Invention as a combinatorial process: evidence from US

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Citation Report

#	Article	IF	CITATIONS
1	Competitive dynamics between criminals and law enforcement explains the super-linear scaling of crime in cities. Palgrave Communications, 2015, 1, .	4.7	15
2	Disambiguation of Patent Inventors and Assignees Using High-Resolution Geolocation Data. SSRN Electronic Journal, 0, , .	0.4	0
3	Evolution in leaps: The punctuated accumulation and loss of cultural innovations. Proceedings of the United States of America, 2015, 112, E6762-9.	3.3	111
4	External and Internal Knowledge in the Knowledge Generation Function. Industry and Innovation, 2015, 22, 273-298.	1.7	42
5	Cultural Evolutionary Perspectives on Creativity and Human Innovation. Trends in Ecology and Evolution, 2015, 30, 736-754.	4.2	68
6	Creativity for Invention Insights: Corporate Strategies and Opportunities for Public Entrepreneurship. SSRN Electronic Journal, 0, , .	0.4	0
7	On Singularities and Black Holes in Combination-Driven Models of Technological Innovation Networks. PLoS ONE, 2016, 11, e0146180.	1.1	6
8	Scaling and universality in urban economic diversification. Journal of the Royal Society Interface, 2016, 13, 20150937.	1.5	104
9	Formal definitions of information and knowledge and their role in growth through structural change and Economic Dynamics, 2016, 38, 69-82.	2.1	10
10	Creativity for invention insights: corporate strategies and opportunities for public entrepreneurship. Journal of Industrial and Business Economics, 2016, 43, 409-448.	0.8	4
11	Foundations of cumulative culture in apes: improved foraging efficiency through relinquishing and combining witnessed behaviours in chimpanzees (Pan troglodytes). Scientific Reports, 2016, 6, 35953.	1.6	64
12	How Humans Solve Complex Problems: The Case of the Knapsack Problem. Scientific Reports, 2016, 6, 34851.	1.6	35
13	The arrival of the new. Journal of Evolutionary Economics, 2016, 26, 171-194.	0.8	13
14	Technological novelty profile and invention's future impact. EPJ Data Science, 2016, 5, .	1.5	36
16	Information in the Biosphere: Biological and Digital Worlds. Trends in Ecology and Evolution, 2016, 31, 180-189.	4.2	40
17	Partial connectivity increases cultural accumulation within groups. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2982-2987.	3.3	177
18	Disambiguation of patent inventors and assignees using high-resolution geolocation data. Scientific Data, 2017, 4, 170064.	2.4	30
19	Emerging approaches in literature-based discovery: techniques and performance review. Knowledge Engineering Review, 2017, 32, .	2.1	24

		CITATION REPORT		
#	Article		IF	CITATIONS
20	Quantifying patterns of research-interest evolution. Nature Human Behaviour, 2017, 1,		6.2	100
21	Related variety and the dynamics of European photonic clusters. European Planning Stu 1292-1315.	ıdies, 2017, 25,	1.6	4
22	Determinants of successful patent applications to combat financial fraud. Scientometri 1353-1383.	cs, 2017, 111,	1.6	2
23	The science of science: From the perspective of complex systems. Physics Reports, 201	7, 714-715, 1-73.	10.3	234
24	Inventive processes in nature: from information origin in chemical evolution to technolo exhaustion. Earth Perspectives – Transdisciplinarity Enabled, 2017, 4, .	ogical	1.4	1
25	Pursuing Darwin's curious parallel: Prospects for a science of cultural evolution. Pro the National Academy of Sciences of the United States of America, 2017, 114, 7853-78	ceedings of 60.	3.3	81
26	What drives innovation? Evidence from economic history. Research Policy, 2017, 46, 14	ł37-1453.	3.3	63
27	Innovation and the growth of human population. Philosophical Transactions of the Roya Biological Sciences, 2017, 372, 20160415.	al Society B:	1.8	24
28	The novelty â€~̃sweet spot' of invention. Design Science, 2017, 3, .		1.1	25
29	Tracing Technological Development Trajectories: A Genetic Knowledge Persistence-Base Approach. PLoS ONE, 2017, 12, e0170895.	ed Main Path	1.1	47
30	Classifying patents based on their semantic content. PLoS ONE, 2017, 12, e0176310.		1.1	21
31	Long-Run Dynamics of the U.S. Patent Classification System. SSRN Electronic Journal, 2	017,,.	0.4	3
32	The Efficient Markets Hypothesis Does Not Hold When Securities Valuation Is Computa SSRN Electronic Journal, 0, , .	tionally Hard.	0.4	0
34	Divide and conquer: intermediate levels of population fragmentation maximize cultural accumulation. Philosophical Transactions of the Royal Society B: Biological Sciences, 20 20170062.	18, 373,	1.8	78
35	Boundary spanning innovation and the patent system: Interdisciplinary challenges for a examination system. Research Policy, 2018, 47, 1334-1343.	specialized	3.3	28
36	Is the force awakening?. Technological Forecasting and Social Change, 2018, 128, 296-	303.	6.2	8
37	The cultural evolution of national constitutions. Journal of the Association for Informati and Technology, 2018, 69, 483-494.	on Science	1.5	23
38	Classifying Patents Based on Their Semantic Content. SSRN Electronic Journal, 0, , .		0.4	0

#	Article	IF	CITATIONS
39	Design opportunity conception using the total technology space map. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 2018, 32, 449-461.	0.7	21
40	A Context Similarity-Based Analysis of Countries' Technological Performance. Entropy, 2018, 20, 833.	1.1	3
41	Novelty and Foreseeing Research Trends: The Case of Astrophysics and Astronomy. Astrophysical Journal, Supplement Series, 2018, 236, 21.	3.0	4
42	The Rate of Change in Evolutionary Systems and Evolutionary Economic Modeling. Journal of Economic Issues, 2018, 52, 570-579.	0.3	0
43	South Korean science needs restructuring. Nature, 2018, 558, 511-513.	13.7	5
44	Estimating Technology Performance Improvement Rates by Mining Patent Data. SSRN Electronic Journal, 0, , .	0.4	10
45	Technology networks: the autocatalytic origins of innovation. Royal Society Open Science, 2018, 5, 172445.	1.1	15
46	What is cumulative cultural evolution?. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20180712.	1.2	159
47	Understanding Agriculture within the Frameworks of Cumulative Cultural Evolution, Gene-Culture Co-Evolution, and Cultural Niche Construction. Human Ecology, 2019, 47, 483-497.	0.7	40
48	Mining and Representing the Concept Space of Existing Ideas for Directed Ideation. Journal of Mechanical Design, Transactions of the ASME, 2019, 141, .	1.7	34
49	Shorter distances between papers over time are due to more cross-field references and increased citation rate to higher-impact papers. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22094-22099.	3.3	18
50	Quantitative identification of technological paradigm changes using knowledge persistence. PLoS ONE, 2019, 14, e0220819.	1.1	10
51	Coherent diversification in corporate technological portfolios. PLoS ONE, 2019, 14, e0223403.	1.1	24
52	Visual Sensemaking of Massive Crowdsourced Data for Design Ideation. Proceedings of the Design Society International Conference on Engineering Design, 2019, 1, 409-418.	0.6	4
53	Structural decomposition of technological domain using patent co-classification and classification hierarchy. Scientometrics, 2019, 121, 633-652.	1.6	17
54	Mathematical limit theorems for computational creativity. IBM Journal of Research and Development, 2019, 63, 2:1-2:12.	3.2	3
55	The building blocks of creativity and new ideas. RAUSP Management Journal, 2019, 54, 242-246.	0.8	2
56	Emergence and Evolution of Hierarchical Structure in Complex Systems. Springer Proceedings in Complexity, 2019, , 23-62.	0.2	2

#	Article	IF	CITATIONS
57	Sources of inventive novelty: two patent classification schemas, same story. Scientometrics, 2019, 120, 19-37.	1.6	11
58	Toward understanding the impact of artificial intelligence on labor. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6531-6539.	3.3	246
59	Influence of Technological Innovations on Industrial Production: A Motif Analysis on the Multilayer Network. Entropy, 2019, 21, 126.	1.1	5
60	Long-run dynamics of the U.S. patent classification system. Journal of Evolutionary Economics, 2019, 29, 631-664.	0.8	18
61	Quantitative Identification of Technological Discontinuities. IEEE Access, 2019, 7, 8135-8150.	2.6	13
62	Was inter-population connectivity of Neanderthals and modern humans the driver of the Upper Paleolithic transition rather than its product?. Quaternary Science Reviews, 2019, 217, 316-329.	1.4	42
63	The Psychology of Cultural Dynamics: What Is It, What Do We Know, and What Is Yet to Be Known?. Annual Review of Psychology, 2019, 70, 499-529.	9.9	48
64	How much can we influence the rate of innovation?. Science Advances, 2019, 5, eaat6107.	4.7	11
65	International research collaboration: Novelty, conventionality, and atypicality in knowledge recombination. Research Policy, 2019, 48, 1260-1270.	3.3	111
66	Research and development of anti-Parkinson's drugs: an analysis from the perspective of technology flows measured by patent citations. Expert Opinion on Therapeutic Patents, 2019, 29, 127-135.	2.4	9
67	Tracking the technological composition of industries with algorithmic patent concordances. Economics of Innovation and New Technology, 2020, 29, 582-602.	2.1	13
68	Quantifying technological change as a combinatorial process. Technological Forecasting and Social Change, 2020, 151, 119803.	6.2	14
69	Non-resident and resident patents, renewable and fossil energy, pollution, and economic growth in the USA. Environmental Science and Pollution Research, 2020, 27, 40795-40810.	2.7	27
70	From the PHOSITA to the MOSITA: Will "Secondary Considerations―Save Pharmaceutical Patents from Artificial Intelligence?. IIC International Review of Intellectual Property and Competition Law, 2020, 51, 685-708.	0.3	1
71	That's classified! Inventing a new patent taxonomy. Industrial and Corporate Change, 2021, 30, 678-705.	1.7	1
72	Configuration models of random hypergraphs. Journal of Complex Networks, 2020, 8, .	1.1	58
73	Cultural adaptation is maximised when intelligent individuals rarely think for themselves. Evolutionary Human Sciences, 2020, 2, .	0.9	5
74	Diversity begets diversity in mammal species and human cultures. Scientific Reports, 2020, 10, 19654.	1.6	3

#	Article	IF	CITATIONS
75	Quantifying simultaneous innovations in evolutionary medicine. Theory in Biosciences, 2020, 139, 319-335.	0.6	2
76	Innovation on the web: the end of the S-curve?. Internet Histories, 2020, 4, 390-412.	0.6	11
77	The Language of Innovation. PLoS ONE, 2020, 15, e0230107.	1.1	11
78	Estimating technology performance improvement rates by mining patent data. Technological Forecasting and Social Change, 2020, 158, 120100.	6.2	12
79	Structural conditions for novelty: the introduction of new environmental clauses to the trade regime complex. International Environmental Agreements: Politics, Law and Economics, 2020, 20, 61-83.	1.5	8
80	Dynamics of a birth–death process based on combinatorial innovation. Journal of Theoretical Biology, 2020, 491, 110187.	0.8	14
81	Scientific elite revisited: patterns of productivity, collaboration, authorship and impact. Journal of the Royal Society Interface, 2020, 17, 20200135.	1.5	43
82	Implementation of digital manufacturing technologies: Antecedents and consequences. International Journal of Production Economics, 2020, 229, 107748.	5.1	95
83	Knowledge recombination along the technology life cycle. Journal of Evolutionary Economics, 2020, 30, 643-704.	0.8	14
84	Inter-organisational patent opposition network: how companies form adversarial relationships. Japanese Economic Review, 2021, 72, 145-166.	0.8	2
85	A conceptual framework of evolutionary novelty and innovation. Biological Reviews, 2021, 96, 1-15.	4.7	42
86	Synthesizing Winning Strategies: What Differentiates Experienced Designers in Crowdsourcing Markets?. SSRN Electronic Journal, 0, , .	0.4	0
87	Pearson correlations on complex networks. Journal of Complex Networks, 2021, 9, .	1.1	6
88	On optimal regimes of knowledge exchange: a model of recombinant growth and firm networks. Journal of Economic Interaction and Coordination, 2021, 16, 497-527.	0.4	6
90	Machine Learning for Creativity: Using Similarity Networks to Design Better Crowdfunding Projects. Journal of Marketing, 2022, 86, 87-104.	7.0	19
92	Relationship between technological improvement and innovation diffusion: an empirical test. Technology Analysis and Strategic Management, 2022, 34, 390-405.	2.0	3
93	A dynamic approach for identifying technological breakthroughs with an application in solar photovoltaics. Technological Forecasting and Social Change, 2021, 165, 120534.	6.2	9
94	Where'd you get that idea? Determinants of creativity and impact in popular music. Economia, 2021, 22, 38-52.	0.5	4

#	Article	IF	CITATIONS
95	On the Dual Nature of Adoption Processes in Complex Networks. Frontiers in Physics, 2021, 9, .	1.0	0
96	The fall of the innovation empire and its possible rise through open science. Research Policy, 2021, 50, 104226.	3.3	21
97	Structure of the Region-Technology Network as a Driver for Technological Innovation. Frontiers in Big Data, 2021, 4, 689310.	1.8	2
98	Factors Impacting Highly Innovative Designs: Idea Fluency, Timing, and Order. Journal of Mechanical Design, Transactions of the ASME, 2022, 144, .	1.7	6
99	Grand challenges and emergent modes of convergence science. Humanities and Social Sciences Communications, 2021, 8, .	1.3	18
100	Knowledge creation in patent ecosystems: insights from Singapore. Journal of Knowledge Management, 2021, ahead-of-print, .	3.2	1
101	Technological improvement rate predictions for all technologies: Use of patent data and an extended domain description. Research Policy, 2021, 50, 104294.	3.3	16
102	Do federal regulations beget innovation? Legislative policy and the role of executive orders. Energy Policy, 2021, 158, 112570.	4.2	7
103	Inter-sectoral relations to accelerate the formation of technological innovation systems: Determinants of actors' entry into marine renewable energy technologies. Technological Forecasting and Social Change, 2021, 173, 121136.	6.2	6
104	Smart Energy Frameworks for Smart Cities: The Need for Polycentrism. , 2021, , 55-87.		3
105	Modeling Technological improvement, Adoption and Employment effects of Electric Vehicles: A Review. SSRN Electronic Journal, 0, , .	0.4	0
106	Smart Energy Frameworks for Smart Cities: The Need for Polycentrism. , 2020, , 1-32.		3
107	Smart Energy Frameworks for Smart Cities: The Need for Polycentrism. , 2020, , 1-33.		6
108	Quantifying Conceptual Novelty in the Biomedical Literature. D-Lib Magazine, 2016, 22, .	0.5	14
109	Quantitative Identification of Technological Discontinuities. SSRN Electronic Journal, 0, , .	0.4	1
110	Technological Improvement Rate Estimates for All Technologies: Use of Patent Data and an Extended Domain Description. SSRN Electronic Journal, 0, , .	0.4	3
111	Digital technology and social change: the digital transformation of society from a historical perspective. Dialogues in Clinical Neuroscience, 2020, 22, 189-194.	1.8	55
112	Complex type 4 structure changing dynamics of digital agents: Nash equilibria of a game with arms race in innovations. Journal of Dynamics and Games, 2017, 4, 255-284.	0.6	6

#	Article	IF	CITATIONS
113	A Study on Technology Forecasting based on Co-occurrence Network of Keyword in Multidisciplinary Journals. Journal of the Korean Operations Research and Management Science Society, 2015, 40, 49-63.	0.1	1
114	Complex Type 4 Structure Changing Dynamics of Digital Agents: Nash Equilibria of a Game with Arms Race in Innovations. SSRN Electronic Journal, 0, , .	0.4	0
115	Analytics of Patent Case Rulings: Empirical Evaluation of Models for Legal Relevance. SSRN Electronic Journal, 0, , .	0.4	0
117	Standing on the Shoulders of the Collective Brain: Testing for the Determinants of Innovation Using Hip Hop Data. SSRN Electronic Journal, 0, , .	0.4	Ο
118	Where'd You Get that Idea? Determinants of Creativity and Impact in Popular Music. SSRN Electronic Journal, 0, , .	0.4	2
119	Measuring Entrepreneurial Discovery With Economic Complexity Rankings in Small Island Economies. SSRN Electronic Journal, 0, , .	0.4	0
120	Machine Learning at the Patent Office: Lessons for Patents and Administrative Law. SSRN Electronic Journal, 0, , .	0.4	4
121	The Role of Idea Fluency and Timing on Highly Innovative Design Concepts. , 2020, , .		2
122	Tracing the evolution of service robotics: Insights from a topic modeling approach. Technological Forecasting and Social Change, 2022, 174, 121280.	6.2	19
123	Das Unternehmen im Wirtschaftskrieg. , 2020, , 651-722.		0
125	Winner Takes All? Tech Clusters, Population Centers, and the Spatial Transformation of U.S. Invention. SSRN Electronic Journal, 0, , .	0.4	0
126	Winner takes all? Tech clusters, population centers, and the spatial transformation of U.S. invention. Research Policy, 2022, 51, 104418.	3.3	15
127	Temporal motifs in patent opposition and collaboration networks. Scientific Reports, 2022, 12, 1917.	1.6	4
128	The origins of human cumulative culture: from the foraging niche to collective intelligence. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, 20200317.	1.8	25
129	Radical technologies, recombinant novelty and productivity growth: a cliometric approach. Journal of Evolutionary Economics, 2022, 32, 673-711.	0.8	4
130	Idea Engines: A Unified Theory of Innovation and Obsolescence From Markets and Genetic Evolution to Science. SSRN Electronic Journal, 0, , .	0.4	0
131	Metrics and mechanisms: Measuring the unmeasurable in the science of science. Journal of Informetrics, 2022, 16, 101290.	1.4	13
132	Recombination for innovation and market impact: Samples and features in hip hop music. Journal of Evolutionary Economics, 0, , .	0.8	0

#	Article	IF	CITATIONS
133	EVOLUTION OF BIOMEDICAL INNOVATION QUANTIFIED VIA BILLIONS OF DISTINCT ARTICLE-LEVEL MeSH KEYWORD COMBINATIONS. International Journal of Modeling, Simulation, and Scientific Computing, 2022, 25, .	0.9	2
134	Which will be your firm's next technology? Comparison between machine learning and network-based algorithms. Journal of Physics Complexity, 2022, 3, 035002.	0.9	2
135	Delivery of therapeutic small interfering RNA: The current patent-based landscape. Molecular Therapy - Nucleic Acids, 2022, 29, 150-161.	2.3	3
136	Increasing returns and path dependence in knowledge creation and their effects on the dynamics of patent pools. Structural Change and Economic Dynamics, 2022, 62, 467-477.	2.1	0
137	Measuring latent combinational novelty of technology. Expert Systems With Applications, 2022, 210, 118564.	4.4	0
138	Afraid of Niche, Tired of Mass: Atypical Idea Combination on Crowdfunding Platform. SSRN Electronic Journal, O, , .	0.4	1
139	Pattern making and pattern breaking. Revista Brasileira De Inovaçã0, 0, 21, e022015.	0.2	0
140	Destructive creation, creative destruction, and the paradox of innovation science. Sociology Compass, 0, , .	1.4	0
141	Deep representation learning of scientific paper reveals its potential scholarly impact. Journal of Informetrics, 2023, 17, 101376.	1.4	1
142	Recipes and Economic Growth: A Combinatorial March Down an Exponential Tail. Journal of Political Economy, 2023, 131, 1994-2031.	3.3	1
143	Enhancing the robustness of the disruption metric against noise. Scientometrics, 2023, 128, 2419-2428.	1.6	2
144	Urban economic fitness and complexity from patent data. Scientific Reports, 2023, 13, .	1.6	2
145	Surprising combinations of research contents and contexts are related to impact and emerge with scientific outsiders from distant disciplines. Nature Communications, 2023, 14, .	5.8	3
146	What Makes Us Smart?. Topics in Cognitive Science, 2024, 16, 322-342.	1.1	5
152	Machine culture. Nature Human Behaviour, 2023, 7, 1855-1868.	6.2	1
159	Recombination and Technology Complexity in Lead-Acid Batteries for Alternative Energy Vehicles. , 2023, , .		0
164	Tipping Points Emerge in the Interaction Between Narrative and Reality. Springer Climate, 2024, , 21-41.	0.3	0