

KİTLEDEN KAYNAĞA

Yeni Nesil Kalabalıklar

Dr. Tülay YAZICI

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ISBN 978-625-399-328-3	Sayfa ve Kapak Tasarımı Akademisyen Dizgi Ünitesi
Kitap Adı Kitleden Kaynağa Yeni Nesil Kalabalıklar	Yayıncı Sertifika No 47518
Yazar Tülay YAZICI ORCID iD: 0000-0003-4848-449X	Baskı ve Cilt Vadi Matbaacılık
Yayın Koordinatörü Yasin DİLMEN	Bisac Code BUS052000
	DOI 10.37609/akya.2762

Kütüphane Kimlik Kartı

Yazıcı, Tülay.

Kitleden Kaynağa Yeni Nesil Kalabalıklar / Tülay Yazıcı.

Ankara : Akademisyen Yayınevi Kitabevi, 2023.

207 s. : tablo, şekil. ; 135x210 mm.

Kaynakça var.

ISBN 9786253993283

GENEL DAĞITIM

Akademisyen Kitabevi AŞ

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Sevgili Kızıma ve Aileme...

TEŞEKKÜR

Kitle kaynak kullanımı bir görevi gerçekleştirmek veya bir sorunu çözmek için kalabalığın fikir ve yaratıcılık temelli iş gücünden yararlanma eylemidir. Hızla dijitalleşen dünyada geleneksel iş yapma biçimleri değişmektedir. Yeni düzende, yeni iş ortağı olarak gönüllü kalabalıkların iş yapma biçimlerinden ve kattıkları değerlerden bahsedilmektedir. Değişimin odağında yer alan teknoloji ve dijitalleşme, uzakları yakınlaştırmasının yanı sıra, zor işleri de kolaylaştırma imkanını sunmaktadır. Bu değişimin odağında kitlelerin kaynak olarak kullanılmasının ifadesi olarak “kitle kaynak” olgusu yer almaktadır. Kitle kaynak, kitlelerin yaratıcı kaynaklara dönüştüğü yeni bir işbirliği modelidir. Markaların tüm süreçlerinde, kamusal alanlarda, bilimsel çalışmalarda, fikir ve yaratıcılığın yer aldığı tüm alanlarda uygulanmaktadır. Elinizdeki çalışmada, söz konusu değişim bağlamında kitlelerin kaynağa dönüşümü ve yeni nesil süreçlerdeki varlıkları kaleme alınmıştır.

Bu kitabın başlangıcı, yazım süreci ve tamamlanması aşamasında bana güç verenlerin, yolumu aydınlatanların varlıkları her zaman hayatımın en değerli yerinde olacaktır. Tüm kalbimle; dünyamı anlamlandıran, neşelendiren, renklendiren ve güzelleştiren canım kızım Zeynep Serra’ya, destekleri, güvenleri ve sevgileriyle her zaman yanımda olan kıymetli aileme ve canım kardeşim Tuğba Yazıcı Çakıroğlu’na, samimiyetleri, sevgileri ve destekleriyle hayatımda “iyi ki var” dediğim değerli tüm dostlarıma teşekkür ederim.

Ve elbette akademik yolculuğumda üzerimde emeği olan değerli hocalarıma, meslektaşlarıma da saygı ve sevgilerimi sunarım.

Tülay YAZICI

Eylül 2023

ÖNSÖZ

İnsan tarih boyunca üretim ve tüketim dengesi içerisinde yaşamını devam ettirmeye çalışan ve aklını kullanabilen bir canlıdır. Yaşamın sürekliliğini sağlayan ve devam eden birçok sistemin temelini üretim ve tüketim unsurları belirlemektedir. Sınırsız isteklerin sınırlı kaynaklarla karşılanmaya çalışıldığı ortamda, isteklerin karşılanması için akılcı ve yaratıcı fikirlerin hayata geçirilmesi gerekmektedir.

Birey olarak başlanan noktada; bireyden gruplara, gruplardan, topluluklara, kalabalıklara, kitlelere ve toplumlara doğru bir genişleme söz konusudur. Bireyin özellikleri, davranışları, düşünceleri, istek ve talepleri, üretkenliği, yaratıcılığı ve katılımcılığı sistemler içerisindeki yerini belirlemektedir. Kuralların ve belirlenmiş kalıpların içerisinde kendisine yer bulmaya çalışan birey, üretimden ziyade tüketim unsurunun baş aktörü olarak görülmektedir. Özellikle teknoloji öncesi yaşanan devrimler süresince birey; tüketen, kabul eden, sorgulamayan, bir fikre sahip olmayan pasif konumda görülmüştür. İnternet ve teknoloji devrimi ile birlikte bireyin de varlığı değişmiş ve katılımcı, üretici, talep eden, fikri olan, aktif bir konuma gelmiş ve kendi rolünü değiştirmiştir.

İnsanlar ve topluluklar sürekli olarak mevcut teknolojiler için yeni kullanım alanları bulmaktadır. Günümüz dünyasında üretkenlik ve yaratıcılık akıl almaz bir boyutta değişim göstermektedir. Küresel köyün içerisinde yaşayanlar zamandan, mekandan ve sınırlardan bağımsız olarak iletişim olgusunun etrafında kendilerine yer bulmaya çalışmaktadır. Bu arayışın en önemli nedenleri arasında katılım ve üretim ihtiyacı yer almaktadır. İnsanın değişim hikayesinde üretken yönünün ön

plana çıkmasını ve küresel alanlara taşınmasını sağlayan en etkili unsurlardan biri, katılımcılığın ve insan faktörünün çok önemli olduğu kitle kaynak olgusudur.

Kitle kaynak; yenilik, yaratıcılık, sorun çözümü, bilgi toplama veya belirlenen görevlerin yerine getirilmesi için kitlelerle işbirliği yapılan uygulamalardır. 2006 yılında Jeff Howe tarafından ilk defa kullanılan ve bu tarihe kadar birçok alanda, sektörde ve projede kullanılan yeni nesil iş yapma biçimi olarak kullanılmaktadır. Howe kitle kaynak olgusunu; geleneksel olarak belirlenmiş bir işi alıp, genellikle interneti kullanarak açık bir çağrı şeklinde tanımlanmamış, genellikle büyük bir insan grubuna sunulan ve bu grubun da gönüllü olarak sorunun çözümü için katılımcı olduğu uygulamalar olarak belirtmektedir.

Kitle kaynağın temelinde tüketici/kullanıcı, paylaşım ve katılım yer almaktadır. Tüketicilerin aktif rol aldığı yeni medya ortamlarında, kitle kaynak bu süreci besleyen ve geliştiren en önemli uygulamalardan biridir. Profesyoneller tarafından gerçekleştirilen üretim, yaratım ve sorun çözme süreçleri, artık tüketiciler tarafından gerçekleştirilmekte ve markalar tarafından talep edilen bir değer olarak görülmektedir. Kitle kaynak ile birlikte bu talep küresel çapta uygulanmaktadır. Kitle kaynak kullanımı, fikir üretme sürecinde devrim yaratmak için kullanılabilir bir araçtır. Artık kitle kaynak platformları farklı, yaratıcı ve sorun çözücü çalışmalar için giderek daha fazla kullanılmaktadır. Kuruluşlar, fikir üretmek için dijital kitle kaynak platformları aracılığıyla kalabalığın bilgeliğinden faydalanmayı talep etmekte ve iş süreçlerinde kullanmaktadır. Kalabalık, genellikle yaratıcı ve yenilikçi fikirler üretme konusunda yetenekli kişilerden oluşan kaynaklar olarak kabul edilmektedir.

Geçmişin kitleleri olarak kabul edilen kalabalıklar, bugünün yeni nesil kaynakları haline gelmiştir. Yeni nesil kabalıklar birçok farklı alanda kaynak olarak kabul edilmekte ve işbirliği içinde yer almaktadırlar. Ekonomik sistemler yalnızca markalar ve pazarlama döngüsüne ait değildir. Teknolojinin değiştirdiği aynı zamanda da biçimlendirdiği yenedünya düzeninde farklı sektör ve ihtiyaçlar önem kazanmaktadır.

Bu bağlamda okuduğunuz bu kitapta, kitle kaynak uygulamaları açısından kitlelerin kaynağa dönüş hikayesinde yeni nesil kaynaklar olarak nasıl kullanıldığı anlatılmıştır. Kitle kaynak bölümünün ardından “*Akıllı Şehir, Bilgi Çağı, Eğitim, Etik, İnovasyon, İnsan Kaynakları, Metaverse, Sürdürülebilirlik, Vatandaşlık Bilimi, Yapay Zeka*” konu başlıklarında olmak üzere on farklı alanda kitle kaynak olgusu, örnek uygulamalarla açıklanmaktadır.

AKILI ŞEHİR uygulamalarında kitle kaynak kullanımı açısından; “Akıllı şehir planlamaları ve teknoloji bağlamında insan katılımı ile şekillenen kitle kaynak, dünyadaki birçok şehirde planlanmakta ve uygulanmaktadır. Teknolojinin akıl odaklı ilerlediği günümüzde, akıllı şehirlerde kitle kaynak uygulaması gelecek yılların önemli uygulama projeleri arasında yer alacaktır.”

BİLGİ ÇAĞI uygulamalarında kitle kaynak kullanımı açısından; “Bilginin çok önemli ve değerli olduğu çağımızda katılım ve bilgelik, bilgi çağının en değerli unsurlarını oluşturmaktadır. İnsan odaklı ve katılım temelli gelişen kitle kaynak uygulamaları, teknolojinin gelişmesiyle birlikte yeni bir boyut kazanmıştır.”

EĞİTİM uygulamalarında kitle kaynak kullanımı açısından; “Kitle kaynak, eğitimin şekillenmesinde hem dönüştürücü hem de belirleyici mekanizmaları oluşturmaktadır. Teknolojinin

sunmuş olduğu avantajların eğitimin sürecinin aşamalarında farklı uygulamalarla kullanılması, sadece anlatıcı öğretmenler ve dinleyici öğrenciler olmanın ötesinde eğitimin küresel boyutta daha katılımcı ve üretken olmasına imkan sağlayacaktır.”

ETİK gerektiren uygulamalarda kitle kaynak kullanımı açısından; “Bugünün kitle kaynak uygulamalarında yaşanan etik sorunların belli kurallar ve uygulamalar çerçevesinde çözümü, gelecekteki kitle kaynak uygulamalarının da temelini oluşturacak ve aynı zamanda yeni etik standartlarının oluşmasının da ilk adımı olacaktır.”

İNNOVASYON uygulamalarında kitle kaynak kullanımı açısından; “İnovasyon için kitle kaynak kullanımı şirketlerin yönetim planlamaları arasında hızla yerini almakta ve uygulanmaktadır. Gelecek yıllarda çok daha farklı uygulamalarda hayata geçirilecek kitle kaynak kullanımı, inovasyon süreçlerinin değişen yönlerinin de belirleyicisi olacaktır.”

İNSAN KAYNAKLARI uygulamalarında kitle kaynak kullanımı açısından; “Kitle kaynak yöntemi insan kaynaklarının etkinlik ve verimliliğinin artması ve çalışan katılımının sağlanması için büyük bir fırsattır. İnsan kaynakları alanında kitle kaynak kullanımı yakın gelecekte daha da önem kazanacak ve önemli bir yönetim modeli olarak daha aktif şekilde kullanılacaktır.”

METVERSE uygulamalarında kitle kaynak kullanımı açısından; “Sanal dünyanın gerçekliğinde yer alan Metaverse ve kitle kaynağın katılım gücü, markalara farklılığın ve gelişimin anahtarını sunmaktadır.”

SÜRDÜRÜLEBİLİRLİK uygulamalarında kitle kaynak kullanımı açısından; “Kitle kaynak sürdürülebilirlik konusunda, uzmanlığı ve ilgisi olan milyonlarca birey ve grup arasında işbirliğine dayalı bir ağ oluşturmaktadır. Bu, hükümetlere

ve şirketlere, geleneksel metodolojiler kullanıldığında elde edilemeyecek boyutta küresel bir yenilikçi fikre, yaratıcı çözüme ve ilgili uzman havuzuna erişim imkanı sağlayacaktır.”

VATANDAŞ BİLİMİ uygulamalarında kitle kaynak kullanımı açısından “Kitle kaynak kullanımıyla gerçekleştirilen vatandaş bilimi uygulamaları geniş bir alanda, geniş bir küresel katılımı elde edilecek küresel veri akışının elde edilmesine olanak sağlayarak bilimin daha farklı açılardan ele alınmasını ve verilerin sonuçlandırılmasını sağlayacaktır.”

YAPAY ZEKA uygulamalarında kitle kaynak kullanımı açısından “Kitlelerin yapay zeka çalışmalarında aktif katılımı, insan zekasının makineler ve sistemler birleşiminin en etkili sonuçlarından birini ortaya koymaktadır. Bu bağlamda insan ve makinenin bir araya gelmesiyle oluşan yapay zekâ uygulamalarında kalabalıklar, teknolojik gelişmelere paralel olarak gelişmeye ve işbirliğine devam edecektir.”

Kitle kaynak olgusunun, on farklı alan özelinde açıklandığı bu kitap çalışmasının alan yazınına katkı sunmasını diliyor, konuyla ilgili çalışmalar yapan, ilgi duyan, merak eden ve iletişim bakış açısıyla bakmak isteyen okuyuculara kaynaklık etmesini ümit ediyorum.

Tülay YAZICI

Eylül 2023

KISALTMALAR LİSTESİ

AB	Avrupa Birliđi
ABD	Amerika Birleşik Devletleri
AĞ	5G/6G
AI	Artifical Intelligence / Yapay Zeka
ALA	Atlas of Living Australia
AR	Artırılmış Gerçeklik
AWS	Amazon Web Services
BAE	Birleşik Arap Emirlikleri
BIT	Bilgi İletişim Teknolojileri
BM	Birleşmiş Milletler
BT	Bilgi Teknolojisi
CAI	Bilgisayar Destekli Öğretim
C2C	Consumer to Consumer
Crowd4SDG	İklim Etkilerini İzleme ve İklim Direncine Ulaşma için Vatandaş Bilimi
DFCD	Deepfake Detection Challenge
DT	Dijital İkiz
HIT	İnsan Zekası Görevleri
İK	İnsan Kaynakları
IPCC	İklim Değişikliği Paneli
IoT	Nesnelerin İnterneti
MIT	Massachusetts Teknoloji Enstitüsü
ML	Makine Öğrenimi

NAFI	Kuzey Avustralya Yangın Bilgisi
OED	Oxford İngilizce Sözlük
SDG 13	Sustainable Development Goals
SOO	Save Our Oceans
SST	Spitzer Uzay Teleskobu
STS	Bilimsel Bilim ve Teknoloji Çalışmaları
UKBMS	The United Kingdom Butterfly Monitoring Scheme
UNDP	Birleşmiş Milletler Kalkınma Programı
UNEP	Birleşmiş Milletler Çevre Programı
UTS	Sidney Teknoloji Üniversitesi
WCBS	Daha Geniş Kırsal Kelebek Araştırması
WEF	Dünya Ekonomik Forumu
WPS	Yaban Hayatı Koruma Çözümleri
VGI	Gönüllü Coğrafi Bilgi
VR	Sanal Gerçeklik

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- Alizadeh, T. (2018). Crowdsourced smart cities versus corporate smart cities. *IOP Conf. Series: Earth and Environmental Science*, 158, 012046. doi :10.1088/1755-1315/158/1/012046
- Alonso, O. (2011). *Perspectives on infrastructure for crowdsourcing*. WSDM 2011 Workshop on Crowdsourcing for Search and Data Mining. Hong Kong, China. http://ir.ischool.utexas.edu/csdm2011/proceedings/csdm2011_alonso.pdf.
- Australia.(2020). *Australian story: Sydney Opera House*. <https://www.australia.gov.au/about-australia/australian-story/sydneyopera-house>
- Brabham, Daren C. (2013). *Crowdsourcing*. Massachusetts: The MIT Press.
- Buhrmester, M.; Kwang, T.; Gosling, S.D. Amazon's mechanical turk a new source of inexpensive, yet high-quality, data? *Perspect. Psychol. Sci.*, 6, 3–5.
- Castells, M. (2011). *The rise of the network society: The information age: Economy, society, and culture*. Oxford: Wiley-Blackwell.
- Dawson, R. & Byngghall, S. (2011). *Getting results from crowds: The definitive guide to using crowdsourcing to grow your business*. San Francisco: Advanced Human Technologies Inc.
- Estellés-Arolas, E. & González-Ladrón-De-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2):189-200.
- Galton, F. (1907). Vox populi. *Nature*, vol. 75, pp. 450-451.
- Grier, D. A. (1997). Gertrude blanch of the mathematical tables project. *IEEE Annals of the History of Computing*, Volume: 19, Issue: 4, P. 18-27.
- Hoegg, R., Martignoni, R., Meckel, M. & Stanoevska-Slabeva, K. (2006). *Overview of business models for Web 2.0 communities*. Dresden: TUDpress, ISBN: 3-938863-77-3, S. 33-49.
- Howe, J. (2006). The Rise of Crowdsourcing. *Wired Magazine*. 14(6):1-5.
- Ideafinder. (2020). *Plantnuts history inventions*. <http://www.ideafinder.com/history/inventions/plantnuts.htm>
- Jackson, C.B., Østerlund, C., Mugar, G., DeVries Hassman, K. & Crowston, K. (2015). *Motivations for sustained participation in crowdsourcing: Case studies of citizen science on the role of talk*. 48th Hawaii International Conference on System Sciences. IEEE DOI 10.1109/HICSS.2015.196

- Jianhong, F., Guoliang, L. & Jianhua, F. (2015). Summary of research on crowdsourcing technology. *Chine Journal Comput.*, (9); 1713–1726.
- Katz, H. S. (2003). *Encyclopedia Of food and culture*. New York: The Gale Group.
- Koba, M. (2013). *You hear lots about crowdfunding, but what is it?* Cnbc. Cnbc Llc. <https://www.cnbc.com/2013/10/23/crowdfunding-definition-from-cnbc>. Html
- Lévy, P. (1994). *L'intelligence collective: pour une anthropologie du cyberspace*. Paris: La découverte Paris.
- Lisle, D. (2008). Humanitarian travels: Ethical communication in lonely planet guidebooks.” *Review Of International Studies*, 34 (Supplement S1), 155-172. <https://doi.org/10.1017/S0260210508007845>.
- Lorenz, J., Rauhut, H., Schweitzer, F. & Helbing, D. (2011). How social influence can undermine the wisdom of crowd effect. *National Academy of Sciences*, pp. 9020-9025.
- Ludvik, E. (2020). *BOLD // Crowd 2.0 powered by AI and machine learning*. <https://crowdsourcingweek.com/blog/bold-crowd-2-0-powered-by-ai-and-machine-learning/>
- Maliaka, D. (2023). *Crowds and prize challenges driving sustainability*. <https://crowdsourcingweek.com/blog/prize-challenges-driving-sustainability/>
- Mcgrayne, S. B. (2001). *Prometheans in the lab: Chemistry and the making of the modern world*. New York: McGraw-Hill.
- Murugesan, S. (2007). Understanding Web 2.0. *IT Professional*, vol. 9, no. 4, pp. 34.
- Noubel, J. F. (2004). *Collective intelligence, the invisible revolution*. The Transitioner. Geraadpleeg. http://www.earthintelligence.net/dynamaster/file_archive/070118/14da9d70ab635fb6f161a44fbf08dd75/Noubel%20on%20Collective%20Intelligence.pdf.
- Noveck, B. (2015). *Smart citizens, smarter state: The technologies of expertise and the future of governing*. Cambridge: Harvard University Press.
- Qin, H., Shengling, W., Peizi, M. et al. (2019). Quality control in crowdsourcing using sequential zero-determinant strategies. *IEEE Transactions on Knowledge and Data Engineering*, (1); 1–1.
- Qian, W., Derong, S., Shuo, F. et al. (2018). Cross-social network user identification based on full-view features combined with crowdsourcing. *J. Softw.* 29 (3); 811–823.
- Schuurman, D., Baccarne, B., De Marez L. & Mechant, P. (2012). Smart ideas for smart cities: Investigating crowdsourcing for ge-

- nerating and selecting ideas for ICT innovation in a city context. *Journal of Theoretical and Applied Electronic Commerce Research*, ISSN 0718-1876 Electronic version vol 7, 49-62
- Surowiecki, J. (2005). *The wisdom of crowds*. New York: Random House.
- Thapa, B. E., Niehaves, B., Seidel, C., Plattfaut, R. (2015). Citizen involvement in public sector innovation: Government and citizen perspectives. *Information Polity*; 20(1):3-17.
- Wepster, S. (2010). *Between theory and observations: Tobias mayer's explorations of lunar motion*. New York, Dordrecht, Heidelberg, London: Springer.
- Wikipedia. (2019). *Statistics*. <https://en.wikipedia.org/wiki/special:statistics>
- Wikipedia. (2020). *Mass-observation*. <https://en.wikipedia.org/wiki/mass-observation>.
- Xiaofang, Z., Yang, F., Wei, L. et al. (2018). Search progress in crowdsourcing software testing technology. *Journal Softw.*, 29 (1); 69–88.
- Velazquez, I. S., Murillo-Fuentes, J. J. & Djuric, P.M. (2019). Recursive estimation of dynamic RSS fields based on crowdsourcing and Gaussian processes. *IEEE Trans. Signal Process.*, 67 (5); 1152–1162.
- Yazıcı, T. (2021). *Aklın işbirliği: Kitle kaynak yeni medyada katılımcı kültür bağlamında kitle kaynak kullanımı: Küresel markaların uygulama örnekleri*. Konya: Eğitim Yayınevi.

KAYNAKLAR

- Al-Ani, A. (2017). Government as a platform: Services, participation and policies. In: Friedrichsen M, Kamalipour Y, editors. *Digital Transformation in Journalism and News Media*. Berlin, Germany: Springer; p. 179-96.
- Albino, V., Berardi, U. & Dangelico R. M. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. *Journal of Urban Technology*; 22(1): 3-21.
- Alizadeh, T. (2017). An investigation of IBM's smarter cities challenge: What do participating cities want? *Cities*; 63: 70-80.
- Alizadeh, T., Grubestic, T. & Helderop, E. (2017). Urban governance and big corporations in the digital economy: An investigation of socio-spatial implications of Google Fiber in Kansas City. *Telematics and Informatics*. <https://doi.org/10.1016/j.tele.2017.04.007>.
- Alizadeh, T. & Irajifar, L. (2017). *Towards gold coast smart city: a combination of local planning priorities and international best practices*. State of Australian Cities National Conf.; 28-30 November; Adelaide.
- Alvear, O., Calafate, C.T., Cano, J.-C. & Manzoni, P. (2018). Crowdsensing in smart cities: Overview, platforms, and environment sensing issues. *Sensors*; 18, 460.
- Alhalabi, W., Lytras, M. & Aljohani, N. (2021). Crowdsourcing research for social insights into smart cities applications and services. *Sustainability*; 13, 7531.
- Angelidou, M. (2014). Smart city policies: A spatial approach. *Cities*; 41(1): S3-S11.
- Arroub, A., Zahi, B., Sabir, E. & Sadik, M. (2016). *A literature review on Smart Cities: Paradigms, opportunities and open problems*. Wireless Networks and Mobile Communications (WINCOM), 2016 Int. Conf.: IEEE.
- Bakıcı, T., Almirall, E. & Wareham, J. A. (2013). Smart City Initiative: the Case of Barcelona. *Journal of the Knowledge Economy*; 4(2): 135-48.
- Bertot, J. C., Gorham, U., Jaeger, P. T., Sarin, L. C. & Choi H. (2014). Big data, open government and e-government: Issues, policies and recommendations. *Information Polity*; 19 (1): 5-16.
- Bodhani, A. (2012). Smart transport. *Engineering & Technology*; 7(6): 70-3.
- Campbell, A. T., Eisenman, B. S., Lane, D. N., Miluzzo, E., Peterson, A. R., Lu, H., Zheng, X., Musolesi, M., Fodor, K. & Ahn, G.

- (2008). *The Rise of People-Centric Sensing*. *IEEE Internet Computing*, vol. 12, no. 4, pp. 12-21.
- Caragliu, A., Bo, C. D. & Nijkamp, P. (2011). Smart cities in Europe. *Journal of Urban Technology*; 18(2): 65-82.
- Cardone, G., Cirri, A., Corradi, A., & Foschini, L. (2014). The participact mobile crowd sensing living lab: The testbed for smart cities. *IEEE Communications Magazine*, 52(10), 78-85. <https://doi.org/10.1109/MCOM.2014.6917406>.
- Castelnovo, W. (2016). Co-production makes cities smarter: citizens' participation in smart city initiatives. In: Fugini M, Bracci E, Sicilia M, editors. *Co-production in the Public Sector*. Milan: Springer.
- Certoma, C., Corsini, F. & Rizzi, F. (2015). Crowdsourcing urban sustainability. Data, people and technologies in participatory governance. *Futures*; 74:93-106.
- Certomà, C., Dyer, M., Pocatilu, L. & Rizzi, F. (2017). *Citizen Empowerment and innovation in the DataRich City*. Springer.
- Charalabidis, Y., Loukis, E. N., Androutsopoulou, A., Karkaletsis, V. & Triantafyllou, A. (2014). Passive crowdsourcing in government using social media. *Transform. Gov. People Process. Policy*; 8, 283-308.
- Cheng, Y., Li, X., Li, Z., Jiang, S., Li, Y., Jia, J. & Jiang, X. (2015). AirCloud: A cloud-based air-quality monitoring system for everyone. *In Proceedings of the 12th AC*.
- Chowdhury, S. N., Dhawan, S. & Agnihotri, A. (2016). Crowd-sourcing for smart cities. *Recent Trends in Electronics, Information & Communication Technology (RTEICT), IEEE International Conference*; pp. 360-365: IEEE.
- Datta, A. (2015). New urban utopias of postcolonial India: Entrepreneurial urbanization in Dholera smart city, Gujarat. *Dialogues in Human Geography*; 5(1): 3-22.
- Debnath, A. K., Chin, H. C., Haque, M. M. & Yuen, B. A. (2014). Methodological framework for benchmarking smart transport cities. *Cities*; 37: 47-56. <https://doi.org/10.1016/j.cities.2013.11.004>.
- Erickson, T. (2010). Geocentric crowdsourcing and smarter cities: Enabling urban intelligence in cities and regions a position paper for the 1st international workshop on ubiquitous crowdsourcing. *Computer Science*. Corpus ID: 14138203.
- Estellés-Arolas, E. & González-Ladrón-De-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information science*, vol. 38, no. 2, pp. 189-200.
- FixMyStreet. (2023). *FixMyStreet*. [Fixmystreet.org.uk](https://www.fixmystreet.org.uk)

- Ganti, R. K., Ye, F. & Lei, H. (2011). Mobile crowdsensing: Current state and future challenges. *IEEE Commun. Mag.*; 49, 32–39.
- Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanović, N. & Meijers, E. (2007). *Smart cities: Ranking of European medium-sized cities*. Vienna: Centre of Regional Science.
- Goodspeed, R. (2015). Smart cities: Moving beyond urban cybernetics to tackle wicked problems. *Cambridge Journal of Regions, Economy and Society*; 8(1): 79-92.
- Guo, B., Wang, Z., Yu, Z., Wang, Y., Yen, N.Y., Huang, R. & Zhou, X. (2015). Mobile crowd sensing and computing: The review of an emerging human-powered sensing paradigm. *ACM Comput. Surv.*; 48, 7.
- Hollands, R. G. (2015). Critical interventions into the corporate smart city. *Cambridge J. of Regions, Economy and Society*; 8(1): 61-77.
- Hossain, M. (2012). Users' motivation to participate in online crowdsourcing platforms. *Innovation Management and Technology Research (ICIMTR)*, International Conference on, pp. 310-315: IEEE.
- Howe, J. (2006). The rise of crowdsourcing. *Wired Mag.*; 14, 1-4.
- Hongmin, L. & Weiwei, L. (2020). A review of research on the theory and practice of smart city construction, *J. Zhejiang Univ. Sci. Technol.* 32 (2) 89–95.
- Jin, X., Wah, B.W., Cheng, X. & Wang, Y. (2015). Significance and challenges of big data research. *Big Data Res.*; 2, 59–64.
- Kankanamge, N., Yigitcanlar, T. & Goonetilleke, A. (2020). How engaging are disaster management related social media channels? The case of Australian state emergency organisations. *Int. J. Disaster Risk Reduct.*; 48, 101571.
- Kitchin, R. (2014). The real-time city? Big data and smart urbanism. *GeoJournal*; 79(1): 1-14.
- Kitchin, R. (2015). Making sense of smart cities: Addressing present shortcomings. *Cambridge J. of Regions, Economy and Society*; 8:131-6.
- Kong, X., Liu, X., Jedari, B., Li, M., Wan, L. & Xia, F. (2019). Mobile crowdsourcing in smart cities: Technologies, applications, and future challenges. *IEEE Internet Things J.*; 6, 8095–8113.
- Kumar, T. M. V. (2015). *E-governance for smart cities*. Singapore: Springer Singapore; p. 1-43.
- Lee, S. W., Sarp, S., Jeon, D. J. & Kim, J. H. (2015). Smart water grid: the future water management platform. *Desalination and Water Treatment*; 55(2): 339-46.

- Lévy, P. (1994). *L'intelligence collective: pour une anthropologie du cyberspace*. Paris: La découverte.
- Li, J., Mattewal, S. K., Patel, S., & Biswas, P. (2020). Evaluation of nine low-cost-sensor-based particulate matter monitors. *Aerosol and Air Quality Research*, 20(2), 254–270. <https://doi.org/10.4209/aaqr.2018.12.0485>.
- Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*; 29(4): 446-54.
- Liu, Z., Balet, N. G., Sokhn, M. & De Gaspari, E. (2017). *Crowdsourcingbased mobile application for wheelchair accessibility*. Journal on Technology and Persons with Disabilities Santiago, J. (Eds): CSUN Assistive Technology Conference, California State University, Northridge.
- Lombardi, P., Giordano, S., Farouh, H. & Yousef W. (2012). Modelling the smart city performance. *Innovation: The European J. of Social Science Research*; 25(2).
- Luque-Ayala, A. & Marvin, S. (2015). Developing a critical understanding of smart urbanism? *Urban Studies*; 52 (12): 2105-16.
- Loukis, E. & Charalabidis, Y. (2015). Active and passive crowdsourcing in government. *Public Adm. Inf. Technol*; 10, 261–289.
- Lucic, M.C., Wan, X., Ghazzai, H. & Massoud, Y. (2020). Leveraging intelligent transportation systems and smart vehicles using crowdsourcing: An overview. *Smart Cities*; 3, 341–361.
- Luque, A. (2014). The smart grid and the interface between energy, ICT and the city. In: Dixon T, Eames M, Hunt M, and Lannon S, editors. *Urban Retrofitting for Sustainability*. London: Earthscan; p. 159-73.
- Ma, H., Zhao, D. & Yuan, P. (2014). Opportunities in mobile crowd sensing. *IEEE Commun. Mag.*; 52, 29–35.
- Madakam, S., Ramaswamy, R. & Tripathi S. (2015). Internet of Things (IoT): A literature review. *Journal of Computer and Communications*, vol. 3, no. 05, p. 164.
- Martin, F., & Ertzberger, J. (2013). Here and now mobile learning: An experimental study on the use of mobile technology. *Computers & Education*, 68, 76–85.
- Mirri, S., Prandi, C., Salomoni, P. Callegati, F., Melis, A. & Prandini, M. (2016). A service-oriented approach to crowdsensing for accessible smart mobility scenarios. *Mobile Information Systems*. ID 2821680 | <https://doi.org/10.1155/2016/2821680>.

- Moustaka, V., Maitis, A., Vakali, A. & Anthopoulos, L. (2021). Urban data dynamics: A systematic benchmarking framework to integrate crowdsourcing and smart cities' standardization. *Sustainability*;13, 8553.
- Menkens, C., Sussmann, J., Al-Ali, M., Breitsameter, E., Frtunik, J., Nendel, T. & Schneiderbauer, T. (2011). *EasyWheel-A mobile social navigation and support system for "wheelchair users,"* in Information Technology: New Generations (ITNG), 2011 Eighth International Conference IEEE, pp. 859-866.
- Mirri, S., Prandi, C., Salomoni, P., Callegati, F., & Campi, A. (2014). *On combining crowdsourcing, sensing and open data for an accessible smart city.* In 2014 Eighth international conference on next generation mobile apps, services and technologies (pp. 294-299). <https://doi.org/10.1109/NGMAST.2014.59>.
- Mourcou, Q., Fleury, A., Dupuy, P., Diot, B., Franco, C. & Vuillerme, N. (2013). *Wegoto: A Smartphone-based approach to assess and improve accessibility for wheelchair users.* 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), pp. 1194-1197.
- Neirotti, P., Marco, A. D., Cagliano, A. C., Mangano, G. & Scorrano, F. (2014). Current trends in Smart City initiatives: *Some stylised facts Cities*; 38: 25-36.
- Noveck, B. (2015). *Smart citizens, smarter state: The technologies of expertise and the future of governing.* Harvard University Press: Cambridge.
- Panta, R. Y., Azam, S., Shanmugam, B., Yeo, C. K., Jonkman, M., De Boer, F. & Alazab, M. (2019). *Improving accessibility for mobility impaired people in smart city using crowdsourcing.* Cybersecurity and Cyberforensics Conference (CCC). 978-1-7281-2600-5/19/IEEE DOI 10.1109/CCC.2019.00-10.
- Papa, R., Gargiulo, C. & Galderisi A. (2013). Towards an urban planners' perspective on Smart City. *TeMA J. of Land Use, Mobility and Environment*, 6 (1): 5-17.
- Pardo, T., Nam, T. & Burke, B. (2012). E-government interoperability: Interaction of policy, management, and technology dimensions. *Social Science Computer Review* ;30: 7-23.
- Paroutis, S., Bennett, M. & Heracleous, L. (2014). A strategic view on smart city technology: The case of IBM Smarter Cities during a recession. *Technological Forecasting and Social Change*; 89: 262-72.

- Prandi, C., Salomoni, P. & S. Mirri, (2014). mPASS: *Integrating people sensing and crowdsourcing to map urban accessibility*. in Proceedings of the IEEE international conference on consumer communications and networking conference, pp. 10-13.
- Rasooldeen, M. (2016). *Technology will play a key role in Vision 2030*. Arab News. <https://www.arabnews.com/node/926986/saudi-arabia>.
- Rosati, U. & Conti, S. (2016). What is a smart city project? An urban model or a corporate business plan? *Procedia - Social and Behavioral Sciences*; 223: 968-73.
- Rose, K., Eldridge, S. & Chapin, L. (2015). The internet of things: An overview. *The Internet Society (ISOC)*, pp. 1-50.
- Reffell, C. (2021). *Mobility and sustainability in smart cities requires citizen engagement and tight security*. <https://crowdsourcingweek.com/blog/mobility-and-sustainability-in-smart-cities-requires-citizen-engagement-and-tight-security/>
- Salazar-Carrillo, J., Torres-Ruiz, M., Davis, C., Quintero, R., Moreno-Ibarra, M. & Guzmán, G. (2021). Traffic congestion analysis based on a web-GIS and data mining of traffic events from Twitter. *Sensors*; 21, 2964.
- Sanseverino, E. R., Sanseverino, R. R., Vaccaro, V., Macaione, I. & Anello, E. (2016). *Smart cities: Case studies*. Springer.
- Schmidhuber, L. & Hilgers, D. (2017). Unleashing Innovation beyond Organizational Boundaries: Exploring Citizensourcing Projects. *Int. J. of Public Administration*; 1-16.
- Schuurman, D., Baccarne, B., De Marez L. & Mechant, P. (2012). Smart Ideas for Smart Cities: Investigating Crowdsourcing for Generating and Selecting Ideas for ICT Innovation in a City Context. *Journal of Theoretical and Applied Electronic Commerce Research* ISSN 0718-1876 Electronic version vol 7, 49-62.
- Shahrour, I. & Xie, X. (2021). Role of internet of things (IoT) and crowdsourcing in smart city projects. *Smart Cities*; 4, 1276–1292. <https://doi.org/10.3390/smartcities4040068>.
- Srivastava, P. & Mostafavi, A. (2018). Challenges and opportunities of crowdsourcing and participatory planning in developing infrastructure systems of smart cities. *Infrastructures*, 3, 51; doi:10.3390/infrastructures3040051.
- Staniek, M. (2021). *Road pavement condition diagnostics using smartphone-based data crowdsourcing in smart cities*. J. Traffic Transp. Eng. Engl. Ed.; 8, 554–567.

- Suudi Arabistan Krallığı. (2016). *Vision 2030*. [https:// vision2030.gov.sa/download/file/fid/417](https://vision2030.gov.sa/download/file/fid/417).
- Swabey, P. (2016). *IBM, Cisco and the business of smart cities*. <http://www.information-age.com/channels/comms-and-networking/companyanalysis/2087993/ibm-cisco-and-the-business-of-smart-cities.Thtml>.
- The Guardian, (2023). *Investigate Your MP*. <http://mps-expenses.guardian.co.uk/>
- Tong, Y., Chen, L., & Shahabi, C. (2017). Spatial crowdsourcing. *Proceedings of the VLDB Endowment*, 10(12), 1988–1991. <https://doi.org/10.14778/3137765.3137827>.
- Watson, V. (2015). The allure of ‘smart city’ rhetoric: India and Africa. *Dialogues in Human Geography*; 5(1): 36-9.
- Vanolo, A. (2014). Smartmentality: the smart city as disciplinary strategy. *Urban Studies*, 51: 883-98.
- Viiitanen, J. & Kingston, R. (2014). Smart cities and green growth: Outsourcing democratic and environmental resilience to the global technology sector. *Environment and Planning A*; 46: 803-19.
- Zhang, X., Jiang, S., Ordóñez de Pablos, P., Lytras, M. D. & Sun, Y. (2017). How virtual reality affects perceived learning effectiveness: A task–technology fit perspective. *Behav. Inf. Technol.*; 36, 548–556.
- Zhang, J., Yang, F., Ma, Z., Wang, Z., Liu, X., & Ma, J. (2020). A decentralized location privacy-preserving spatial crowdsourcing for internet of vehicles. *IEEE Transactions on Intelligent Transportation Systems*. <https://doi.org/10.1109/TITS.2020.3010288>.

KAYNAKLAR

- Bell, P. (2001). Content analysis of visual images. In van Leeuwen and Jewit (Eds.). *Handbook of visual analysis*, (pp. 10-34). London: Sage.
- Chiva, R., & Alegre, J. (2005). Organizational learning and organizational knowledge: toward the integration of two approaches. *Management Learning*, 36(1), 49–68. doi:10.1177/1350507605049906.
- Elkins, T. & Keller, R. T. (2003). Leadership in research and development organizations: a literature review and conceptual framework. *The Leadership Quarterly*, 14(4-5), 587–606. doi: 10.1016/S1048-9843(03)00053-5.
- Estelles-Arolas, E. & Gonzalez-Ladron-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38 (2), 189-200.
- Flostrand, A. (2017). Finding the future: Crowdsourcing versus the Delphi technique. *Business Horizons*, 60(2), 229–236. doi:10.1016/j.bushor.2016.11.007.
- Gao, H., Barbier, G. & Goolsby, R. (2011). Harnessing the crowdsourcing power of the social media for disaster relief. *IEEE Intelligent Systems*, 26(03), 10-14. doi: 10.1109/MIS.2011.52.
- Gartner Forecasts. (2023). *Gartner forecasts 39% of global knowledge workers will work hybrid by the end of 2023*. <https://www.gartner.com/en/newsroom/press-releases/2023-03-01-gartner-forecasts-39-percent-of-global-knowledge-workers-will-work-hybrid-by-the-end-of-2023>.
- Ludvik, E. (2020). *The impact and roles of crowdsourcing in the information age*. <https://crowdsourcingweek.com/blog/the-impact-and-roles-of-crowdsourcing-in-the-information-age/>
- Li, G. (2013). The application and innovation of crowdsourcing in the internet age. *Open Journal of Social Sciences*; Vol.4 No.3, DOI: 10.4236/jss.2016.43025.
- McMaster, R. S. (2016). *Crowdsourcing Global Culture: Visual Representation in the Age of Information*. (Master's thesis). In the Department of Art Education, Concordia University, Montreal, Quebec, Canada.
- Narvaez, R. W. M. (2012). *Crowdsourcing for disaster preparedness: Relations and opportunities*. (Master's thesis). Graduate Institute of International and Development Studies, Geneva, Switzerland.
- Nonaka, I. & Konno, N. (1998). The concept of “Ba”: Building a foun-

- ation for knowledge creation. *California Management Review*, 40(3), 40–54. doi:10.2307/41165942.
- Prpic, J., Shukla, P., Kietzmann, J. H., & McCarthy, I. P. (2015). How to work a crowd: Developing crowd capital through crowdsourcing. *Business Horizons*, 58(1), 77–85. doi: 10.1016/j.bushor.2014.09.005.
- Qin, S., Van Der Velde, D., Chatzakis, E., McStea, T., & Smith, N. (2016). Exploring barriers and opportunities in adopting crowdsourcing based new product development in manufacturing SMEs. *Chinese Journal of Mechanical Engineering*, 29(6), 1052–1066. doi: 10.3901/CJME.2016.0808.089.
- Saxton, G. D., Oh, O., & Kishore, R. (2013). Rules of crowdsourcing: Models, issues, and systems of control. *Information Systems Management*, 30(1), 2–20. <https://doi.org/10.1080/10580530.2013.73988>
- Sievers, J. A. (2015). Embracing crowdsourcing a strategy for state and local governments approaching “Whole Community” emergency planning. *State & Local Government Review*, 47(1), 57–67. doi:10.1177/0160323X15575184.
- Statistics Canada. (2020). *Impacts of COVID-19 on Canadians: First results from crowdsourcing*. Component of Statistics Canada catalogue no. 11-001-X. https://www150.statcan.gc.ca/n1/en/daily-quotidien/200423/dq200423a-eng.pdf?st=MxO_Rgwu
- 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*. Boston, MA: Little, Brown.
- Wearesocial. (2023). *Digital 2023: Global overview report*. <https://datareportal.com/reports/digital-2023-global-overview-report>
- Wu, I. L. & Chen, J. L. (2014). Knowledge management driven firm performance: the roles of business process capabilities and organizational learning. *Journal of Knowledge Management*, 18(6), 1141–1164. doi:10.1108/JKM-05-2014-0192.
- Xu, Y., Ribeiro-Soriano, D. E. & Gonzalez-Garcia, J. (2015). Crowdsourcing, innovation and firm performance. *Management Decision*, 53(6), 1158–1169. doi:10.1108/MD-06-2014-0408.

KAYNAKLAR

- Alghamdi, E., Aljohani, N., Alsaleh, A., Bedewi, W. & Bashari, M. (2015). *CrowdyQ: A virtual crowdsourcing platform for question items development in higher education*. Proceedings of the 17th International Conference on Information Integration and Web-Based Applications and Services, Brussels, Belgium, pp. 881-884.
- Anderson, M. (2011). Crowdsourcing higher education: A design proposal for distributed learning. *MERLOT Journal of Online Learning and Teaching*, Vol. 7, No. 4. [Crowdsourcing_Higher_Education.pdf](#)
- Baggaley, J. (2013). MOOC rampant. *Distance Education* (34:3), pp. 368-378.
- Bernstein, M., Little, G., Miller, R., Hartmann, B., Ackerman, M., Karger, D., Crowell, D. & Panovich, K. (2010). *Soylent: A word processor with a crowd inside*. In UIST.
- BetterLesson. (2018). *BetterLesson: The leader in personalized professional development*. <https://betterlesson.com/>
- Bow, H., Dattilo, J., Jonas, A. & Lehmann, C. (2013). A crowdsourcing model for creating preclinical medical education study tools. *Academic Medicine*; (88:6), pp. 766-770.
- Chaordix. (2010). *Canadian crowdsourcing company chaordix® Joins Oxford University to Advance Maternal Health*. <http://www.chaordix.com/news/canadian-crowdsourcing-company-chaordix-join-soxford-university-advance-maternal-health/>.
- Cheung, T. C.-H., Cheung, H. & Mark, K. P. (2014). *A study of the impact of a crowd wisdom online learning community platform on student learning*. Proceedings of the 18th Pacific Asia Conference on Information Systems, Chengdu, China.
- Corneli, J. & Mikroyannidis, A. (2012). *Crowdsourcing education on the web: A role-based analysis of online learning communities*. USA: Information Science Reference, pp. 272-286.
- CSUFNews. (2010). *Crowdsourcing the university's future, call for strategic initiatives from students, faculty and staff*. <http://calstate.fullerton.edu/news/2010/crowdsourcing-strategy.asp>.
- Dai, P., Mausam, & Weld, D. S. (2011). *Artificial intelligence for artificial, artificial intelligence*. In AAAI.
- De Alfaro, L. & Shavlovsky, M. (2014). *CrowdGrader: A tool for crowdsourcing the evaluation of homework assignments*. In Proceedings of the 45th ACM Technical Symposium on Computer Science Education, Atlanta, GA, USA: ACM Press, pp. 415-420.

- Dee, J. (2008). *The Tell-All campus tour*. The TIMES Magazine. <http://www.nytimes.com/2008/09/21/magazine/21unigo-t.html?em&r=0>.
- Dontcheva, M., Morris, R. R., Brandt, J. R. & Gerber, E. M. (2014). *Combining crowdsourcing and learning to improve engagement and performance*. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Toronto, ON, Canada: ACM Press, pp. 3379-3388.
- Dow, S., Gerber, E. & Wong, A. (2013). *A pilot study of using crowds in the classroom*. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Paris, France: ACM Press, pp. 227-236.
- Empson, R. (2014). *Meet Oppia, Google's new open source project that allows anyone to create an interactive learning experience*. <https://techcrunch.com/2014/02/26/meet-oppiagoogles-new-open-source-project-that-lets-anyone-create-an-interactive-learning-experience/>
- Fini, A. (2009). The technological dimension of a massive open online course: The Case of the CCK08 course tools. *The International Review of Research in Open and Distance Learning*, 10(5).
- Geens, S. (2008). *King's college London starts KML crowdsourcing projects*. <http://ogleearth.com/2008/02/kings-college-london-starts-kmlcrowdsourcing-projects/>
- Giordano, D., Maiorana, F., Csizmadia, A., Marsden, S., Riedesel, C. & Mishra, S. (2015). *New horizons in the assessment of computer science at school and beyond: leveraging on the viva platform*. Proceedings of the 20th ACM Conference on Innovation and Technology in Computer Science Education, Vilnius, Lithuania, pp. 117-147.
- Hambleton, R., Swaminathan, H. & Rogers, H. (1991). *Fundamentals of Item response Theory*. Sage Press.
- Heusler, A. & Spann, M. (2014). *Knowledge stock exchanges: A competitive crowdsourcing mechanism for e-learning*. Proceedings of the 22nd European Conference on Information Systems, Tel Aviv, Israel.
- Howard, J. (2011). *Gaming the archives*. <http://chronicle.com/blogs/wiredcampus/gaming-the-archives/31435>.
- Howe, J. (2008). *Crowdsourcing: Why the power of the crowd is driving the future of business*. Crown Publishing Group.

- Jenkins, H. (2006). *Confronting the challenges of participatory culture: media education for the 21st century*. http://digitallearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E-1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF.
- Jiang, Y., Schlagwein, D. & Benatallah, B. (2018). *A review on crowdsourcing for education: state of the art of literature and practice*. Twenty-Second Pacific Asia Conference on Information Systems. JiangSchlagweinBenatallah2018CrowdsourcingofEducationLiteraturePracticeReviewPACIS.pdf
- Kneissl, F. & Bry, F. (2012). *Metropolitalia: A Crowdsourcing platform for linguistic field research*. <http://www.pms.ifi.lmu.de/publikationen/PMS-FB/PMS-FB-2012-14/PMS-FB2012-14-paper.pdf>.
- Knochel, A. D. (2013). *Assembling visibility: Social media, everyday imaging, and critical thinking in digital visual culture*. *Visual Arts Research* (39:2), pp. 13-27.
- Koschmider, A. & Schaarschmidt, M. (2017). *A crowdsourcing-based learning approach to activate active learning*. Proceedings of the 15th e-Learning Conference of the German Computer Society, Chemnitz, Germany, pp. 99-110.
- Laster, J. (2010). *A Swarm of volunteers, a honey of an Idea*. *The Chronicle of Higher Education*. <http://chronicle.com/article/Crowdsourcing-a-Honey-of-an/65705/>
- Li, Z. & Hongjuan, Z. (2011). *Research of crowdsourcing model based on case study*. Paper presented at the Service Systems and Service Management (ICSSSM), 2011 8th International Conference. DOI: 10.1109/ICSSSM.2011.5959456.
- Lin, C. M. & Weld, D. S. (2012). *Dynamically switching between synergistic workflows for crowdsourcing*. In AAAI.
- Llorente, R. & Morant, M. (2015). *Crowdsourcing in higher education in advances in crowdsourcing*. F. Garrigos-Simon, I. Gil-Pechuán and S. Estelles-Miguel (eds.). Zuerich, Switzerland: Springer, pp. 87-96.
- Luger, S. K. K. & Bowles, J. (2013). *An analysis of question quality and user performance in crowdsourced exams*. Proceedings of the 22nd International Conference on Information and Knowledge Management, San Francisco, CA, pp. 29-32.
- Ludvik, E. (2020). *Reimagining learning: Hauling education in to the 21st century*. <https://crowdsourcingweek.com/blog/reimagining-learning/>
- Ngoon, T. J., Chen, R., Deutsch, A. & Lip, S. (2016). *Oppia: A commu-*

- nity of peer learners to make conversational learning experiences.* In Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion, San Francisco, CA, USA: ACM Press, pp. 73-76.
- Olson, T. (2014). *Crowdsourcing college examinations using technology to improve assessment and higher learning by students.* Proceedings of the 9th International Conference on e-Learning, Valparaiso, Chile, pp. 123-130.
- Pitts, J. B. (2013). *Takeashine helps students crowdfund for college.* <http://dailycrowdsource.com/crowdsourcing/company-reviews/442-takeashine-helps-students-crowdfund-for-college>.
- Prester, J., Schlagwein, D. & Cecez-Kecmanovic, D. (2019). *Crowdsourcing for education: literature review, conceptual framework, and research agenda.* Association for Information Systems AIS Electronic Library (AISeL). https://aisel.aisnet.org/ecis2019_rp
- Reffell, C. (2020). *Tipalti's automated payables service supports online creative skills improvement.* <https://crowdsourcingweek.com/blog/tipaltis-automated-payables-service-supports-online-creative-skills-improvement/>
- Reffell, C. (2021). *Crowd-based trends in innovation for education.* <https://crowdsourcingweek.com/blog/crowd-based-innovation-for-education/>
- Schaffhauser, D. (2013). *Crowdsourcing innovation on campus.* <http://campustechnology.com/articles/2013/02/07/crowdsourcing-innovationon-campus.aspx>
- Šimko, J., Šimko, M., Bielíková, M., Ševcech, J. & Burger, R. (2013). *Classsourcing: Crowd-based validation of question-answer learning objects.* Proceedings of the 5th International Conference on Computational Collective Intelligence. Craiova, Romania: pp. 62-71.
- ScienceDaily. (2011). *Crowdsourcing science: Researcher uses Facebook to identify thousands of fish.* <http://www.sciencedaily.com/releases/2011/05/110513204526.htm>
- Solemon, B., Ariffin, I., Md Din, M. & Md Anwar, R. (2013). A review of the uses of crowdsourcing in higher education. International Journal of Asian Social Science, 3(9):2066-2073. [ijasssi-3\(9\)-2066-2073.pdf](http://www.ijasssi-3(9)-2066-2073.pdf)
- Stewart, H. (2012). *Crowd to Choose Media Contest Winners.* http://dev.utahbusiness.com/articles/view/crowd_to_choose_digital_media_winners

- 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*. Doubleday & Co.
- Wang, L. (2016). Employing Wikibook project in a linguistics course to promote peer teaching and learning. *Education and Information Technologies*, (21:2), pp. 453-470.
- Wankel, C. (2009). *Management through collaboration book Project*. <http://www.project.globally-collaborating.com/about/>.
- Wauthier, F. & Jordan, M. (2012). *Bayesian bias mitigation for crowd-sourcing*. In In Proc. of NIPS.
- Weld, S. D., Adar, E., Chilton, L., Hoffmann, R., Horvitz, E., Koch, M., Landay, J., Lin, H. C. & Mausam. (2012). *Personalized online education; A crowdsourcing challenge. Association for the Advancement of Artificial Intelligence*. document.pdf
- Welinder, P., Branson, S., Belongie, S. & Perona, P. (2010). *The multidimensional wisdom of crowds*. NIPS. file:///C:/Users/LENOVO/Downloads/The_Multidimensional_Wisdom_of_Crowds.pdf.
- Whitaker, J., Randolph, N. & Duane, I. (2016). MOOCs and the online delivery of business education what's new? What's not? What now. *Academy of Management Learning & Education*, (15:2), pp. 345-365.
- Whitehill, J., Ruvolo, P., Wu, T., Bergsma, J. & Movellan, J. (2009). *Whose vote should count more: Optimal integration of labels from laborers of unknown expertise*. In In Proc. of NIPS, 2035–2043.
- Wiley, D. (2011). *Project management for instructional designers. Iterating Towards Openness* <http://opencontent.org/blog/archives/2119>
- Young, J. R. (2009). *Colleges try crowdsourcing help desks to save money*. *Technology*. <http://chronicle.com/article/Colleges-to-Try/48982>

KAYNAKLAR

- Brawley, A. M., & Pury, C. L. (2016). Work experiences on MTurk: Job satisfaction, turnover, and information sharing. *Computers in Human Behavior*, 54, 531–546.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. Yale Univ Pr.
- Bergvall-Kåreborn, B., & Howcroft, D. (2014). Amazon Mechanical Turk and the commodification of labour. *New Technology, Work and Employment*, 29(3), 213–223.
- Bourhis, P., Demartini, G., Elbassuoni, S., Hoareau, E. & Raghav Rao, H. (2019). *Ethical Challenges in the Future of Work*. Bulletin of the Technical Committee on Data Engineering, main.pdf
- Craft, J. (2013). A review of the empirical ethical decision-making literature: 2004–2011. *Journal of Business Ethics*, 117(2), 221–259. <https://doi.org/10.1007/s10551-012-1518-9>.
- Cushing, E. (2013). *Amazon Mechanical Turk: The digital sweatshop*. Utne Reader. utne.com/science-technology/amazon-mechanical-turkzm0z13jzfzlin.aspx
- Durward, D. (2017). *Is there PAPA In crowd work? A literature review on ethical dimensions in crowdsourcing*. IEEE.
- Felstiner, A. (2011). Working the crowd: Employment and labor law in the crowdsourcing industry. *Berkeley Journal of Employment and Labor Law*, 32(1), 143–143.
- Ferrell, O. C., Gresham, L. G., & Fraedrich, J. (1989). A synthesis of ethical decision models for marketing. *Journal of Macromarketing*, 9(2), 55–64. <https://doi.org/10.1177/027614678900900207>.
- Gan, C., Kosonen, M., & Blomqvist, K. (2012). *Knowledge sharing in crowdsourcing—it is more than motivation*. In 13th European Conference on Knowledge Management (p. 380). Reading, UK: Academic Conferences and Publishing International.
- Irani, L. (2009). *Tweaking Technocapitalism*. http://turkopticon.differenceengines.com/post/tweaking_technocapitalism_
- Kochhar, S., Mazzocchi, S. & Paritosh, P. (2010). *The anatomy of a large-scale human computation engine*. Proceedings of the ACM SIGKDD Workshop on Human Computation, 10–17.
- Koops, B. J. (2013). *Open-source intelligence and privacy by desing*, Computer Law & Security Review.
- Lieberstein, M. A. T. (2012). *Crowdsourcing and intellectual property issues*. Association of Corporate Counsel.

- Mack, E. (2013). *The lawsuit that could help undo (or cement) crowdsourcing in the U.S.* crowdsourcing.org/editorial/the-lawsuit-that-could-help-undo-or-cement-crowdsourcing-in-the-us/22968
- Malone, T.W., Yates, J. & Benjamin, R.I. (1987). Electronic markets and electronic hierarchies. *Communications of the ACM*, 30, 6, 484–497.
- Peng, G. (2011). *On the legal issues about crowdsourcing and witkey.* International Conference on e-Education, Entertainment and e-Management, China.
- Quinn, A. J. & Bederson, B. B. (2011). *Human computation: a survey and taxonomy of a growing field.* Proc. CHI.
- Reffell, C. (2023). *Ethical Crowdsourcing.* <https://crowdsourcingweek.com/blog/ethical-crowdsourcing/>
- Reich, R. (2015). *The share-the-scrap economy.* robertreich.org.
- Roy, D. F. (1953). Work satisfaction and social reward in quota achievement: An analysis of piecework incentive. *American Sociological Review*, 18, 5, 507–514.
- Saxton, G. D., Oh, O. & Kishore, R. (2013). Rules of crowdsourcing: Models, issues, and systems of control. *Information Systems Management*, 30(1), 2–20. <https://doi.org/10.1080/10580530.2013.739883>.
- Scholz, T. (2013). *Digital Labor: The internet as playground and factory.* New York: Routledge.
- Schmidt, F. A. (2013). *The Good, the Bad and the Ugly Why crowdsourcing needs ethics.* IEEE Third International Conference on Cloud and Green Computing. 978-0-7695-5114-2/13. DOI 10.1109/CGC.2013.89.
- Scholz, T. (2017). *Uberworked and underpaid: How workers are disrupting the digital economy.* Cambridge, UK: Polity.
- Standing, S. & Standing, C. (2018). The ethical use of crowdsourcing. *Business Ethics: A Eur Rev.*; 27:72–80. DOI: 10.1111/beer.12173
- Thinkwithgoogle. (2023). *Think quarterly - The open issue.* <https://www.thinkwithgoogle.com/collections/the-open-issue/>
- Trist, E. L. (1981). *The evolution of socio-technical systems: A conceptual framework and an action research program.* Ontario Quality of Working Life Center.
- Wales, J. (2007). *As Wikipedia moves to S.F., founder discusses planned changes.* sfgate.com/technology/article/As-Wikipedia-moves-to-S-F-founder-discusses-3233536.php#src=fb

- Von Ahn, L. & Dabbish, L. (2004). *Labeling images with a computer game*. Proceedings of the SIGCHI conference on Human factors in computing systems, ACM, 319–326.
- Yang, D. (2005). Culture matters to multinationals' intellectual property businesses. *Journal of World Business*, 40(3), 281–301.
- Zittrain, J. (2009). *The internet creates a new kind of sweatshop*. Newsweek.
- Zittrain, J. (2012). *Human computing's oppenheimer question*. Proceedings of Collective Intelligence. Harvard. Cambridge, MA.

KAYNAKLAR

- Afuah, A. & Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37, 3, 355–375.
- Amabile, T. M. (1998). How to kill creativity: Keep doing what you're doing or, if you want to spark innovation, rethink how you motivate, reward, and assign work to people. *Harvard Business Review (September- October)*, s. 77- 87.
- Bogers, M., Zobel, A.-K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., Frederiksen, L., Gawer, A., Gruber, M., Haefliger, S., Hagedoorn, J., Hilgers, D., Laursen, K., Magnusson, M. G., Majchrzak, A., McCarthy, I. P., Moeslein, K. M., Nambisan, S., Piller, F. T., Radziwon, A., Rossi-Lamastra, C., Sims, J. & Ter Wal, A. L. J. (2017). The open innovation research landscape: established perspectives and emerging themes across different levels of analysis. *Industry and Innovation*, 24, 1, 8–40.
- Bingham, A. & Spradlin, D. (2012). *Open innovation marketplace: Creating value in the challenge driven enterprise*. FT Press, Upper saddle River, NJ.
- Blohm, I., Leimeister, J. M. & Kremer, H. (2013). Crowdsourcing: how to benefit from (too) many great ideas. *MIS Quarterly Executive*, 12, 4, 199–211.
- Boudreau, K. J. (2012). Let a thousand flowers bloom? An early look at large numbers of software app developers and patterns of innovation. *Organization Science*, 23 (5), 1409–1427.
- Brabham, D. C. (2013). *Crowdsourcing*. MIT Press, Cambridge, MA.
- Brunswicker, S. & Hutschek, U. (2010). Crossing horizons: Leveraging cross-industry innovation search in the front-end of the innovation process. *Int J Innov Manage*, 14(4):683-702.
- Chesbrough, H. (2003). The era of open innovation. *Sloan Management Review*, 44(3), 35-41.
- Chesbrough, H., (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business School Press, Boston, MA.
- Dahlander, L. & Gann, D. M. (2010). How open is innovation? *Research Policy*, 39, 699–709.
- Howe, J. (2006). The rise of crowdsourcing. *Wired Magazine*, 14 (6). http://www.wired.com/wired/archive/14.06/crowds_pr.html>.
- Howe, J. (2006). *Crowdsourcing: a definition*. *Crowdsourcing: Tracking the rise of the amateur*. http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html

- Howe, J. (2008). *Crowdsourcing: How the power of the crowd is driving the future of business*. Random House, London.
- Jeppesen, L. B. & Lakhani, K. R. (2010). Marginality and problem-solving effectiveness in broadcast search. *Organ Science*, 21(5):1016–1033.
- Laursen, K. & Salter, A. (2006). Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strateg Manage Journal*, 27:131–150.
- Livescault, J. (2023). *How to boost company innovation with crowdsourcing*. <https://www.braineet.com/blog/crowdsourcing-innovation>
- Lüttgens, D., Pollok, P., Antons, D. & Piller, F. (2014). Wisdom of the crowd and capabilities of a few: internal success factors of crowdsourcing for innovation. *Journal of Business Economics*, 84, 3, 339–374.
- Majchrzak, A. & Malhotra, A. (2013). Towards an information systems perspective and research agenda on crowdsourcing for innovation. *Journal of Strategic Information Systems*, 22 (2013) 257–268.
- Pénin, J. & Burger-Helmchen, T. (2012). Crowdsourcing d'activités inventives et frontières des organisations. *Management International*, 16, 101–112.
- Piezunka, H. & Dahlander, L. (2015). Distant search, narrow attention: how crowding alters organizations' filtering of user suggestions. *Academy of Management Journal*, 58, 3, 856–880.
- Piller, F. & Walcher, D. (2006). Toolkits for idea competitions: a novel method to integrate users in new product development. *R&D Management Science*, 36(3):307–318.
- Rosenkopf, L. & Almeida, P. (2003). Overcoming local search through alliances and mobility. *Manage Science*, 49(6):751–766.
- Rosenkopf, L. & Nerkar, A. (2001). Beyond local search: boundary-spanning, exploration, and impact in the optical disk industry. *Strateg Manage Journal*, 22(4):287–306.
- Reichwald, R. & Piller, F. (2009). *Interaktive wertscho"pfung: Open innovation, individualisierung und neue formen der arbeitsteilung*. 2nd edn. Gabler, Wiesbaden.
- Reffell, C. (2021a). *What is open innovation?*. <https://crowdsourcingweek.com/blog/what-is-open-innovation/>
- Reffell, C. (2021b). *10 Indispensable open innovation platforms for global corporations*. <https://crowdsourcingweek.com/blog/10-indispensable-open-innovation-platforms-global-corporations/>

- Roberts, N., Galluch, P. S., Dinger, M. & Grover, V. (2012). Absorptive capacity and information systems research: review, synthesis, and directions for future research. *MIS Quarterly*, 36, 625–648.
- Schenk, E. & Guittard, C. (2011). Towards a characterization of crowdsourcing practices. *Journal of Innovation Economics & Management*, 7, 1, 93–107.
- Stuart, T. E. & Podolny, J. M. (1996). Local search and the evolution of technological capabilities. *Strateg Manage Journal*, 17(1):21–38.
- Wilson, P. (2020). *How crowdsourcing helps manufacturers innovate*. <https://crowdsourcingweek.com/blog/crowdsourcing-helps-manufacturers-innovate/>
- Zynga, A., Diener, K. Ihl, C., Lüttgens, D., Piller P. F. & Scherb, B. (2018). Making open innovation stick: A study of open innovation implementation in 756 global organizations. *Research Technology Management*, 61 (4): 16–25.

KAYNAKLAR

- Aguinis H. & Lawal, S. O. (2013). eLancing: A review and research agenda for bridging the science-practice gap. *Human Resource Management Review*, vol. 23, no. 1, pp. 6–17.
- Aloisi, A. (2015). Commoditized workers: case study research on labor law issues arising from a set of on-demand/gig economy platforms. *Comparative Labor Law and Policy Journal*, Vol. 37, p. 653.
- Alonso, A. (2013). Implementing crowdsourcing-based relevance experimentation: an industrial perspective. *Inform Retrieval*, vol. 16, no. 2, pp. 101–120.
- Alonso O. & Mizzaro, S. (2012). Using crowdsourcing for TREC relevance assessment. *Inform Process Manag*, vol. 48, no. 6, pp. 1053–1066.
- Bakker, A. B., & Schaufeli, W. B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, 29(2), 147–154.
- Behl, A., Sheorey, P.A., Chavan, M., Jain, K. & Jajodia, I. (2021). Empirical investigation of participation on crowdsourcing platforms: a gamified approach. *Journal of Global Information Management*, Vol. 29 No. 6, pp. 1-27
- Benbya, H. & Leidner, D. (2016). *Harnessing employee innovation in internal crowdsourcing platforms: Lessons from Allianz UK*. Thirty Seventh International Conference on Information Systems. pp. 1–19.
- Benbya, H., & van Alstyne, M. (2011). How to find answers within your company. *MIT Sloan Management Review*, 52(2), 65–76.
- Bjelland, O. M., & Wood, R. C. (2008). An inside view of IBM’s “Innovation Jam”. *MIT Sloan Management Review*, 50(1), 32.
- Bogers M. & West, J. (2012). Managing distributed innovation: strategic utilization of open and user innovation. *Creativity Innov Manag*, vol. 21, no. 1, pp. 61–75.
- Bonabeau, E. (2009). Decisions 2.0: The power of collective intelligence. *MIT Sloan Management Review*, 50(2), 45.
- Boudreau, K. J. & Lakhani, K. R. (2013). Using the crowd as an innovation partner. *Harvard Business Review*, 91(4), 60–69.
- Brabham, D. C. (2012). The myth of amateur crowds. *Inform Commun Soc.*, vol. 15, no. 3, pp. 394–410.
- Cherry, M. A. & Aloisi, A. (2016). Dependent contractors in the gig economy: A comparative approach. *Am. UL Rev.*, Vol. 66, p. 635.

- Collier, R.B., Dubal, V.B. & Carter, C. (2017). *Labor platforms and gig work: the failure to regulate*. IRLE Working Paper No. 106-17, University of California, Berkeley.
- Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of hightechnology firms. *Academy of Management Journal*, 49(3), 544–560.
- Dabirian, A., Kietzmann, J. & Diba, H. (2017). A great place to work!? Understanding crowdsourced employer branding. *Business Horizons*, Vol. 60 No. 2.
- Erickson, L. B., Trauth, E. M., & Petrick, I. (2012). *Getting inside your employees' heads: Navigating barriers to internal-crowdsourcing for product and service innovation*. Proceedings of the Thirty Third International Conference on Information Systems, Orlando, FL, 11 pp
- Ford, C. R., Richard, B. & Ciuchta, P. M (2015). Crowdsourcing: A new way of employing non-employees?. *Business Horizons*, 58, 377—388. 1-s2.0-S0007681315000324-main.pdf
- Grey, M. L., Suri, S., Ali, S. S. & Kulkarni, D. (2016). *The crowd is a collaborative network*. 19th ACM Conference on Computer-Supported Cooperative Work and Social Computing. San Fransico.
- Harris, G. C. (2011). *You're hired! An examination of crowdsourcing incentive models in human resource tasks*. WSDM 2011 Workshop on Crowdsourcing for Search and Data Mining. file:///C:/Users/LENOVO/Desktop/K%C4%B0TAP%20%C3%87ALI%C5%9E-MASI%202023/%C4%B0NSAN%20KAYNAKLARI%20ok/OK/csdm2011_harris.pdf.
- Harris, C. M., Wright, P.M. & McMahan, G. C. (2019), The emergence of human capital: roles of social capital and coordination that drive unit performance. *Human Resource Management Journal*, Vol. 29 No. 2, pp. 162-180.
- HBR. (2011). *Harvard business review siemens report*. (2011). http://www.cs.oswego.edu/~chris/papers/harris_c06.pdf
- Hoegl, M. & Parboteeah, P. (2006). Autonomy and teamwork in innovative projects. *Human Resource Management*, 45(1), 67–79.
- Howe, J. (2006). The rise of crowdsourcing. *Wired Magazine*, 14(6), 1–4.
- Jacobsen, D. (2013). *How crowdsourcing will affect HR*. <http://www.globoforce.com/gfblog/2013/how-crowdsourcing-will-affect-hr-in-2013/>
- James, M., Lund, S., Bughin, J., Robinson, K., Mischke, J. & Mahajan, D. (2016). *Independent work: choice, necessity, and the gig*

- economy*. McKinsey Global Institute. [http:// www.mckinsey.com/global-themes/employment-and-growth/independent-workchoice-necessity-and-the-gig-economy](http://www.mckinsey.com/global-themes/employment-and-growth/independent-workchoice-necessity-and-the-gig-economy).
- Lakhani, K. (2013). *The crowd as an innovation partner: Lessons from NASA, Harvard Medical School, and beyond*. Presentation at the TopCoder Roadshow, Johnson Space Center, Houston, TX.
- Lauto, G., Valentin, F., Hatzack, F. & Carlsen, M. (2013). Managing frontend innovation through idea markets at Novozymes. *Research Technology Management*, 56(4), 17–26.
- Lee, S. M., Olson, D. L., & Trimi, S. (2012). Co-innovation: Convergencomics, collaboration, and co-creation for organizational values. *Management Decision*, 50(5), 817–831
- Leimeister, J., Huber, M., Bretschneider, U. & Krcmar, H. (2009). Leveraging Crowdsourcing: Activation supporting components for IT-based ideas competition. *JMIS*, vol. 26, no. 1, pp. 197–224.
- Ludvik, E. (2020). *How crowdsourcing measures can tackle mass unemployment*. <https://crowdsourcingweek.com/blog/how-crowdsourcing-can-tackle-mass-unemployment/>
- Ludvik, E. (2021). *Unlocking human potential through the power of the crowd*. <https://crowdsourcingweek.com/blog/unlocking-human-potential-through-the-power-of-the-crowd/>
- Malhotra, A., Majchrzak, A., Kesebi, L., & Looram, S. (2017). Developing innovative solutions through internal crowdsourcing. *MIT Sloan Management Review*, 58(4), 73.
- Margulies, N. & Black, S. (1987). Perspectives on the implementation of participative approaches. *Human Resource Management*, 26(3), 385–412.
- Meijerink, J. & Keegan, A. (2019). Conceptualizing human resource management in the gig economy. *Journal of Managerial Psychology*, Vol. 34 No. 4, pp. 214-232, doi: 10.1108/JMP-07-2018-0277.
- McKinsey Global Institute. (2015). *A labor market that works: Connecting talent with opportunity in the digital age*. https://www.mckinsey.com/~media/mckinsey/featured%20insights/employment%20and%20growth/connecting%20talent%20with%20opportunity%20in%20the%20digital%20age/mgi%20online%20talent_a_labor_market_that_works_executive_%20summary_june%202015.pdf
- Mohrman, S. A. & Ledford, G. E. (1985). The design and use of effective employee participation groups: Implications for human resource management. *Human Resource Management*, 24(4), 413–428.

- Morris, R., Dontcheva, M. & Gerber, E. (2012). Priming for better performance in microtask crowdsourcing environments. *IEEE Internet Comput.*, vol. 16, no. 5, pp. 13–19.
- Mosley, E. (2013). Culture of Collaboration, *What does crowdsourcing mean for HR?* Leadership Excellence by hr.com, 30(10).
- Mousa, M. & Chaouali, W. (2021). *Job crafting, meaningfulness and affective commitment by gig workers towards crowdsourcing platforms*. <https://www.emerald.com/insight/0048-3486.htm>
- Mousa, M. & Ayoubi, R. (2019). Inclusive/exclusive talent management, responsible leadership and organizational downsizing: a study among academics in Egyptian business schools. *Journal of Management Development*, Vol. 38 No. 2, pp. 87-104.
- Mukherjee, D. (2019). *How AI is fuelling the rise of gig economy*. <https://www.peoplesmatters.in/article/hr-technology/how-ai-is-fuelling-the-rise-of-gigeconomy-23765>.
- Muller, M., Geyer, W., Soule, T., Daniels, S., & Cheng, L. T. (2013). *Crowdfunding inside the enterprise: Employee-initiatives for innovation and collaboration*. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, ACM, pp. 503–512.
- Open Innovation. (2012). *Revised version for INOVITA*. http://www.inovita.org/uploads/1391513786_1333376338Acik_Inovasyon.pdf
- Ordanini, A., Parasuraman, A., & Rubera, G. (2014). When the recipe is more important than the ingredients: A qualitative comparative analysis (QCA) of service innovation configurations. *Journal of Service Research*, 17(2), 134–149.
- Prassl, J. (2018). *Humans as a Service: The Promise and Perils of Work in the Gig Economy*. Oxford University Press.
- PWC. (2011). *Harnessing the power of crowdsourcing: Does your company stand out in a crowd?* <http://www.pwc.com/us/en/people-management/publications/power-of-Saxton>
- Recruiting Blogs. (2010). Talentspring secures. <http://www.recruitingblogs.com/profiles/blogs/talentspring-secures-16>.
- Reffell, C. (2021). *The crowdsourced world of freelancing and remote working in 2025*. <https://crowdsourcingweek.com/blog/the-crowdsourced-world-of-freelancing-and-remote-working-in-2025/>
- Reffell, C. (2022). *How to unlock collective intelligence and boost staff retention through empowering employees*. <https://crowdsourcingweek.com/blog/unlock-collective-intelligence-boost-staff-retention-empower-employees/>

- Riemer, K., & Scifleet, P. (2012). *Enterprise social networking in knowledge-intensive work practices: A case study in a professional service firm*. ACIS 2012: Location, location, location: Proceedings of the 23rd Australasian Conference on Information Systems 2012, ACIS, pp. 1–12.
- Rohrbeck, R., Thom, N., & Arnold, H. (2015). IT tools for foresight: The integrated insight and response system of deutsche Telekom Innovation Laboratories. *Technological Forecasting and Social Change*, 97(1), 115–126.
- Saxton, G. D., Oh, O. & Kishore, R. (2013). Rules of crowdsourcing: Models, issues, and systems of control. *Inform Syst Manage*, vol. 30, no. 1, pp. 2–20.
- Schwartz, D. (2018). Embedded in the crowd: creative freelancers, crowdsourced work, and occupational community. *Work and Occupations*, Vol. 45 No. 3, pp. 247-282.
- Simula, H., & Vuori, M. (2012). Benefits and barriers of crowdsourcing in B2B firms: Generating ideas with internal and external crowds. *International Journal of Innovation Management*, 16(06), 1240011.
- Sundararajan, A. (2016). *The sharing economy: The end of employment and the rise of crowd-based capitalism*. Cambridge, Massachusetts and London, England: MIT Press.
- Surowiecki, J. (2005). *The wisdom of crowds*. New York: Anchor.
- The Economist. (2015). *Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism*. The Economist.
- West, J. (2003). How open is open enough? Melding proprietary and open source platform strategies. *Research Policy*, 32(7), 1259—1285.
- Wong, S.I., Kost, D. & Fieseler, C. (2021). From crafting what you do to building resilience for career commitment in the gig economy. *Human Resources Management Journal*, Vol. 31 No. 4, pp. 918-935.
- Wu, W. (2014). *Human resources and the wisdom of the crowd. workforce solutions review*. <http://www.ihrim.org>
- Valenduc, G. & Vendramin, P. (2016). *Work in the digital economy: sorting the old from the new*. ETUI Working Paper. European Trade Union Institute, Brussels.
- Zuchowski, O., Posegga, O., Schlagwein, D. & Fischbach, K. (2016). Internal crowdsourcing: Conceptual framework, structured review, and research agenda. *Journal of Information Technology*, 31(2), 166–184.

KAYNAKLAR

- Airbus. (2022). *Envision the future of air travel*. <https://www.airbus.com/en/newsroom/stories/2022-04-envision-the-future-of-air-travel>.
- Ball, M. (2022). *The metaverse: And how it will revolutionize everything*. Liveright Publishing Corporation. www.matthewball.vc/all-forwardtothemetaverseprimer
- Bosworth, A. & Clegg, N. (2021). *Building the metaverse responsibly*. <https://about.fb.com/news/2021/09/building-themetaverse-responsibly/>
- Hollensen, S., Kotler, P. & Opresnik, M. O. (2022). Metaverse – the new marketing universe. *Journal Of Business Strategy*, Emerald Publishing Limited, ISSN 0275-6668, DOI 10.1108/JBS-01-2022-0014 © Emerald.
- Kuhr, J. (2023). *NASA enters the metaverse*. <https://payloadspace.com/nasa-vr-crowdsourcing/>
- Le, H. D., Truong, T. V., Hoang, D. N. M. & Long B. L. (2023). *MetaCrowd: Blockchain-empowered metaverse via decentralized machine learning crowdsourcing*. TechRxiv. Preprint. <https://doi.org/10.36227/techrxiv.22816592.v1>.
- Li, M., Weng, J., Yang, A., Lu, W., Zhang, Y., Hou, L., Liu, N. J., Xiang, Y. & Deng, H. R. (2019). Crowdbc: A blockchain-based decentralized framework for crowdsourcing. *IEEE Transactions on Parallel and Distributed Systems*, vol. 30, pp. 1251–1266.
- Maliaka, D. (2023). *What is the Metaverse?* <https://www.herox.com/blog/1025-what-is-the-metaverse>
- Reffell, C. (2021a). *The Future arrived early: Augmented and virtual reality technology trends*. <https://crowdsourcingweek.com/blog/ar-and-vr-technology-trends/>
- Reffell, C. (2021b). *The first crowdsourced NFT and crowdsourcing NFT appraisals*. <https://crowdsourcingweek.com/blog/the-first-crowdsourced-nft-and-crowdsourcing-nft-appraisals/>
- Reffell, C. (2022). *Development of prize challenges for crowdsourcing in the metaverse*. <https://crowdsourcingweek.com/blog/prize-challenges-in-the-metaverse/>
- Reffell, C. (2023). *What is the role of crowdsourcing in Web3?* <https://crowdsourcingweek.com/blog/crowdsourcing-in-web3/>
- Truong, T. V., Hoang, D. N. M. & Le, B. L. (2023). *BFLMeta: Blockchain-empowered metaverse with byzantine-robust federated learning*. TechRxiv. Preprint. <https://doi.org/10.36227/techrxiv.22816583.v1>.

Yazıcı, T. (2022). Dijital pazarlamanın yeni evreni: Metaverse. *Alternatif Dijital Evren Metaverse-II Reklam, Pazarlama, Marka ve İşletme* (Ed. Ahmet GÜVEN & Mehmet Sinan TAM). Necmettin Erbakan Üniversitesi Yayınları: Konya.

KAYNAKLAR

- Birdata. (2014). *Birdata*. <http://birdata.com.au/homecontent.do?jsessionid=2A8712CBF76AF0BB5B1D28C9358AF458>.
- Brabham, D. C. (2008). Crowdsourcing as a model for problem solving an introduction and cases. *Convergence*, 14(1), 75–90.
- Certoma, C., Corsini, F. & Rizzi, F. (2015). Crowdsourcing urban sustainability. Data, people and technologies in participatory governance. *Futures*, 74, 93–106. <http://dx.doi.org/10.1016/j.futures.2014.11.006>.
- Clark, A. (2014). Where 2.0 Australia's environment? Crowdsourcing, volunteered geographic information, and citizens acting as sensors for environmental sustainability. *ISPRS Int. J. Geo-Inf.*, 3, 1058–1076; doi:10.3390/ijgi3031058. ijgi-03-01058.pdf
- Feral, S. (2012). *Where you help map feral animals and the damage the cause*. <http://www.feralscan.org.au/>
- Goodchild, M.F. (2007). Citizens as sensors: The world of volunteered geography. *GeoJournal*, 69, 211–221.
- Haxton, T. (2023). *The solution to sustainability: Crowdsourcing*. <https://www.herox.com/blog/977-the-solution-to-sustainability-crowdsourcing>
- Hildebrandt, L., Gallegos, M. C., Chan, L., Makam, P., & Nsabimana, J. (2015). *Outreach report: Consultation on environmental sustainability in the post-2015 development agenda*. Outreach Support Team for the Thematic Consultation on Environmental Sustainability in the Post-2015 Development Agenda. <http://www.worldwewant2015.org/file/357718/download/389222>.
- Howe, J. (2006). *Crowdsourcing: A definition track rise amat weblog*. <http://crowdsourcing.typepad.com/cs/2006/06/crowd>
- Kuhn, W. (2007). *Volunteered geographic information and GIScience*. In Proceedings of the 2007 NCGIA and Vespucci Workshop on Volunteered Geographic Information, Santa Barbara, CA, USA.
- Maliaka, D. (2023). *Crowds and prize challenges driving sustainability*. <https://crowdsourcingweek.com/blog/prize-challenges-driving-sustainability/>
- North Australian Fire Information. (2014). *North Australian fire information*. <http://www.firenorth.org.au/nafi2/>
- Reffell, C. (2020). *Crowdsourcing environmental solutions through an online game that builds ecosystems*. <https://crowdsourcingweek.com/blog/crowdsourcing-environmental-solutions-through-ecosystem-gaming/>

- Reffell, C. (2021a). *The important role of crowdfunding for agriculture*. <https://crowdsourcingweek.com/blog/the-important-role-of-crowdfunding-for-agriculture/>
- Reffell, C. (2021b). *Crowdsourcing innovation and prize challenges for sustainability*. <https://crowdsourcingweek.com/blog/crowdsourcing-innovation-and-prize-challenges-for-sustainability/>
- Reffell, C. (2021c). *Crowdfunding for agriculture: Agritech and new foodstuffs*. <https://comcomms.com/2021/09/29/crowdfunding-for-agriculture-agritech-and-new-foodstuffs/>
- Reffell, C. (2022). *Can decentralized sustainable energy generated by crowds become a long-term power source, or is it just virtue flag waving?* <https://crowdsourcingweek.com/blog/energy-generated-by-crowds/>
- UNDP. (2013). *Breaking down the silos: Integrating environmental sustainability in the post-2015 agenda*. <http://www.undp.org/content/undp/en/home/librarypage/environment-energy/integrating-environmental-sustainability-post-2015.html>. Accessed 5 February 2015.
- Yin, R. K. (2009). *Case study research: Design and methods*. Thousand Oaks. CA: Sage Publications.

KAYNAKLAR

- Alam, F., Ofli, F. & Imran, M. (2018). Processing social media images by combining human and machine computing during crises. *Int. J. Hum.- Comput. Interact.*, vol. 34, no. 4, pp. 311–327.
- Barbier, G., Zafarani, R., Gao, H. J., Fung, G. & Liu, H. (2012). Maximizing benefits from crowdsourced data. *Comput Math Organ Theory*, 18(3):257–279. doi:10.1007/s10588-012-9121-2.
- Bonney, R. (1996). Citizen science: A lab tradition. *Living Bird*, 15, 7–15.
- Bonney, R., Cooper, C. B., Dickinson, J., Kelling, S., Phillips, T., Rosenberg, K. V. & Shirk, J. (2009). Citizen science: a developing tool for expanding science knowledge and scientific literacy. *Bioscience*, 59(11):977–984. doi:10.1525/bio.2009.59.11.9.
- Bono, C., Mülâyim, M. O., Cappiello, C., Carman, M. J., Cerquides, J., Fernandez-Marquez, J. L., Mondardini, M. R., Ramalli E. & Pernici, B. (2020). A Citizen science approach for analyzing social media with crowdsourcing. *IEEE Access*, Vol: 11. DOI 10.1109/ACCESS.2023.3243791.
- Brossard, D., Lewenstein, B. & Bonney, R. (2005). Scientific knowledge and attitude change: The impact of a citizen science Project. *International Journal of Science Education*, vol. 27, no. 9, pp. 1099–1121.
- Cappa, F. (2022). Big data from customers and non-customers through crowdsourcing, citizen science and crowdfunding. *Journal Of Knowledge Management*, vol. 26 no. 11, pp. 308-323, ISSN 1367-3270 DOI 10.1108/JKM-11-2021-0871.
- Cappa, F., Franco, S. & Rosso, F. (2022a). Citizens and cities: leveraging citizen science and big data for sustainable urban development. *Business Strategy and the Environment*, Vol. 31 No. 2, pp. 648-667, doi: 10.1002/bse.2942.
- Cappa, F., Rosso, F., Giustiniano, L. & Porfiri, M. (2020). Nudging and citizen science: the effectiveness of feedback in energy-demand management. *Journal of Environmental Management*, Vol. 269, p. 110759.
- Chandler, M., See, L., Copas, K., Bonde, A. M., López, B. C., Danielsen, F., Legind, J. K., Masinde, S., Miller-Rushing, A. J. & Newman, G. (2017). Contribution of citizen science towards international biodiversity monitoring. *Biological Conservation*, 213: 280–294. DOI: [https:// doi.org/10.1016/j.biocon.2016.09.004](https://doi.org/10.1016/j.biocon.2016.09.004).

- Cohn, J. P. (2008). Citizen science: Can volunteers do real research?. *BioScience*, vol. 58, no. 3, pp. 192–107.
- Crampton, J. (2009). Cartography: Maps 2.0. *Progress in Human Geography*, 12, 42–58.
- Del Savio, L., Prainsack, B. & Buyx, A. (2016). Crowdsourcing the human gut. Is crowdsourcing also ‘citizen science’?. *Journal of Science Communication*, 15(03)A03. JCOM_1503_2016_A03.pdf
- Den Broeder, L., Devilee, J., Van Oers, H., Schuit, A. J. & Wagemakers, A. (2016). *Citizen science for public health. Health Promot. Int.* <https://doi.org/10.1093/heapro/daw086>.
- English, P. B., Richardson, M. J. & Garzon-Galvis, C. (2018). Annual review of public health from crowdsourcing to extreme citizen science: Participatory research for environmental health. *Annu. Rev. Public Health*, 39:335–50. <https://doi.org/10.1146/annurev-publhealth040617-013702>.
- European Commission (EC). (2016). Open innovation, open science, open to the world. *A Vision for Europe. Published: 2016-05-17*. Brussels: Directorate-General for Research and Innovation, European Commission.
- Firehock, K. & West, J. (1995). A brief history of volunteer biological water monitoring using macroinvertebrates. *Journal of the North American Benthological Society*, vol. 14, no. 1, pp. 197–202.
- Franzoni, C. & Sauermann, H. (2014). Crowd science: the organization of scientific research in open collaborative projects. *Research Policy*, Vol. 43 No. 1, pp. 1-20.
- Fritz, S., Linda, S., Carlson, T., Haklay, M., Oliver, J. L., Fraisl, D., Mondardini, R., Brocklehurst, M., Shanley, L. A., Schade, S., When, U., Abrate, U., Anstee, J., Arnold, S., Billot, M., Campbell, J., Espey, J., Gold, M., Hager, G., He, S., Hepburn, L., Hsu, A., Long, D., Masó, J., McCallum, I., Muniafu, M., Moorthy, I., Obersteiner, M., Parker, A. J., Weisspflug, M. & West, S. (2019). Citizen science and the United Nations sustainable development goals. *Nat Sustain*, 2: 922–930. DOI: <https://doi.org/10.1038/s41893-019-0390-3>.
- Garcia Martinez, M. & Walton, B. (2014). The wisdom of crowds: the potential of online communities as a tool for data analysis. *Technovation*, Vol. 34 No. 4, pp. 203-214.
- Golinelli, S., & Ruivenkamp, G. (2015). *Do-it-yourself biology: Action research within the life sciences?* DOI:10.1177/1476750315586636.
- Gonzalez, P. A., Minkler, M., Garcia, A. P., Gordon, M., Garzon, C. , et al. (2011). Community-based participatory research and policy

- advocacy to reduce diesel exposure in West Oakland, California. *Am. J. Public Health*, 101(S1):S166–75.
- Göbel, C. N., Berditchevskaia, A. & Haklay, M. (2019). How does citizen science ‘do’ governance? Reflections from the DITOs Project. *Citizen Science: Theory and Practice*, 4(1): 1–13. DOI: <https://doi.org/10.5334/cstp.204>.
- Haklay, M. (2015). *Citizen science and policy: A European perspective*. Washington, DC: The Woodrow Wilson International Center for Scholars. https://www.wilsoncenter.org/sites/default/files/Citizen_Science_Policy_European_Perspective_Haklay.pdf
- Haklay, M., & Weber, P. (2008). OpenStreet map: User-generated street maps. *IEEE Pervasive Computing*, 7, 12–18.
- Hand, E. (2010). People power. *Nature*, 466(7307):685–687. doi:10.1038/466685a.
- Herrera, F., Sosa, R. & Delgado, T. (2015). *GeoBI and big VGI for crime analysis and report*. In Proceedings of the 2015 3rd International Conference on Future Internet of Things and Cloud (FiCloud), Rome, Italy, 24–26; pp. 481–488.
- Hershkovitz, S. (2018). *A thousand eyes are better than two*. <https://crowdsourcingweek.com/blog/thousand-eyes-better-than-two/>
- Hershkovitz, S. (2019). *Searching for the boldest citizen scientist*. <https://crowdsourcingweek.com/blog/search-for-boldest-citizen-scientist/>
- Hudson-Smith, A., & Batty, M. (2009). Mapping for the masses accessing Web 2.0 through crowdsourcing. *Social Science*, 4, 19–27.
- Humanitarian OpenStreetMap Team. (2023). *Humanitarian openstreetmap*. <http://hotsom.org>
- Irwin, A. (1995). *Citizen science: a study of people, expertise and sustainable development*. London, U.K.: Routledge.
- Irwin, A. (2015). *Citizen science and scientific citizenship: Same word, different meanings?* Presentation to the EU Joint Research Centre in Ispra, Italy, in October 2015. <https://povesham.wordpress.com/2016/02/02/alan-irwin-talk-on-citizen-science-and-scientific-citizenship-jrc-october-2015/>
- Jackson, C.B., Østerlund, C., Mugar, G., DeVries Hassman, K. & Crowston, K. (2015). *Motivations for sustained participation in crowdsourcing: Case studies of citizen science on the role of talk*. 48th Hawaii International Conference on System Sciences. IEEE DOI 10.1109/HICSS.2015.196.

- Kimura, A. H. & Kinchy, A. (2016). Citizen science: probing the virtues and contexts of participatory research. *Engage. Sci. Technol. Soc.* 2:31.
- Land-Zandstra, A.M., Devilee, J.L.A., Snik, F., Buurmeijer, F. & van den Broek, J.M. (2015). Citizen science on a smartphone: Participants' motivations and learning. *Public Understanding of Science*, Vol. 25 No. 1, pp. 45-60.
- Ludvik, E. (2020). *The impact and roles of crowdsourcing in the information age*. <https://crowdsourcingweek.com/blog/the-impact-and-roles-of-crowdsourcing-in-the-information-age/>
- Lukyanenko, R., Wiggins, A. & Rosser, H.K. (2020). Citizen science: an information quality research frontier. *Information Systems Frontiers*, Vol. 22 No. 4, pp. 961-983.
- Miller-Rushing, A.; Primack, R.; Bonney, R. (2012). *The history of public participation in ecological research*. *Front. Ecol. Environ.* 2012, 10, 285–290. The history of public participation in ecological research - Miller-Rushing - 2012 - *Frontiers in Ecology and the Environment* - Wiley Online Library.
- Nascimento, S., Rubio-Iglesias, J. M., Herbst, C., Montani, E., Owen, R., Schade, S. & Shanley, L. A. (2017). *Citizen science as input for better policy formulation and implementation* (Chapter 11). *Citizen Science: Innovation in Open Science, Policy and Society*. Berlin, Germany: European Citizen Science Association. DOI: <https://doi.org/10.2307/j.ctv550cf2.23>.
- National Action Plan for the United States of America (2015). *Washington, DC: Obama White House office of science and technology policy*. https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/final_us_open_government_national_action_plan_3_0.pdf.
- Office of Science and Technology Policy (OSTP). (2013). *The open government partnership. Second open government national action plan for the United States of America*. Published December 2013. Washington, DC: Obama White House Office of Science and Technology Policy. https://obamawhitehouse.archives.gov/sites/default/files/docs/us_national_action_plan_6p.pdf.
- Office of Science and Technology Policy (OSTP). (2015). *The open government partnership. Third open government*.
- OpenScientist. (2011). *Finalizing a definition of "Citizen Science" and "Citizen Scientist"*. <http://www.openscientist.org/2011/09/finalizing-definition-of-citizen.html>.

- Organisation for Economic Co-operation and Development (OECD). (2016). *Making open science a reality*. Paris: Organisation for Economic Co-Operation and Development.
- Reffell, C. (2020a). *Crowdsourcing citizen scientists to feed scientific developments*. <https://crowdsourcingweek.com/blog/crowdsourcing-citizen-scientists-to-feed-scientific-developments/>
- Reffell, C. (2020b). *Citizen scientists continue to boost valuable ecological research*. <https://crowdsourcingweek.com/blog/citizen-scientists-continue-to-boost-valuable-ecological-research/>
- Reffell, C. (2022). *Development of prize challenges for crowdsourcing in the metaverse*. <https://crowdsourcingweek.com/blog/prize-challenges-in-the-metaverse/>
- Roger, E., Turak, E. & Tegart, P. (2019). Adopting citizen science as a tool to enhance monitoring for an environment agency. *Citizen Science: Theory and Practice*, 4(1): 1–9. DOI: <https://doi.org/10.5334/cstp.231>.
- Sauermann, H., Vohland, K., Antoniou, V., Balazs, B., Göbel, C., Karatzas, K., Mooney, P., Perello, J., Ponti, M., Samson, R. & Winter, S. (2020). Citizen science and sustainability transitions. *Research Policy*, Vol. 49 No. 5, p. 103978.
- Science Communication Unit. (2013). *Science for environment policy in-depth report: Environmental citizen science*. University of the West of England: Bristol, UK, 2013.
- See, L. (2019). A review of citizen science and crowdsourcing in applications of pluvial flooding. *Front. Earth Sci.*, 7:44. doi: 10.3389/feart.2019.00044.
- See, L., Mooney, P., Foody, G., Bastin, L., Comber, A., Estima, J., Fritz, S., Kerle, N., Jiang, B., Laakso, M., Liu, H., Milčinski, G., Nikšić, M., Painho, M., Andrea P"odör, A., Olteanu-Raimond, A., & Rutzinger, M. (2016). Crowdsourcing, citizen science or volunteered geographic information? The current state of crowdsourced geographic information. *ISPRS Int. J. Geo-Inf.*, 5, 55; doi:10.3390/ijgi5050055.
- Shankar, A. R., Fernandez-Marquez, J. L., Pernici, B., Scalia, G., Mondardini, M. R. & Serugendo, G. (2019). Crowd4Ems: A crowdsourcing platform for gathering and geolocating social media content in disaster response. *Int. Arch. Photogramm., Remote Sens. Spatial Inf. Sci.*, vol. 3, pp. 331–340.
- Shanley, L.A., Burns, R., Bastian, Z. & Robison, R. S. (2013). Tweeting up a storm: The promise and perils of crisis mapping. *Photogrammetric Engineering and Remote Sensing*, 79(10): 865–879.

- <https://ssrn.com/abstract=2464599>. DOI: <https://doi.org/10.2139/ssrn.2464599>.
- SOCIENTIZE. (2014). *White paper on citizen science for Europe*. So-cientize Consortium: Zaragoza, Spain.
- Spasiano, A., Grimaldi, S., Braccini, A.M. & Nardi, F. (2021). Towards a transdisciplinary theoretical framework of citizen science: results from a meta-review analysis. *Sustainability*, Vol. 13 No. 14, p. 7904.
- Tomnod. (2023). *Tomnod*. <http://www.tomnod.com>
- Trumbull, D. J., Bonney, R., Bascom, D. & Cabral, A. (2000). Thinking scientifically during participation in a citizen-science project. *Science Education*, 84(2):265–275. doi:10.1002/(SI-CI)1098-237X(200003)84:23.0.CO;2-5.
- Ushahidi. (2023). Ushahidi.: <http://www.ushahidi.com>
- Welvaert, M. & Caley, P. (2016). Citizen surveillance for environmental monitoring: Combining the efforts of citizen science and crowdsourcing in a quantitative data framework. *Welvaert and Caley SpringerPlus*; 5:1890. DOI 10.1186/s40064-016-3583-5.
- Wildschut, D. (2017). The need for citizen science in the transition to a sustainable peer-to-peer-society. *Futures*, Vol. 91, pp. 46-52.
- Wiggins, A. & Crowston, K. (2011). *From conservation to crowdsourcing: A typology of citizen science*. In: Proceedings of the 44th Hawaii International Conference on System Sciences (HICSS-44), pp. 1–10. DOI: 10.1109/HICSS.2011.207.
- Wiggins, A. & Crowston, K. (2012). *Goals and tasks: Two typologies of citizen science projects*. In: Proceedings of the 45th Hawaii International Conference on System Science (HICSS-45), pp. 3426–3435. DOI: 10.1109/HICSS.2012.295.
- Wiggins, A. & Crowston, K. (2015). *Surveying the citizen science landscape*. First Monday 20 (1). DOI: 10.5210/fm.v20i1.5520.
- Wong, M., Wolff, C., Collins, N., Guo, L., Meltzer, D. & English, P. (2015). Development of a Web-based tool to collect and display water system customer service areas for public health action. *J. Public Health Manag. Pract.* 21(Suppl. 2):S44–49.
- Zheng, F., Tao, R., Maier, H. R., See, L., Savic, D., Zhang, T., et al. (2018). Crowdsourcing methods for data collection in geophysics: state of the art, issues, and future directions. *Rev. Geophys.* 56, 698–740. doi: 10.1029/2018RG000616.

KAYNAKLAR

- Acar, O. (2019). Motivations and solution appropriateness in crowdsourcing challenges for innovation. *Research Policy*, 48(8), 1037-16.
- Adla, A., Zarate, P. & Soubie, J. L. (2011). A proposal of toolkit for GDSS facilitators. *Group Decis Negot*, 20(1):57-77. doi: <https://doi.org/10.1007/s10726-010-9204-8>.
- Afuah, A. & Tucci, C. (2012). Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37(3), 355-375.
- Azadegan, A. & Kolfshoten, G. (2014). An assessment framework for practicing facilitator. *Group Decis Negot*, 23(5):1013-1045. doi: <https://doi.org/10.1007/s10726-012-9332-4>.
- Beat, C. (2020). *AI-Labeling crowdsourcing platforms*. <https://medium.com/swlh/ai-labeling-crowdsourcing-platforms-630adbc79c40>
- Bostrom, R. P, Anson, R. & Clawson, V. K. (1993). Group facilitation and group support systems. *Group support systems: New perspectives*, (8), pp.146-168.
- Brabham, D. (2008). Crowdsourcing as a model for problem-solving. *Convergence: The International Journal of Research into New Media Technologies*, 14(1), 75-90.
- Brandtzaeg, P.B. & Følstad, A. (2017). Why people use chatbots. *International Conference on Internet Science*, pp. 377-392.
- Carpenter, J. (2011). May the best analyst win. *Science*, 331(6018), 698-699.
- Cullina, E., Conboy, K. & Morgan, L. (2015). *Measuring the crowd: a preliminary taxonomy of crowdsourcing metrics*. in Proceedings of the 11th International Symposium on Open Collaboration. doi: <https://doi.org/10.1145/2788993.2789841>.
- Dilmegani, C. (2023). AI crowdsourcing: Benefits, use cases & top vendors in 2023. <https://research.aimultiple.com/crowdsource-ai/>
- Derrick, D. C., Read, A., Nguyen, C., Callens, A. & de Vreede, G. J. (2013). *Automated group facilitation for gathering wide audience end-user requirements*. Proceedings of the 46th Hawaii International Conference on System Sciences (HICSS 2013), pp. 195-204. doi: <https://doi.org/10.1109/HICSS.2013.109>.
- Dissanayake, I., Nerur, S. & Zhang, J. (2019). *Team formation and performance in online crowdsourcing competitions: the role of homophily and diversity in solver characteristics*. Proceedings of the 40th International Conference on Information Systems (ICIS 2019).

- Dubey, R., Gunasekaran, A., Bryde, D. J., Dwivedi, Y. K. & Papadopoulos, T. (2020). Blockchain technology for enhancing swift-trust, collaboration and resilience within a humanitarian supply chain setting. *International Journal of Production Research*, Vol. 58 No. 11, pp. 3381-3398.
- Estellés-Arolas, E. & González-Ladrón-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal Inform Science*, 38:2. doi: <https://doi.org/10.1177/0165551512437638>.
- Füller, J., Hutter, K. & Kröger, N. (2021). Crowdsourcing as a service – from pilot projects to sustainable innovation routines. *Int Journal Project Manage* 39:2. doi: <https://doi.org/10.1016/j.ijproman.2021.01.005>.
- Gassmann, O., Frankenberger, K. & Csik, M. (2015). *The business model navigator: 55 models that will revolutionise your business*. FT Publishing International. ISBN-10 9781292065816.
- Gimpel, H., Graf-Seyfried, V., Laubacher, R. & Meindl, O. (2023). Towards artificial intelligence augmenting facilitation: AI affordances in macro-task crowdsourcing. *Group Decision and Negotiation*; 32:75–124. <https://doi.org/10.1007/s10726-022-09801-1>.
- Goldfarb, A., Taska, B., & Teodoridis, F. (2021). Could machine learning be a general purpose technology? A comparison of emerging technologies using data from online job postings. SSRN: <http://dx.doi.org/10.2139/ssrn.3468822>.
- Griffith, T. L., Sawyer, J. E. & Poole, M. S. (2019). Systems savvy: Practical intelligence for transformation of sociotechnical systems. *Group Decis Negot*, 28(3):475–499. doi: <https://doi.org/10.1007/s10726-019-09619-4>
- HersHKovitz, S. (2018a). *When humans meet AI: The next generation of crowdsourcing*. <https://crowdsourcingweek.com/blog/when-humans-meet-ai-next-generation-crowdsourcing/>
- HersHKovitz, S. (2018b). *A thousand eyes are better than two*. <https://crowdsourcingweek.com/blog/thousand-eyes-better-than-two/>
- HersHKovitz, S. (2019). *A perfect match: Artificial intelligence and crowdsourcing*. <https://bold-awards.com/artificial-intelligence-and-crowdsourcing-perfect-match/>
- Introne, J., Laubacher, R., Olson, G. & Malone, T. (2013). Solving wicked social problems with socio-computational systems. *KI - Künstliche Intelligenz*, 27(1):45–52. doi: <https://doi.org/10.1007/s13218-012-0231-2>.

- Ito, T., Hadfi, R. & Suzuki, S. (2021). *An agent that facilitates crowd discussion*. Group Decis Negot. doi: <https://doi.org/10.1007/s10726-021-09765-8>.
- Ivanov, E. (2018). *Crowdsourcing 2.0*. <https://innovationobserver.com/2018/02/15/crowdsourcing-2-0/>
- Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Bus Horiz*, 62(1):15–25. doi: <https://doi.org/10.1016/j.bushor.2018.08.004>.
- Kiruthika, U., Somasundaram, T. S. & Raja, S. K. S. (2020). Lifecycle model of a negotiation agent: A survey of automated negotiation techniques. *Group Decis Negot*, 29(6):1239–1262. doi: <https://doi.org/10.1007/s10726-020-09704-z>.
- Ludvik, E. (2020). *BOLD // Crowd 2.0 powered by AI and machine learning*. <https://crowdsourcingweek.com/blog/bold-crowd-2-0-powered-by-ai-and-machine-learning/>
- Manyika, J., Lund, S., Bughin, J., Woetzel, J. R., Stamenov, K. & Dhingra, D. (2016). *Digital globalization: The new era of global flows*. McKinsey Global Institute San Francisco.
- Makridakis, S., Spiliotis, E., & Assimakopoulos, V. (2020). The M4 Competition: 100,000 Time Series and 61 Forecasting methods. *International Journal of Forecasting*, 36(1), 54–74.
- Mao, K., Capra, L., Harman, M., & Jia, Y. (2017). A Survey of the use of crowdsourcing in software engineering. *Journal of Systems and Software*, 126, 57–84.
- McBride, J. (2020). *Why your next freelance writing gig should be writing chatbot dialogues*. <https://medium.com/escape-motivation/why-your-next-freelance-writing-gig-should-be-writing-chatbot-dialogues-d69ac22aefad>.
- ML Contests. (2021). *Winning at competitive ML in 2021: An analysis of over 100 ML contest winners*. ML Contests Blog, 13 April.
- Naudé, W., Bray, A. & Lee, C. (2021). Crowdsourcing artificial Intelligence in Africa: Findings from a machine learning Contest. *IZA – Institute of Labor Economics*. ISSN: 2365-9793.
- Ndung'u, N. & Sign'e, L. (2020). *The fourth industrial revolution and digitization will transform Africa into a global powerhouse*. In Coulibay, B.S. and Golubski, C. (eds). *Foresight Africa : Top priorities for the continent 2020-2030*. Washington DC: The Brookings Institution. Chapter 5, pp. 60-73.
- Olaleye, E. (2021). *How to win any ML contest*. Towards Data Science.

- Open Assembly Quarterly (OAQ) Report 2018. (2019). *Co-creating the future of work state of crowdsourcing report*. <https://openassembly.com/reports/oaq-report-fall-2018/>
- Piller, F. & Walcher, D. (2006). Toolkits for idea competitions: A novel method to integrate users in new product development. *R&D Management*, 36(3), 307–318.
- Qiao, L., Tang, F. & Liu, J. (2018). *Feedback based high-quality task assignment in collaborative crowdsourcing*. IEEE 32nd International Conference on Advanced Information Networking and Applications, pp. 1139–1146 (doi: <https://doi.org/10.1109/AINA.2018.00163>).
- Reffell, C. (2023). *Training AI and deep learning with crowdsourcing*. <https://crowdsourcingweek.com/blog/crowdsourcing-ai-training/>
- Rhyn, M., Leicht, N., Blohm, I. & Leimeister, J. M. (2020). *Opening the black box: How to design intelligent decision support systems for crowdsourcing*. Proceedings of the 15th International Conference on Wirtschaftsinformatik (WI 2020), pp. 50–65.
- Robert, L. P. (2019). *Crowdsourcing controls: A review and research agenda for crowdsourcing controls used for macro-tasks*. Macrotask Crowdsourcing, V.-J. Khan, K. Papangelis, I. Lykourantzou and P. Markopoulos (eds.), pp. 45–126 (doi: https://doi.org/10.1007/978-3-030-12334-5_3).
- Seeber, I., Bittner, E., Briggs, R. O., de Vreede, T., de Vreede, G. J., Elkins, A., Maier, R., Merz, A. B., Oeste-Reiß, S., Randrup, N., Schwabe, G. & Söllner, M. (2020). *Machines as teammates: A research agenda on AI in team collaboration*. 57:103174. <https://doi.org/10.1016/j.im.2019.103174>.
- Schmitz, H. & Lykourantzou, I. (2018). Online sequencing of non-decomposable macrotasks in expert crowdsourcing. *ACM Trans Social Comput*, 1(1):1–33. doi: <https://doi.org/10.1145/3140459>.
- Schneider, S. (2018). *Crowdsourcing in the age of artificial intelligence: How the crowd will train machines*. <https://venturebeat.com/ai/crowdsourcing-in-the-age-of-artificial-intelligence-how-the-crowd-will-train-machines/>
- Shafiei Gol, E., Stein, M. K. & Avital, M. (2019). Crowdwork platform governance toward organizational value creation. *Journal Strategy Inf Syst*, 28(2):175–195. doi: <https://doi.org/10.1016/j.jsis.2019.01.001>.

- Taieb, S. & Hyndman, R. (2014). A gradient boosting approach to the kaggle load forecasting competition. *International Journal of Forecasting*, 30, 382–394.
- Trajtenberg, M. (2018). *AI as the Next GPT: A political-economy perspective*. NBER Working Paper no. 24245. National Bureau for Economic Research.
- Wang, A., Pruksachatkun, Y., Nangia, N., Singh, A., Michael, J., Hill, F., Levy, O. & Bowman, S. (2019). Superglue: *A stickier benchmark for general-purpose language understanding systems*. Advances in neural information processing systems.
- Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Fell'ander, A., Langhans, S., Tegmark, M., & Nerini, F. F. (2020). The role of artificial intelligence in achieving the sustainable development goals. *Nature Communications*, 11(233).
- Yazıcı, T. (2022). Kitle kaynak ve yapay zekâ. Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi / Cilt: 24, Sayı: 4, 1301-1313. Kitle Kaynak ve Yapay Zeka.pdf
- Yu, Z., Xu, Z., Black, A.W. & Rudnicky, A. (2016). Chatbot evaluation and database expansion via crowdsourcing. *Proceedings of the Chatbot Workshop of LREC*, Vol. 63, p. 102.
- Zhao, Y. & Zhu, Q. (2014). Evaluation on crowdsourcing research: Current status and future direction. *Information System Frontiers*, 16, 417–434.
- Zolas, N., Kroff, Z., Brynjolfsson, E., McElheran, K., Beede, D. N., Buffington, C., Goldschlag, N., Foste, L., & Dinlersoz, E. (2020). *Advanced technologies adoption and use by U.S. Firms: evidence from the annual business survey*. NBER Working Paper No. 28290, National Bureau of Economic Research.