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Data Analysis Bulletin, a literature review

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16th Conference of the International Federation of
Classification Societies

26-29 August 2019,
Concert Hall,
Thessaloniki,
Greece

Development of Data Analysis in Greece

This session will focus on the *Past, the Present and the Future of Data Analysis in Greece*.

The aim of this session is to summarize and highlight the effort done during the last 30 years, in the field of Statistics and other scientific fields, *dealing with the application, the development and the promotion of the Data Analysis methods*. In addition, summaries of recent research experience and developments will be provided. The emphasis will be placed on the promises and the practical implications of the Data Analysis methods in the analysis and interpretation of everyday life multidimensional data, irrespectively of the scientific field from which they come from. A final touch will be on sharing experience and some ideas on new ways for promoting further the use and the (better) understanding of Data Analysis methods and to strengthen the statistical literacy in general.

Data Analysis Bulletin

<http://www.gsda.gr/journal/>

This literature review demonstrates the research experience and the developments in the field of Statistics and Data Analysis published on Journal "**Data Analysis Bulletin**" (Τετράδια Ανάλυσης Δεδομένων), since 2001.

The aim is to summarize the scientific and academic work of the Greek Society of Data Analysis (GSDA) in order to:

- integrate and summarize what is known about the journal (topics and authors contribution)
- present the research made and the fields of application
- demonstrate what we have learnt from the research
- establish a starting point for new ideas

Greek Society of Data Analysis and Data Analysis Bulletin

Within the framework of its scientific activities, GSDA organizes a biennial conference and publishes the peer-reviewed journal **Data Analysis Bulletin**.

•GSDA, founded in 2001, is a non-profit, scientific organization, whose purposes are to promote the scientific study of data analysis and classification in theory and application, and to disseminate scientific and educational information related to its fields of interests. Their range covers a multiplicity of sciences and many application fields from official statistics and administration to social sciences and linguistics.

•GSDA is a member of the International Federation of Classification Societies (IFCS) since 2009

• The Society presently consists of more than 100 members from various disciplines

•Since 2001, GSDA has (co)-organized nine national conferences with international participation, held in seven different cities in Greece, with an average of 55 contributed papers per meeting.

GSDA Conferences (journal Data Analysis Bulletin)

Komotini (2001)

Komotini (2003)

Halkidiki (2005)

Karditsa (2007)

Rethymno (2009)

Thessaloniki (2011)

Kavala (2013)

Alexandroupoli (2015)

Thessaloniki (2017)



<http://www.gsda.gr/journal/>



212 authors in 18 issues of Data Analysis Bulletin

Co-authored papers 83,1% (176/212)

Single authored papers 16,9% (36/112)

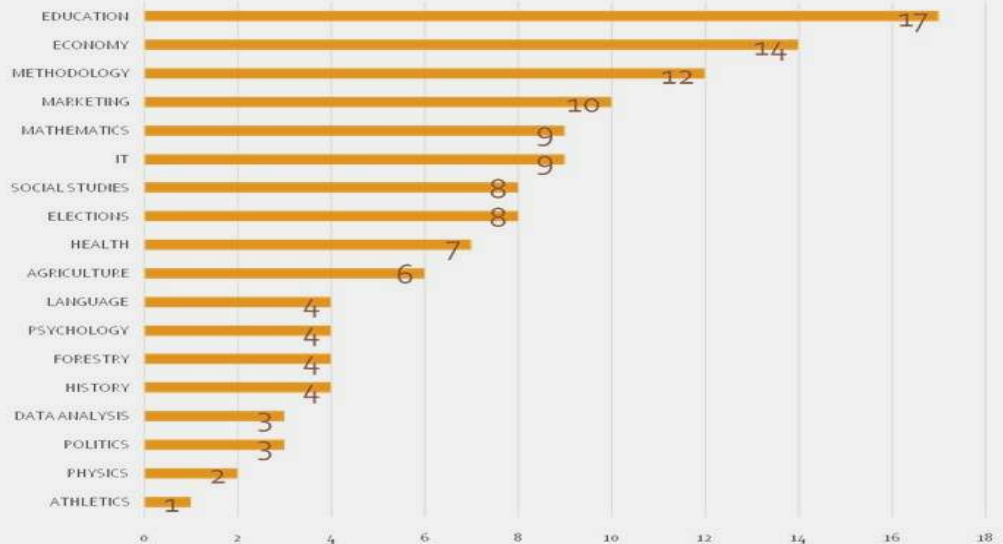
Women 28,4% (60/212)

Men 71,6% (152/212)

ΠΑΝΟΣ ΣΥΜΜΕΤΟΧΩΝ ΣΕ ΕΡΓΑΣΙΕΣ ΤΩΝ 212 ΕΡΕΥΝΗΤΩΝ ΣΤΑ 18 ΤΕΥΧΗ											
α/α	ΣΥΓΓΡΑΦΕΙΣ	ΣΥΜΜΕΤΟΧΕΣ	α/α	ΣΥΓΓΡΑΦΕΙΣ	ΣΥΜΜΕΤΟΧΕΣ	α/α	ΣΥΓΓΡΑΦΕΙΣ	ΣΥΜΜΕΤΟΧΕΣ	α/α	ΣΥΓΓΡΑΦΕΙΣ	ΣΥΜΜΕΤΟΧΕΣ
1	Παπαδημητρίου	24	41	Lebat	2	74	Camiz	1	116	Μουραλίδης	1
2	Μεσίδης	14	42	Ασπράκος	2	75	Chiba	1	117	Καζανίδης	1
3	Καρασιτάκης	12	43	Βασιλακόπουλος	2	76	Hstinger	1	118	Καλαϊτάκης	1
4	Μάρκος	12	44	Γεωργιάδης	2	77	Pages	1	119	Καραγιάννης	1
5	Παλιούρας	11	45	Γκόνιου	2	78	Heber	1	120	Καρασιτάκης	1
6	Ανιστοπούλου	11	46	Διαμαντίδου	2	79	Αγγελοπούλου	1	121	Καρασιτάκης	1
7	Λορέντζος	9	47	Ζωσιμάκης	2	80	Αγγελοπούλου	1	122	Καρασιτάκης	1
8	Μπαρτζάνης	8	48	Κατούλας	2	81	Αντώνης	1	123	Καρούσης	1
9	Γιαννάκης	7	49	Κασιμάτης	2	82	Ανιστοπούλου	1	124	Κασιμάτης	1
10	Κουτσουμπάς	7	50	Κασιμάτης	2	83	Ανδρακούδης	1	125	Κλητούρος	1
11	Μουρίδης	7	51	Καϊνός	2	84	Κασιμάτης	1	126	Κοκοκύβης	1
12	Φαράκης	7	52	Καραγιάννης	2	85	Βασιλακόπουλος	1	127	Κολυβέ-Μαγιάρα	1
13	Καράκος	6	53	Κουτρουσιάνης	2	86	Βασιλακόπουλος	1	128	Κοσμάς	1
14	Καζαντζιάνης	6	54	Λαϊκός	2	87	Βασιλάκης	1	129	Κοσκός	1
15	Ηθέσιος	5	55	Μανθός	2	88	Βεργός	1	130	Κουμραλάκης	1
16	Γυλιόπουλος	5	56	Μπακογιάννης	2	89	Βιλιάνης	1	131	Κουσιμάτης	1
17	Κουσιμάτης	5	57	Μπαρτζάνης	2	90	Βίβλη	1	132	Κυριακούδης	1
18	Μαρούσιος Ε	5	58	Νικολαΐδης	2	91	Βίβλος	1	133	Κύρια	1
19	Νταουβάνη	4	59	Οικονομίδης	2	92	Βλαχοπούλου	1	134	Κωσταρέλης	1
20	Αθανασίου	4	60	Ούζου	2	93	Βούρας	1	135	Κωσιμάτης	1
21	Καρασιτάκης	4	61	Παπαδημητρίου Ε	2	94	Γαϊδής	1	136	Λαλιάνης	1
22	Μανώλης	4	62	Παπασιόπουλος	2	95	Γαλανόπουλος	1	137	Λαμπάς	1
23	Μπαρτζάνης	4	63	Παυλίδης	2	96	Γεωργιάδης	1	138	Λημιδάκης	1
24	Νίκας	4	64	Ράικος	2	97	Γεωργιάδης	1	139	Λοπαδάκης	1
25	Κρασινοπούλου	4	65	Ριάνος	2	98	Γεωργιάδης	1	140	Μαγιάρα	1
26	Ρουκ	3	66	Σακκάκης	2	99	Γεωργιάδης	1	141	Μαλίνος	1
27	Βασιλάκης	3	67	Σκορδής	2	100	Γεωργιάδης	1	142	Μαδαρδουλάκης	1
28	Στασινοπούλου	3	68	Στασινοπούλου	2	101	Δαλακούρας	1	143	Μαζουράκης	1
29	Καρασιτάκης	3	69	Συμπλάνης	2	102	Δαλιάνης	1	144	Μαυλάκης	1
30	Κουσιμάτης	3	70	Τσιτσάνης	2	103	Λέβας	1	145	Μαρκάκης	1
31	Κωστασιμάκης	3	71	Τόλης	2	104	Λιλιάνη	1	146	Μαρούσιος Ρ	1
32	Μανώλης	3	72	Τόλης	2	105	Λημιδάκης	1	147	Μαρούσιος	1
33	Μουρίδης	3	73	Τσιτσάνης	2	106	Λημιδάκης	1	148	Μητασιώδης	1
34	Μαυρομάτης	3			66	107	Λορέντζος	1	149	Μητασιώδης	1
35	Μετσίδης	3				108	Λορέντζος	1	150	Μουραλίδης	1
36	Παπαγιάννης	3				109	Λορέντζος	1	151	Μπαρτζάνης	1
37	Παπασιόπουλος	3				110	Στασινοπούλου	1	152	Μπένος	1
38	Πασιτάκης	3				111	Στασινοπούλου	1	153	Μπαρτζάνης	1
39	Τάκος	3				112	Στασινοπούλου	1	154	Μπαρτζάνης	1
40	Φερελιός	3				113	Θαμνάκης	1	155	Μπαρτζάνης	1
		234				114	Θαμνάκης	1	156	Μουραλίδης	1
						115	Ιωαννίδης	1	157	Νίκας	1
								42			42

Topic contribution (N)

- 1. Education (17 / 18 issues)
- 2. Economy (14 / 18 issues)
- 3. Methodology (12 / 18 issues)



Papers and topic contribution per issue (I)

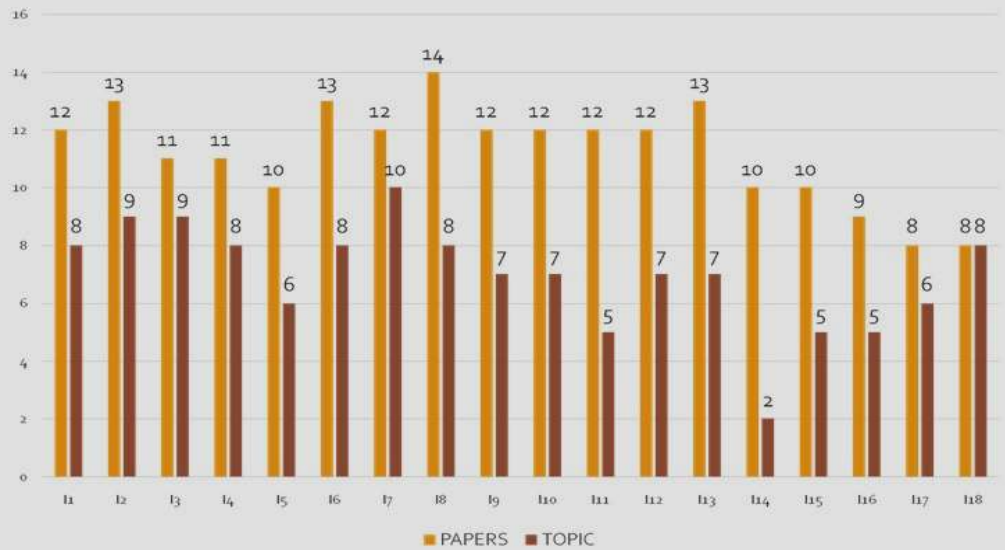
issue	EDUCATION	ECONOMY	METHODOLOGY	MARKETING	IT	MATHEMATICS	ELECTIONS	AGRICULTURE	SOCIAL STUDIES
I1	3		1		1	1	1		
I2	1	3			1	2	1	1	2
I3	1	2		2	1	1	1	1	
I4	2		2	1	1	1	2		
I5	1	2	2	3					1
I6	2	3	2	1		2			
I7	1	2	1	1		1	2		
I8	4	3	1	2	1			1	1
I9		1	3	1	3			2	
I10	5		1	2			1		1
I11	2	3	4	2					
I12	3	4						1	1
I13	2	2	1	3				3	
I14	5	5							
I15	2	4	1		2				
I16	2	4				1	1		1
I17	3		1		1	1	1		1
I18	1	1			1	1			1
PAPERS	40	39	20	18	12	11	10	9	9
* per issue	17	14	12	10	9	9	6	6	8

Papers and topic contribution per issue (II)

issue	HEALTH	HISTORY	FORESTRY	PSYCHOLOGY	LANGUAGE	POLITICS	DATA ANALYSIS	PHYSICS	ATHLETICS
l1	2	2			1				
l2				1		1			
l3		1			1				
l4	1	1							
l5									1
l6		1	1				1		
l7	1			1		1	1		
l8					1				
l9			1					1	
l10	1						1		
l11	1								
l12			1					1	
l13	1		1						
l14									
l15				1	1				
l16									
l17									
l18	1			1		1			
PAPERS	8	5	4	4	4	3	3	2	1
* Per issue	7	4	4	4	4	3	3	2	1

Comparing Papers and topic contribution per issue (N)

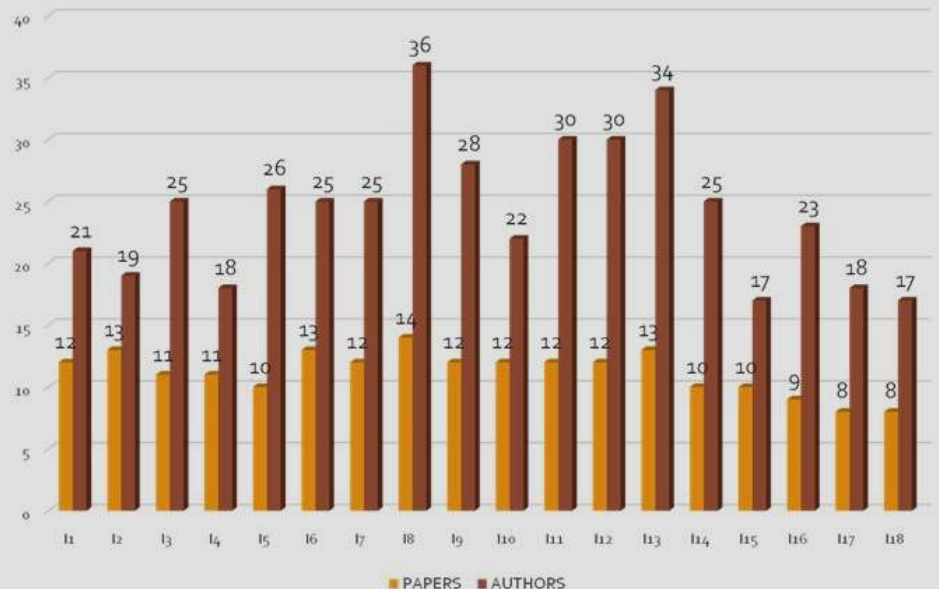
Papers and topic contribution



Comparing Papers and contributors per issue (N)

Total: 439 contributions
In 202 papers

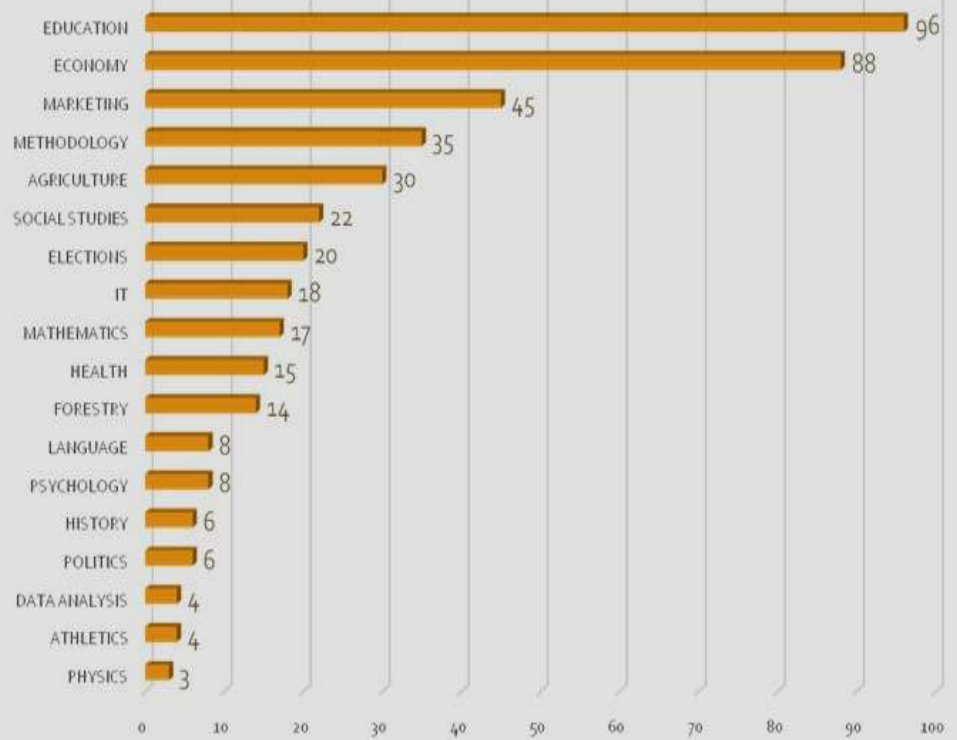
Papers and contributors



Contributors' topics in total (N)

1. Education (96 participants)
2. Economy (88 participants)

Contributors'/ topic



Topic contribution based on papers' title

Issue Data analysis

- 16 Lack of confidence
- 17 Exercise good judgement
- 120 CA distribution

Issue Mathematics

- 11 Distances in Data Analysis
- 12 New indicators
- Error Control
- 13 Factor indicators
- 14 Burt's tables
- 16 Multifactor problems
- Sampling
- 17 Number of clusters
- 126 Mathematical function
- 127 Probability Density Function
- 128 Periodicity in time series and applications

Issue Elections

- 11 Greek elections 2000
- 12 Electoral volatility 1993-2002
- 13 Electoral behaviour and criteria
- 14 Greek elections 1993-2002
- Parties' problems
- 17 Electoral volatility 1996-2000
- Parties and personnel
- 120 Elections' topics
- 126 Students' election in AUTH 1974-2012
- 127 Students' election in AUTH 2015

- Methodology
- 11 Scale assessment
- 124 Sensors' applications
- Correspondence Analysis
- 15 Guttman effect
- Categorical variables
- 16 Technical validation
- Collecting - coding data
- 27 Discriminant analysis
- 28 Criteria meaningfulness
- 29 News' parameters
- Tables' analysis
- Counting Criteria
- 120 Clusters
- 121 Configuring programming
- Distance tables
- Inertia
- Comparative Assessment vs Burt
- 123 Risk Analysis
- 125 Hierarchical clustering
- 127 BENCAR method

- Social studies
- 12 Students' social culture
- Students' employment
- 15 Group mind
- 18 News papers' articles
- 120 Value system
- 122 Students' attitude vs foreigners' students
- 126 Immigrant entrepreneurship
- 127 Muslim community
- 128 Immigration profil of Eastern Macedonia

- Politics
- 12 Pre-election positions
- 17 Students' attitude towards politics
- 128 Voters' models

Topic contribution based on title

	Education	Health	Language
11	Didactic methods	HIV	11 Literature analysis
	Environmental education	national health system	13 Analysis of religious ceremonies
	Students' attitude towards mathematics	14 National health service	18 Literature analysis
12	Family and education	17 Sleeping and driving	15 Case study
13	IT in secondary school	120 Public health	
14	Fairytales	121 Trauma injury	
	Teachers' attitude towards assessment	123 Speech-language pathology	
15	Students' professional preferences	128 Bioresonance therapy	
16	Time in TEE		
	Parents educational level		
17	Teaching methods		
18	Phonology studies		
	Research in education		
	Teaching methods		
	School events		
120	School discipline		
	School premises		
	Educational training		
	Phd Students		
	Teaching approach		
121	Capability assessments		
	Teaching schedule		
122	Religious training		
	Education expenditure		
	Collective action groups		
123	Trainers' profile		
	Special schools		
124	Digital teaching		
	Students' behaviour		
	Students achievement		
	Technological Educational Institutes merge		
	Teachers' performance in statistics		
125	Teachers' abilities		
	students teaching students		
126	Information and Communication Technologies		
	Exams		
127	Students' assessment		
	Students' performance		
	Quality management in education		
128	Fear of mathematics		

Topic contribution based on title

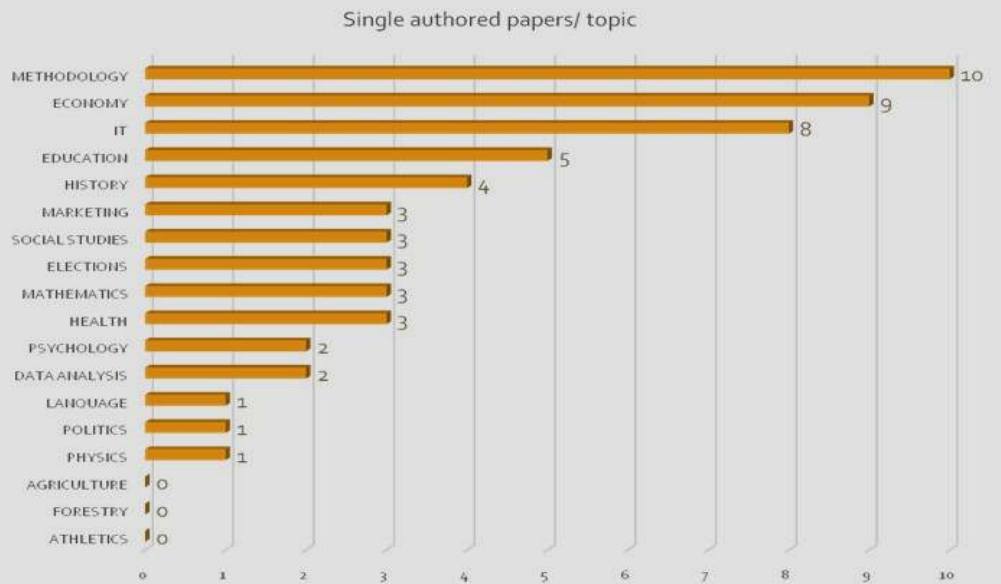
	IT	Psychology	Economy
11	S-PRO software	12 Psychology Research	12 Public investments
12	MAD software	17 Self-awareness	Government expenditure
13	PRAXITELIS software	12 Emotional intelligence	Development of indicators
14	Learning techniques	128 Psychometric characteristics	Development of North Evros
18	Software for CA		Management of water resources
19	CHIC software		15 Estimating run off volume
	CA in EXCEL		Future development
	Digital commerce		16 Bankrupt
125	e-mail		Unemployment, GDP, wages
	Data interseption		Foreign investment
127	Learning techniques		17 Business failure
128	SVM-Method KARAP		Demand for employment
			18 Trade
			Managing business risks
			Interindustry trade
			19 Savings behaviour
			121 Business cycle dynamics
			Unemployment
			Social Insurance
			122 Macroeconomic analysis
			Social Insurance
			Tourism
			Competitiveness
			123 Product innovation wood industry
			Quality management
			14 Accountancy
			Intersectoral environmental effects
			Employments effects and metres
			GDP
			Tax exemptions/reductions
			125 Number indicators
			Tax system
			Current account balance
			Depression
			126 Business model
			Savings behaviour
			Quality costs model
			Depression
			128 Municipal revenue sources

Topic contribution based on title

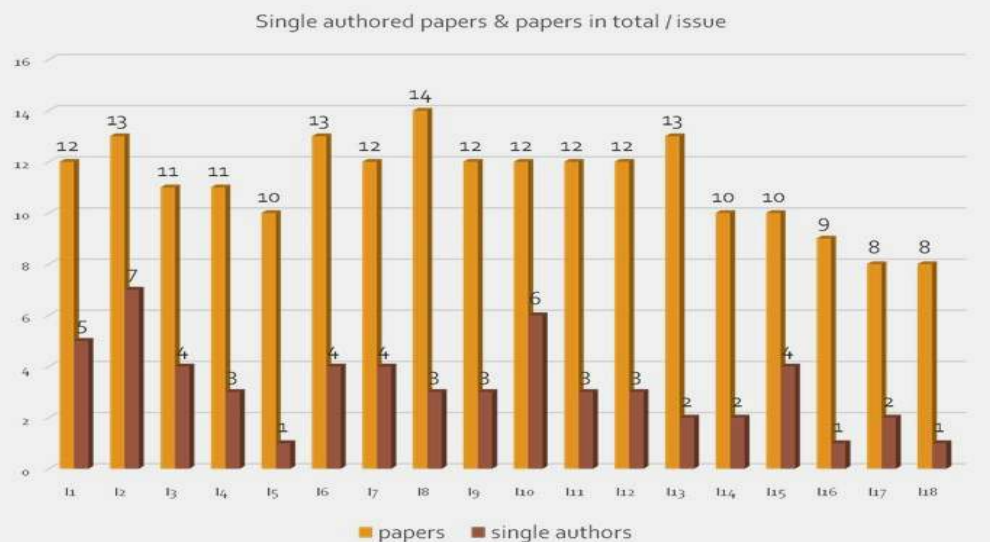
Agriculture	Marketing	History
l2 Offspring topographic map	l3 Media ratings	l1 Data analysis history
l3 Sea bass populations	l4 Hunters practices	Equation
l8 Agricultural holding	l4 EXPO	l13 National memories
l19 Fish morphological design	l5 Leaders' assessment	l14 Memories for Odile Laraise
Swine Farming	Stores layout	l6 Historical overview
l12 Biological agriculture	Attitude towards pollution	
l13 Wheat cultivars	l6 Attitude Change in students	
Bioproducts	l7 Vineyard management	
Agriculture system	l8 Newspaper industry	
	Digital services	
	l9 Patients satisfaction	
	l10 Processing questionnaire	
	Tutoring assessments	
	l11 Students' attitude toward politics	
	Students' attitude toward the internet	
	l13 Traches of market	
	Business plan	
	Types of consumers	
Athletics	Forestry	Physics
l5 Basket	l6 Pine forest	l9 Using Dynamic Time Warping
	l9 Hunting federations	l12 Spectrum of colours
	l12 Environmental cost	
	l13 Wood products	

Single authored papers per topic (58 papers)

Single authored papers 28,7% (58/202)

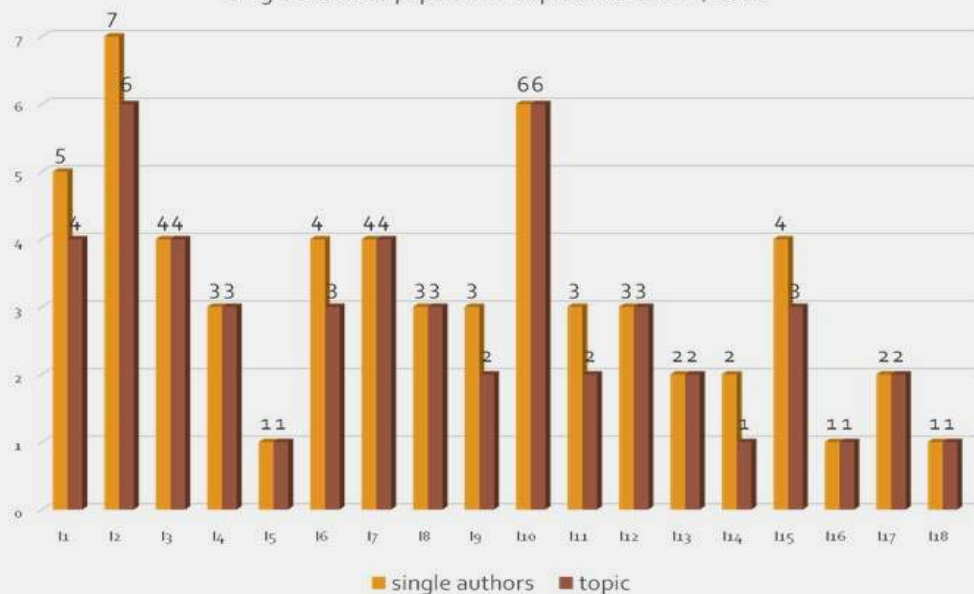


Comparing Single authored papers and papers in total per issue (N)



Comparing Single authored papers and topic contribution per issue (N)

Single authored papers and topic contribution/ issue



1st Step :

- for single authored paper, weight equals 1
- for two participants' paper, weight equals 0,5 per person
- for three participants' paper, weight equals 0,333 per person
- for four participants' paper, weight equals 0,25 per person
- for five participants' paper, weight equals 0,20 per person

2nd Step: the total weight for each author is divided by the number of papers per issue

3rd Step: the total sum for each author is divided by 18 (18 issues) and calculated in percent (%)

Weighting Authors' contribution in Data Bulletin issues

54.0% Authors' s contribution in Data Bulletin issues

(6 women in 30 persons)

AA	Author	Total contribution in 18 issues	% contribution in 18 issues
1	Καραπιστόλης	0.9546	5.303
2	Παπαδημητρίου	0.9447	5.248
3	Φλώρου	0.4819	2.677
4	Αναστασιάδου	0.4792	2.662
5	Μενεξές	0.4379	2.433
6	Μάρκος	0.4102	2.279
7	Φαρμάκης	0.4002	2.223
8	Μπιχεράκης	0.3777	2.098
9	Δραμαλιδής	0.3692	2.051
10	Μοσχίδης	0.3623	2.013
11	Νηαυβανί	0.3204	1.780
12	Καράκος	0.294	1.635
13	Χατζηπαντελής	0.2940	1.633
14	Κουτσοπιτιάς	0.2860	1.589
15	Γιαλαμάς	0.2845	1.580
16	Αθανασιάδης	0.2842	1.579
17	Μασούρα Ε	0.2519	1.400
18	Μειμάρης	0.2512	1.395
19	Κιόσσογλου	0.2512	1.395
20	Μαλιάρη	0.2273	1.263
21	Καρασαββόγλου	0.2245	1.247
22	Ζαφειρόπουλος	0.2167	1.204
23	Αθανασίου	0.1998	1.110
24	Μαντόγλου	0.1712	0.951
25	Γναδέρλης	0.1672	0.929
26	Ρουκ	0.1667	0.926
27	Μπαγιάτης	0.1656	0.920
28	Αραμπατζής	0.162	0.903
29	Lebart	0.1603	0.890
30	Κυριδής	0.1317	0.732
			54.049

37,2%
Authors' s
contribution
in Data
Bulletin issues

(2 women in
15 persons)

AA	Author	Total contribution in 18 issues	% contribution in 18 issues
1	Karapistolis	0.9546	5.303
2	Papadimitriou	0.9447	5.248
3	Florou	0.4819	2.677
4	Anastasiadou	0.4792	2.662
5	Menexes	0.4379	2.433
6	Markos	0.4102	2.279
7	Farmakis	0.4002	2.223
8	Behrakis	0.3777	2.098
9	Dramalis	0.3692	2.051
10	Mosxidis	0.3623	2.013
11	Nwaubani	0.3204	1.780
12	Karakos	0.294	1.635
13	Chadjipadelis	0.2940	1.633
14	Koutsoupias	0.2860	1.589
15	Gialamas	0.2845	1.580
			37.204

Using the
KARAP
method we
estimated the
distance
(Euclidean) in
R¹⁷ of topic
and issue

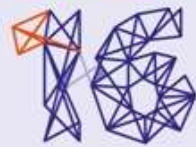
ENΔ	DisΘΕΩ	DisΜΑΘ	DisΕΚΛ	DisΜΕΘ	DisΚΟΙ	DisΠΟΛ	DisΠΑΙ	DisΥΓΕ	DisΦΙΛ	DisΠΛΗ	DisΨΥΧ	DisΟΙΚ	DisΓΕΩ	DisΜΑΡ	DisΙΣΤ	DisΑΘΛ	DisΔΑΣ	DisΦΥΣ	min DIS	MET
T1	2604.53	1545.23	1519.67	1701.08	2142.25	2657.55	1456.16	1111.31	1626.17	1703.52	2562.07	1866.50	2347.23	1896.76	925.04	4650.65	2500.51	3340.76	925.04	ΙΣΤ
T2	2523.95	973.69	1508.97	1839.40	926.65	1609.36	1465.88	1918.89	2359.47	1600.41	1336.23	1260.90	1883.11	1837.21	2507.98	4657.37	2239.96	3007.58	926.65	ΚΟΙ
T3	2505.28	1347.08	1417.58	1538.30	1802.43	2708.00	1301.77	1730.36	1314.11	1402.77	2401.52	1292.57	1603.87	1250.32	1621.76	4556.84	2117.61	3084.15	1250.32	ΜΑΡ
T4	2312.49	1242.08	857.02	1138.27	1845.03	2651.92	1249.79	1172.26	2091.87	1496.89	2414.94	1626.97	2098.48	1458.25	1509.38	4603.47	2287.92	3137.12	857.02	ΕΚΛ
T5	2836.02	2290.05	2350.07	1633.85	1889.31	3108.04	1913.26	2362.44	2700.21	2348.05	2810.96	1840.61	2416.37	1276.86	2844.46	2755.07	2590.94	3380.03	1276.86	ΜΑΡ
T6	1726.39	1156.84	1701.95	1258.29	1844.97	2700.99	1252.43	1782.23	2263.19	1842.15	2335.50	1230.33	2022.43	1458.29	1859.40	4576.12	1612.72	2995.93	1156.84	ΜΑΘ
T7	1625.38	1295.76	1133.36	1633.48	1738.78	1692.03	1496.07	1441.61	2480.89	1963.42	1635.07	1513.38	2234.37	1648.76	2358.74	4691.34	2352.81	3227.43	1133.36	ΕΚΛ
T8	2448.35	1598.44	1691.34	1275.86	1350.71	2681.76	754.97	1723.54	1549.60	1357.78	2279.20	887.57	1533.34	1059.80	2249.12	4418.71	2006.98	2895.21	754.97	ΠΑΙ
T9	2924.65	2185.96	2306.35	1416.71	2227.67	3061.10	1951.42	2275.88	2506.53	1202.45	2618.52	1861.22	1362.76	1804.97	2676.83	4748.01	1426.69	1857.37	1202.45	ΠΑΗ
T10	1671.47	1699.20	1420.16	1423.09	1551.32	2690.38	889.78	1418.66	2322.31	1966.50	2365.99	1557.09	2135.38	1254.35	2013.36	4513.09	2269.22	3203.00	889.78	ΠΑΙ
T11	2376.68	1805.60	1827.13	636.77	1879.42	2794.29	1217.24	1495.30	2270.95	1792.67	2475.37	1230.98	1996.89	1096.89	2338.52	4338.31	2096.92	3042.51	636.77	ΜΕΘ
T12	2628.06	1879.69	2095.02	1838.71	1544.85	2676.37	1358.83	2140.11	2485.46	1885.44	1766.46	1156.42	1650.61	1863.95	2664.26	4702.76	1438.05	1932.48	1156.42	ΟΙΚ
T13	2580.76	1977.64	2056.55	1509.83	1976.43	2882.83	1484.67	1760.36	2362.99	1916.94	2481.99	1497.11	811.05	1043.55	2479.93	4570.16	1462.72	2837.46	811.05	ΓΕΩ
T14	2571.02	1883.03	1995.76	1816.21	1780.38	2891.62	909.87	2079.75	2226.77	2035.33	2419.40	849.41	2217.52	1831.87	2567.73	4688.39	2285.02	3120.03	849.41	ΟΙΚ
T15	2708.76	1785.40	1942.44	1506.91	1856.66	2762.90	1250.57	2025.85	1388.71	1138.64	2447.51	1012.52	2042.51	1751.74	2336.94	4663.66	2276.54	2942.08	1012.52	ΟΙΚ
T16	2439.53	1225.83	1416.70	1693.28	1212.29	2514.01	1017.94	1974.03	2214.61	1837.14	2095.48	779.27	2103.01	1718.78	2371.09	4576.41	2257.18	3099.05	779.27	ΟΙΚ
T17	2407.57	1210.44	1206.73	1419.39	1167.52	2569.92	988.26	1762.99	2227.10	1383.30	2275.83	1478.34	2121.50	1693.07	2222.17	4627.35	2318.22	3046.02	988.26	ΠΑΙ
T18	2831.28	1440.58	1899.94	2054.61	1409.16	1128.74	1755.80	1665.46	2553.22	1796.99	1047.42	1747.31	2327.14	2149.26	2636.03	4797.14	2559.79	3216.81	1047.42	ΨΥΧ

Topic and
issue

TOPIC	ISSUES	issue	Topic
DATA ANALYSIS		I1	HISTORY
MATHEMATICS	I6	I2	SOCIAL STUDIES
ELECTIONS	I4 I7	I3	MARKETING
METHODOLOGY	I11	I4	ELECTIONS
SOCIAL STUDIES	I2	I5	MARKETING
POLITICS		I6	MATHEMATICS
EDUCATION	I8 I10 I17	I7	ELECTIONS
HEALTH		I8	EDUCATION
LANGUAGE		I9	IT
IT	I9	I10	EDUCATION
PSYCHOLOGY	I18	I11	METHODOLOGY
ECONOMY	I12 I14 I15 I16	I12	ECONOMY
AGRICULTURE	I13	I13	AGRICULTURE
MARKETING	I3 I5	I14	ECONOMY
HISTORY	I1	I15	ECONOMY
ATHLETICS		I16	ECONOMY
FORESTRY		I17	EDUCATION
PHYSICS		I18	PSYCHOLOGY

New ideas and
new authors

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Thank you!

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