Bibliografia:

1 United Nations, Department of Economic and Social Affairs. World urbanization prospects: the 2014 revision. New

York, 2014. http://esa.un.org/unpd/wup/Highlights/WUP2014-Highlights.pdf

2 National Bureau of Statistics of China. China’s population and its composition in 2014. Beijing, 2014. http://www.

stats.gov.cn/tjsj/ndsj/2014/indexeh.htm

3 Kourtit K, Nijkamp P. In praise of megacities in a global world. Reg Sci Policy Pract, 2013, 5: 167–182

4 Abu-Lughod J, Hay R J. Third world urbanization. Abingdon: Routledge Kegan & Paul, 2013

5 Davis K. The urbanization of the human population. In: Menard S W, Moen E W, eds. Perspectives on Population:

an Introduction to Concepts and Issues. New York: Oxford University Press, 1987. 322–330

6 Bertinelli L, Black D. Urbanization and growth. J Urban Econ, 2004, 56: 80–96

7 Haughton G. Developing sustainable urban development models. Cities, 1997, 14: 189–195

8 Yang X J. China’s rapid urbanization. Science, 2013, 342: 310

9 Calder´on-Garcidue˜nas L, Kulesza R J, Doty R L, et al. Megacities air pollution problems: Mexico City Metropolitan

Area critical issues on the central nervous system pediatric impact. Environ Res, 2015, 137: 157–169

10 Schrank D, Lomax T, Eisele B. 2011 urban mobility report. 2011

11 Halicioglu F, Andr´es A R, Yamamura E. Modeling crime in Japan. Econ Model, 2012, 29: 1640–1645

12 Armbrust M, Fox A, Griffith R, et al. A view of cloud computing. Commun ACM, 2010, 53: 50–58

13 McAfee A, Brynjolfsson E. Big data: the management revolution. Harvard Bus Rev, 2012, 90: 60–68

14 Kopetz H. Real-time Systems. New York: Springer, 2011. 307–323

15 Yuan Y M, Qin X, Wu C L, et al. Architecture and data vitalization of smart city. Adv Mater Res, 2012, 403:

2564–2568

16 Satyanarayanan M. Mobile computing: the next decade. In: Proceedings of 1st ACM Workshop on Mobile Cloud

Computing & Services: Social Networks and Beyond. New York: ACM, 2011. 5

17 Gibson D V, Kozmetsky G, Smilor R W. The Technopolis Phenomenon: Smart Cities, Fast Systems, Global Networks.

Rowman & Littlefield Publishers, 1992

18 Palmisano S J. A smarter planet: the next leadership agenda. IBM, 2008

19 Harrison C, Eckman B, Hamilton R, et al. Foundations for smarter cities. IBM J Res Develop, 2010, 54: 1–16

20 Giffinger R, Gudrun H. Smart cities ranking: an effective instrument for the positioning of the cities? Architecture.

City Environ, 2010, 4: 7–26

21 Washburn D, Sindhu U, Balaouras S, et al. Helping CIOs understand ‘smart city’ initiatives. Growth, 2009, 17

22 Su K, Li J, Fu H. Smart city and the applications. In: Proceedings of IEEE International Conference on Electronics,

Communications and Control (ICECC), Ningbo, 2011. 1028–1031

23 Mitton N, Papavassiliou S, Puliafito A, et al. Combining Cloud and sensors in a smart city environment. EURASIP

J Wirel Commun Netw, 2012, 2012: 1–10

24 Nam T, Pardo T A. Conceptualizing smart city with dimensions of technology, people, and institutions. In: Proceedings

of 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging

Times. New York: ACM, 2011. 282–291

25 Bronstein Z. Industry and the smart city. Dissent, 2009, 56: 27–34

26 Digital Agenda Scoreboard 2015: Most targets reached, time has come to lift digital borders. Website of Digital

Agenda for Europe. http://ec.europa.eu/digital-agenda/en

27 Hosaka T A. Japan creating ‘smart city’ of the future. San Francisco Chronicle. Associated Press, October 11, 2010

28 Ng P T. Embracing emerging technologies: the case of the Singapore Intelligent Nation 2015 Vision. In: de Pablos

Yin C T*, et al. Sci China Inf Sci* October 2015 Vol. 58 100102:16

P O, Lee W B, Zhao J Y, eds. Regional Innovation Systems and Sustainable Development: Emerging Technologies.

Hershey: IGI Global, 2011. 115–123

29 Liu P, Peng Z. China’s smart city pilots: a progress report. Computer, 2014, 47: 72–81

30 Tiwari A. Urban sciences, big data and India’s smart initiative. Global J Multidiscip Stud, 2014, 3

31 Pellicer S, Santa G, Bleda A L, et al. A global perspective of smart cities: a survey. In: Proceedings of 7th International

Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS), Taichung, 2013. 439–444

32 Chourabi H, Nam T, Walker S, et al. Understanding smart cities: an integrative framework. In: Proceedings of 45th

Hawaii International Conference on System Science, Maui, 2012. 2289–2297

33 Paroutis S, Bennett M, Heracleous L. A strategic view on smart city technology: the case of IBM Smarter Cities during

a recession. Technol Forecast Soc Change, 2014, 89: 262–272

34 Batty M. Big data, smart cities and city planning. Dialogues Hum Geogr, 2013, 3: 274–279

35 Kitchin R. The real-time city? Big data and smart urbanism. GeoJournal, 2014, 79: 1–14

36 Zhang D, Song T, Li J, et al. A linked data-based framework for personalized services information retrieval in smart

city. In: Proceedings of Workshops on Web Information Systems Engineering. Berlin/Heidelberg: Springer, 2014.

461–473

37 Rong W, Xiong Z, Cooper D, et al. Smart city architecture: a technology guide for implementation and design

challenges. Netw Technol Appl, 2014, 11: 56–69

38 Nam T, Pardo T A. Smart city as urban innovation: Focusing on management, policy, and context. In: Proceedings

of 5th International Conference on Theory and Practice of Electronic Governance. New York: ACM, 2011. 185–194

39 Li D, Yao Y, Shao Z, et al. From digital earth to smart earth. Chin Sci Bull, 2014, 59: 722–733

40 Yovanof G S, Hazapis G N. An architectural framework and enabling wireless technologies for digital cities & intelligent

urban environments. Wirel Pers Commun, 2009, 49: 445–463

41 Van den Besselaar P, Melis I, Beckers D. Digital cities: organization, content, and use. In: Ishida T, Isbister K, eds.

Digital Cities: Technologies, Experiences, and Future Perspectives. Berlin/Heidelberg: Springer, 2000. 18–32

42 Widmayer P. Building digital metropolis: Chicago’s future networks. IT Prof, 1999, 1: 40–46

43 Malek J A. Informative global community development index of informative smart city. In: Proceedings of 8th WSEAS

International Conference on Education and Educational Technology, Athens, 2009. 17–19

44 Moser M A. What is smart about the smart communities movement. EJournal, 10, 2001: 11

45 Komninos N, Sefertzi E. Intelligent cities: R&D offshoring, Web 2.0 product development and globalization of innovation

systems. In: Proceedings of 2nd Knowledge Cities Summit, Shenzhen, 2009

46 Bowerman B, Braverman J, Taylor J, et al. The vision of a smart city. In: Proceedings of 2nd International Life

Extension Technology Workshop, Paris, 2000

47 Al-Hader M, Rodzi A, Sharif A R, et al. Smart city components architecture. In: Proceedings of International

Conference on Computational Intelligence, Modelling and Simulation, Brno, 2009. 93–97

48 Lazaroiu G C, Roscia M. Definition methodology for the smart cities model. Energy, 2012, 47: 326–332

49 Dirks S, Keeling M. A vision of smarter cities: how cities can lead the way into a prosperous and sustainable future.

IBM Institute for Business Value, 2009

50 Moss Kanter R, Litow S S. Informed and interconnected: a manifesto for smarter cities. Harvard Business School

General Management Unit Working Paper, 2009

51 Javidroozi V, Shah H, Amini A, et al. Smart city as an integrated enterprise: a business process centric framework

addressing challenges in systems integration. In: Proceedings of 3rd International Conference on Smart Systems,

Devices and Technologies, Paris, 2014. 55–59

52 Yamamoto S, Matsumoto S, Nakamura M. Using cloud technologies for large-scale house data in smart city. In:

Proceedings of 4th IEEE International Conference on Cloud Computing Technology and Science Proceedings, Taipei,

2012. 141–148

53 Neirotti P, De Marco A, Cagliano A C, et al. Current trends in Smart City initiatives: some stylised facts. Cities,

2014, 38: 25–36

54 Buccella C, Cecati C, Abu-Rub H. An overview on distributed generation and smart grid concepts and technologies.

In: Abu-Rub H, Malinowski M, Al-Haddad K, eds. Power Electronics for Renewable Energy Systems, Transportation

and Industrial Applications. Chichester: John Wiley & Sons, 2014. 50–68

55 Cimmino A, Pecorella T, Fantacci R, et al. The role of small cell technology in future smart city applications. Trans

Emerg Telecommun Technol, 2014, 25: 11–20

56 Balakrishna C. Enabling technologies for smart city services and applications. In: Proceedings of 6th International

Conference on Next Generation Mobile Applications, Services and Technologies, Paris, 2012. 223–227

57 Anthopoulos L, Fitsilis P. From digital to ubiquitous cities: defining a common architecture for urban development.

In: Proceedings of 6th International Conference on Intelligent Environments, Kuala Lumpur, 2010. 301–306

58 Theodoridis E, Mylonas G, Chatzigiannakis I. Developing an IoT smart city framework. In: Proceedings of 4th

International Conference on Information Intelligence Systems and Applications, Piraeus, 2013. 1–6

59 Zygiaris S. Smart city reference model: assisting planners to conceptualize the building of smart city innovation

ecosystems. J Knowl Econ, 2013, 4: 217–231

Yin C T*, et al. Sci China Inf Sci* October 2015 Vol. 58 100102:17

60 Xiong Z, Luo W, Chen L, et al. Data vitalization: a new paradigm for large-scale dataset analysis. In: Proceedings of

IEEE 16th International Conference on Parallel and Distributed Systems, Shanghai, 2010. 251–258

61 Jara A J, Genoud D, Bocchi Y. Big data in smart cities: from Poisson to human dynamics. In: Proceedings of 28th

International Conference on Advanced Information Networking and Applications Workshops, Victoria, 2014. 785–790

62 Deshpande A, Guestrin C, Madden S R, et al. Model-driven data acquisition in sensor networks. In: Proceedings of

30th International Conference on Very Large Data Bases, Toronto, 2004. 588–599

63 Maraiya K, Kant K, Gupta N. Wireless sensor network: a review on data aggregation. Int J Sci Eng Res, 2011, 2: 1–6

64 Srinivasa Prasanna G N, Lakshmi A, Sumanth S, et al. Data communication over the smart grid. In: Proceedings of

IEEE International Symposium on Power Line Communications and Its Applications, Dresden, 2009. 273–279

65 Dey S, Chakraborty A, Naskar S, et al. Smart city surveillance: leveraging benefits of cloud data stores. In: Proceedings

of IEEE 37th Conference on Local Computer Networks Workshops, Clearwater, 2012. 868–876

66 Harrison R, McLeod C S, Tavola G, et al. Next generation of engineering methods and tools for SOA-based largescale

and distributed process applications. In: Colombo A, Bangemann Th, Karnouskos S, et al., eds. Industrial

Cloud-Based Cyber-Physical Systems. Switzerland: Springer International Publishing, 2014. 137–165

67 Valkanova N, Jorda S, Moere A V. Public visualization displays of citizen data: design, impact and implications. Int

J Hum-Comput Stud, 2015, 81: 4–16

68 Wang S M, Huang C J. User experience analysis on urban interaction and information service in smart city nodes. In:

Proceedings of 2nd International Symposium of Chinese CHI. New York: ACM, 2014. 103–109

69 Han Q, Liang S, Zhang H. Mobile cloud sensing, big data, and 5G networks make an intelligent and smart world.

IEEE Netw, 2015, 29: 40–45

70 Perera C, Zaslavsky A, Christen P, et al. Sensing as a service model for smart cities supported by Internet of Things.

Trans Emerg Telecommun Technol, 2014, 25: 81–93

71 Lane N D, Miluzzo E, Lu H, et al. A survey of mobile phone sensing. IEEE Commun Mag, 2010, 48: 140 –150

72 Krause A, Horvitz E, Kansal A, et al. Toward community sensing. In: Proceedings of 7th International Conference

on Information Processing in Sensor Networks. Washington: IEEE, 2008. 481–492

73 Singla A, Krause A. Incentives for privacy tradeoff in community sensing. In: Proceedings of 1st AAAI Conference on

Human Computation and Crowdsourcing, Palm Springs, 2013

74 Xiong Z, Zheng Y, Li C. Data vitalization’s perspective towards smart city: a reference model for data service oriented

architecture. In: Proceedings of 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing,

Chicago, 2014. 865–874

75 Yuan Y M, Qin X, Wu C L, et al. Architecture and data vitalization of smart city. Adv Mater Res, 2012, 403:

2564–2568

76 Mei L, Cai X, Zhang H, et al. Video structured description—vitalization techniques for the surveillance video data.

In: Proceedings of 9th International Forum on Digital TV and Wireless Multimedia Communication, Shanghai, 2012.

219–227

77 Wu X, Zhu X, Wu G Q, et al. Data mining with big data. IEEE Trans Knowl Data Eng, 2014, 26: 97–107

78 Fan W, Bifet A. Mining big data: current status, and forecast to the future. ACM SIGKDD Explor Newslett, 2013,

14: 1–5

79 Pan G, Qi G, Zhang W, et al. Trace analysis and mining for smart cities: issues, methods, and applications. IEEE

Commun Mag, 2013, 51: 120–126

80 Herman I, Melanon G, Marshall M S. Graph visualization and navigation in information visualization: a survey. IEEE

Trans Vis Comput Graph, 2000, 6: 24–43

81 Ferreira N, Poco J, Vo H T, et al. Visual exploration of big spatio-temporal urban data: a study of new york city taxi

trips. IEEE Trans Vis Comput Graph, 2013, 19: 2149–2158

82 Anwar A, Nagel T, Ratti C. Traffic origins: a simple visualization technique to support traffic incident analysis. In:

Proceedings of IEEE Pacific Visualization Symposium, Yokohama, 2014. 316–319

83 Liu L, Andris C, Ratti C. Uncovering cabdrivers’ behavior patterns from their digital traces. Comput Environ Urban

Syst, 2010, 34: 541–548

84 Calabrese F, Colonna M, Lovisolo P, et al. Real-time urban monitoring using cell phones: a case study in Rome. IEEE

Trans Intell Transp Syst, 2011, 12: 141–151

85 Barria J A, Thajchayapong S. Detection and classification of traffic anomalies using microscopic traffic variables. IEEE

Trans Intell Transp Syst, 2011, 12: 695–704

86 G¨uhnemann A, Sch¨afer R P, Thiessenhusen K U, et al. Monitoring traffic and emissions by floating car data. Institute

of Transport Studies Working Paper, 2004

87 Kanoulas E, Du Y, Xia T, et al. Finding fastest paths on a road network with speed patterns. In: Proceedings of 22nd

International Conference on Data Engineering. Washington: IEEE, 2006. 10

88 Pfoser D, Brakatsoulas S, Brosch P, et al. Dynamic travel time provision for road networks. In: Proceedings of 16th

ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems. New York: ACM,

2008. 68

89 Zheng Y, Chen Y, Li Q, et al. Understanding transportation modes based on GPS data for Web applications. ACM

Yin C T*, et al. Sci China Inf Sci* October 2015 Vol. 58 100102:18

Trans Web, 2010, 4: 1

90 Castro P S, Zhang D, Li S. Urban traffic modelling and prediction using large scale taxi GPS traces. In: Proceedings

of 10th International Conference, Pervasive 2012, Newcastle, 2012. 57–72

91 Gonzalez H, Han J, Li X, et al. Adaptive fastest path computation on a road network: a traffic mining approach. In:

Proceedings of 33rd International Conference on Very Large Data Bases, Vienna, 2007. 794–805

92 Ziebart B D, Maas A L, Dey A K, et al. Navigate like a cabbie: probabilistic reasoning from observed contextaware

behavior. In: Proceedings of 10th International Conference on Ubiquitous Computing. New York: ACM, 2008.

322–331

93 Li B, Zhang D, Sun L, et al. Hunting or waiting? Discovering passenger-finding strategies from a large-scale realworld

taxi dataset. In: Proceedings of IEEE International Conference on Pervasive Computing and Communications

Workshops, Seattle, 2011. 63–68

94 Sun L, Zhang D, Chen C, et al. Real time anomalous trajectory detection and analysis. Mob Netw Appl, 2013, 18:

341–356

95 Ceapa I, Smith C, Capra L. Avoiding the crowds: understanding tube station congestion patterns from trip data. In:

Proceedings of the ACM SIGKDD International Workshop on Urban Computing, Beijing, 2012. 134–141

96 Yousaf J, Li J, Chen L, et al. Generalized multipath planning model for ride-sharing systems. Front Comput Sci,

2014, 8: 100–118

97 Leng B, Zeng J, Xiong Z, et al. Probability tree based passenger flow prediction and its application to the Beijing

subway system. Front Comput Sci, 2013, 7: 195–203

98 Barabasi A L. The origin of bursts and heavy tails in human dynamics. Nature, 2005, 435: 207–211

99 Brockmann D, Hufnagel L, Geisel T. The scaling laws of human travel. Nature, 2006, 439: 462–465

100 Hong W, Han X P, Zhou T, et al. Heavy-tailed statistics in short-message communication. Chin Phys Lett, 2009, 26:

028902

101 Wu Y, Zhou C, Xiao J, et al. Evidence for a bimodal distribution in human communication. In: Proceedings of the

National Academy of Sciences, 2010, 107: 18803–18808

102 Gonzalez M C, Hidalgo C A, Barabasi A L. Understanding individual human mobility patterns. Nature, 2008, 453:

779–782

103 Song C, Qu Z, Blumm N, et al. Limits of predictability in human mobility. Science, 2010, 327: 1018–1021

104 Jiang B, Yin J, Zhao S. Characterizing the human mobility pattern in a large street network. Phys Rev E, 2009, 80:

021136

105 Liang X, Zheng X, Lv W, et al. The scaling of human mobility by taxis is exponential. Phys A, 2012, 391: 2135–2144

106 Rambaldi S, Bazzani A, Giorgini B, et al. Mobility in modern cities: looking for physical laws. In: Proceedings of the

European Conference on Complex Systems, Dresden, 2007. 132

107 Bazzani A, Giorgini B, Rambaldi S, et al. Statistical laws in urban mobility from microscopic GPS data in the area

of Florence. J Stat Mech-theory Exp, 2010, 2010: P05001

108 Li R H, Liu J, Yu J X, et al. Co-occurrence prediction in a large location-based social network. Front Comput Sci,

2013, 7: 185–194

109 Yu K, Zhu H, Cao H, et al. Learning to detect subway arrivals for passengers on a train. Front Comput Sci, 2014, 8:

316–329

110 Puissant A, Hirsch J, Weber C. The utility of texture analysis to improve perpixel classification for high to very high

spatial resolution imagery. Int J Remote Sens, 2005, 26: 733–745

111 Deng J S, Wang K, Hong Y, et al. Spatio-temporal dynamics and evolution of land use change and landscape pattern

in response to rapid urbanization. Landscape Urban Plan, 2009, 92: 187–198

112 Herold M, Liu X H, Clarke K C. Spatial metrics and image texture for mapping urban land use. Photogramm Eng

Remote Sens, 2003, 69: 991–1001

113 van de Voorde T, Jacquet W, Canters F. Mapping form and function in urban areas: an approach based on urban

metrics and continuous impervious surface data. Landscape Urban Plan, 2011, 102: 143–155

114 Peng C, Jin X, Wong K C, et al. Collective human mobility pattern from taxi trips in urban area. PloS One, 2012,

7: e34487

115 Chen D, Stow D A, Gong P. Examining the effect of spatial resolution and texture window size on classification

accuracy: an urban environment case. Int J Remote Sens, 2004, 25: 2177–2192

116 Soto V, Frias-Martinez E. Robust land use characterization of urban landscapes using cell phone data. In: Proceedings

of 1st Workshop on Pervasive Urban Applications, in conjunction with 9th International Conference on Pervasive

Computing, San Francisco, 2011

117 Pacifici F, ChiniM, EmeryWJ. A neural network approach using multi-scale textural metrics from very high-resolution

panchromatic imagery for urban land-use classification. Remote Sens Environ, 2009, 113: 1276–1292

118 Luck M, Wu J. A gradient analysis of urban landscape pattern: a case study from the Phoenix metropolitan region,

Arizona, USA. Landscape Ecol, 2002, 17: 327–339

119 Bram J, McKay A. The evolution of commuting patterns in the New York city metro area. Curr Issues Econ Financ,

2005, 11

Abstract:

Rapid urbanization creates new challenges and issues, and the smart city concept offers opportunities to rise to these challenges, solve urban problems and provide citizens with a better living environment. This paper presents an exhaustive literature survey of smart cities. First, it introduces the origin and main issues facing the smart city concept, and then presents the fundamentals of a smart city by analyzing its definition and application domains. Second, a data-centric view of smart city architectures and key enabling Technologies is provided. Finally, a survey of recent smart city research is presented. This paper provides a reference to researchers who intend to contribute to smart city research and implementation.

Relevância e comentários:

Esse artigo possui alta relevância, dado que, além de um compilado de informações de mais de 100 outros conteúdos de valor médio/alto, trata de conceitos necessários para o entendimento do conceito geral cidade inteligente.

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Bibliografia:

[1] V. Albino, U. Berardi, and R. M. Dangelico, “Smart

cities: Definitions, dimensions, performance, and

initiatives,” *Journal of Urban Technology*, vol. 22, no.

1, 2015, pp. 3-21.

[2] V. Albino, U. Berardi, and R. M. Dangelico, “Smart cities:

definitions, performance, and initiatives,” *Journal of*

*Urban Technology*, vol. 22, no. 1, 2015, pp. 3-21

[3] M. N. O. Sadiku, A. E. Shadare, E. Dada, and S. M. Musa,

“Smart cities,” *International Journal of Scientific*

*Engineering and Applied Science*, vol. 2, no. 10, Oct.

2016, pp. 41-44.

[4] P. Hayat, “Smart cities: A global perspective,” *India*

*Quarterly*, vol. 72, no. 2, 2016, pp. 177–191.

[5] N. Villanueva-Rosales, “Semantic-enhanced living

labs for better interoperability of smart cities

solutions,” *Proceedings of IEEE International Smart*

*Cities Conference,* September 2016.

[6] M. Rouse, “Smart city,”

https://internetofthingsagenda.techtarget.com/defi

nition/smart-city

[7] “Smart city,” *Wikipedia*, the free encyclopedia

https://en.wikipedia.org/wiki/Smart\_city

[8] A. Camero and E. Alba, “Smart city and information

technology: A review,”

Cities*, vol. 93, October 2019, pp. 84-94.*

[9] A. Babar, “Smart cities: Socio-technical innovation for

empowering citizens,”

Australian Quarterly, July–September, 2016, pp. 18-25.

[10] “Smart transportation,”

https://www.brindleytech.com/smarttransportation/

[11] M. Usman et al., “A survey on big multimedia data

processing and management in smart cities,” *ACM*

*Computing Surveys,* vol. 52, no. 3, June 2019.

[12] S. P. Mohanty, U. Choppali, and E. Kougianos,

“Everything you wanted to know about smart cities,”

IEEE *Consumer Electronics Magazine*, July 2016, pp.

60-70

[13] M. N. O. Sadiku, S. M. Musa, and S.R. Nelatury,

“Internet of things: An introduction,” *International*

*Journal of Engineering Research and Advanced*

*Technology*, vol. 2, no. 3, March 2016, pp. 39-43.

[14] S. P. Mohanty, U. Choppali, and E. Kougianos,

“Everything you wanted to know about smart

cities,” *IEEE Consumer Electronics Magazine*, vol. 5,

no. 3, 2016.

[15] M. N. O. Sadiku, M. Tembely, and S. M. Musa, “Big data:

An introduction for engineers,” *Journal of Scientific*

*and Engineering Research*, vol. 3, no. 2, 2016, pp. 106-

108.

[16] V. Albino, U. Berardi, and R. M. Dangelic, “Smart cities:

Definitions, dimensions, and performance,”

https://pdfs.semanticscholar.org/656e/4fb0564d9

6407161d9e541a9ca15375d6c60.pdf

[17] D*.* Loffreda*, “*Tomorrow's cities: evolving from ‘smart’

to adaptive,” April 2019,

https://www.ciena.com/insights/articles/Tomorro

ws-cities-evolving-from-smart-to-Adaptive.html

[18] M. Batt et al., “Smart cities of the future,” *The*

*European Physical Journal Special Topics*, vol. 214,

2012, pp. 481–518.

[19] M. J. Mulquin, “Roles of IEC in supporting effective

smart city standards*,” IET Smart Cities,* April 2019.

[20] M. N. O. Sadiku, O. D. Olaleye, and S. M. Musa,” Green

cities: A tutorial,” International *Journal of Trend in*

*Research and Development*, vol. 6, no. 3, May- Jun.

2019, pp. 77-79.

[21] T. Yigitcanlar, “Smart cities: an effective urban

development and management model?” *Australian*

*Planner*, vol. 52, no. 1, 2015, pp. 27-34.

[22] T. M. V. Kumar (ed.), *E-Governance*

[23] O. Gassmann, J. Böhm, and M. Palmié, *Smart Cities:*

*Introducing Digital Innovation to Cities.* Emerald

Publishing. 2019.

[24] J. N. Pelton and I. B. Singh, *Smart Cities of Today and*

*Tomorrow: Better Technology, Infrastructure and*

*Security*. Copernicus, 2018.

[25] M. Barlow and C. Levy-Bencheton, Smart *Cities,*

*Smart Future: Showcasing Tomorrow.* John Wiley &

Sons, 2018.

[26] B. Green, *The Smart Enough City: Putting Technology*

*in Its Place to Reclaim Our Urban Future.* MIT Press,

2019.

[27] *H. Sun, C. Wang, and B. I. Ahmad,* From Internet of

Things to Smart Cities: Enabling Technologies. *Boca*

*Raton, FL: 2017.*

[28] H. Song et al., *Smart Cities: Foundations, Principles,*

*and Applications*. John Wiley & Sons, 2017.

Abstract:

In this article, smart cities are characterized with factors like their people, transportation, technology, buildings, economy, environment, parking, and governance. The measures and future outlooks of smart cities are also described whilst not undermining both benefits and challenges that are associated with smart cities. Proponents of smart cities must select the transformation strategy that helps them realize their ambition.

Relevância e comentários:

Relevância alta, trata de métricas de avaliação e apresenta algumas ‘soluções’ tratadas em cidades inteligentes.

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Bibliografia:

1. Swabey, P., *IBM, Cisco and the business of smart cities:How two of the IT industry's largest companies plan to rewire urban living.*, in *Information Age : Insight and analysis for IT leaders*. 2012.

2. Malik, A., *Dubai The Smart City*, Cisco, Editor. 2005.

3. Masdar, *Masdar: A Mubadala company*. 2012: Abu Dhabi, UAE.

4. Joss, S., *SMART CITIES: Reflections on Efforts to Standardize a New Concept*, in *Shaping the Future*. 2013, University of Westminster: London.

5. Mitchell, W.J. *Smart Cities: Vision* Available from: http://smartcities.media.mit.edu/index.html.

6. Dan Hill, L.D., Mark Watts, Volker Buscher, *Arup UrbanLife-SmartSolutionForCities. Transforming power-hungry urban areas into low-carbon smart cities via the creative use of technologies. .* 2011: p. 28.

7. EU-COMMISSION, *COMMUNICATION FROM THE COMMISSION SMART CITIES AND COMMUNITIES - EUROPEAN INNOVATION PARTNERSHIP*. 2012: Brussels. p. 15.

8. Azkuna, I., *Smart Cities study: International study on the situation of ICT, innovation and knowldge in cities*. 2012: Bilbao.

9. BSI:180, *Smart cities – Vocabulary*, D.f.B.I. Skills, Editor. 2014, BSI Group Haedquarters: London.

10. Rudolf Giffinger, C.F., Hans Kramar, Robert Kalasek, Nataša Pichler-Milanović, Evert Meijers, *Smart cities Ranking of European medium-sized cities*. 2007.

11. BIS, *Smart Cities: Background paper*, D.f.B.I. Skills, Editor. 2013, Crown copyright Lonodn.

12. BSI:181, *PAS 181:2014 Smart city framework – Guide to establishing strategies for smart cities and communities*, D.f.B.I. Skills, Editor. 2014, BSI Standards Limited 2014. p. 60.

13. Duckenfield, T., *Smart Cities – the who’s, what’s, where’s?* 2013, Steer Davies Gleave: UK& Ireland.

14. FG-SSC. *Focus Group on Smart Sustainable Cities*. 2014 [cited 2014 28th August]; Available from: http://www.itu.int/en/ITU-T/focusgroups/ssc/Pages/default.aspx.

15. Chourabi, H., et al., *Understanding Smart Cities: An Integrative Framework.* 2012: p. 2289-2297.

16. Connelly, S., *Mapping Sustainable Development as a Contested Concept.* Local Environment, 2007. **12**(3): p. 259-278.

17. Paul Doherty, A.P.C., the digit group, inc. *Smart Cities: How to Build Sustainable and Resilient Environments In an Increasingly Urbanized World*. 2013.

18. Gabrys, J., *Programming environments: environmentality and citizen sensing in the smart city.* Environment and Planning D: Society and Space, 2014. **32**(1): p. 30-48.

19. Laneri, R. *In pictures: The world's Smartest Cities* 2009 [cited 2014 28th August ]; Available from: http://www.forbes.com/2009/12/03/infrastructure-economy-urban-opinions-columnists-smart-cities-09-joel-kotkin\_slide.html.

20. Heap, R. *How to Become a Smart City: A Beginner’s Guide*. 2012; Available from: http://downloads.deusm.com/ubmfuturecities/How\_to\_Make\_Your\_City\_Smarter.pdf?p\_redirone=yes&piddl\_promo=.

21. Goverment Office for Science The Business of Cities for the Foresight Future of Cities Project and the Future Cities Catapult, E.M., Tim Moonen, Greg Clark, *WHAT ARE FUTURE CITIES? ORIGINS, MEANINGS AND USES.* 2014: p. 100.

22. BSI:182, *Draft PAS 182:2014. Smart city concept model – Guide toestablishing a model for data interoperability Draft 2.0 for public consultation*, T.B.S. Institution, Editor. 2014, The British Standards Institution: London. p. 57.

23. Jonas Mortensen, F.J., Rohde Klaus, Rovsing Kristiansen, Maria Kanstrup-Clausen, Marianna Lubanski *Danish Smart Cities: sustainable living in an urban world: An overview of Danish Smart City competencies*. 2012. 40.

24. Taewoo Nam, T.A.P., *Smart City as Urban Innovation: Focusing on Management, Policy, and Context*, in *5th International Conference on Theory and Practice of Electronic Governance (ICEGOV2011)* 2011: Center for Technology in Government University at Albany, State University of New York, U.S.

25. Commision, E., *European Innovation Partnership on Smart Cities and Communities Strategic Implementation Plan*, E. Commision, Editor. 2013, High Level Group of the European Innovation Partnership for Smart Cities and Communities. p. 22.

26. Christian Egenhofer and Özcan Saritas, m.o.t.R.G., *Smart Cities Stakeholder Platform 10 Year Rolling Agenda from the Smart Cities Stakeholder Platform’s Roadmap Group*. 2013, European Commission European Union. p. 27.

27. Gordon Falconer, S.M. *Smart City Framework A Systematic Process for Enabling Smart+Connected Communities*. 2012. 11.

28. Greengfield, A., *This is Part I of The city is here for you to use: ‘Against the smart city’*. 2013, New York Do.

29. Hollis, L., *Cities are good for you. The genius of the metropolis*. 2013, London: Bloomsbury CPI

Abstract:

Cities are contemporary metropolises that concentrate human and social activity; engineered to support and develop the physical environment and the people within it, Smart cities, we are led to believe, are the immediate future, where smartness is perceived as a characterisation of advancements or digitalisation, in government, mobility and sustainability. Therefore it is not surprising that many organisations are marketing their smart solutions and products, often to a ubiquitous extent and so called smart cities are striving to outperform each other. But how are smart cities actually being defined and how is performance being measured in an era where there is increasing access to unprecedented amounts of foreseen data? This paper identifies the plethora of the smart city definitions and categories evidenced from the literature and shows that 'Smart cities' lacks a robust coherent definition, with many contradicting facts within what constitutes a smart vision. Notably, almost every attempt from organisations, the European Union or cities themselves has failed to define 'smart' in objective terms that can be accepted globally. Certainly, they all are negotiating with a range of descriptors and smart ways to improve the city. Even the UK's attempts to develop a clear definition and set of standards for smart cities (i.e. PAS 180 and PAS 182) appears to suffer from fundamental differences in how the semantic content of a 'smart' city is defined. This paper demonstrates the necessity for a single 'Smart Cities' definition that deals with both the physical and digital using shared parameter value(s) that can be adopted and scaled amongst different localities and within a range of urban contexts adjusting according to existing city condition(s) and vision(s) setting the paradigm for further innovative research in this area.

Relevância e comentários:

Relevância media, trata dos paradigmas e dos conceitos, mas não apresenta métricas de interesse (comparando os artigos anteriores no caso).

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Abellá-García, A., Ortiz-de-Urbina-Criado, M., & De-Pablos-Heredero, C. (2015). The

ecosystem of services around smart cities: An exploratory analysis. Procedia Computer

Science, 64, pp. 1075-1080.

Akdamar, E. (2017). “Akıllı Kent İdealine Ulaşmada Büyük Verinin Rolü”, Kent Kültürü ve

Yönetimi Hakemli Elektronik Dergi, Cilt. 10, Sayı. 2, ss. 200-215.

Barrionuevo, J. M., Berrone, P., ve Ricart, J. E. (2012). Smart cities, sustainable progress. IESE

Insight (14) pp. 50–57.

Belli, A., & Aydin, A. (2017). Kent kültürü ve kentlilik bilincinin oluşumunda üniversitelerin

rolü: Mustafa Kemal Üniversitesi örneği. Akademik Sosyal Araştırmalar Dergisi, Yıl, 5,

422-434.

Caragliu, A., Del Bo, C. and Nijkamp, P. (2011), Smart cities in Europe, Journal of urban

technology, 18(2), pp. 65-82.

Chourabi, H., Nam, T., Walker, S., Gil-Garcia, J. R., Mellouli, S., Nahon, K., ... & Scholl, H. J.

(2012, January). Understanding smart cities: An integrative framework. In 2012 45th

Hawaii international conference on system sciences (pp. 2289-2297).

Cohen, B. (2012). 6 Key Components For Smart Cities. UBM Future Cities City News.

Retrieved February, 15, 2013.

Giffinger, R. (2007). “Smart Cities, Ranking of European MediumSized Cities”, Wien: Centre

of Regional Science, pp. 10-13.

Gül, A. ve Çobanoğlu, A. Ş. (2017). “Avrupa’da Akıllı Kent Uygulamalarının

Değerlendirilmesi ve Çanakkale’nin Akıllı Kente Dönüşümünün Analizi”, SDÜ İktisadi

ve İdari Bilimler Fakültesi Dergisi, Kayfor15 Özel Sayısı, ss.1543-1565.

Hall, R. E., Bowerman, B., Braverman, J., Taylor, J., Todosow, H., & Von Wimmersperg, U.

(2000). The vision of a smart city (No. BNL-67902; 04042). Brookhaven National Lab.,

Upton, NY (US).

Hollands, R. G. (2008). Will the real smart city please stand up? Intelligent, progressive or

entrepreneurial? City, 12 (3), pp. 303-320.

Kutlu, Ö., Örselli, E. ve Dinçer, S. (2018). “Akıllı Kentler Düş mü Gerçek mi? Barcelona ve

Konya Örnekleri”, Alanya Uluslararası Yerel Yönetimler Sempozyumu, 1-3 Kasım 2018,

Alanya, Antalya

Lange, M. (2013). The Smart City You Love to Hate: Exploring the Role of Affect in Hybrid

Urbanism, Utrecht University: Media and Culture Studies, Amsterdam, Netherlands,

2013

Nam, T., Pardo, T.A. (2011). “City as Urban Innovation: Focusing on Management, Policy, and

Context”, Center for Technology in Government University at Albany, State University

of New York, pp.186-190.

Neirotti, P., De Marco, A., Cagliano, A. C., Mangano, G., & Scorrano, F. (2014). Current trends

in Smart City initiatives: Some stylised facts. Cities, 38, 25-36.

Singh, B. (2015). Smart City-Smart Life: Dubai Expo 2020. Middle East Journal of Business,

55(2473), 1-4

Telsaç, C. (2018). Toplam Kalite Yönetimine İşletmeler Açısından Bakmak. Uluslararası

Akademik Birikim Dergisi, 1(1), 26-34.

Telsaç, C., Gözcü A. (2021). Kamu Sektöründe İnovasyon, Atlas International Congresson

Social Sciences 8. ss. 169-179.

Uçar, A., Şemşit, S., & Negiz, N. (2017). Avrupa Birliği Akıllı Kent Uygulamaları ve

Türkiye’deki Yansımaları, Suleyman Demirel University Journal of Faculty of

Economics & Administrative Sciences, 22.

Varol, Ç. (2017), Sürdürülebilir Gelişme de Akıllı Kent Yaklaşımı : Ankara’daki Belediyelerin

Uygulamaları, Çağdaş Yerel Yönetimler, S.1, ss. 43-58.

Yılmaz, V. & Telsaç, C. (2021). Yerel Yönetimler ve Katılım, Süleyman Demirel Üniversitesi

Sosyal Bilimler Enstitüsü Dergisi , (40) , ss. 235-254.

Yılmaz, V. ve Mecek, M. (2021). “Kavram ve Kuramsal Açıdan Türkiye'de Dijital Kamu

Yönetimi ve Dönüşümü”. (Ed. B. Akıncı), Kamu Yönetiminde Değişim Olgusu: Global

Trendler ve Yeni Paradigmalar, Nobel Yayınları, ss.103-137.

Washburn, D., Sindhu, U., Balaouras, S., Dines, R. A., Hayes, N., & Nelson, L. E. (2009).

Helping CIOs understand “smart city” initiatives. Growth, 17(2), 1-17.

Abstract:

In order to make cities more livable in all respects, the interest in the 'smart city' is

increasing day by day in policy-making studies and scientific research on the use of digital

technologies. The concept of sustainable smart development contains another fundamental issue

at this point, but these two concepts are intertwined. This concept seems very attractive in terms

of producing pragmatic and applicable solutions for cities. However, at this point, we see that

the existing infrastructures of the cities come to the fore. We see that the existing infrastructures

in cities that develop economically and socially are generally much more advanced technology

and more broadcast. But, the situation is different in developing cities. Infrastructure is one of

the most basic arguments for a city plan. In particular, in order to define a smart city, it is based

on equipping the existing residential area with advanced information and communication

technologies and the effective use of information networks by citizens. According to a common

definition, smart cities are the development of sustainable urbanization using information and

communication technologies, based on technical systems that can create solutions to the

problems of the city. We can consider a smart city as an organic structure that connects multiple

subsystems and components. There are some clear criteria for this organic structure. According

to these criteria; The six components determined as “smart environment, smart management,

smart economy, smart life, smart society and smart transportation” are shown as the basic

components that smart cities should have. The data obtained from these six components will

only enable us to increase productivity and urban living standards when evaluated from a

holistic perspective. In this respect, it is important to reveal what the expressed components

contain in terms of understanding the concept of the smart city.

In this study, through a wide literature review and observation; by revealing the basic

components that smart cities should have, it was tried to be explained by evaluating the

important issues that these components indicate.

Relevância e comentários:

Alta relevância, apresenta soluções, conceitos, desafios e problemas das cidades inteligentes de maneira pratica e de simples entendimento.

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