaluation of Composite Indices of Development. *Social Indicators Research*, 59(2): 115–151.
- Borden, I. 2001. *Skateboarding, Space and the City: Architecture and the Body*. Oxford England; New York: Berg.
- Borgatti, S. P.; Foster, P. C. 2003. The Network Paradigm in Organizational Research: A Review and Typology. *Journal of management*, 29(6): 991–1013.
- Boring, E. G. 1923. Intelligence as the Tests Test it. *The New Republic*, 24: 35–36.
- Bosch, O. J. H.; King, C. A.; Herbohn, J. L.; Russell, I. W.; Smith, C. S. 2007. Getting the Big Picture in Natural Resource Management—Systems Thinking as „Method“ for Scientists, Policy Makers and Other Stakeholders. *Systems Research and Behavioral Science*, 4: 217–232.
- Bosse, T.; Jonker, C. M.; Schut, M. C.; Treur, J. 2006. Collective Representational Content for Shared Extended Mind. *Cognitive Systems Research*, 7: 151–174.
- Bothos, E.; Apostolou, D.; Mentzas, G. 2009. Collective Intelligence for Idea Management with Internet-based Information Aggregation Markets. *Internet Research*, 19: 26–41.
- Boulesnane, S.; Bouzidi, L. 2013. A Case Study in the Context of Information Technology: Toward a Collective Intelligence Approach. *International Journal of Technology Management & Sustainable Development*, 12(2): 185–201.
- Boyatzis, R. E. 2007. Competencies in the 21st Century. *Journal of Management Development*, 27 (1): 7–11.
- Boyatzis, R. E.; Goleman D. 2007. *Emotional and Social Competency Inventory*. Boston: Hay Group.
- Brabham, D. C. 2008. Crowdsourcing as a Model for Problem Solving: an Introduction and Cases. *Convergence: The International Journal of Research into New Media Technologies*, 14(1): 75–90.
- Bradford, D. L.; Cohen, A.R. 1998. *Power up: Transforming organizations through shared leadership*. Wiley, Chichester.
- Brandt, F.; Conitzer, V.; Endriss, U. 2012. Computational Social Choice. *Multiagent systems*, 213–283.
- Brown, E.; Cairns, P. 2004. A grounded investigation of game immersion. In *Extended Abstracts of the 2004 Conference on Human Factors in Computing Systems*. ACM Press, New York, 1297-1300.
- Brown, P.; Lauder, H. 2000. Collective Intelligence. In: Baron, S., Field, J., Schuller, T. (eds.) *Social Capital: Critical Perspectives*, pp. 230. New York: Oxford University Press.
- Bruch, M.; Bodden, E.; Monperrus, M.; Mezini, M. 2010 IDE 2.0: Collective Intelligence in Software Development. *Proceedings of the FSE/SDP workshop on Future of software engineering research*, pp. 53–58. ACM.

- Brundin, E.; Wigren, C.; Isaacs, E.; Friedrich, C.; Visser, K. 2009. Triple Helix Networks in a Multicultural Context. Triggers and Barriers for Fostering Growth and Sustainability. *Journal of Development Entrepreneurship*, 1(13): 77–98.
- Bruneckienė, J.; Činčikaitė, R. 2009. Šalies regionų konkurencingumo vertinimas regionų konkurencingumo indeksu: tikslumo didinimo aspektas. *Ekonomika ir vadyba*, 14: 700–708.
- Bruns, A. et al. 2012. #qldfloods and @QPSMedia: Crisis Communication on Twitter in the 2011 South East Queensland Floods. *Media Ecologies Project. ARC Centre of Excellence for Creative Industries & Innovation*. [accessed 20-11-18] <<http://www.cci.edu.au/floodsreport.pdf>>.
- Buchanan, M. 2002. *Nexus: Small worlds and the Groundbreaking Theory of Networks*. Local: Norton.
- Büchel, B.; Raub, S. 2002. Building Knowledge-creating Value Networks. *European Management Journal*, 20(6): 587–596.
- Bučinskas, A.; Raipa, A. 2001. Piliečių dalyvavimo ir valdžios institucijų veiklos sąveika. *Tiltai*, 4.
- Bughin, J.; Byers, A. H.; Chui, M. 2011. How Social Technologies are Extending the Organization. *McKinsey Quarterly*, 20(11): 1–10.
- Bukšnaitis, V.; Blonskis, J.; Misevičius, A. 2011. Bičių spiečių imitavimas sprendžiant optimizavimo uždavinius. *Informacijos mokslai*, 2011(56): 163–173.
- Bygrave, L. A. 2012. *Legal and Privacy Challenges of Social Networking Sites*. Doctotal thesis, University of Oslo.
- Cabrera, A.; Cabrera, E. F. 2002. Knowledge-Sharing Dilemmas. *Organization Studies*, 23: 687–710.
- Cabrera, D.; Colosi, L.; Lobdell, C. 2008. Systems Thinking. Evaluation and Program Planning. *Systems Research and Behavioral Science*, 31(3): 299–310.
- Caillois, R. 1961. *Man, Play, and Games*. New York: Free Press.
- Caillois, R. 2001. *Man, Play, and Games*. Translated by Meyer Barash. Urbana and Chicago: University of Illinois Press. Original edition, 1958. Reprint, 2001.
- Calder, B. J.; Staw, B. M. 1975. Self-perception of Intrinsic and Extrinsic Motivation. *J Pers Soc Psychol*, 31: 599–605.
- Cano, M. G.; Kirby, D.; Urbano, D. 2006. A Literature Review On Entrepreneurial Universities: An Institutional Approach 1. *Working paper presented at the 3rd Conference of Pre-communications to Congresses*. Business Economic Department. Autonomous University of Barcelona. Barcelona, June 2006.
- Capelo, C.; Dias, JF. 2009. A Feedback Learning and Mental Models Perspective on Strategic Decision Making. *Educational Technology Research and Development*, 57: 629–644.
- Capra, F. 2002. *The Hidden Connections*. Doubleday, New York.

- Carayannis, E. G.; Campbell, D. F. J. In Carayannis E. G., Dubina, I.N., Seel, N., Campbell, D. F. J., Uzunidis, D. (Eds.) 2013. *Mode 3 Knowledge Production in Quadruple Helix Innovation Systems: Quintuple Helix and Social Ecology*. Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship, pp. 1293–1300. New York: Springer.
- Carayannis, E. G.; Campbell, D. F. J. 2012. *Mode 3 Knowledge Production in Quadruple Helix Innovation Systems*. 21st century Democracy, Innovation, and Entrepreneurship for Development. New York: Springer Briefs in Business.
- Carr, N. 2010. *The shallows: What the Internet is doing to our brains*. New York: W.W.Norton.
- Caselli, M. 2008. Measuring... what? Notes on some globalization indices. *Globalizations*, 5(3): 383–404.
- Cassar, A.; Wydick, B. 2010. Does Social Capital Matter? Evidence from a Five-country Group Lending Experiment. *Oxford Economic Papers*, 62(4): 715–739.
- Castells, M. 1996. The rise of the network society. *The information age: Economy, society and culture*. Massachusetts and Oxford: Blackwell.
- Castells, M. 2005. *Tinklaveikos visuomenės raida*. Informacijos amžius: Ekonomika, visuomenė ir kultūra, I tomas. Kaunas: Poligrafija ir informatika.
- Castells, M. 2006. *Tapatumo galia*. Kaunas: Poligrafija ir informatika.
- Castells, M.; Cardoso, G. 2005. *The Networked Society: from Knowledge to Policy*. Washington, DC: Johns Hopkins Center for Transatlantic Relations.
- Cenkov, E. 2010. *Civil Society in Bulgaria*. Sofija: Center for the Study of Democracy.
- Čepienė, A. 2011. Kaimo bendruomenės narių socialinio dalyvavimo teorinės įžvalgos. *Profesinės studijos: teorija ir praktika*, 8: 124–130.
- Chai, S.-K.; Salerno, J.; Mabry, P.; Stiles, E; Cui, X. 2010. Workings of Collective Intelligence within Open Source Communities. *Advances in Social Computing*, 6007: 282–289.
- Chakravarty, S. R. 2003. A Generalized Human Development Index. *Review of development economics*, 7(1): 99–114.
- Chalupnick, P. 2010. The CAPITAL in Social Capital: An Austrian Perspective. *American Journal of Economics and Sociology*, 69(4): 1230–1250.
- Chan, D.; Lo, W. 2007. Running Universities as Enterprises: University Governance Changes in Hong Kong. *Asia Pacific journal of Education*, 27(3): 305–322.
- Chanal, V., & Caron-Fasan, M. L. (2008). How to invent a new business model based on crowdsourcing: the Crowdspirit® case. In *Actes de la Conférence Internationale de Management Stratégique, Nice*, pp. 1–27.
- Chang, M.; Goodman, E. 2006. Asphalt Games: Enacting Place through Locative Media. *Leonardo electronic almanac*, 14(3).
- Chang, M.-H.; Harrington, J. E. Jr. 2005. Discovery and Diffusion of Knowledge in an Endogenous Social Network. *American Journal of Sociology*, 110: 937–976.

- Chapman-Smith, B. 2012. Social media took “church” role in quakes, New Zealand Herald. [accessed 2014-11-20] <http://www.nzherald.co.nz/technology/news/article.cfm?buffer_share=a6e0e&c_id=5&objectid=1082840>.
- Charles, A. What is the 1% rule? *The Guardian* [interactive]. 2006 [accessed 2010-07-10]. <<http://www.guardian.co.uk/technology/2006/jul/20/guardianweeklytechnologysection2>>.
- Checkel, J. T. 2001. The Europeanization of Citizenship. *Transforming Europe: Europeanization and domestic change*. Ithaca, NY: Cornell University Press.
- Checkland, P. 1981. *Systems Thinking Systems Practice*. Chichester: John Wiley & Sons.
- Chen, C. 2007. Holistic Sense-making: Conflicting Opinions, Creative Ideas, and Collective Intelligence. *Library Hi Tech*, 25: 311–327.
- Chen, R. S.; Hsiang, C. H. 2007. A Study on the Critical Success Factors for Corporations Embarking on Knowledge Community-based E-learning. *Information Sciences*, 177: 570–586.
- Chesbrough, H. 2006. *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Boston, MA: Harvard Business Press.
- Chesbrough, H. W. 2003. *Open Innovation, the New Imperative for Creating and Profiting from Technology*. Boston: Harvard Business School Press.
- Chesbrough, H. W.; Teece, D. J. 2002. Organizing for Innovation: When is Virtual Virtuous? *Harvard Business Review*, 80(8): 127–35.
- Chiu, YC.; Shyu, JZ.; Tzeng, GH. 2004. Fuzzy MCDM for Evaluating the E-commerce Strategy. *International Journal of Computer Applications in Technology*, 19(1): 12–22.
- Chlivickas, E.; Petrauskaitė, N. 2009. Aukštųjų technologijų sektoriaus plėtra: žmogiškųjų išteklių potencialas. *Public Administration*, 2(22): 26–31.
- Chui, M.; Manyika, J.; Bughin, J.; Dobbs, R.; Roxburgh, Ch.; Sarrazin, H.; Sands, G.; Westergren, M. 2012. *The Social Economy: Unlocking Value and Productivity through Social Technologies*. McKinsey Global Institute Report.
- Churchman, CW. 1968. *The Systems Approach*. Delacorte Press: New York.
- Clark, B. R. 2004. *Sustaining Change in Universities: Continuities in Case Studies and Concepts, Maidenhead*. Society for Research into Higher Education and Open University Press.
- Clough, P.; Earle, K.; Sewell, D. 2002. Mental Toughness: the concept and its measurement. In: I. Cockerill (ed.). *Solutions in Sport Psychology*, 32-45. London: Thomson.
- Cohen, D.; Prusak, N. 2001. *In Good Company: How Social Capital Makes Organizations Work*. Boston: Harvard Business School Press.
- Cohen, S. G.; Gibson, Ch. B. Virtual Teams Effective. *General Management review* [interactive]. Calcutta, 2012 [accessed 2013-04-06]. <<http://www.etgmr.com/GMRjan-mar04/art1.html>>.

- Coleman, J. 1990. *Foundations of Social Theory*. Cambridge: Harvard University Press.
- Collier, B.; Burke, M.; Kittur, N.; Kraut, R. 2008. Retrospective versus Prospective Evidence for Promotion: The Case of Wikipedia. *Academy of Management Annual Meeting*. Anaheim, CA.
- Collinson, D. 2007. *Collaborative leadership*. In: D. Collinson, Editor. *Collaborative leadership*, Centre for Excellence in Leadership: Lancaster.
- Community-Intelligence* [interactive]. 2010 [accessed 2010-05-15]. <<http://www.community-intelligence.com/blogs/public/archives/000270.html>>.
- Constant, D.; Sproull, L.; Kiesler, S. 1996. The Kindness of Strangers: The Usefulness of Electronic Weak ties for Technical Advice. *Organization Science*, 7(2): 119–135.
- Convention for the Protection of Human Rights and Fundamental Freedoms. 1950, Rome [accessed 2014-03-21] <<http://conventions.coe.int/Treaty/en/Treaties/Html/005.htm>>.
- Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data. 1981, Strasbourg [accessed 2013-01-11] <<http://conventions.coe.int/Treaty/en/Treaties/Html/108.htm>>.
- Cook, D. 2014. Identity Multipliers and the Mistaken Twittering of “Birds of a Feather”. *Proceedings of the 13th European Conference on Cyber warfare and Security: ECCWS 2014* (p. 42). Academic Conferences Limited.
- Cooke, P.; Clifton, N.; Oleaga, M. 2005. Social Capital, Firm Embeddedness and Regional Development. *Regional Studies*, 39(8): 1065–1077.
- Córdoba-Pachón, J. 2011. Embracing Human Experience in Applied Systems-Thinking, *Systems Research and Behavioral Science*, 28: 680–688.
- Corneli, J.; Mikroyannidis, A. 2012. Crowdsourcing Education on the Web: a rolebased analysis of online learning communities. In: Okada, Alexandra; Connolly, Teresa and Scott, Peter eds. *Collaborative Learning 2.0: Open Educational Resources*. Hershey, PA: IGI Global. 272–286.
- Coronato, A.; Florio, V.; Bakhouya, M.; Serugendo, G. 2012. Formal Modeling of Socio-technical Collective Adaptive Systems. *2012 IEEE Sixth International Conference on Self-Adaptive and Self-Organizing Systems Workshops*.
- Costa, R. 2002. *A Cultura Digital*. Publifolha.
- Costa, R. D. 2006. On a new concept of community: social networks, personal communities and collective intelligence. *Interface-Comunicação, Saúde, Educação: 2*(se), 0–0.
- Crevani, L.; Lindgren, M.; Packendorff, J. 2010. Leadership, not leaders: On the study of leadership as practices and interactions. *Scandinavian Journal of Management*, 26 (1): 77–86.
- Croissant, A.; Lauth, H. J.; Merkel, W. 2000. Zivilgesellschaft und Transformation: ein internationaler Vergleich. *Systemwechsel*, 5: 9–49.

- Cronk, M. 2012. Using Gamification to Increase Student Engagement and Participation in Class Discussion. In T. Amiel & B. Wilson (Eds.) *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2012*, pp. 311-315.
- Crooks, A. et al. 2013. #Earthquake: Twitter as a Distributed Sensor System. *Transactions in GIS*, 17(1): 124–147.
- Cross, R.; Parker, A. 2004. *The Hidden Power of Social Networks*. Harvard Business School Press, Boston, MA.
- Cruse, H.; Dean, J.; Ritter, H. 1999. Was ist Intelligenz? Karl-Heinz Wellmann and Utz Thimm (Ed.): *Intelligenz zwischen Mensch und Maschine. Von der Hirnforschung zur künstlichen Intelligenz. Begleitbuch zum Neuen Funkkolleg „Die Zukunft des Denkens“*, Münster.
- Csikszentmihalyi, M. 1975. *Beyond boredom and anxiety*. San Francisco, CA: Jossey-Bass.
- Csikszentmihalyi, M. 1996. *Flow and the Psychology of Discovery and Invention*. New York: Harper Collins Publishers.
- Czapiński, J. 1985. *Wartościowanie – zjawisko inklinacji pozytywnej. O naturze optymizmu*. Wrocław: Zakład Narodowy im. Ossolińskich.
- Dabbish, L.; Stuart, C.; Tsay, J.; Herbsleb, J. 2014. Social Coding in GitHub: Transparency and Collaboration in an Open Software Repository. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Dahlander, L.; O'Mahony, S. 2010. Progressing to the Center: Coordinating Project Work. *Organization Science*, (Arthur 1994). 1–19.
- Daj, A.; Chircha, A. 2009. Digital Marketing Instruments: Using Online Communities for Product Innovation. *Recent*, 10(27): 227–232.
- Damper, R. I. 2000. Emergence and Levels of Abstraction. *International Journal of Systems Science*, 31: 811–818.
- Dan, M. C. 2012. The Third Mission of Universities in the Development Strategy of Vienna City. *Informatica Economica*, 16(4): 49–56.
- DARPA, Defense Advanced Research Projects Agency, Network Challenge [interactive]. Arlington, 2010 [accessed 2010-08-10]. <<http://networkchallenge.darpa.mil/>>.
- Das, S.; Lavoie, A. 2014. Home Is Where the Up-Votes Are: Behavior Changes in Response to Feedback in Social Media. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Davenport, T. H.; Prusak, L. 2000. *Working Knowledge: How Organizations Manage What They Know*. Harvard Business School Press, Boston.
- Davies, I.; Issitt, J. 2005. Reflections on Citizenship Education in Australia, Canada and England. *Comparative Education*, 41: 389–410.
- Davis-Stober, C. P.; Budescu, D. V.; Dana, J.; Broomell, S. 2014. When Is a Crowd Wise? *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.

- Dawidowicz, P. 2011. The Person on the Street's Understanding of Systems Thinking. *Systems Research and Behavioral Science*, 29: 2–13.
- De Certeau, M. 1984. *The Practice of Everyday Life*. Berkeley: University of California Press.
- De Gennaro, T. 2010. Social Technologies Will Penetrate IT Management Tools. *Forrester Research*.
- de Lange, M. 2009. The Mobile City Project and Urban Gaming. *Second Nature: International Journal of Creative Media, special issue Games, Locative & Mobile Media*, 1(2): 160–169.
- de Lange, M. 2013. Rezone the Game: Playing for Urban Transformation. <http://www.bijt.org/wordpress/2013/04/24/rezone-the-game-playing-for-urban-transformation>.
- de Lange, M.; de Waal, M. 2012. Ownership in the Hybrid City. In. Amsterdam. <http://virtueelplatform.nl/g/content/download/virtueel-platform-ownership-in-the-hybrid-city-2012.pdf>.
- de Lange, M.; de Waal, M. 2013. Owing the City: New Media and Citizen Engagement in Urban Design. *First Monday, special issue Media & the city*, 18(11).
- de Lange, M.; van Boxmeer, R.; Peters, T. 2014. *Rezone Playful Interventions: Spelen voor de toekomst*. Den Bosch: BAI & bART/DW.
- De Muro, P.; Mazziotta, M.; Pareto, A. 2009. Composite Indices for Multidimensional Development and Poverty: An Application to MDG Indicators. *Wye City Group Meeting* [interactive]. Rome, 2009 [accessed 2014-10-01]. <http://www.fao.org/es/ess/rural/wye_city_group>.
- De Smet, H.; Lagadec, P.; Leysen, J. 2012. Disasters Out of the Box: A New Ballgame? *Journal of Contingencies and Crisis Management*. 20(3): 138–148.
- de Souza e Silva, A. 2006. From Cyber to Hybrid: Mobile Technologies as Interfaces of Hybrid Spaces. *Space and culture*, 9(3): 261–278.
- de Souza e Silva, A.; Sutko, D. M. 2009. *Digital Cityscapes: Merging Digital and Urban Playspaces, Digital formations*. New York: Peter Lang.
- De Wolf, T.; Holvoet, T. 2005. Emergence Versus Self-organisation: Different Concepts but Promising when Combined. *Engineering self-organising systems*, 3464: 1–15. Springer Berlin Heidelberg.
- Debord, G. 1955. Introduction to a Critique of Urban Geography. In *Les Lèvres Nues*.
- Debord, G. 1958. Theory of the Dérive. In *Internationale Situationiste*.
- Debord, G. 2005. *Society of the spectacle*. London: Rebel Press.
- Deci, E. L.; Ryan, R. M. 2008. Self-determination Theory: A Macrotheory of Human Motivation, Development, and Health. *Canadian Psychology*, 49: 182–185.
- Deleuze, G. 1953. *Empirisme et subjectivité*. Paris: PUF.

- Deleuze, G.; Guattari, F. 1982. *Mille plateaux*. Paris: Minuit.
- Deneubourg, J. L.; Aron, S.; Goss, S.; Pasteels, J. M. 1990. The Self-organizing Exploratory Pattern of the Argentine ant. *Journal of Insect Behavior*, 3: 159–168.
- Denning, P. J.; Hayes-Roth, R. 2006. Decision Making in Very Large Networks. *Communications of the ACM*, 49(11): 19–23.
- Denzin, N.; Lincoln, Y.S. (eds.) 1994. *Handbook of Qualitative Research*. Thousand Oaks: Sage Publications.
- Derksen, M.; Beaulieu, A. 2011. Social Technology. *The Handbook of Philosophy of Social Science*, 703-719.
- Derksen, M.; Vikkelsø, S.; Beaulieu, A. 2012. Social technologies: Cross-disciplinary reflections on technologies in and from the social sciences. *Theory Psychology*, 22(2): 139–147.
- DesignBay [interactive]. Surry Hills, 2010 [accessed 2010-05-28]. <<http://www.designbay.com/>>.
- Desouza, K. C.; Krishnamurthy, R. 2014. Crowdsourcing on Challenge.gov: Aligning Expectations between Public Managers and Citizens. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Deterding, S.; Dixon, D.; Khaled, R.; Nacke, L. 2011. Gamification: Toward a definition. *CHI 2011 gamification workshop*.
- Deterding, S.; Dixon, D.; Khaled, R.; Nacke, L. 2011. From Game Design Elements to Gamefulness: Defining “Gamification”. In *15th International Academic MindTrek Conference: Envisioning Future Media Environments*. Tampere, Finland: ACM.
- Diamantopoulos, A.; Winklhofer, H. M. 2001. Index Construction with Formative Indicators: An alternative to Scale Development. *Journal of Marketing Research*, 38(May): 277–290.
- DiBlasio, N. 2012. Disaster-relief groups try tweets, apps to spread the news. *USA Today*. [accessed 2012-09-01] <<http://www.usatoday.com/tech/news/story/2012-08-29/Disaster-Relief-Isaac-Social-Media/57414436/1>>.
- Diener, E.; Suh, E. 1997. Measuring quality of life: Economic, social, and subjective indicators. *Social indicators research*, 40(1-2): 189–216.
- Ding, L.; Difranzo, D.; Graves, A.; Michaelis, J. R.; Li, X.; McGuinness, D. L.; Hendler, J. 2010. Data-gov Wiki: towards linking government data architecture of data. *AAAI Spring Symposium on Linked Data Meets Artificial Intelligence*.
- Directive (EC) 2002/58 of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector [2002] OJ L201/37.
- Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data [1995] OJ L281/31.

- Domański, J. 2010. Zarządzanie strategiczne i jego modele dla organizacjami non profit. [accessed 2013-09-12]. <http://www.ptzp.org.pl/files/konferencje/kzzz/artyk_pdf_2010/39_Domanski_J.pdf>.
- Dominguez, A.; Saenz-de-Navarrete, J.; de-Marcos, L.; Fernández-Sanz, L.; Pagés, C.; Martínez-Herráiz, J. J. 2013. Gamifying Learning Experiences: Practical Implications and Outcomes. *Computers & Education*, 63(April 2013): 380–392.
- Dongping, F. 2010. The Tension between Holism and Purism: Comment on “Creative Holism”. *Systems Research and Behavioral Science*, 27: 200 –207.
- Dorigo, M.; Stützle, T. 2004. *Ant Colony Optimization*. Cambridge, MA: MIT Press.
- Dorigo, M; Maniezzo, V.; Colorni, A. 1996. Ant System: Optimization by a Colony of Cooperating Agents. *IEEE Transactions on Systems, Man, and Cybernetics*, 26: 29–41.
- Douglas, J. Y.; Hargadon A. 2001. *The Pleasures of Immersion and Engagement: Schemas, Scripts and the Fifth Business*. *Digital Creativity 2001*, 12(3):153–166.
- Dreifus, C. A Conversation with Scot. E. Page. In Professor’s Model, Diversity = Productivity. *The New York Times* [interactive]. New York, 2008 [accessed 2012-05-01]. <<http://www.dartmouth.edu/~mpayres/teach/Diversity%26Productivity.pdf>>.
- Drevel, A. 2009. Virtualios bendruomenės išraiškos. *Grupės ir aplinkos*, pp. 177–197.
- Drew, H.; Townsend, A. eds. 2013. *Smart Citizens*. Manchester: FutureEverything Publications.
- Driessen, P.P.J.; Glasbergen, P.; Verdaas, C. 2001. Interactive Policy-making a Model of Management for Public Works. *European Journal of Operational Research*, 128: 322–337.
- Drucker, P. 1995. *Zarządzanie organizacją pozarządową: teoria i praktyka*. Warszawa: Fundusz współpracy.
- Drwal, R. Ł. 1980. Delta questionnaire for measuring locus of control. *Polish Psychological Bulletin*, 11: 269–282.
- Drwal, R. Ł. 1995. Kwestionariusz do pomiaru poczucia kontroli (Delta) R. Ł. Drwala. In: R. Ł. Drwal, P. Brzozowski, P. Oleś (ed.). *Adaptacja Kwestionariuszy Osobowości*, 228–241. Warszawa: Wydawnictwo Naukowe PWN.
- Duarte, A. T. 2011. Privacy and Health System Solution Case. *Conference proceedings „Social Technologies“*, 11.
- Duchastel, P. 1992. Towards Methodologies for Building Knowledge-Based Instructional Systems. *Instr Sci*, 20(5-6): 349–358.
- Duffy, N. 2012. Using social media to build community resilience. *The Australian Journal of Emergency Management*, 27(1): 40–45.

- Dugan, L. 2012. Would you place a 911 call on Twitter? *Mediabistro*. [accessed 2012-09-05] <http://www.mediabistro.com/alltwitter/911-call-on-twitter_b27752>.
- Dunbar, K. 1999. *How scientists build models: In vivo science as a window on the scientific mind*. In L. Magnani, N. J. Nersessian, Thagard (Eds.), *Model-based reasoning in scientific discovery*, pp. 85 – 99. New York: Kluwer Academic/Plenum Press .
- Duncan, A. US Department of Education's Open Innovation Portal Hosts NEA Foundation's Challenge to Innovate (C2I). *US Department of Education* [interactive]. Washington, 2011 [accessed 2011-10-03]. <www.ed.gov/news/press-releases/us-department-educations-open-innovation-portalhosts-nea-foundations-challenge>.
- Duncan, S. 2011. Minecraft, Beyond Construction and Survival. *Well Played v.1, A journal on video games, value and meaning*.
- Dutta-Bergman, M. J. 2006. Community participation and Internet use after September 11: Complementarity in channel consumption. *Journal of Computer-Mediated Communication*, 11(2): 659–673.
- Dyer, J. R. G. ; Johansson, A.; Helbing, D.; Couzin, I. D.; Krause, J. 2009. Leadership, Consensus Decision Making and Collective Behaviour in Humans. *Phil. Trans. R. Soc. B*, 364: 781–789.
- Dyer, J. R. G.; Ioannou, C. C.; Morrell, L. J.; Croft, D. P.; Couzin, I. D.; et al. 2008. Consensus Decision Making in Human Crowds. *Animal Behaviour*, 75: 461–470.
- Ebert, U.; Welsch, H. 2004. Meaningful Environmental Indices: a Social Choice Approach. *Journal of Environmental Economics and Management*, 47(2): 270–283.
- Ebner, W.; Leimeister, J. M.; Krcmar, H. 2009. Community Engineering for Innovations: The Ideas Competition as a Method to Nurture a virtual Community for Innovations. *R&D Management*, 39: 342–356.
- Ebrahim, N. A.; Ahmed, S.; Taha, Z. 2009. Virtual Teams: a Literature Review. *Australian Journal of Basic and Applied Sciences*, 3(3): 2653–2669.
- Edelenbos, J.; Klijn, E. H. 2005. Managing Stakeholder Involvement in Decision Making: A Comparative Analysis of Six Interactive Processes in the Netherlands. *Journal of Public Administration Research and Theory*, 16: 417–446.
- Eliasz, A. 2002. *Psychologia ekologiczna*, w: J. Strelau (red). *Psychologia. Podręcznik akademicki*. Gdańsk: GWP
- Elmore, R. F. 2000. *Building a new structure for school leadership*. Washington: Albert Shanker Institute.
- Elveback, L. R.; Taylor, W. F. 1969. Statistical Methods of Estimating Percentiles. *Annals of the New York Academy of Sciences*, 161(2): 538–548.
- Engel, D.; Woolley, A. W.; Jing, L. X.; Chabris, C. F.; Malone, T. W. 2014. Reading the Mind in the Eyes or Reading between the Lines? Theory of Mind Predicts

- Collective Intelligence Equally Well Online and Face-To-Face. *PLOS ONE*, 9(12): e115212.
- Estellés-Arolas, E.; González-Ladrón-de-Guevara, F. 2012. Towards an Integrated Crowdsourcing Definition. *Journal of Information science*, 38(2): 189–200.
- Estermann, T.; Nokkala, T.; Steinel, M. 2011. University Autonomy in Europe II: The Scorecard. European University Association. Prieiga per internetą: <http://www.eua.be/Libraries/Publications/University_Autonomy_in_Europe_II_-_The_Scorecard.sflb.ashx>.
- Etzioni, A. 2011. Nationalism: The Communitarian Block. *The Brown Journal of Worlds Affairs*, 18(1): 229–247.
- Etzkowitz, H. 2003. Research Groups as “Quasi-firms”: The Invention of the Entrepreneurial University. *Research Policy*, 32: 109–121.
- Etzkowitz, H.; Webster, A.; Gebhardt, C.; Terra, B. 2000. The Future of the University and the University of the Future: Evolution of Ivory Tower in to Entrepreneurial University. *Research policy*, 29(2): 313–330.
- Europe 2020 strategy. *Europe 2020 – Europe’s growth strategy – European Commission* [interactive]. 2014 [accessed 2014-10-16]. <http://ec.europa.eu/europe2020/index_en.htm>.
- Europe 2020. A strategy for smart, sustainable and inclusive growth. 2010. *European Commission* [interactive]. Communication COM (2010) 2020. Brussels: European Commission. <http://ec.europa.eu/europe2020/index_en.htm>.
- European Commission „Research and Innovation Performance in EU Member States and Associated Countries: Innovation Union progress at country level“. Luxembourg: Publications Office of the European Union, 2013. <http://ec.europa.eu/research/innovation-union/pdf/state-of-theunion/2012/innovation_union_progress_at_country_level_2013.pdf>.
- Evans, M. M; Ali, N. 2013. Bridging Knowledge Management Life Cycle Theory and Practice. *International Conference on Intellectual Capital, Knowledge Management and Organisational Learning ICICKM 2013–Conference Proceedings*, pp. 156–165.
- Farbrot, A. 2014. Even more hooked on social media. ScienceNordic. [accessed 20-12-05] <<http://sciencenordic.com/even-more-hooked-social-media>>.
- Farsi, J. Y.; Imanipour, N.; Salamazadeh, A. 2012. Entrepreneurial University Conceptualization: Case of Developing Countries. *Global Business and Management Research: An international Journal*, 4(2): 193–204.
- Fernandes, J.; Duarte, D.; Ribeiro, C.; Farinhab, C.; Madeiras Pereira, J.; Miranda Silvab., M. 2012. iThink: A Game-Based Approach Towards Improving Collaboration and Participation in Requirement Elicitation. *Procedia Computer Science Volume 15, 2012*, pp. 66–77.
- Ferro, L. S.; Walz, S. P.; Greuter, S. 2013. Towards Personalised, Gamified Systems: An Investigation into Game Design, Personality and Player Typologies. *In*

- Proceedings of The 9th Australasian Conference on Interactive Entertainment: Matters of Life and Death*, New York, NY, USA, pp. 7:1–7:6.
- Fischer, G. 2001. Communities of Interest: Learning through the Interaction of Multiple Knowledge Systems. *Proceedings of the 24th IRIS Conference*, pp. 1-14. Department of Information Science, Bergen.
- Fischer, G. 2006. *Distributed Intelligence: Extending the Power of the Unaided Individual Human Mind*.
- Fisher, K.; Fisher, M. D. 1998. *The Distributed Mind: Achieving High Performance through the Previous Term Collective Intelligence Next term of Knowledge Work Teams*. New York: Amacon Press.
- Fletcher, J. K. 2004. The paradox of postheroic leadership. *The Leadership Quarterly* 15: 647–661.
- Flew, T. 2008. *New Media: An Introduction* (3rd Ed.). Melbourne: Oxford University Press.
- Florida, R. L. 2002. *The Rise of the Creative Class: and how it's Transforming Work, Leisure, Community and Everyday Life*. New York, NY: Basic Books.
- Foa, R.; Tanner, J. C. 2012. Methodology of the Indices of Social Development. *International Institute of Social Studies of Erasmus University Rotterdam* [interactive]. Hague, 2014 [accessed 2014-08-10]. <http://www.indsoctev.org/resources/Methodology%20of%20the%20Social%20Development%20Indices_%20jan11.pdf>.
- Fortunati, L. 2015. New Media, Play, and Social Identities. In *Playful Identities: The Ludification of Digital Media Cultures*, edited by Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul and Joost Raessens, 293-305. Amsterdam: Amsterdam University Press.
- Foth, M. 2011. *From Social Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement*. Cambridge: MIT Press.
- Foucault, M. 1979. *Discipline and Punish: the Birth of the Prison*. New York: Vintage Books.
- Foutz, N. Z.; Jank, W. 2010. Research Note-Prerelease Demand Forecasting for Motion Pictures Using Functional Shape Analysis of Virtual Stock Markets. *Marketing Science*, 29(3): 568–579.
- Fraustino, J. 2012. Social Media Use during Disasters: A Review of the Knowledge Base and Gaps. Final Report to Human Factors/Behavioral Sciences Division, Science and Technology Directorate, U.S. Department of Homeland Security. *National Consortium for the Study of Terrorism and the Response to Terrorism*. [accessed 2014-10-12] <http://www.start.umd.edu/sites/default/files/files/publications/START_SocialMediaUseduringDisasters_LitReview.pdf>.
- Freudenberg, M. 2003. Composite Indicators of Country Performance: A Critical Assessment. *STI Working Paper*, 2003(16): 2–34.

- Frey, K.; Luethje, C.; Haag, S. 2011. Whom Should Firms Attract to Open Innovation Platforms? The Role of Knowledge Diversity and Motivation. *Long Range Planning*, 44: 397–420.
- Fukuyama, F. 1996. *Confiança: as virtudes sociais e a criação da prosperidade*. Rio de Janeiro: Rocco.
- Fung, A. 2003. Associations and Democracy: Between Theories, Hopes, and Realities. *Annual Review of Sociology*, 29: 515–539.
- Furtado, V.; Ayres, L.; Oliveira, M. d.; Vasconcelos, E.; Caminha, C. *et al.* 2010. Collective Intelligence in Law Enforcement – The WikiCrimes System. *Inf. Sci.*, 180: 4–17.
- Future Vision: “Smart everywhere”. A Digital Agenda for Europe [interactive]. Brussels: European Commission, 2014 [accessed 2014-10-16]. <<http://ec.europa.eu/digital-agenda/en/future-vision-smart-everywhere>>.
- Gabelnick, F.; MacGregor, J.; Matthews, R. S.; Smith, B. L. 1990. *Learning Communities: Creating Connections among Students, Faculty, and Disciplines* (New Directions for Teaching and Learning #41). Jossey-Bass, John Wiley & Sons, Inc.
- Gan, Y.; Zhu, Z. 2007. A Learning Frame work for Knowledge Building and Collective Wisdom Advancement in Virtual Learning Communities. *Educational Technology & Society*, 10: 206–226.
- Gardner, H. 1983. *Frames of Mind: The Theory of Multiple Intelligence*. New York: Basic Books.
- Gardner, H. 2002. *Intelligenzen. Die Vielfalt des menschlichen Geistes*, Stuttgart.
- Gartner svetainė. 2013. Forecast: Video Game Ecosystem, Worldwide, 4Q13. <<https://www.gartner.com/doc/2606315>> [Priega: 2014-09-29].
- Gassmann, O. 2006. Opening up the Innovation Process: Towards an Agenda. *R&D Management*, 36(3): 223–228.
- Geerts, S. 2009. *Discovering crowdsourcing: theory, classification and directions for use*. Master thesis. Technishe Universiteit Eindhoven.
- Gehring, E. F. 2011. „Crowdsourcing“ a Textbook: 120 Student Authors Writing on a Wiki (Research-Based) *Educause* [interactive]. [accessed 2012-05-04]. <<http://www.educause.edu/Resources/CrowdsourcingaTextbook120Stude/223704>>.
- Geifman, D.; Koren, H. 2014. GEM: A Model for Collective Ideation. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Geiger, D.; Seedorf, S.; Schader, M. 2011. Managing the Crowd: Towards a Taxonomy of Crowdsourcing Processes. *Proceedings of the Seventeenth Americas Conference on Information Systems, Detroit, Michigan August 4th – 7th 2011*.
- Gellner, E. 1993. *Postmodernizmas, protas ir religija*. Vilnius: Pradai.
- Gerber, A. S.; Huber, G. A.; Doherty, D.; Dowling, C. M.; Raso, C.; Ha, S. E. 2011. Personality traits and participation in political processes. *Journal of Politics*, 73: 692–706.

- Gharajedaghi, J. 2006. *Systems Thinking: Managing Chaos and Complexity*. San Diego: Elsevier.
- Gholami, B.; Safavi, R. 2010. *Harnessing Collective Intelligence: Wiki and Social Network from End-user Perspective*. Proceedings of 2010 International Conference on e-Education, e-Business, e-Management and e-Learning.
- Gibbons, P. L. 1997. It's the World's Biggest Copy Machine. *PC Week*, 14(4): 109.
- Giles, J. 2005. Internet Encyclopaedias Go Head to Head. *Nature*, 438: 900–901.
- Gimžauskas G. 2012. Kodėl „Twitter“ nėra labai populiarus ir kam jis tinkamas? [accessed 2013-01-19] <<http://www.pinigukarta.lt/ka-tai-reiskia/it-ka-tai-reiskia/twitter-fenomenas>>.
- Gjerding, A. N.; Wilderom, C. P. M.; Cameron, S. P. B.; Taylor, A.; Scheunert, K. J. 2006. Twenty Practices of an Entrepreneurial University. *Higher Education Management and Policy*, 18(3): 76–103.
- Gladwell, M. 2010. Small change. *The New Yorker*, 4(2010): 42–49.
- Glez-Pena, D.; Lourenco, A.; Lopez-Fernandez, H.; Reboiro-Jato, M.; Fdez-Riverola, F. 2013. Web Scraping Technologies in an API World. *Briefings in Bioinformatics*, 15(5): 788–797.
- Global Innovation Index Report, 2014. <<https://www.globalinnovationindex.org/content.aspx?page=gii-full-report-2014>> [Prieiga: 2014-11-11].
- Gloor, P. 2006. *Swarm Creativity – Competitive Advantage through Collaborative Networks*. New York: Oxford University Press.
- Gloor, P. A.; Paasivaara, M.; Schoder, D.; Willems, P. 2008. Finding Collaborative Innovation Networks through Correlating Performance with Social Network Structure. *International Journal of Production Research*, 46(5): 1357–1371.
- Glynn, M. A. 1996. Innovative genius: A framework for relating individual and organizational intelligences to innovation. *Academy of Management Review*, 21(4): 1081–1111.
- Goffman, E. 1959. *The Presentation of Self in Everyday Life*. Garden City, New York: Doubleday.
- Goldfinger, J.; Ferguson, M. 2009. Social Capital and Governmental Performance in Large American Cities. *State & Local Government Review*, 25–36.
- Goldie, J. L. 2006. Virtual Communities and the Social Dimension of Privacy. *Law & Technology Journal*.
- Goleman, D. 1998. *Working with Emotional Intelligence*. New York: Bantam.
- Goncalo, J. A.; Staw, B. M. 2006. Individualism–collectivism and Group Creativity. *Organizational Behavior and Human Decision Processes*, 100(1): 96–109.
- Google [interactive]. 2010 [accessed 2010-06-20]. <<http://www.google.com>>.
- Gopal, A.; Prasad, P. 2000. Understanding GDSS in Symbolic Context: Shifting the Focus from Technology to Interaction. *MIS Quarterly*, 24(3): 509–546.
- Gordon, E.; Koo, G. 2008. Placeworlds: Using virtual worlds to foster civic engagement. *Space and Culture*, 11(3): 204–221.

- Gordon, E.; Schirra, S.; Hollander, J. 2011. Immersive Planning: a Conceptual Model for Designing Public Participation with New Technologies. *Environment and Planning B: Planning and Design*, 38(3): 505–519.
- Gore, A. 2013. *The Future*. New York: Random house.
- Gowing, N. 2009. *Skyful of Lies and Black Swans. The new tyranny of shifting information power in crises*. Oxford: The Reuters Institute of Technology.
- Goyal, A.; Akhilesh, K. B. 2007. Interplay among Innovativeness, Cognitive Intelligence, Emotional Intelligence and Social Capital of Work Teams. *Team Performance Management*, 13(7/8): 206 – 226.
- Grady M, Parisi F. 2006. *The Law and Economics of Cybersecurity*, Cambridge University press, Cambridge.
- Graham, G.; Kerrigan, F.; Mehmood, R.; Rahman, M. 2009. The Interaction of Production and Consumption in the News Media Social Space. *Communications Infrastructure. Systems and Applications in Europe*, pp. 229–239. New York: Springer Berlin Heidelberg.
- Granovetter, M. 1974. *Getting a Job: a Study of Contacts and Careers*. Chicago: University of Chicago Press.
- Granovetter, M. 2000. *Le marché autrement*. Paris: Desclée de Brouwer.
- Greenfield, A. 2013. *Against the Smart City (The city is here for you to use Book 1)*. New York: Do Projects.
- Greenwald, G.; MacAskill, E. 2013. NSA Prism Program Taps in to User Data of Apple, Google and Others. *The Guardian*, 7(6): 1–43.
- Gregg, D. 2009. Developing a Collective Intelligence Application for Special Education. *Decision Support Systems*, 47(4): 455–465.
- Gregg, D. G. 2010. Designing for Collective Intelligence. *Communications of the ACM*, 53(4): 134–138.
- Griffiths, M. 2007. Oxygen: Social Intranets, Collective Intelligence, and Government Practices. *Electronic Journal of E-government*, 5(2): 177–90.
- Grigas, R. 2010. Bendruomeniškumo ir savivaldos Lietuvoje kaitos bruožai: istoriosofinė interpretacija. Konferencija „Vietos savivalda ir bendruomenės Lietuvoje, Vilnius, 2010–02–10. [accessed 2013-04-12]. < <http://vinilas.lt/lvbos/siuntiniai/Konferencija1.pdf>>.
- Griggs, K.; Wild, R. 2013. A Social Networking Adoption Model for Communication and Collaboration in e-Government. *Proceedings of the 13th European Conference on eGovernment: ECEG 2013* (p. 221). Academic Conferences Limited.
- Gronroos, C. 2004. The Relationship Marketing Process: Communication, Interaction, Dialogue, Value. *Journal of Business and Industrial Marketing*, 19(2).
- Grootaert, C. 1997. *Social Capital: the Missing Link? (Social Capital Initiative working paper n.3)*. Washington: World Bank.

- Grootaert, C; Woolcock, M. 1997. *Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development*. Washington: World Bank.
- Gross, D. Google Boss: Entire World Will be Online by 2020. *CNN Tech* [interactive]. Atlanta, 2013 [accessed 2013-04-19]. <http://edition.cnn.com/2013/04/15/tech/web/eric-schmidt-internet/index.html?hpt=te_t1>.
- Groth, F. 2011). *Gamification: State of the Art Definition and Utilization*. 4th Seminar on Research Trends in Media Informatics. Conference Paper, pp 39-46.
- Gruber, T. 2008. Collective Knowledge Systems: Where the Social Web Meets the Semantic Web. *Journal of Web Semantics*, 6: 4–13.
- Grudens-Schuck, N.; Allen, B. L.; Larson, K. Focus Group Fundamentals. *Methodology Brief* [interactive]. Kern, 2004 [accessed 2012-09-07]. <<http://www.static.kern.org/gems/region4/FocusGroupFundamentalsRobert.pdf>>.
- Guide to Research and Innovation Strategies for Smart Specialisation (RIS 3), DG Regional Policy, Brussels. May 2012.
- Guilford, J.P. 1959. *Traits of creativity in Creativity and its Cultivation*. Harper and Row. pp. 142-161
- Gunawardena, C. N.; Hermans, M.B.; Sanchez, D.; Richmond, C.; Bohley, M.; Tuttle, R. 2009. A Theoretical Framework for Building Online Communities of Practice with Social Networking Tools. *Educational Media International*, 46(1): 3-16.
- Guogis, A.; Gudelis, D.; Stasiukynas, A. 2007. Nevyriausybių organizacijų ir savivaldybių santykių reikšmė plėtojant vietinę demokratiją: atvejo tyrimai dvejose Lietuvos savivaldybėse. *Viešoji politika ir administravimas*, 22.
- Gurses, S.; Diaz, C. 2013. Two Tales of Privacy in Online Social Networks. *IEEE Security & Privacy*, 11(3).
- Gyventojų dalyvavimas vietos reikalų tvarkyme. 2010. Studija. Vidaus reikalų ministerija.
- Hagel, J.; Brown, J. S.; Jelinek, M. A. R. I. A. N. N.; Sitkin, S.; Cardinal, L.; Bijlsma-Frankema, K. 2010. *Relational Networks, Strategic Advantage: New Challenges for Collaborative Control*. Cambridge: Cambridge University Press.
- Haldin-Herrgard, T. 2000. *Difficulties in Diffusion of Tacit Knowledge in Organizations*. *Journal of Intellectual Capital*, 1(4): 357–365.
- Hämäläinen, R. P.; Saarinen, E. 2004. Systems Intelligence-Discovering a hidden competence in human action and organizational life. *Research Reports*, 88, October, Helsinki University of Technology, Systems Analysis Laboratory: Espoo.
- Hamari, J., Koivisto, J., Sarsa, H. (2014). *Does Gamification Work? –A Literature Review of Empirical Studies on Gamification*. In *proceedings of the 47th Hawaii International Conference on System Sciences, Hawaii, USA, January 6-9, 2014*.
- Hampe, B. 1997. *Making Documentary Films and Reality Videos. A Practical Guide to Planning, Filming and Editing Documentaries of Real Events*. New York: Henry Holt and Company.

- Hampton, K. 2010. Internet Use and the Concentration of Disadvantage: Glocalization and the Urban Underclass. *American Behavioral Scientist*, 53(8): 1111–1132.
- Hampton, K. N. 2011. Comparing Bonding and Bridging Ties for Democratic Engagement. *Information, Communication & Society*, 14(4): 510–528.
- Handbook of Collective Intelligence. *MIT Center for Collective Intelligence* [interactive]. 2010 [accessed 2013-05-01]. <http://scripts.mit.edu/~cci/HCI/index.php?title=Main_Page>.
- Handbook on Constructing Composite Indicators: Methodology and User Guide*. 2008. The Organisation for Economic Co-operation and Development [interactive]. [accessed 2014-08-29]. <<http://www.oecd.org/std/42495745.pdf>>.
- Harman, K.; Koochang, A.; Paliszkievicz, J. 2014. Scholarly interest in gamification: a citation network analysis. *Industrial Management & Data Systems*, 114(9): 1438–1452.
- Harnad, S. 2007. *Creativity: Method or Magic? In: H. Cohen and B. Stemmer (eds.) Consciousness and Cognition: Fragments of Mind and Brain Amsterdam: Elsevier Academic Press, pp. 127–13.*
- Hartswood, M.; Grimpe, B.; Jirotko, M. 2013. Towards Ethical Governance of Social Machines. *Proceedings of the 2013 International Conference on Cloud and Green Computing*, pp. 426–427. IEEE Computer Society.
- Hartswood, M.; Grimpe, B.; Jirotko, M.; Anderson, S. 2014. Towards the Ethical Governance of Smart Society. *Social Collective Intelligence*, pp. 3–30.
- Hauschildt, J.; Kirchmann, E. 2001. Teamwork for Innovation – the “Troika” of Promoters. *R&D Management*, 31: 41–49.
- HDI. *United Nations Development Programme* [interactive]. 2014 [accessed 2014-08-10]. <<http://hdr.undp.org/en/content/human-development-index-hdi-table>>.
- Helbing, D. 2013. Globally Networked Risks and How to Respond. *Nature*, 497: 51–59.
- Helliwell, J.; Layard, R.; Sachs, J. 2013. *World Happiness Report 2013*. New York, NY: Sustainable Development Solutions Network.
- Henderson, C. R. 1895. Review. *Journal of Political Economy*, 3(2): 236–238.
- Henson B.; Reyns B.; Fisher B. 2011. Security in the 21st Century: Examining the Link between Online Social Network Activity, Privacy, and Interpersonal Victimization. *Criminal Justice Review*, 36(3).
- Herbst, J. 2005. *Oblicza społeczeństwa obywatelskiego*. Warszawa: FRSO.
- Herrscher, EG. 1995. Why is Systemic Thinking “Difficult to Sell”? *Critical Issues in Systems Theory and Practice*. New York: Plenum Press, pp. 45–49.
- Hesse, B. W.; O’Connell, M.; Augustson, E. M.; Chou, W. Y. S.; Shaikh, A. R.; Finney Rutten, L. J. 2011. Realizing the Promise of Web 2.0: Engaging Community Intelligence. *Journal of Health Communication*, 16(sup1): 10–31.

- Heylighen F. 2002. *The Global Brain as a New Utopia*, in: R. Maresch & F. Rötzer (eds.) *Zukunftsfiguren* (Suhrkamp, Frankfurt).
- Heylighen, F. 1999. Collective Intelligence and its Implementation on the Web: Algorithms to Develop a Collective Mental Map. *Computational & Mathematical Organization Theory*, 5: 253–280.
- Heylighen, F.; Bollen, J.; Riegler, A. 1999. *The Evolution of Complexity*. Dordrecht: Kluwer Academic.
- Himanen, P. 2001. *The Hacker Ethic and the Spirit of the Information age*. 1st ed. New York: Random House.
- Hirst, P.; Thompson, G. 1992. *Globalization in Question: the International Economy and the Possibilities of Governance*. Cambridge: Polity Press.
- Hirvelä A.; Huhtinen A.M.; Kangasmaa T. 2014. The Opportunities of National Cyber Strategy and Social Media. *Proceedings of the 13th European Conference on Cyber warfare and Security: ECCWS 2014* (p. 88). Academic Conferences Limited.
- Hofstadter, D. R. 1979. *Gödel, Escher, Bach: An Eternal Golden Braid*. New York: Basic Books.
- Hofstede, G. 2001. *Culture's Consequences. Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks: Sage.
- Holden, C. 2007. Young People's Concerns. In: D. Hicks i C. Holden (eds.). *Teaching the Global Dimension*, 31-42. London and New York: Routledge.
- Hollands, R. G. 2008. Will the Real Smart City Please Stand up? Intelligent, Progressive or Entrepreneurial? *City*, 12(3): 303–320.
- Hong, L.; Page, S. 2004. Groups of Diverse Problem-solvers Can Outperform Groups of High-ability Problem-solvers. *PNAS*, 101: 16385–16389.
- Horizon 2020, Work Programme 2014 – 2015. Information and Communication Technologies <http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-leit-ict_en.pdf>.
- Howe, J. 2008. *Crowdsourcing: Why the Power of the Crowd Is Driving the Future of Business*. New York: Crown Business.
- Howe, J. The Rise of Crowdsourcing. *Wired* [interactive]. Detroit, 2006. [accessed 2012-04-12]. <<http://www.wired.com/wired/archive/14.06/crowds.html>>.
- Huggins, R. 2003. Creating a UK Competitiveness Index: Regional and Local Benchmarking. *Regional Studies*, 37(1): 89–96.
- Huizinga, J. 1955. *Homo Ludens; a Study of the Play-Element in Culture*. Boston: Beacon Press.
- Hulpia, H.; Devos, G. 2010. How Distributed Leadership Can Make a Difference in Teachers' Organizational Commitment? *Teaching and Teacher Education*, 26(3): 565–575.
- Hume, D. 1983. *Traité de la nature humaine*. Paris: Aubier.

- Hung, W. 2008. Enhancing Systems Thinking Skills with Modeling. *British Journal of Educational Technology*, 39(6): 1099–1120.
- Hunicke, R., LeBlanc, M., Zubek, R. (2004) *MDA: A Formal Approach to Game Design and Game Research. Game Design and Tuning Workshop at the Game Developers Conference, San Jose.*
- Iandoli, L.; Klein, M.; Zollo, G. 2008. Can we Exploit Collective Intelligence for Collaborative Deliberation? The Case of the Climate Change Collaboratorium. *MIT Sloan School of Management Working Paper*, 4675–4708.
- Ikhaliya, E.; Arreyambi, J. 2014. Online Social Networks: A Vehicle for Malware Propagation. *Proceedings of the 13th European Conference on Cyber Warfare and Security: ECCWS 2014* (p. 95). Academic Conferences Limited.
- Ilgijus, V. 1999. Filantropija – nuo išimčių prie tradicijos. *Lietuvos laisvos rinkos instituto konferencija*, Vilnius. [accessed 2011-06-12]. <http://old.nisc.lt/nvo_lietuvoje.php>.
- Inglehart, R. 1998. *Human values and beliefs*. Ann Arbor: The University of Michigan Press.
- Innocentive* [interactive]. 2010 [accessed 2010-07-19]. <<http://www.innocentive.com/>>.
- Institute for a Broadband – Enabled Society* [interactive]. Melbourne, 2013 [accessed 2013-06-01]. <<http://www.broadband.unimelb.edu.au/>>.
- Intellectual Property on the Internet: A Survey of Issues. *WIPO* [interactive]. Geneva, 2002 [accessed 2013-04-28]. <http://www.wipo.int/copyright/en/ecommerce/ip_survey/>.
- Invernizzi, A.; Williams, J. (ed) 2009. *Children and Citizenship*. London: SAGE Publications Ltd.
- Iosup, A.; Epema, D. 2014. An experience report on using gamification in technical higher education. *Proceedings of the 45th ACM technical symposium on Computer science education (SIGCSE ‘14)*. ACM, New York, NY, USA, pp 27–32.
- Isenberg, D. J. 1986. Group polarization: A Critical Review and Meta-analysis. *Journal of Personality and Social Psychology*, 50(6): 1141–1151.
- Jackson, M.; Keys, P. 1984. Towards a System of Systems Methodologies. *Journal of the Operational Research Society*, 35(6): 473–486.
- Jakutytė, K. 2012. Nevyriausybių organizacijų veiklų įgyvendinimas e. dalyvavimo aspektu. *Viešoji politika ir administravimas*, 11(2).
- Janis, I. L. 1982. Groupthink: Psychological Studies of Policy Decisions and Fiascoes, *Journal of Personality and Social Psychology*, 50(6): 1141–1151.
- Jarvenpaa, S. L.; Leidner, D. E. 1999. Communication and Trust in Global Virtual Teams. *Organization Science*, 10(6, special issue: Communication Processes for Virtual Organizations): 791-815.
- Jasek, R.; Sarga, L. 2014. Human Factor: The Weakest Link of Security? *International Conference ECCWS, Greece.*

- Jasinevičius, R.; Petrauskas, V. 2011. *Sprendimų pagrindimo kompiuterizavimas*. Kauno technologijos universitetas. Kaunas: Technologija.
- Joffe, H.; Yardley, L. 2003. Content and Thematic Analysis in *Research Methods for Clinical and Health Psychology* (eds David F Marks and Lucy Yardley). UK: Sage
- Johannessen, J. A.; Olsen, B.; Olaisen, J. 2001. Mismanagement of Tacit Knowledge: the Importance of Tacit Knowledge, the Danger of Information Technology, and what to do about it. *International Journal of Information Management*, 21(1): 3–20.
- Johnson, S. 2012. *Future Perfect: The Case For Progress In A Networked Age*. Penguin Books Limited.
- Johnson, S. Swarming next time. *Feed* [interactive]. 2001 [accessed 2001-01-15]. <http://web.archive.org/web/20010707070217/www.feedmag.com/templates/default.php3?a_id=1568>.
- Joinson, A. N.; Paine, C. B. Self-disclosure, Privacy and the Internet. *Oxford Handbook of Internet Psychology* [interactive]. 2009 [accessed 2014-02-19]. <http://ekarapanos.com/courses/socialweb/Social_Web_fall_2011/Reading_Material_files/Joinson_sd.pdf>.
- Jokinen, T. 2004. Global Leadership Competencies: a Review and Discussion. *European Industrial Training*, 29(3): 199–216.
- Jones, Q.; Ravid, G.; Rafaeli, S. 2004. Information Overload and the Message Dynamics of Online Interaction Spaces: A theoretical Model and Empirical Exploration. *Information Systems Research*, 15(2): 194–210.
- Jones, R.; Corner, J. 2011. Stages and Dimensions of Systems Intelligence. *Systems Research and Behavioural Science*, 29(1): 30–45.
- Juozaitis, A. M.; Vilimienė, R. 2000. *Nevyriausybinių organizacijų: nuo aiškios strategijos link efektyvios veiklos*. Vilnius: Danielius.
- Kaigo, M. 2012. Social Media Usage During Disasters and Social Capital: Twitter and the Great East Japan Earthquake. *Keio Communication Review*. 34: 19–35.
- Kamm, N. 2011. FEMA will use social media through all stages of a disaster. *Nextgov*. [accessed 2014-12-08] <www.nextgov.com/technology-news/2011/02/fema-will-use-social-media-through-all-stages-of-a-disaster/48470>.
- Kanacri, B. P. L.; Rosa, V.; Giunta, K. D. 2012. The Mediation Role of Values in Linking Personality Traits to Civic Engagement in Italian Youth. *Journal of Prevention & Intervention in the Community*, 40(1): 8–21.
- Kankanhalli, A.; Tan, B. C.; Wei, K. K. 2005. Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation. *MIS Quarterly*, 29: 113–143.
- Kanter, B. SXSXW: What Social Media Analytics and Data Can't Tell You. *SocialMediaToday* [interactive]. Charlottesville, 2014 [accessed 2014-04-05]. <<http://socialmediatoday.com/kanter/2244086/sxsw-what-social-media>>.

- analytics-and-data-can-t-tell-you?utm_source=smt_newsletter&utm_medium=email&utm_campaign=newsletter&inf_contact_key=b37da04e20d94f37d6f59042b7280289815c740e3a2baaf68a6b8029204fd5e7>.
- Kapetanios, E. 2008. Quo Vadis Computer Science: From Turing to Personal Computer, Personal Content and Collective Intelligence. *Data & Knowledge Engineering*, 67: 286–292.
- Katz, N.; Lazer, D.; Arrow, H.; Contractor, N. (2005). The network perspective on small groups. *Theories of Small Groups*, Thousand Oaks, CA: Sage, 277–312.
- Keen, A. 2007. *The Cult of the Amateur: How Blogs, MySpace, YouTube, and the Rest of Today's Usergenerated Media are Destroying Our Economy, Our Culture, and Our Values*. 1st paperback ed. New York: Doubleday.
- Kennedy, K. J. 2006. Towards a Conceptual Framework of Understanding Active and Pasive Citizenship, Unpublished Report. In: J. Nelson, D. Kerr, *Active Citizenship in INCA Countries: Definitions, Policies, Practices and Outcomes*. London: QCA.
- Kerckhove, D. 1997. *Connected intelligence*. Toronto: Somerville House.
- Kerr, D. 1999. *Citizenship Education: an International Comparison*. London: QCA.
- Kėrytė, Ž. 2010. Pilietiškumo konstravimas globalumo kontekste: NVO vaidmens kaita Lietuvoje. *Kultūra ir visuomenė*, 1(2): 67–83.
- Kets de Vries, M. F. R. 2001. *The Leadership Mystique*. Pearson Education, London.
- Kets de Vries, M. F. R. 2004. What Makes the Leader Great? *Strategic Directions*, 8: 4–9.
- Khatib, F.; Cooper, S.; Tyka, M. D.; Xu, K.; Makedon, I.; Popović, Z. et al. 2011. Algorithm Discovery by Protein Folding Game Players. *Proceedings of the National Academy of Sciences*, 108(47): 18949–18953.
- Kimel, Bar-Din M. 2003. Focus group methodology. *The FDA Drug Safety & Risk Management Advisory Committee Meeting*, Gaithersburg, Maryland, December 4, 2003.
- Kinicki, A.; Kreitner, R. 2006. *Organizational Behavior: Key, Concepts, Skills and Best*. Burr Ridge: McGraw-Hill Irwin.
- Kirschner, P. A.; Shum, S. J. B.; Eds, C. S. C. 2005. Visualizing Argumentation: Software Tools for Collaborative and Educational Sense-making. *Information Visualization*, 4: 59–60.
- Kiškis, M. 2011. *Intelektinės nuosavybės teisinė apsauga elektroninėje erdvėje*. Vilnius: Mykolo Romerio universiteto Leidybos centras.
- Kišūnaitė, A. 2014. Visuomenės dalyvavimas politinių sprendimų priėmime: ar pereisime nuo pasyvaus stebėtojo iki aktyvaus partnerio vaidmens? *BNS pranešimas spaudai*.
- Kittur, A.; Nickerson, J. V.; Bernstein, M.; Gerber, E.; Shaw, A.; Zimmerman, J.; Lease, M.; Horton, J. 2013. The Future of Crowd Work. *Proceedings of the 2013 conference on Computer supported cooperative work*. ACM, New York, 1301–1318.

- Klein, M.; Cioffi, M.; Malone, T. 2007. Achieving Collective Intelligence via Large-Scale On-line Argumentation. In ICIW (p. 58).
- Klososky, S. 2011. *Enterprise Social Technology: Helping Organizations Harness the Power of Social Media, Social Networking, Social Relevance*. Austin: Greenleaf Book Group Press.
- Klug, G. C.; Schell, J. 2006. *Why people play games: An industry perspective*. In P.Vorderer & J.Bryant (Eds.). *Playing computer games: Motives, responses and consequences*. Mahwah, New Jersey: Erlbaum.
- Knack, S.; Keefer, P. 1997. Does Social Capital have an Economic Payoff? A Cross-country Investigation. *The Quarterly journal of economics*, 1251–1288.
- Koellinger, P. 2008. The Relationship between Technology, Innovation, and Firm Performance – Empirical Evidence from E-business in Europe. *Research policy*, 37(8): 1317–1328.
- Koh, K. H.; Nickerson, H.; Basawapatna, A. 2014. Early Validation of Computational Thinking Pattern Analysis. *ITiCSE “14 Proceedings of the 2014 conference on Innovation & technology in computer science education*. ACM New York, NY, USA.
- Kokswijk, J. 2007. *Digital Ego: Social and Legal Aspects of Virtual Identity*. Chicago: Eburon Academics Publishers.
- Komito, L. 1998. The Net as a Foraging Society: Flexible Communities. *The Information Society*, 14: 97–106.
- Koo, Ch.; Wati, Y.; Jung, J. J. 2011. Examination of How Social Aspects Moderate the Relationship Between Task Characteristics and Usage of Social Communication Technologies (SCTs) in Organizations. *International Journal of Information Management*, 31(5): 445–459.
- Koplowitz, R.; Owens, L. 2010. *Disciplined Social Innovation*. Forrester Research.
- Kozinets, R. V.; Hemetsberger, A.; Schau, H. J. 2008. The Wisdom of Consumer Crowds: Collective Innovation in the Age of Networked Marketing. *Journal of Macromarketing*, 28 (4): 339–354.
- Kratochwill, F.; Ruggie, J. G. 1986. International Organization: a State of the Art on an Art of the State. *International Organization*, 40(4).
- Krause, S.; James, R.; Faria, J. J.; Ruxton, G. D.; Krause, J. 2011. Swarm Intelligence in Humans: Diversity Can Trump Ability. *Animal Behaviour*, 81: 941–948.
- Kraut, R.; Resnick, P.; Kiesler, S. 2012. *Building Successful Online Communities*. Cambridge (Mass.): MIT.
- Kreiner, K.; Schultz, M. 1993. Informal Collaboration in R&D: the Formation of Networks across Organizations. *Organization Studies*, 14(2): 189–209.
- Krogh, G. 2003. Knowledge Sharing and the Communal Resource. In: Easterby-Smith, M.; Lyles, M. A. (eds.). *The Blackwell Handbook of Organizational Learning and Knowledge Management*. USA: Blackwell.

- Krogh, V.; Nonaka, I.; Voelpel, S.&G. 2000. Organizational knowledge creation theory: Evolutionary paths and future advances. *Organization Studies*, 27: 1179–1208.
- Krzywosw-Rynkiewicz, B. 2007a. *Odpowiedzialność podmiotowa dzieci. Jak rozumieć i inspirować jej rozwój*. Kraków: Impuls.
- Krzywosw-Rynkiewicz, B. 2007b. Developing responsibility - a challenge for 21st century teachers. Children's perception of subjective and non-subjective solutions in solving responsibility dilemmas. In: I. Kovalcikova (ed.), *Children's Identity And Citizenship In the Visegrad Context* (s. 95 –102). Presov.
- Kubilius, J. *Tikimybių teorija ir matematinė statistika*. Vilnius, 1996.
- Kücklich, J. 2004. Play and Playability as Key Concepts in New Media Studies. Report on research undertaken during Marie Curie fellowship at Dublin City University, 2003-2004.
- Kukla, A. 2000. *Social Constructivism and the Philosophy of Science*. New York: Routledge.
- Kvedaravičius, J. 2006. *Organizacijų vystymosi vadyba*. Kaunas: Vytauto Didžiojo Universitetas.
- Lapid, Y. 1989. The Third Debate: On the Prospects of International Theory in a Pos-Positivist Era. *International Studies Quarterly*, (3): 235–254.
- Laster, J. A. Swarm of Volunteers, a Honey of an Idea. *Chronicle of higher education* [interactive]. London, 2010 [accessed 2012-05-01]. <<http://chronicle.com/article/Crowdsourcing-a-Honey-of-an/65705/>>.
- Laszlo, E. 2002. *The Systems View of the World*. Hempton Press: Broadway.
- Lave, J.; Wenger, E. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge: University of Cambridge Press.
- Le, T. T.; Tarafdar, M. 2009. Business Ecosystem Perspective on Value Co-creation in the Web 2.0 Era: Implications for Entrepreneurial Opportunities. *International Journal of Entrepreneurial Venturing*, 1(2): 112–30.
- Lecy, J.; Schmitz, H.P.; Swedlund, H. 2012. NGO and NPO Effectiveness: A Modern Synthesis. *VOLUNTAS*, 23(2): 434–457.
- Lee, D. T.; Goel, A.; Aitamurto, T.; Landemore, H. 2004. Elicitation of Social Choice Functions. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Lee, M.; Lan, Y. 2007. From Web 2.0 to Conversational Knowledge Management: towards Collaborative Intelligence. *Journal of Entrepreneurship Research*, 2(2): 47–62.
- Lee, SK.; Yu, JH. 2013. Composite Indicator Development Using Utility Function and Fuzzy Theory. *Journal of the Operational Research Society*, 64(8): 1279–1290.
- Leibetseder, B. 2011. A Critical Review on the Concept of Social Technology. *Social Technologies*, 1(1): 7–24.

- Leichteris, R. 2011. Mokslo ir technologijų parkai socialinių technologijų kontekste. *Social Technologies*, 1(1): 139–150.
- Leimeister, J. M. 2010. Collective Intelligence. *Business & Information Systems Engineering*, 4(2): 245–248.
- Leimeister, J. M.; Huber, M.; Bretschneider, U.; Krčmar, H. 2009. Leveraging Crowdsourcing: Activation-supporting Components for IT-based Idea Competition. *Journal of Management Information Systems*, 26: 197–224.
- Leimeister, J. M. 2010. Collective Intelligence. *Business & Information Systems Engineering*, 4: 245–248.
- Leliūgienė, I.; Sadauskas, J. 2011. Bendruomenės sampratos traktuotės ir tipologija. *Socialinių mokslų studijos*, 2011, 3(4): 1281–1297.
- Leminen, S.; Westerlund, M. 2009. From Innovation Networks to Open Innovation Communities: Co-creating Value with Customers and Users. *A work-in-progress paper accepted to the 25th IMP Conference, September*, pp. 3–5.
- Lesser, E.; Ransom, D.; Shah, R.; Pulver, B. 2012. Collective Intelligence. Capitalizing on the Crowd. *IBM Global Services, NY*.
- Levine, S. S.; Prietula, M. J. 2014. The Hazards of Interaction: When Isolation Benefits Performance *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Lévy, P. 1997. *Collective Intelligence*. New York: Plenum Trade.
- Lévy, P. 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*. New York: Plenum.
- Lévy, P. 2002. *Cyberdemocratie*. Paris: Odile Jacob.
- Lévy, P. 2010. From Social Computing to Reflexive Collective Intelligence: The IEML Research Program. *Information Sciences*, 180: 71–94.
- Lewicka, M. 2004. Kup pan książkę... Mechanizmy aktywności obywatelskiej Polaków. *Studia Psychologiczne*, 42(4): 65–82.
- Lewicka, M. 2005. Ways to Make People Active: The Role of Place Attachment, Cultural Capital, and Neighborhood ties. *Journal of Environmental Psychology*, 25: 381–395.
- Lewicka, M. 2008. Dwaścieżkowy model aktywności społecznej: Kapitał społeczny czy kulturowy? In: D. Rutkowska i A. Szuster (eds.), *Różne oblicza altruizmu*, 245–275. Warszawa: Wydawnictwo Naukowe Scholar.
- Lewis, D. 2000. Management of Non-Governmental Organizations: Catalysts, Partners and Implementors. *Routledge*, 68–69.
- Li, Ch.; Bernoff, J. 2012. *Groundswell, Expanded and Revised Edition: Winning in a World Transformed by Social Technologies*. Harvard: Harvard Business School Press Books, 352 p.
- Liang, P.; Avgeriou, P.; He, K.; Xu, L. 2010. From Collective Knowledge to Intelligence: Pre-Requirements Analysis of Large and Complex Systems.

- Proceedings of the 1st Workshop on Web 2.0 for Software Engineering*, pp. 26–30. ACM.
- Lietuva2030.lt. *Lietuvos pažangos strategija “Lietuva 2030”* [interactive]. 2014 [accessed 2014-10-15]. <<http://www.lietuva2030.lt/images/stories/2030.pdf>>.
- Lietuvos Respublikos Aplinkos ministro įsakymas „Dėl Visuomenės informavimo ir dalyvavimo rengiant planus ir programas, skirtas aplinkos oro ir vandens apsaugai bei atliekų tvarkymui, tvarkos aprašas“ 2005 m. liepos 26 d. Nr. D1-381. [accessed 2013-01-22] < <https://www.e-tar.lt/portal/lt/legalActPrint?documentId=TAR.C06803F15FEE> >
- Lietuvos Respublikos Asociacijų įstatymas *Valstybės žinios*. 1996 m. Nr. I-1231.
- Lietuvos Respublikos Asociacijų įstatymas. *Valstybės žinios*. 2004, Nr. 25-745.
- Lietuvos Respublikos Konstitucija. 2 skirsnio 35 straipsnis. *Valstybės Žinios*. 1992, Nr. 33-1014.
- Lietuvos Respublikos Konstitucija. *Valstybės žinios*. 1992, Nr. 33-1014.
- Lietuvos Respublikos Labdaros ir paramos fondų įstatymas. *Valstybės žinios*. 1996, Nr. 32-787.
- Lietuvos Respublikos Nevyriausybinų organizacijų plėtros įstatymas. *Valstybės žinios*. 2013 Nr. XII-717.
- Lietuvos Respublikos Partnerystės sutartis (patvirtinta Europos Komisijos 2014 m. birželio 20 d.). <http://esinvesticijos.lt/uploads/documents/docs/97_d6e1d9e807333649c7d74147e36743bf.pdf>.
- Lietuvos Respublikos Peticijų įstatymas. *Valstybės žinios*. 1999, Nr. 66-2128.
- Lietuvos Respublikos Piliečių įstatymų leidybos iniciatyvos įstatymas. *Valstybės žinios*. 1999, Nr. 1-5.
- Lietuvos Respublikos Politinių partijų įstatymas. *Valstybės žinios*. 1990, Nr. 29-692.
- Lietuvos Respublikos Religinių bendruomenių ir bendrijų įstatymas. *Valstybės žinios*. 1995, Nr. 89-1985
- Lietuvos Respublikos Savivaldybių tarybų rinkimų įstatymas *Valstybės žinios*. 1994, Nr. 53-996.
- Lietuvos Respublikos šietimo ir mokslo ministerija, Mokslo ir studijų stebėsenos ir analizės centras (2013). *Lietuvos švietimas skaičiais 2013. Studijos*. Vilnius, 2013.
- Lietuvos Respublikos Susirinkimų įstatymas. *Valstybės žinios*. 1993, Nr. 69-1291
- Lietuvos Respublikos Teisėkūros pagrindų įstatymas. *Valstybės žinios*. 2012, Nr. 110-5564.
- Lietuvos Respublikos Teritorijos administracinių vienetų ir jų ribų įstatymas. *Valstybės žinios*. 1994, Nr. 60-1183.
- Lietuvos Respublikos Teritorijų planavimo įstatymas. *Valstybės žinios*. 1995, Nr. 107-2391.
- Lietuvos Respublikos Viešojo administravimo įstatymas. *Valstybės žinios*. 1999, Nr. 60-1945.

- Lietuvos Respublikos Viešųjų įstaigų įstatymas. *Valstybės žinios*. 1996 Nr. 68-1633; 2004 Nr. 90-4063.
- Lietuvos Respublikos Vietos savivaldos įstatymas. *Valstybės žinios*. 1994, Nr. 55-1049.
- Lietuvos Respublikos Vietos savivaldos įstatymo pakeitimo įstatymas. *Valstybės žinios*. 2008, Nr. 113-4290.
- Lietuvos Respublikos Visuomeninių organizacijų įstatymas. *Valstybės žinios*. 1995, Nr. 18-400.
- Lietuvos Respublikos Vyriausybės nutarimas „Dėl visuomenės informavimo ir dalyvavimo teritorijų planavimo procese nuostatų patvirtinimo“. *Valstybės žinios*. 1996, Nr. 90-2099.
- Lietuvos studijų politikos 2009-2011 m. pokyčių kompleksinė analizė*. 2014. Vilnius: Mokslo ir studijų stebėsenos ir analizės centras.
- Llin, N.; Cook, K.; Burt, R. 2005. *Social Capital: Theory and Research*. New Brunswick: Aldine Transaction.
- Lindsay, B. R. 2011. Social media and disasters: current uses, future options, and policy considerations. *Congressional Research Services Report 7-5700*. [accessed 2012-08-10] <<http://fpc.state.gov/documents/organization/174191.pdf>>.
- Lithuanian Schoolchildrens' Civic Empowerment Exceeds Empowerment of the Whole Society]. *Civil Society Institute* [interactive]. Vilnius, 2013 [accessed 2013-06-05]. <<http://www.civitas.lt/lt/?pid=74&id=78>>.
- Liu, B. 2007. *Web Data Mining*. Berlin: Springer.
- Liu, S. et al. 2008. In Search of the Bigger Picture: The Emergent Role of On-Line Photo Sharing in Times of Disaster, In F. Fiedrich & B. Van de Walle (Eds.) *Proceedings of the 5th International ISCRAM Conference, Washington, DC*.
- Lofland, L. H. 1973. *A World of Strangers: Order and Action in Urban Public Space*. New York: Basic Books.
- López, A. S. 2013. Towards a Model of Entrepreneurial Universities: Significance, Theory and Research implications. *Review of Management Innovation & Creativity*, 6(18): 1–15.
- Lorenz, J.; Rauhut, H.; Schweitzer, F.; Helbing, D. 2011. How Social Influence Can Undermine the Wisdom of Crowd Effect. *PNAS*, 108: 9020–9025.
- Lrv.lt. *LR Vyriausybė – Valstybės pažangos taryba* [interactive]. 2014 [accessed 2014-10-15]. <<http://www.lrv.lt/veikla/valstybes-pazangos-taryba/>>.
- Lumpkin, J. R.; Ireland, D. R. 1988. Screening Practices of New Business Incubators: the Evaluation of Critical Success Factors. *American Journal of Small Business*, 12(4): 59–81.
- Luo, S.; Xia, H.; Yoshida, T.; Wang, Z. 2009. Toward Collective Intelligence of Online Communities: A Primitive Conceptual Model. *Journal of Systems Science and Systems Engineering*, 18(2): 203–221.

- Lykourantzou, I.; Papadaki, K.; Vergados, D. J.; Polemi, D.; Loumos, V. 2010. CorpWiki: A Self-Regulating Wiki to Promote Corporate Collective Intelligence through Expert Peer Matching. *Information Sciences*, 180: 18–38.
- Lykourantzou, I.; Vergados, D. J.; Kapetanios, E.; Loumos, V. 2011. Collective Intelligence Systems: Classification and Modelling. *Journal of Emerging Technologies in Web Intelligence*, 3(3): 217–226.
- Maani, KE.; Cavana, RY. 2007. *Systems Thinking, System Dynamics: Managing Change and Complexity (2nd edn)*. Auckland: Prentice Hall.
- Macbeth, D. K.; de Opacua, A.I. 2010. Review of Services Science and Possible Application in Rail Maintenance. *European Management Journal*, 28(1): 1–13.
- Mačiukaitė-Žvinienė, S.; Grigaliūnaitė, J. 2006. Looking for Civil Participation in the Baltic States: Non-Governmental Sector. *Viešoji politika ir administravimas*, 17: 115–123.
- Mačiulienė, M.; Leichteris, E.; Mačiulis, A. 2013. The perspectives of developments of virtual communities in Lithuania. *Social Technologies'2013 conference proceedings*.
- Mackay, Ch. 1841. *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds*. London: Richard Bentley.
- MacKinnon, R. Internet Freedom Strats at Home. *Foreign Policy* [interactive]. 2012 [accessed 2012-04-03]. <http://www.foreignpolicy.com/articles/2012/04/03/The_Worlds_No_1_Threat_to_Internet_Freedom>.
- Majchrzak, A.; Malhotra, A., 2013. Towards an Information Systems Perspective and Research Agenda on Crowdsourcing for Innovation. *Journal of Strategic Information Systems*, 22: 257-268.
- Makridakis, S.; Hogarth, R.; Gaba, A. 2009. *Dance with chance*. One world Publications, Oxford.
- Malone, T. W. 2006. What is Collective Intelligence and What Will We Do About it? *Edited transcript of remarks presented at the official launch of the MIT Center for Collective Intelligence, October 13, Cambridge, MA*.
- Malone, T. W.; Laubacher, R.; Dellarocas, C. 2009. Harnessing Crowds: Mapping the Genome of Collective Intelligence. *Technology, 2009-001, Cambridge, MA*.
- Malone, T. W.; Laubacher, R.; Dellarocas, C. 2010. The Collective Intelligence Genome. *MIT Sloan Management Review*, 51(3): 21–31.
- Malone, T., Laubacher, R. and Dellarocas, C. 2009. Harnessing Crowds: Mapping the Genome of Collective Intelligence. *SSRN Journal*.
- Malone, T.; Klein, M. 2007. Harnessing Collective Intelligence to Address Global Climate Change. *Innovations: Technology, Governance, Globalization*, 2(3): 15–26.
- Maloney-Krichmar, D.; Preece, J. 2005. A Multilevel Analysis of Sociability, Usability and Community Dynamics in an Online Health Community.

- Transactions on Human-Computer Interaction* (special issue on Social Issues and HCI), 12 (2): 201–232.
- Manson, N. C.; O'Neill, O. 2007. Rethinking Informed Consent in Bioethics. Vol. 1. Cambridge: Cambridge University Press.
- Map of the Civil Society in Lithuania. *Civil Society Institute* [interactive]. Vilnius, 2013 [accessed 2013-06-05]. <<http://www.civitas.lt/en/?pid=24&id=5>>.
- Marček, E. 2008. Dialog między władzą i organizacjami pozarządowymi na Słowacji – lata 1992 – 2008. Organizacje pozarządowe i władza publiczna. Drogi do partnerstwa, red. G. Makowski, T. Shimanka, Warszawa.
- Martins, L. L.; Gilson, L. L.; Maynard, M. T. 2004. Virtual Teams: What Do We Know and Where do We Go from Here?. *Journal of management*, 30(6): 805–835.
- Mathisen, G. E.; Einarsen, S. 2004. A Review of Instruments Assessing Creative and Innovative Environments within Organizations. *Creativity Research Journal*, 16(1): 119–140.
- Matonytė, I. 2003. Pilietinės visuomenės tyrimo teorinės perspektyvos. *Viešoji politika ir administravimas*, 5.
- Mavrodiev, P.; Tessone, C. J.; Schweitzer, F. 2012. Effects of Social Influence on the Wisdom of Crowds. In *Proceedings of CoRR*.
- Maxwell, W. 2014. Global Privacy Governance: A Comparison of Regulatory Models in the US and Europe, and the Emergence of Accountability as a Global Norm. *Cahier de prospective*, p. 63.
- Mayer, K. Who Produces Social Technologies? *Social Technology Workshop* [interactive]. 2009 [accessed 2012-09-16]. <<http://socialtechnology.wordpress.com/2009/10/23/who-produces-social-technologies/>>.
- Mayer-Kress, G.; Barczys, C. 1995. The Global Brain as an Emergent Structure from the Worldwide Computing Network, and its Implications for Modeling. *The Information Society*, 11(1): 1–27.
- McAdams, D. P. 1992. The Five-factor Model in Personality: A Critical Appraisal. *Journal of Personality*, 60: 329–361.
- Mccann, P.; Ortega-Argilés, R. 2013. Smart Specialization, Regional Growth and Applications to European Union Cohesion Policy. *Regional Studies*, pp. 1–12.
- McGranahan, D. 1995. Measurement of Development: Research at the UN's Research Institute for Social development. *International Social Science Journal*, 143: 39–57.
- McKinsey Global Survey results. *McKinsey Global Survey* [interactive]. 2012 [accessed 2012-09-16]. <http://www.mckinseyquarterly.com/Business_Technology/BT_Strategy/Minding_your_digital_business_McKinsey_Global_Survey_results_2975>.
- McMillan, D. W.; Chavis, D. M. 1986. Sense of Community: A Definition and Theory. *Journal of Community Psychology*, 14(1): 3–9.

- Meier, P. 2013. Automatically Extracting Disaster-Relevant Information. *Irevolution*. [accessed 2014-11-22] <<http://irevolution.net/2013/04/01/auto-extracting-disaster-info/>>.
- Melosik, Z. 1998. Obywatelstwo, czas (historia), przestrzeń (geografia), In: Z. Melosik i K. Przyszczykowski, (eds.), *Wychowanie obywatelskie. Studium teoretyczne, porównawcze i empiryczne*. Poznań-Toruń: Edytor, s. 57–68.
- Memmi, D. 2006. The Nature of Virtual Communities. *AI&Society*, 20: 288–300.
- Merkel, W.; Lauth, H.-J. 1998. Systemwechsel und Zivilgesellschaft. Welche Zivilgesellschaft Braucht die Demokratie? [System Change and civil society. What kind of civil society does democracy need?] *Aus Politik und Zeitgeschichte*, 6(7), 3–12.
- Mets, T. 2010. Entrepreneurial Business Model for Classical Research University. *Engineering Economics*, 21(1): 80–89.
- Mets, T.; Kelli, A.; Barkalaja, A.; Raudsaar, M. 2014. Towards the Entrepreneurial College Model: Estonian and German Examples of Creative Industries. *Management of Organizations: Systematic Research*, 69: 89–105.
- Mian, S. 2003. Qualities of Incubation and entrepreneurship: What the research Tell Us? Conference of Incubation and New Ventures. *The conference Board of Canada, Montreal, Canada*.
- Michailova, S.; Husted, K. 2003. Knowledge-sharing Hostility in Russian firms, *California management review*, 45, (3): 59–77.
- Midgley, G. 2008. Systems Thinking, Complexity and the Philosophy of Science. *Emergence Complexity*, 10: 55–73.
- Mikic, S.; White, G.; Razak, A. 2009. A Knowledge Review: Implications for Future Research and Practical Application. *International Journal of Business and Management*, 4(1): 26–31.
- Mikulskiene, B.; Pitrenaite, B. 2012. Participatory Policy Modelling for Operational Policy Stream: the Stakeholders and Public Administration Perspective. *The 30th International Conference of the System Dynamics Society, St. Gallen, Switzerland*, pp 1–14.
- Milgram, S. 1967. *The Small-World Problem*. *Psychology Today*, 1: 60–67.
- Miller, D. C.; Salkind, N. J. 2002. *Handbook of research design and social measurement*. Thousand Oaks: Sage.
- Mingers, J.; Brocklesby, J. 1997. Multimethodology: Towards a Framework for Mixing Methodologies. *Omega*, 25(5): 489–509.
- Minsk, M. 1997. *The Society of Mind*. New York: Simon and Schuster.
- Mintzberg, H. 1980. Structure in 5s: A Synthesis of the Research on Organization Design. *Management Science*, 26(3): 322–41.
- Mintzberg, H. 2001. The Yin and the Yang of Managing. *Organizational dynamics*, 29: 306–312.

- Mintzberg, H.; Mchugh, A. 1985. Strategy Formation in an Adhocracy. *Administrative Science Quarterly*, 30(2): 160–97.
- Mondak, J. J.; Canache, D.; Seligson, M. A.; Hibbing, M. V. 2011. The Participatory Personality: Evidence from Latin America. *British Journal of Political Science*, 41(1): 211–21.
- Mondak, J. J.; Hibbing, M. V.; Canache, D.; Seligson, M. A.; Anderson, M. R. 2010. Personality and Civic Engagement: An Integrative Framework for the Study of Trait Effects on Political Behavior. *American Political Science Review*, 104: 85–110.
- Monge, P. R.; Contractor, N. S. 2003. *Theories of Communication Networks*. New York: Oxford University Press.
- Montesinos, P.; Carot, J. M.; Martinez, J.M.; Mora, F. 2008. Third Mission Ranking for World Class Universities: Beyond Teaching and Research. *Higher education in Europe*, 33(2-3): 259–271.
- Montola, M.; Stenros, J.; Waern, A. 2009. *Pervasive Games: Theory and Design*. Amsterdam; Boston: Elsevier/Morgan Kaufmann.
- Montoya-Weiss, M.; Massey, A.P.; Song, M. 2001. Getting It Together: Temporal Coordination and Conflict Management in Global Virtual Teams. *Academy of Management Journal*, 44(6): 1251–1262.
- Moor, A.D.; Aakhus M. 2006. Argumentation Support: From Technologies to Tools. *Communications of the ACM*. 49(3): 93.
- Moran, T. P.; Carroll, J. M. eds. 1996. Design Rationale: Concepts, Techniques, and Use. *Computers, Cognition, and Work*, ed. G.M. Olson, J.S. Olson, and B. Curtis. Lawrence Erlbaum Associates: Mahwah NJ USA.
- Morgenthau, H. 2011. *Politika tarp valstybių: kova dėl galios ir taikos*. Vilnius: Margi raštai.
- Morozov, E. 2009. Iran: Downside to the “Twitter Revolution”. *Dissent*, 56(4): 10–14.
- Morozov, E. 2013. *To Save Everything Click Here*. New York: Public Affairs.
- Mould, O. 2009. Parkour, the City, the Event. *Environment and Planning D: Society and Space*, 27(4): 738–750.
- Mukhopadhyay, S.; Banerjee, S. 2010. Cooperating Swarms: A Paradigm for Collective Intelligence and its Application in Finance. *International Journal of Computer Applications*, 6: 31–41.
- Müller, R. 2011. Chronologie der Begriffe, Mueller Science [interactive]. 2014 [accessed 2014-10-22]. <http://www.muellerscience.com/SPEZIALITAETEN/Methoden/Sozialtechnologie_Uebersicht.htm>.
- Müller, S. 2009. Die Geschichte des Intelligenz-Begriffs und die aktuelle Debatte zum Enhancement der Intelligenz. *Dominik Groß and Axel Karenberg (Ed.): Medizingeschichte im Rheinland. Beiträge des „Rheinischen Kreises der Medizinhistoriker“*, Kassel.

- Mumford, D. M. *et al.* 2009. A framework for understanding collective leadership. *The leadership Quarterly*: 20(6): 933–958.
- Murphy, T. UNICEF asks people to stop “liking” things on Facebook & send money. *Humanosphere* [interactive]. 2013 [accessed 2013-05-22]. <http://www.humanosphere.org/2013/04/unicef-sweden-wants-your-money-not-your-likes/?utm_source=buffer&utm_medium=twitter&utm_campaign=Buffer%3A%2Bviewfromthecave%2Bon%2Btwitter&buffer_share=b8cfe>.
- Nacke, L. E.; Bateman, C.; Mandryk, R. L. 2011. BrainHex: Preliminary Results from a Neurobiological Gamer Typology Survey. *ICEC*, (2011): 288-293.
- Nagler, M. 2012. Playing Well with Others: The Role of Social Capital in Traffic Accident Prevention. *Eastern Econ J*, 39(2): 172–200.
- Narayan, D. 1999. *Bonds and Bridges: Social Capital and Poverty (Policy Research working paper 2167)*. Washington: World Bank.
- Nefas, S. 2007. *Funkcionalni vietos bendruomenė Lietuvos kaimuose ir miesteliuose, daktaro disertacija*. Vilnius: Mykolo Romerio universitetas.
- Nefas, S. 2007. Savivaldžių (vietos) bendruomenių raida ir perspektyva šiuolaikinėje Lietuvoje. *Viešojo politika ir administravimas*, 20: 70.
- Nefas, S. ir kt. 2011. *Demokratija ir vietos bendruomenė Lietuvoje*. Vilnius: Mykolo Romerio universitetas.
- Nelson, R. R. 2002. Bringing Institutions into Evolutionary Growth Theory. *Journal of Evolutionary Economics*, 12: 17–28.
- Nelson, R. R.; Sampat, B. N. 2001. Making Sense of Institutions as a Factor Shaping Economic Performance. *Journal of Economic Behavior and Organization*, 44: 31–54.
- Nevyriausybinų organizacijų informacijos ir paramos centras* [interactive]. Vilnius, 2014 [accessed 2013-05-06]. <http://www.3sektorius.lt/docs/Ataskaita_pilietiskumas_santrauka_2013-01-7_15_59_37.pdf>.
- Nevyriausybinų organizacijų politika* [interactive]. LR Socialinės apsaugos ir darbo ministerija. [accessed 2014-09-05]. <<http://www.socmin.lt/lt/neyvriausybinu-organizaciju-sektorius.html>>.
- Newey, W. K.; Stoker, T. M. 1993. Efficiency of Weighted Average Derivative Estimators and Index Models. *Econometrica: Journal of the Econometric Society*, 1199–1223.
- NGIS Australia. 2009. Social media helping emergency management: Final report. *NGIS Australia*. [accessed 2014-12-02] <<http://gov2.net.au/files/2009/12/Project-14-Final-Report.doc>>.
- Nguyen, NC; Bosch OJH; Maani KE. 2012. Creating “Learning Laboratories” for Sustainable Development in Biospheres – A Systems Thinking Approach. *Systems Research and Behavioral Science*, 28(1): 51–62.
- Nielsen, J. Participation Inequality: Lurkers vs. Contributors in Internet Communities. *Nielsen Norman Group* [interactive]. Fremont, 2010 [accessed

- 2010-06-28]. <http://www.useit.com/alertbox/participation_inequality.html>.
- Nimon, S. 2007. Generation Y and Higher Education: The other Y2K. *Journal of Institutional Research*, 13(1): 24–41.
- Noorbakhsh, F. 1998. A Modified Human Development Index. *World Development*, 26(3): 517–528.
- North, D.; Wallis, J. 1994. Integrating institutional change and technological change in economic history: a transaction cost approach. *Journal of Institutional and Theoretical Economics*, 150: 609–624.
- Norvaišas, S.; Mažeika, A.; Paražinskaitė, G.; Skaržauskienė, A.; Šiugždaitė, R.; Tamošiūnaitė, R. 2011. *Networked business informatics studies: methodical guidelines*. Vilnius: Mykolo Romerio universiteto Leidybos centras.
- Novikovas, A. 2007. Socialinės technologijos ir jų taikymas savivaldybių veikloje, užtikrinant vietos gyventojų saugumą. *Jurisprudencija Mokslo darbai*, 6(96): 59–62.
- O’Leary, D. E. 2008. Wikis: „From Each According to His Knowledge“. *Computer*, 41(2): 34–41.
- O’Donovan, S., Gain, J., Marais, P. (2013). *A case study in the gamification of a university-level games development course*. SAICSIT “13 Proceedings of the South African Institute for Computer Scientists and Information Technologists Conference, pp 242–251.
- O’Mahony, S.; Ferraro, F. 2007. The Emergence of Governance in an Open Source Community. *Academy of Management Journal*, 50(5): 1079–1106.
- O’Reilly, T. 2005. What is Web 2.0. Design Patterns and Business Models for the Next Generation of Software. *O’Reilly Media, Inc.* [interactive]. 2005 [2014-12-03] <<http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>>.
- OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. *OECD* [interactive]. Paris, 2013. [accessed 2013-05-26]. <<http://www.oecd.org/internet/ieconomy/oecdguidelinesontheprotectionofprivacyandtransborderflowsofpersonaldata.htm>>.
- Official Statistics Portal Lithuania, 2013. ICT use in households in I quarter 2013. Available at: <http://osp.stat.gov.lt/pranesimai-spaudai?eventId=1717> [Accessed March 1, 2014].
- Open Government: Fostering Dialogue with Civil Society. *OECD* [interactive]. 2003. [accessed 2013-06-20]. <<http://213.253.134.43/oecd/pdfs/browseit/4203011E.PDF>>.
- Opinion 5/2009 on online social Networking, Brussels, Belgium [2009]
- Orji, R.; Mandryk, R. L.; Vassileva, J.; Gerling, K. 2013. Tailoring Persuasive Health Games to Gamer Type. *CHI’13, April 27 – May 2, 2013, Paris, France*.
- Ormerod, R. J. 2008. The Transformation Competence Perspective. *The Journal of the Operational Research Society*, 59: 1435–1448.

- Ossimitz, G. 2000. *Entwicklung systemischen Denkens*. München: Profil.
- Osterloh, M.; Frey, B. S. 2000. Motivation, Knowledge Transfer, and Organizational Forms. *Organization Science*, 11: 538–550.
- Oudenampsen, M. 2013. Aldo van Eyck and the City as Play-ground. <http://merijnoudenampsen.org/2013/03/27/aldo-van-eyck-and-the-city-as-playground/>.
- Owen, R.; Macnaghten, P.; Stilgoe, J. 2012. Responsible Research and Innovation: From Science in Society to Science for Society, with Society. *Science and Public Policy*, 39(6): 751–760.
- Page, S. 2007. *Diversity Trumps Ability Theorem*. In *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies*, pp. 131–174. 44 Princeton, NJ: Princeton University Press.
- Pagon, M.; Banutai, E.; Bizjak, U. 2008. Leadership Competencies for Successful Change Management. *University of Maribor, Slovenia, EUPAN*, 1–2.
- Palen, L. 2008. Online Social Media in Crisis Events. *EDUCAUSE Quarterly*, 31(3): 76–78.
- Palfrey J.; Deibert R.; Rohozinski R.; Zittrain J. 2008. *Access Denied: The Practice and Politics of Global Internet Filtering*. MIT Press.
- Parjanen, S. 2012. Experiencing Creativity in the Organization: From Individual Creativity to Collective Creativity. *Interdisciplinary Journal of Information, Knowledge, and Management*, 7: 109–128.
- Paroutis, S.; Al Saleh, A. 2009. Determinants of Knowledge Sharing using Web 2.0 technologies. *Journal of Knowledge Management*, 13: 52–63.
- Pässilä, A.; Oikarinen, T. 2014. Research-based Theater as a Facilitator of Organizational Learning. *Learning Organizations*, pp. 203–221. Netherlands: Springer.
- Patel, A; Balakrishnan, A. 2009. Generic framework for recommendation system using collective intelligence, *Internet Technology and Secured Transactions, 2009. ICITST 2009. International Conference for*. London, UK, p. 1–6.
- Paton, R. A.; McLaughlin, S. 2008. Services innovation. *European Management Journal*, 26(2): 77–83.
- Pelikan, P. 2003. Bringing Institutions into Evolutionary Economics: Another View with Links to Changes in Physical and Social Technologies. *Journal of Evolutionary Economy*, 12: 237–258.
- Percy-Smith B.; Tomas N. (eds.) 2010. *Handbook of Children and Young People's Participation*. London-New York: Routledge
- Pereira, Ch.; Romero, F. 2012. Non-Technological Innovation: Current Issues and Perspectives, *Proceedings of the 7th European Conference of Innovation and Entrepreneurship*, p. 418–428.
- Pereira, T.; Santos, H. 2014. Challenges in Information Security Protection. *International Conference ECCWS, Greece*.

- Pérez, E. 2014. *Gamification and performance: design challenges when using games to enable alternative ways of engaging with theatre*. I Congreso de la Sociedad Española para las Ciencias del Videjuego.
- Perry, B.; Shaw, R.; Takeuchi, Y. 2012. Utilisation of Social Media in the East Japan Earthquake and Tsunami and its effectiveness. *Journal of Natural Disaster Science*. 34(1): 3–18.
- Pham, D. T.; Ghanbarzadeh, A.; Koc, E.; Otri, S.; Rahim, S. et al. 2006. The Bees Algorithm – A Novel Tool for Complex Optimisation Problems. *Proceedings of IPROMS 2006 Conference*.
- Pickard, G.; Pan, W.; Rahwan, I.; Cebrian, M.; Crane, R.; Madan, A.; Pentland, A. 2011. Time-critical social mobilization. *Science*, 334(6055): 509–512.
- Picon, A. 2008. Toward a City of Events: Digital Media and Urbanity. *New Geographies*, 0: 32–43.
- Pine, B. J.; Gilmore, J. H. 1999. *The Experience Economy: Work is Theatre & Every Business a Stage*. Boston: Harvard Business School Press.
- Pink, D. H. 2005. *A Whole New Mind: Moving from the information age into the conceptual age*. Allen & Unwin.
- Pirola-Merlo, A.; Mann, L. 2004. *The relationship between individual creativity and team creativity: aggregating across people and time*. *Journal of Organizational Behavior*, pp. 235–257.
- Pirola-Merlo, A.; Härtel, C.; Mann, L.; Hirst, G. 2002. How Leaders Influence the Impact of Affective Events on Team Climate and Performance in R&D Teams. *The Leadership Quarterly*, 13, 561–581.
- Pitreñaite-Zileniene, B.; Mikulskiene, B. 2012. Requirements for Participatory Framework on Governmental Policy Level. *European journal of interdisciplinary studies*, 4(1): 3–14.
- Plant, R. 2004. Online Communities. *Technology in Society*, 26: 51–65.
- Poder, T. 2011. What is Really Social Capital? A Critical Review. *The American Sociologist*, 42(4): 341–367.
- Pomerlau, D. Twitter and the Global Brain. 2009 [accessed 2014-10-17] <<https://docs.google.com/Doc?docid=0AT9namoRIUKMZGM3eG40ZHNfN2Z3ajJ0eGNw&hl=en&pli=1>>.
- Porter, C. E. 2004. A Typology of Virtual Communities: A Multi-Disciplinary Foundation for Future Research. *Journal of Computer-Mediated Communication*, 10(1): 00–00.
- Portes, A. 1998. *Social Capital: its Origins and Applications in Modern Sociology*. *Annual Review Sociology*, 24: 1–24.
- Portes, A. 2000. Social Capital: Its Origins and Applications in Modern Sociology. *LESSER, Eric L. Knowledge and Social Capital*. Boston: Butterworth-Heinemann, pp.43–67.

- Pragere, K.; Nagel, U. J. 2008. Participatory Decision Making on Agri-environmental Programmes: A Case Study from Sachsen-Anhalt (Germany). *Land Use Policy*, 25: 106–115.
- Prahalad, C. K.; Hamel, G. 2006. The Core Competence of the Corporation. *Strategische Unternehmensplanung – Strategische Unternehmensführung*, 68: 275–292.
- Prahalad, C. K.; Ramaswamy, V. 2004. Co-creation Experiences: The Next Practice in Value Creation. *Journal of Interactive Marketing*, 18: 5–14.
- Preece, J. 2000. *Online Communities: Designing Usability, Supporting Sociability*. Chichester: John Wiley & Sons, Ltd.
- Preece, J.; Maloney-Krichmar, D.; Abras, C. 2003. History of Online Communities. *Encyclopaedia of Community: From Village to Virtual World*. Thousand Oaks: Sage Publications, pp. 1023–1027.
- Preece, J.; Nonnecke, B.; Andrews, D. 2004. *The Top Five Reasons for Lurking: Improving Community Experiences for Everyone*. *Computers in Human Behavior*, 20(2): 201–223.
- Preece, J.; Shneiderman, B. 2009. The Reader-to-leader Framework: Motivating Technology-mediated Social Participation. *AIS Transactions on Human-Computer Interaction*, 1(1): 13–32.
- Prić, J.; Taeihagh, A.; Melton, J. 2014. Crowdsourcing the Policy Cycle. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Promise and Problems of E-Democracy. Challenges of Online Citizen Engagement. OECD [interactive]. Paris, 2012 [accessed 2012-10-30]. <<http://www.oecd.org/governance/public-innovation/35176328.pdf>>.
- Przybylski, A. K., Rigby, C. S., Ryan R. M. (2010). *A Motivational Model of Video Game Engagement*. *Review of General Psychology*, 14(2).
- Public Opinion Survey “The Concept of Public Spirit”. Vilmorus. [accessed 2013-02-12] <http://www.3sektorius.lt/docs/Ataskaita_pilietiskumas_santrauka_2013-01-17_15_59_37.pdf>
- Putnam, R. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Putnam, R. 2001. Social Capital: Measurement and Consequences. *Canadian Journal of Policy Research*, 2(1): 41–51.
- Putnam, R.; Leonardi, R.; Nanetti, R. 1993. *Making Democracy Work*. Princeton, N.J.: Princeton University Press.
- Quarantelli, E. 2008. Conventional Beliefs and Counterintuitive Realities. *Social Research: An International Quarterly of the Social Sciences*, 75(2): 873–904.
- Raipa, A. 2001. *Viešasis administravimas ir piliečių dalyvavimas*. Viešojo administravimo efektyvumas. Kaunas: Technologija, pp. 345–346.
- Ransbotham, S.; Kane, G. C. 2011. Membership Turnover and Collaboration Success in Online Communities: Explaining Rises and Falls from Grace in Wikipedia. *MIS Quarterly-Management Information Systems*, 35(3): 613.

- Ratkiewicz, J.; Conover, M.; Meiss, M.; Gonçalves, B.; Flammini, A.; Menczer, F. 2011. Detecting and Tracking Political Abuse in Social Media. *ICWSM*.
- Ray, A. K. 2008. Measurement of Social Development: An International Comparison. *Social Indicators Research*, 86(1): 1–46.
- Razak, R. A. 2009. The Scenarios of Enterprise Architecture in Malaysian Organizations. In *Knowledge Management and Innovation in Advancing Economies: Analyses and Solutions. The 13th International Business Information Management Association Conference. Marrakech, Morocco*, pp. 9–10.
- Resindex: Regional Social Innovation Index. 2013. *SINNERGIAK Social Innovation (UPV/EHU), Innobasque – 2013, Basque Innovation Agency* [interactive]. [accessed 2014-08-07]. <http://www.sinnergiak.org/wp-content/uploads/2014/06/cuaderno_resindex_cast.pdf>.
- Rheingold, H. 1996. *Comunidade Virtual*. Lisboa: Gradiva.
- Rheingold, H. 2000. *The Virtual Community: Homesteading on the Electronic Frontier*. MIT Press: London.
- Rheingold, H. 2002. *Smart Mobs: The Next Social Revolution*. Local: Perseus.
- Richmond, B. 2001. An Introduction to Systems Thinking. *The Systems Thinker*, 8(2).
- Rifkin, J. 2000. *The Age of Access: the New Culture of Hypercapitalism, where all of Life is a Paid-for Experience*. New York: J. P. Tarcher/Putnam.
- Roberts, J. A.; Hann, I. H.; Slaughter, S. A. 2006. Understanding the Motivations, Participation, and Performance of Open Source Software Developers: A Longitudinal Study of the Apache Projects. *Management Science*, 52: 984–999.
- Robinson, F. Oettinger Says Thank Me For Blocking EU-Google Deal. *The Wall Street Journal* [interactive]. 2014 [accessed 2014-10-15]. <<http://blogs.wsj.com/brussels/2014/09/30/oettinger-says-thank-me-for-blocking-eu-google-deal/>>.
- Rodprasert, R.; Chandarasupsang, T.; Chakpitak, N.; Yupapin, P. 2014. Green Energy Community with Smart Society for Sustainable Living. *Energy Procedia*, 56: 678–689.
- Rodriguez, M. A. 2005. The Hyper-Cortex of Human Collective-Intelligence Systems. *Report: ECCO Working Paper 06-2005, Smithsonian Astrophysical Observatory*.
- Ronfeldt, D. 1992. Cyberocracy is Coming. *The Information Society*, 8(4): 243–96.
- Ronfeldt, D.; Varda, D. The Prospects for Cyberocracy. *iRevolution* [interactive]. Waltham, 2009 [accessed 2012-05-01]. <<http://irevolution.net/2009/01/17/the-prospects-for-cyberocracy/>>.
- Rosen, J. 2012. The Right to be Forgotten. *Stanford law review online*, 64, p.88.
- Rosenhead, J.; Mingers, J. 2001. *Rational Analysis for a Problematic World Revisited: Problem Structuring Method for Uncertainty and Conflict*. Chichester (UK): John Wiley & Son.

- Rosete, D.; Ciarrochi, J. 2005. Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadership & Organization Development Journal*, 26 (5).
- Rothschild, L.; Darr, A. 2005. Technological incubators and the social construction of innovation networks: an Israeli case study. *Technovation*, 25: 59–67.
- Rotter, J. B. 1966. Generalized Expectancies for Internal Versus External Control of Reinforcement. *Psychological Monographs: General Applied*, 80: 1–46.
- Rotter, J. B. 1990. Internal Versus External Control of Reinforcement. A Case History of a Variable. *American Psychologist*, 45: 489–493.
- Rowley, T.; Moldoveanu, M. 2003. When will stakeholder groups act? An interest- and identity-based model of stakeholder group mobilization. *The Academy of Management Review*, 28(2): 204–19.
- Rubright, J. D.; Nandakumar, R.; Glutting, J. J. 2014. A Simulation Study of Missing Data with Multiple Missing X's. *Practical Assessment, Research and Evaluation*, 19(10).
- Russo, S.; Amnå, E. 2014. Do Personality Traits Predict Civic Engagement and Political Participation? Understanding Offline and Online Engagement and Participation. *2014 European Consortium for Political Research*.
- Ryan, R. M., Deci, E. L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55: 68–78.
- Rycroft, R. W.; Kash, D. E. 2004. Self-organizing Innovation Networks: Implications for Globalization. *Technovation*, 24: 187–197.
- Sabatini, F. 2009. Social Capital as Social Networks: a New Framework for Measurement and an Empirical Analysis of its Determinants and Consequences. *The Journal of Socio-Economics*, 38(3): 429–442.
- Sachs, J. 2003. The Global Innovation Divide. *Innovation Policy and the Economy*, 3: 131–141.
- Saisana, M.; Tarantola, S. 2002. State-of-the-art Report on Current Methodologies and Practices for Composite Indicator Development. *EUR 20408 EN, European Commission-JRC*: Italy.
- Saisana, M.; Tarantola, S.; Schulze, N.; Cherchye, L.; Moesen, W.; Van Puyenbroeck, T. 2005. Knowledge Economy Indicators. State-of-the-Art Report on Composite Indicators for the Knowledge-based Economy. Workpackage 5, 54 p. [interactive]. [accessed 2014-08-30]. <http://kei.publicstatistics.net/KEI%20D5_1.pdf>.
- Salamon, L. M.; Sokolowski, S. W. 2001. *Volunteering in Cross-National Perspective: Evidence from 24 Countries*. Baltimore: The John Hopkins Center for Civil Society Studies.
- Salamon, L. M.; Anheier, H. K.; List, R.; Toepler, S.; Sokolowski, W. S.; and Associates. 1999. *Global Civil Society. Dimensions of the Nonprofit Sector*. The John Hopkins Center for Civil Society Studies, Baltimore.

- Salamzadeh, A.; Salamzadeh, Y.; Daraei, M. 2011. Toward a Systematic Framework for an Entrepreneurial University: A Study in Iranian Context with an IPOO Model. *Global Business and Management Review: An International Journal*, 3(1): 30–37.
- Salganik, M. J.; Levy, K. E. 2012. Wiki surveys: Open and Quantifiable Social Data Collection.
- Salminen, J. 2012. Collective Intelligence in Humans: A Literature Review. *MIT, Collective Intelligence 2012*.
- Salminen, J. 2014. Wisdom of Crowds in Practice. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Sanders, K.; Kianty, A. 2006. *Organisationstheorien: Eine Einführung*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Savage, N. 2012. Gaining Wisdom from Crowds. *Communication of the ACM*, 55(4): 13–15.
- Sawhney, M.; Verona, G.; Prandelli, E. 2005. Collaborating to Create: The Internet as a Platform for Customer Engagement in Product Innovation. *Journal of Interactive Marketing*, 19: 5–17.
- Sawyer, K. 2007. *Group Genius: The Creative Power of Collaboration*. New York: Basic Books.
- Sawyer, R. K. 2012 *Explaining Creativity: the Science of Human Innovation*. Oxford University Press. 2nd ed.
- Scardamalia, M.; Bereiter, C. 1994. Computer Support for Knowledge-building Communities. *Journal of the Learning Sciences*, 3 (3): 265–283.
- Schank, R. C., Cleary, C. 1995. *Making Machines Creative*. In: S Smith, T B Ward & R A Finke (eds) *The Creative Cognition Approach*. MIT Press, 229-247.
- Schell, J. 2008. *The Art of Game Design: A book of lenses*. Elsevier Inc. Burlington, USA.
- Schmitz, P. 2011. *Everyone Leads: Building Leadership from Community Up*. San Francisco: Jossey – Bass.
- Schoder, D.; Gloor, P.; Metaxas, P. 2013. Social Media and Collective Intelligence: Ongoing and Future Research Streams. *Kunstliche Intelligenz*, 27(1): 1–14.
- Scholz, T. 2013. *Digital Labor: the Internet as Playground and Factory*. New York: Routledge.
- Schooley, C. 2009. *The Millenials are here! Are you prepared?* Forrester Research.
- Schotter, A. 1981. *The Economic Theory of Social Institutions*. Cambridge: Cambridge University Press.
- Schumpeter, J. 1934. *The Theory of Economic Development*, 7th ed. Cambridge: Harvard University Press.
- Schut, M. C. 2010. On Model Design for Simulation of Collective Intelligence. *Information Sciences*, 180: 132–155.

- Schwab, K. 2013. *The Global Competitiveness Report 2013-2014*. Cologny/Geneva: World Economic Forum.
- Schwartz, S. H.; Bardi, A. 1997). Influences of Adaptation to Communist Rule on Value Priorities In Eastern Europe. *Political Psychology*, 18: 385–410.
- Seang-Tae, K. Vision and Plans for Coming Smart Society. *Slideshare* [interactive]. 2011 [accessed 2014-10-15]. <<http://www.slideshare.net/issunige/vision-and-plans-for-coming-smart-society>>.
- Secundo, G.; Passiante, G.; Gianfreda, F.; Passabi, S. 2014. Managing intellectual Capital in Entrepreneurial University: A Collective Intelligence Approach. *Proceedings of the 6th European Conference on Intellectual Capital: ECIC 2014*, p. 209-216.
- Sederer, L. 2011. Lessons from New York City's 9/11 Mental Health Response. *Huffington Post*. [accessed 2014-12-01] <<http://www.huffingtonpost.com/lloyd-i-sederer-md/>>.
- Segaran, T. 2007. *Programming Collective Intelligence: Building Smart Web 2.0 Applications*. O'Reilly Press.
- Seifert, K. H.; Bergmann, C. 1993. *Testmanual zum Fragebogen zur Messung beruflicher Werthaltungen (BWH - Fragebogen)*. Linz: Universitat Linz.
- Seligman, M. E. P. 2002. *Authentic happiness*. New York: Free Press.
- Senge, P. 1990. *The Fifth Discipline*. New York: Currency Doubleday.
- Shang, S. S. C.; Li, E. Y.; Wu, Y. L.; Hou, O. C. L. 2011. Understanding Web 2.0 Service Models: A Knowledge-creating Perspective. *Information and Management*, 48: 178–184.
- Sherwood, D. 2002. *Seeing the Forest for the Trees: A Manager's Guide to Applying Systems Thinking*. London: Nicholas Brealey Publishing.
- Shimazu, H.; Koike, S. 2007. KM 2.0: Business Knowledge Sharing in the Web 2.0 age. *NEC Technical Journal*, 2(2): 50–54.
- Shin, J.; McClomb, G. E. 1998. Top Executive Leadership and Organizational Innovation: An Empirical Investigation of Nonprofit Human Service Organizations (HSOs). *Administration in Social Work*, 22(3): 1–21.
- Shirky, C. 2008. *Here Comes Everybody: The Power of Organizing Without Organizations*. The Penguin Press, New York.
- Shirky, C. 2010. *Cognitive Surplus: How Technology Makes Consumers into Collaborators*. The Penguin Press, New York.
- Shirky, C. 2001. *Cognitive surplus: creativity and generosity in a connected age*. Penguin Press: New York.
- Shneiderman, B. A 2009. National Initiative for Social Participation. *Science*. 323: 1426–1427.
- Shoemaker, D.; Conklin, Wm. 2011. *Cybersecurity: The Essential Body Of Knowledge*. Farmington Hills: Cengage Learning.

- Shultz, J. *et al.* 2011. Triple Threat Trauma. Evidence-based media health response for the 2011 Japan disaster. *Prehospital and Disaster Medicine*, 26 (3): 141–154.
- Sibbet, D. 2010. Visual Meetings: How Graphics, Sticky Notes and Idea Mapping Can Transform Group Productivity. John Wiley & Sons.
- Siemens, G. 2005. Connectivism: A Learning Theory for the Digital Age. *International Journal of Instructional Technology and Distance Learning*, 2(1): 3–10.
- Silva, C.; Ramos, I. 2011. Crowdsourcing Innovation: A Strategy to Leverage Enterprise Innovation. *Proceedings of 7th ECIE*, pp. 624–631.
- Silvia, P. J.; Kaufman, J. C.; Pretz, J. E. 2009. Is Creativity Domain-specific? Latent Class Models of Creative Accomplishments and Creative Self-descriptions. *Psychology of Aesthetics, Creativity, and the Arts*, 3(3): 139–148.
- Silvia, P. J.; Winterstein, B. P.; Willse, J. T. 2008. Rejoinder: The Madness to our Method: Some Thoughts on Divergent Thinking.
- Šimašius, R. 2007. *Ne pelno organizacijos*. Vilnius: Prigimtis ir reglamentavimas.
- Simmel, G. 1997. The Metropolis and Mental Life. In *Simmel on culture: selected writings*, edited by David Frisby and Mike Featherstone, 174–185. London; Thousand Oaks, Calif.: Sage Publications.
- Skaržauskienė A.; Palaima, T. 2010. *Systems Thinking as a Platform for Leadership Performance in a Complex World*. *Baltic Journal of Management*, 5(3): 330–355.
- Skaržauskienė, A. 2013. Social Technologies for Increasing Entrepreneurship in Public Administration Organizations. *ICIE 2013: Proceedings of the International Conference on Innovation and Entrepreneurship, hosted by the Hashemite University, in cooperation with the Arab Administrative Development Organization, Amman, Jordan on the 4-5 March 2013*. *Academic Conferences and Publishing International Limited*, p. 102–108.
- Skaržauskienė, A.; Kalinauskas, M. 2014. *Fostering collective creativity through gamification*. *The proceedings of the ISPIM Americas Innovation Forum (October 2014) : Montreal, Canada on 5-8 October 2014*.
- Skaržauskienė, A.; Paunksnienė, Ž.; Paražinskaitė, G.; Tvaronavičienė, A. 2013. Risk and Opportunities for Developing Collective Intelligence in Networked Society. *SOCIN 2013: Social Technologies'13. Development of Social Technologies in the Complex World: Special focus on e-Health: conference papers*, p. 137–156.
- Skaržauskienė, A.; Pitrenaitė-Žilienė, B.; Leichteris, E. 2013. Following Traces of Collective Intelligence in Social Networks: Case of Lithuania. *ICICKM 2013: the proceedings of the 10th international conference on intellectual capital knowledge management and organisational learning: the George Washington University, Washington, DC, USA: 24-25 October 2013. Vol. 2 / edited by Annie Green*. Reading: Academic Conferences and Publishing International Limited. P. 411-419.

- Skaržauskienė, A.; Štitalis, D.; Mačiulienė, M.; Paražinskaitė, G.; Tvaronavičienė, A. 2014. Online Community Projects in Lithuania: Cyber Security Perspective. *Proceedings of the international conference on Analytics Driven Solutions ICAS 2014: 29-30 September 2014 / IBM Centre for Business Analytics and Performance at the Telfer School of Management University of Ottawa Canada. Academic Conferences and Publishing International Limited*, p. 93–101.
- Skaržauskienė, A.; Tamošiūnaitė, R.; Žalėnienė, I. 2013. Defining Social Technologies. *Proceedings of the 4th International Conference on IS Management and Evaluation: ICIME 2013*, p. 239. Academic Conferences Limited.
- Skaržauskienė, A.; Tvaronavičienė, A.; Paražinskaitė, G. 2014. Cyber Security and Civil Engagement: Case of Lithuanian Virtual Community Projects. In *Proceedings of the 13th European Conference on Cyber warfare and Security: ECCWS 2014* (p. 181). Academic Conferences Limited.
- Skaržauskienė, A.; Žalėnienė, I. Socialinės technologijos – nauja tarpdisciplininė vadybos mokslo šaka. *Mykolo Romerio universitetas* [interactive]. Vilnius, 2014. [accessed 2014-09-14]. <http://www.mruni.eu/mru_lt_dokumentai/fakultetai/socialiniu_tehnologiju_fakultetas/soc_tehnologijos.pdf>.
- Skarżyńska, K. 2002. Zaufanie, więzi społeczne i poczucie skuteczności a życie w demokracji. *Kolokwia Psychologiczne*, 10: 197–212.
- Skarżyńska, K. 2005. Czy jesteśmy prorozwojowi? Wartości i przekonania ludzi a dobrobyt i demokratyzacja kraju. In: M. Drogosz (ed.), *Jak Polacy przegrywają, jak Polacy wygrywają*, 69–92. Gdańsk: GWP.
- Small, H.; Kasianovitz, K.; Blanford, R.; Celaya, I. 2012. What Your Tweets Tell Us About You: Identity, Ownership and Privacy of Twitter Data. *International Journal of Digital Curation*, 7(1): 174–197.
- Smart Society Project. *About* [interactive]. 2013 [accessed 2014-10-04]. <<http://www.smart-society-project.eu/about/>>.
- Smart Society Project. *Factsheet* [interactive]. 2013 [accessed 2014-10-04]. <<http://www.smart-society-project.eu/about/factsheet/>>.
- Smilor, R.W. 1987. *Commercializing Technology through New Business Incubators*. *Research Management*, 30(5): 36–41.
- Smith, J. B. 1994. *Collective Intelligence next Term in Computer-Based Collaboration*. London: Lawrence Erlbaum.
- Social Capital: Prospects for a New Concept. 2002. *Acad Manag Rev.*, 27: 17–40.
- Social Progress Index. 2014. Methodological Report. 2014. *The Social Progress Imperative* [interactive]. Washington, 2014 [accessed 2014-08-10]. <<http://www.socialprogressimperative.org/publications>>.
- Social technology. This page was last modified on 26 February 2013 at 23:29. *Wikipedia the free Encyclopedia* [interactive]. [accessed 2013-03-18]. <http://en.wikipedia.org/wiki/Social_technology>.

- Social-ist.eu. *Social-IST | Proceedings – Social-IST final conference* [interactive]. 2014 [accessed 2014-10-04]. <<http://social-ist.eu/proceedings-social-ist-final-conference/>>.
- Solf, A. Schultheiss, D. Staeudtner S. (2014). *The Application of Gamification Mechanics on Social Media Platforms for Creative Crowdsourcing*. 2014 Ase Bigdata/cocialcom/cybersecurity conference, Stanford University, May 27-31, 2014.
- Solomon, R.; Flores, F. 2002. *Construa confiança*. São Paulo: Record.
- Spencer, J. 2005. Procter and Gamble's Innovation Success: New Research, New Products, New Markets. *Strategic Direction*, 21(7): 11–13.
- Spillane, J. P.; Diamond, J. B. 2007. *Distributed Leadership in Practice*. New York: Teachers College Press.
- Spohrer, J.; Maglio, P. P. 2010. Service Science: Toward a Smarter Planet. *Introduction to Service Engineering*, pp. 3–30. New York: Wiley.
- Stacey, R. 2000. *The Chaos Frontier*. Great Britain: Redwood Press Limited.
- Stach, R. 2006. *Optymizm. Badania nad optymizmem jako mechanizmem adaptacyjnym*. Kraków: Wydawnictwo UJ.
- Stahl, B.; Eden, G.; Jirotko, M. 2013. Responsible Research and Innovation in Information and Communication Technology: Identifying and Engaging with the Ethical Implications of ICTs. *Responsible Innovation*, 199–218.
- Stanišauskas G. 2011. Konstitucinė referendumo butaforija. [accessed 2013 01-19] <<http://www.valstietis.lt/Pradzia/Naujienos/Lietuvoje/Konstitucine-referendumo-butaforija>>
- Stanoevska-Slabeva, K. 2002. Toward a Community-oriented Design of Internet Platforms. *International Journal of Electronic Commerce*, 6(3): 71–95.
- Starbird, K. 2012. What “Crowding” Obscures: Exposing the Dynamics of Connected Crowd Work during Disaster. *Proceedings of the Collective Intelligence 2012 conference*, Cambridge MA.
- Stasiukynas, A.; Žuromskaitė, B. 2014. Jaunimo nevyriausybinės organizacijos LKJBS „Žingsnis“ vertybės – sėkmingos veiklos pagrindas. *Mokslo studija: Veiksmingos vadybos gairės: teorinės išvalgos ir Lietuvos organizacijų atvejai*, 96–119.
- Sterman, J. D. 2000. *Business Dynamics: Systems thinking and modeling for a complex world*. Boston: Irwin McGraw-Hill.
- Sternberg, R. J. (ed.) 1988. *The nature of creativity: Contemporary psychological perspectives*. New York: Cambridge University Press.
- Sternberg, R. J. 1985. *Beyond IQ: A Triarchic Theory of Human Intelligence*. Cambridge: Cambridge University Press.
- Sternberg, R. J.; Grigorenko, E. L. 2006. Cultural Intelligence and Successful Intelligence. *Group and Organization Management*, 31(1).

- Stiles, E.; Cui, X. 2010. Workings of Collective Intelligence within Open Source Communities. *Advances in Social Computing*, 6007: 282–289.
- Štitalis D.; Gutauskas V.; Malinauskaitė, I. 2012. Personal data protection in virtual social networks: legal environment. *Societal Innovations for Global Growth*, 1(1).
- Štitalis, D. 2013. Kibernetinio saugumo teisinis reguliavimas: kibernetinio saugumo strategijos. *Socialinės technologijos*, 3(1): 189–207.
- Štitalis, D.; Pakutinskis, P.; Daubaraitė, I.; Laurinaitis, M. 2011. Legal Environment against online identity theft: comparative analysis of USA's and Lithuanian legislation. *Socialinės technologijos*, 1(1): 61–80.
- Strelau, J. 1998. *Psychologia temperamentu*. Warszawa: Wydawnictwo Naukowe PWN.
- Strelau, J. 2006. *Temperament jako regulator zachowania. Z perspektywy półwiecza badań*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Sugden, R. 1989. Spontaneous order. *Journal of Economic Perspectives*, 3: 85–97.
- Sultan, N. 2013. Knowledge Management in the Age of Cloud Computing and Web 2.0: Experiencing the Power of Disruptive Innovations. *International Journal of Information Management*, 33: 160–165.
- Support.google.com, 2014. [interactive] *Demographics and Interests Data Collection and Thresholds - Analytics Help*. [accessed 2014-12-10]. <<https://support.google.com/analytics/answer/2954071?hl=>>.
- Surowiecki, J. 2004. *The Wisdom of Crowds: Why the Many Are Smarter than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*. New York: Doubleday.
- Surowiecki, J. 2005. *Wisdom of Crowds*. New York: Anchor Books.
- Szu, H.; Chanyagorn, P.; Hwang, W.; Paulin, M.; Yamakawa, T. 2004. Collective and Distributive Swarm Intelligence: Evolutional Biological Survey. *International Congress Series*, 1269: 46–49.
- Szuba, T. 2001. A Formal Definition of the Phenomenon of Collective Intelligence and its IQ Measure. *Future Generation Computer Systems*, 17: 489–500.
- Szuba, T. 2001. *Computational Collective Intelligence*. New York: Wiley.
- Szuba, T. 2002. Universal Formal Model of Collective Intelligence and Its IQ Measure. *Lecture Notes in Artificial Intelligence*, 2296: 303–312.
- Tamošiūnaitė, R. 2013. Collective Decisions” Features in Face-to-face and Networked Decision Making Process. *Contemporary Research on Organization Management and Administration*, 1: 49–59.
- Tamošiūnaitė, R.; Skaržauskaitė, M. 2012. Theoretical Insights for Developing the Concept of Social technologies. *Social Technologies*, 2(2): 263–272.
- Tapscott, D.; Williams, A.D. 2006. *Wikinomics: How Mass Collaboration Changes Everything*. New York: Portfolio.

- Taylor, M. *et al.* 2012. The role of social media as psychological first aid as a support to community resilience building. A Facebook study for “Cyclone Yasi Update”. *The Australian Journal of Emergency Management*, 27(1): 20–26.
- Taylor, M. P. 2012. The Entrepreneurial University in the Twenty-first Century. *London Review of Education*, 10(3), 289–305.
- The Economist. *Orban the Unstoppable* [interactive]. 2014 [accessed 2014-11-08]. <<http://www.economist.com/news/europe/21620246-criticised-abroad-viktor-orban-going-strength-strength-home-orban-unstoppable>>.
- The Guardian* [interactive]. 2014 [accessed 2014-10-15]. <<http://www.theguardian.com/us-news/the-nsa-files>>.
- The Review of Development of Information Society. 2013. Information Society Development Committee under the Ministry of Transport and Communications. [accessed 2014-04-11] <<http://www.ivpk.lt/uploads/Statistika/2013%20m.%20III%20apzvalga.pdf>>
- The Review of Development of Information Society. *Information Society Development Committee under the Ministry of Transport and Communications* [interactive]. Vilnius, 2013 [accessed 2013-06-04]. <<http://www.ivpk.lt/uploads/Statistika/2013%20m.%20III%20apzvalga.pdf>>.
- The World Competitiveness Yearbook 2004. *Lausanne: International Institute for Management Development* [interactive]. 2014 [accessed 2014-08-30]. <<http://www02.imd.ch/wcc/pressreleases>>.
- Theiss-Morse, E. 1993. Conceptualizations of good citizenship and political participation. *Political Behaviour*, 15: 355–380.
- Thomas, K.; Grier, C.; Paxson, V. 2012. Adapting social Spam Infrastructure for Political Censorship. *Proceedings of the 5th USENIX conference on LEET*.
- Thomas, L. 1974. *The Lives of a Cell: Notes of a Biology Watcher*. The Viking Press.
- Thurstone, L. L. 1938. *Primary Mental Abilities*. Chicago: University of Chicago Press.
- Tidikis, R. 2003. *Socialinių tyrimų mokslo metodologija*. Vilnius: Mykolo Romerio universitetas, p. 474–518.
- Tinati, R.; Simperl, E.; Luczak-Roesch, M.; Van Kleek, M.; Shadbolt, N. 2014. Collective Intelligence in Citizen Science – A Study of Performers and Talkers. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Torney-Purta, J.; Barber, C. H.; Richardson, W. K. 2004. Trust in Government-Related Institutions and Political Engagement among Adolescents in Six Countries. *Acta Politica*, 39: 380–406.
- Tragårdh, L.; Witoszek, N.; Taylor, B. 2013. *Civil Society in the Age of Monitory Democracy*. Berghahn Books.
- Travis, J. 2008. Science by the masses. *Science*, 319(5871): 1750–1752.
- Trianni, V.; Tuci, E.; Passino, K. M.; Marshall, J. A. R. 2011. Swarm Cognition: an Interdisciplinary Approach to the Study of Self-organizing Biological Collectives. *Swarm Intelligence*, 5: 3–18.

- Trichkovska C. 2011. Legal and privacy challenges of social networking sites. [accessed 2013-03-15] <<https://www.duo.uio.no/bitstream/handle/10852/22928/CvetankaxTrichkovskaxThesis.pdf?sequence=1>>
- Trichkovska, C. 2011. *Legal and Privacy Challenges of Social Networking Sites: Facebook*. University of Oslo.
- Tsokhas, K. 2001. A Search for Transcendence: Philosophical And Religious Dialogues In W. K. Hancock's Biography Of J. C. Smuts. *The Round Table*, 90(358): 67–88.
- Tsoukas, H. 2005. Do We Really Understand Tacit Knowledge? In H. Tsoukas (Ed.). *Complex knowledge: Studies in organizational epistemology*, 141–161. New York: Oxford University Press.
- Tvaronavičienė, A.; Paražinskaitė, G. 2013. Legal Presumptions of Usage of Social Technologies for Virtual Communities' Involvement in the Decision Making Process in Lithuanian Republic Legal System. *SOCIN 2013: Social Technologies'13. Development of Social Technologies in the Complex World: Special focus on e-Health: conference abstracts: 10-11 October, 2013*. Vilnius: Mykolas Romeris University, p. 56–57.
- Tvaronavičienė, A.; Paražinskaitė, G. 2013. Socialinių technologijų naudojimo virtualių bendruomenių įtraukimui į sprendimų priėmimo procesą teisinės prielaidos Lietuvos Respublikos teisės sistemoje. *SOCIN 2013: Social Technologies'13. Development of Social Technologies in the Complex World: Special focus on e-Health: conference papers*, p. 104–122.
- Twenge, J. (2006). *Generation me: Why today's young Americans are more confident, assertive, entitled—and more miserable - than ever before*. New York: Free Press.
- U.S. Department of Education Office of Educational Technology, 2011. *Resources and Tools for Evaluation of Online Communities of Practice*. [accessed 2014-12-10]. <http://connectededucators.org/wp-content/uploads/2011/07/707_COCP-Evaluation-Brief-July_2011.pdf>.
- Unceta and Castro Spila. 2012. *Indicators of social Innovation: Conceptualization and exploratory model*. Sinergiak Social Innovation Centre, University of Basque Country, Spain.
- Urmonas, A. 2007. Socialinių technologijų konceptualių modelių pritaikymo administracinėje teisėje paieška. *Jurisprudencija Mokslo darbai*, 6(96): 9–15.
- Van Baalen, P.; Bloemhof-Ruwaard, J.; van Heck, E. 2005. Knowledge sharing in an emerging network of practice. *European Management Journal*, 23(3): 300–14.
- van Beuningen, J.; Schmeets, H. 2013. Developing a Social Capital Index for the Netherlands. *Social Indicators Research*, 113(3): 859–886.
- van den End, J. W. 2006. Indicator and Boundaries of Financial Stability. *De Nederlandsche Bank NV. Working Paper 097(2006)*.
- Van der Vegt, G. S.; Bunderson, J. S. 2005. *Learning and Performance in Multidisciplinary Teams: the Importance of Collective Team Identification*. *Academy of Management Journal*, 48: 532–547.

- van Westrenen, F. 2011. Urbanism Game. In *Game Urbanism: Manual for Cultural Spatial Planning*, edited by Hans Venhuizen. Valiz Book and Cultural Projects.
- Vanderhaeghen, D.; Fettke, P. 2010. Organizational and Technological Options for Business Process Management from the Perspective of Web 2.0: Results of a Design Oriented Research Approach with Particular Consideration of Self-Organization and Collective Intelligence. *Business & Information Systems Engineering*, 2: 15–28.
- Vandermerwe, S.; Rada, J. 1988. Servitization of Business: Adding Value by Adding Services. *European Management Journal*, 6(4): 314–324.
- Vargas, J. A. 2008. Obama Raised Half a Billion Online. *The Washington Post*, 20.
- Vargo, S. L.; Lusch, R. F. 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68(January): 1–17.
- Vargo, S. L.; Maglio, P. P.; Akaka, M. A. 2008. On Value and Value Co-creation: Service Systems and Service Logic Perspective. *European Management Journal*, 26(3): 145–52.
- VBA innovation initiative. *the White House* [interactive]. Washington, 2013 [accessed 2013-06-03]. <www.whitehouse.gov/open/innovations/vaii>.
- Viešasis valdymas. 2010. Ats. Red. V. Smalskys. Vilnius: Mykolo Romerio universitetas.
- Vieweg, S. *et al.* 2008. Collective Intelligence in Disaster: An Examination of the Phenomenon in the Aftermath of the 2007 Virginia Tech Shooting. *Proceedings of the 5th International ISCRAM Conference, Washington, DC, USA*.
- Vipartienė D. 2013. Demokratijos sukūrimo svertas – pilietinis aktyvumas ir bendradarbiavimas. [accessed 2013-01-19] <<http://www.aidas.lt/lt/teise-ir-teisingumo-vykdymas/article/1789-07-08-demokratijos-sukurimo-svertas-pilietinis-aktyvumas-ir-bendradarbiavimas>>
- Visuomenei susipažinti. *Lietuvos Respublikos Seimas* [interactive]. Vilnius, 2014. [accessed 2014-04-14]. <http://www3.lrs.lt/pls/inter/w5_show?p_r=5931&p_k=1>.
- Viswanath K, Breen N, Meissner H, Moser RP, Hesse B, Steele WR et al. 2006. Cancer knowledge and disparities in the information age. *J Health Commun*. 11(Suppl 1) P. 1–17.
- Viswanath, K. 2005. Science and Society: the Communications Revolution and Cancer Control. *Nature Reviews Cancer*, 5(10): 828–835.
- Vivacqua, A. S. B.; Marcos, R. S. 2010. Collective Intelligence for the Design of Emergency Response, Computer Supported Cooperative Work in Design (CSCWD). *14th International Conference on, Shanghai, China, pp. 623–628, 14-16 April 2010*.
- Von Ahn, L.; Maurer, B.; McMillen, C.; Abraham, D.; Blum, M. 2008. Recaptcha: Human-based Character Recognition via Web Security Measures. *Science*, 321(5895): 1465–1468.

- Von Bertalanffy, L. 1968. *General System Theory: Foundations, Development, Applications*. Braziler, New York.
- Von Hippel, E. 2001. Perspective: User Toolkits for Innovation. *Journal of Product Innovation Management*, 18: 247–257.
- Von Hippel, E.; Von Krogh, G. 2003. Open Source Software and the “Private-collective” Innovation Model: Issues for Organization Science. *Organization Science*, 14: 209–223.
- Von Hippel, E. 2001. Open Source Shows the Way: Innovation by and for Users – No Manufacturer Required! *Sloan Management Review*, summer.
- Von Schomberg, R. 2011. Towards Responsible Research and Innovation in the Information and Communication Technologies and Security Technologies Fields. Available at SSRN 2436399.
- Vorley, T.; Nelles, J. 2008. (Re)Conceptualising the Academy: Institutional Development of and beyond the Third Mission. *Higher Education management and Policy*, 20(3): 119.
- Vukovic, M.; Bartolini, C. 2010. Towards a Research Agenda for Enterprise Crowdsourcing. *Leveraging applications of formal methods, verification, and validation*, pp. 425–434. Springer Berlin Heidelberg.
- Waever, O. 1996. European Security Identities. *JCMS: Journal of Common Market Studies*, 34(1): 103–132.
- Waever, O.; Kelstrup, M. 1993. Europe and its Nations: Political and Cultural Identities. *Identity, migration and the new security agenda in Europe*, 62–92.
- Waldman, K. Facebook’s Unethical Experiment Manipulated Users’ Emotions. *Slate Magazine* [interactive]. 2014 [accessed 2014-10-15]. <http://www.slate.com/articles/health_and_science/science/2014/06/facebook_unethical_experiment_it_made_news_feeds_happier_or_sadder_to_manipulate.html>.
- Walton, D. N.; Krabbe, E. C. W. 1995. *Commitment in Dialogue: Basic Concepts of Interpersonal Reasoning*. Albany, NY: State University of New York Press.
- Waltz, K. 1979. *Theory of International Politics*. Boston: Addison-Wesley.
- Wang, E. T. G.; Ying, T. C.; Jiang, J.J.; Klein, G. 2006. Group Cohesion in Organizational Innovation: an Empirical Examination of ERP Implementation. *Information and Software Technology*, 48: 235–44.
- Wang, K. 2014. Collective Innovation: The Known and the Unknown. *Collective Intelligence 2014*, MIT Center for Collective intelligence, Boston.
- Wasko, M. M.; Faraj, S. 2005. Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly*, 35–37.
- Watts, D.; Strogatz, S. 1998. Collective Dynamics of “Small-world” Networks. *Nature*, 393: 440–442.

- Wechsler, D. 1939. *The Measurement of Adult Intelligence*. Baltimore: Williams & Wilkins.
- Weick, K. E.; Roberts, K. H. 1993. Collective Mind in Organizations: Heedful Interrelating on Flight Decks. *Administrative Science Quarterly*, 38: 357–381.
- Weiss, A. 2005. The Power of Collective Intelligence. *netWorker*, 9: 16–23.
- Wellman, B. 2003. *The Encyclopaedia of Community: From the Village to the Virtual World*. Sage Publications, Thousand Oaks, CA.
- Wellman, B.; Berkowitz, S. D. 1988. *Social structures: a network approach*. New York: Cambridge University Press.
- Wellman, B.; Hampton, K. 1999. Living Networked on- and Offline. *Contemporary Sociology*, 28(6): 648–654.
- Wellman, B.; Quan-Haase, A.; Boase, J.; Chen, W.; Hampton, K.; Muyata, K. 2003. The Social Affordances of the Internet for Networked Individualism. *Journal of Computer Mediated Communication*, 8(3).
- Wendt, A. 2005. *Tarptautinės politikos socialinė teorija*. Vilnius: Eugrimas.
- Wenzl, R. 2006. *Freiwilligenarbeit Im Dritten Sektor - Motive und Determinanten der Freiwilligenarbeit: Studienarbeit*. Norderstedt: GRIN Verlag GmbH. Auflage 1.
- Weschler, D. 1971. Concept of collective intelligence. *American Psychologist*, 26: 904–907.
- Wessels, W. 1996. Institutions of the EU System: Models of Explanation. *The European Union and Member States, Towards Institutional Fusion*, 20–37.
- Wexler, M. N. 2011. Reconfiguring the Sociology of the Crowd: Exploring Crowdsourcing. *International Journal of Sociology and Social Policy*, 31(1): 6–20.
- Wigley, M. 2001. Network Fever. *Grey Room*, (04): 82–122.
- Wignaraja, G.; Lezama, M.; Joiner, D. 2004. *Small States in Transition: From Vulnerability to Competitiveness*. United Kingdom: Commonwealth Secretariat.
- Wikipedia [interactive]. 2010 [accessed 2010-05-20]. < http://en.wikipedia.org/wiki/Main_Page>.
- Williams, R.; Williams, G.; Burton D. 2012. The Use of Social Media in Disaster Recovery. *University of Missouri*. [accessed 2014-11-25] <<http://extension.missouri.edu/greene/documents/PlansReports/using%20social%20media%20in%20disasters.pdf>>.
- Williams, W.; Sternberg, R. 1988. Group Intelligence: Why Some Groups are Better than Others. *Intelligence*, 12(4): 351–377.
- Willke, H. 2007. *Smart Governance*. Frankfurt am Main: Campus.
- Wimmer, R. 2006. *Mass Media Research: An Introduction* (9ed). California: Thomson Wadsworth.
- Wise, S.; Paton, R. A.; Gegenhuber, T. 2012. Value Co-creation through Collective Intelligence in the Public Sector: A Review of US and European Initiatives. *Vine*, 42(2), 251–276.

- Wise, S.; Valliere, D.; Miric, M. 2010. Testing the Effectiveness of Semi-predictive Markets: are Fight Fans Smarter than Expert Bookies? *Procedia: Social and Behavioural Sciences*, 2(4): 6497–6502.
- Witesman, E. M.; Fernandez, S. 2013. [interactive] Nonprofit and Voluntary Sector Quarterly. [accessed 2014-09-15]. <<http://nvs.sagepub.com.skaityka.mruni.eu/content/42/4/689.full.pdf+html>>.
- Witt, M.; Scheiner, C.; Robra-Bissantz, S. 2011. *Gamification of Online Idea Competitions: Insights from an Explorative Case. Informatik 2011 - Informatik schafft Communities 41. Jahrestagung der Gesellschaft für Informatik, Berlin.*
- Wolfers, J.; Zitzewitz, E. 2004. Prediction Markets. *Journal of Economic Perspectives*, 18(2): 107–126.
- Woodley M. A.; Bell, E. 2011. Is Collective Intelligence (mostly) the General Factor of Personality? A Comment on Woolley, Chabris, Pentland, Hashmi and Malone (2010). *Intelligence*, 39: 79–81.
- Woolley, A. W.; Chabris, C. F.; Pentland, A.; Hashmi, N.; Malone, T. W. 2010. Evidence for a Collective Intelligence Factor in the Performance of Human Groups. *Science*, 330(6004): 686–688.
- Wu, F.; Wilkinson, D. M.; Huberman, B. A. 2009. Feedback Loops of Attention in Peer Production. *Computational Science and Engineering, 2009. CSE'09. International Conference on*. 4: 409–415. IEEE.
- Yee, N. 2006. Motivations for Play in Online Games. *Cyberpsychology & Behavior: the Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, 9(6):772–775.
- Yu, L. L.; Nickerson, J. V.; Sakamoto, Y. 2012. Collective Creativity: Where we are and where we might go. In *Proceedings of Collective Intelligence*.
- Yuizono, T.; Xing, Q.; Furukawa, H. 2014. Effects of Gamification on Electronic Brainstorming Systems Collaboration Technologies and Social Computing. *Communications in Computer and Information Science*, 460: 54–56.
- Zack, M. H.; McKenney, J. L. 1995. Social Context and Interaction in Ongoing Computer-supported Management Groups, *Organization Science*, 6(4): 394–422.
- Zalewska, A.; Krzywosz-Rynkiewicz, B. 2011. *Psychologiczne portrety młodych obywateli* ed., Warszawa: Wydawnictwo SWPS Academica.
- Žalimienė, L.; Rimšaitė, E. 2007. Nevyriausybių organizacijų metamorfozės – nuo labdaringos pagalbos vargšams XVIII amžiuje iki socialinių paslaugų rinkos dalyvio šiuolaikinėje visuomenėje. *Socialinis darbas*, 6(1): 83–95.
- Zawadzki, B.; Strelau, J. 1997. *Formalna Charakterystyka Zachowania – Kwestionariusz Temperamentu (FCZ-KT). Podręcznik*. Warszawa: Pracownia Testów Psychologicznych PTP.
- Zettsu, K.; Kiyoki, Y. 2006. Towards Knowledge Management Based on Harnessing Collective Intelligence on the Web. *Lecture Notes in Artificial Intelligence*, 4248: 350–357.

- Zhong, N.; Liu, J. M.; Yao, Y. Y. 2003. *Web Intelligence*. Berlin: Springer.
- Zhou, A. Z.; Fink, D. 2003. Knowledge Management and Intellectual Capital: an Empirical Examination of Current Practice in Australia. *Knowledge Management Research & Practice*, 1(2): 86–94.
- Zhou, C. 2008. Emergence of the Entrepreneurial University in Evolution of the Triple Helix: The Case of Northeastern University in China. *Journal of Technology Management in China*, 3: 109–126.
- Zhu, H.; Zhang, A.; He, J.; Kraut, R. E.; Kittur, A. 2013. Effects of Peer Feedback on Contribution: a Field Experiment in Wikipedia. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 2253–2262. ACM.
- Zhu, R.; Dholakia, U. M.; Chen, X.; Algesheimer, R. 2012. Does Online Community Participation Foster Risky Financial Behavior? *Journal of Marketing Research*, 49(3): 394–407.
- Zichermann, G.; Cunningham, C. 2011. *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*. O'Reilly Series. O'Reilly Media.
- Žiliukaite, R.; Ramonaite, A.; Nevinskaite, L.; Beresneviute, V.; Vinogradnaite, I. 2006. *Neatrasta galia: Lietuvos pilietines visuomenes žemėlapis* (Undiscovered Power: Map of the Civil Society in Lithuania).
- Žiliūkaitė, R.; Ramonaitė, A.; Nevinskaitė, L.; Beresnevičiūtė, V.; Vinogradnaitė, I. 2006. *Neatrasta galia: Lietuvos pilietinės visuomenės žemėlapis*. Vilnius: Versus aureus.
- Zittrain, J.; Palfrey, J. 2008. Internet Filtering: The Politics and Mechanisms of Control. *Access denied: The Practice and Policy of Global Internet Filtering*, 29–57.
- Zmerli, S.; Newton, K. 2008. Social Trust and Attitudes toward Democracy. *Public Opinion Quarterly*, 72(4): 706–724.
- Zott, C.; Amit, R.; Massa, L. 2011. The Business Model: Recent Developments and Future Research, *Journal of Management*, 37: 1019–1042.
- Zupan, N.; Kaše, R. 2007. The Role of HR Actors in Knowledge Networks. *International Journal of Manpower*, 28(3/4): 243–259.

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