

Cybermetrics of the Indian Universities

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**International Workshop on Webometrics, Informetrics
and Scientometrics & 5th COLLNET Meeting**

Roorkee, India, March 2-5, 2004

Web indicators

- Huge international effort on the way to develop Information Society indicators
 - Technological indicators
 - Economic indicators
 - Social indicators
- Lacking a similar effort to obtain web indicators
 - The contents are the key
 - Some questions open:
 - Digital divide
 - Cultural colonialism
 - Over-representation of English

Academic and R&D Web

- Universities and R&D institutions websites can reflect the output of academic and research activities better than traditional paper publications
 - The future of informal scholarly communication
 - Peer-review is not in danger
- The audience of the Web is far larger than that of other means of scientific communication
 - Millions instead of hundreds
- Hypertext nature of the Web allows the discovery of hidden patterns
 - Motivations for linking exceed those for citation
 - New discipline: Cyber-science-techno-econo-metrics

Cybermetrics

- Quantitative study of the contents and communication processes on the Internet
 - Cyberscientometrics ~ cybermetrics
 - Webometrics: Focused on the WWW
- Topics
 - Informetric distributions and topology
 - Dynamics and evolution
 - Link & “sitation” analysis
 - Indicators: R&D evaluation
 - E-journals and documents repository bibliometrics
 - Applied webometrics: web data mining and positioning

Methodology

■ Direct methods

- Mapping (crawling) websites
 - Slow, resources intensive, crawler-traps
- End user analysis (log files)
 - Access limited, no standards, IP identification problems

■ Indirect methods

- Search Engines (Visibility, Impact)
 - No control, limited options, irregular behaviour
- Invisible Internet
 - Definition, human effort
- Popularity (visits)
 - Only rankings, important bias

Google Page Rank



- [India Image : A Gateway to Government of India Info over the web](#)
India Image : Government of India Websites [<http://indiainimage.nic.in>]a one point source for information about India & Indian Government,ministries,departments ...
Description: This site hosts the web-sites related to the Indian government, ministries, and departments. All...
Category: [Regional](#) > [Asia](#) > [India](#) > [Government](#)
indiainimage.nic.in/ - 53k - 21 Feb 2004 - [Cached](#) - [Similar pages](#)
- [Reserve Bank of India...](#)
For site in Hindi click here. Site Map | About Us | What's New | Press Releases | Notifications | Financial Markets | Speeches | Regional ...
Description: Information about monetary policy and operations, issues of government securities, financial and economic...
Category: [Society](#) > [Government](#) > [Finance](#) > [Central Banks](#)
www.rbi.org.in/ - 24k - 21 Feb 2004 - [Cached](#) - [Similar pages](#)
- [Directory of official web sites of Government of India](#)
Executive. President of India. Prime Minister's Office (PMO). Central Govt. (Ministries). Central Govt. (Ind. Depts.). Apex/Independent Offices. Legislature. ...
Description: Comprehensive directory of official web sites of various departments in the government.
Category: [Regional](#) > [Asia](#) > [India](#) > [Government](#)
goldirectory.nic.in/ - 41k - [Cached](#) - [Similar pages](#)
- [The Official Mahatma Gandhi eArchive, Read books written by gandhi ...](#)
The Official Mahatma Gandhi eArchive, Read books written by gandhi, hear audios, watch videos, enjoy amazing cartoons and pictures of mahatma gandhi, ...
web.mahatma.org.in/ - 8k - [Cached](#) - [Similar pages](#)
- [Securities and Exchange Board of India - Home page](#)
Description: SEBI protects the interests of investors in securities and promotes the development of the securities...
Category: [Society](#) > [Government](#) > [Finance](#) > [Regulators](#)
www.sebi.gov.in/ - 34k - 21 Feb 2004 - [Cached](#) - [Similar pages](#)
- [Indian Parliament Home Page](#)
[Indian Parliament]. [Indian Parliament] PRESIDENT OF INDIA, RAJYA SABHA (Council of States), LOK SABHA (House of the People). Press ...
parliamentofindia.nic.in/ - 46k - 21 Feb 2004 - [Cached](#) - [Similar pages](#)

Alexa Ranking



An [amazon.com](#) company

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Q: Did Alexa's Reviews get better? A: Yes! [Write a Review](#) of your favorite site today! [Learn More](#)

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[Take search with you...](#)

MORE ABOUT THIS SITE

Explore this site

[Overview](#)

[Related Links](#)

[Sites Linking in](#)

Traffic Detail

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[visit these sites...](#)

Share your thoughts

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[E-mail a friend about this site...](#)

QUICK PICK

[Southindia....](#)



Provides information about South India's travel packages, information to tourists, and students.

Anna University, Chennai

[Go to site now](#)

annauniv.edu



Offers bachelors, masters and doctoral level degree courses in fields of engineering and sciences.

Traffic Rank for annauniv.edu: 107,652

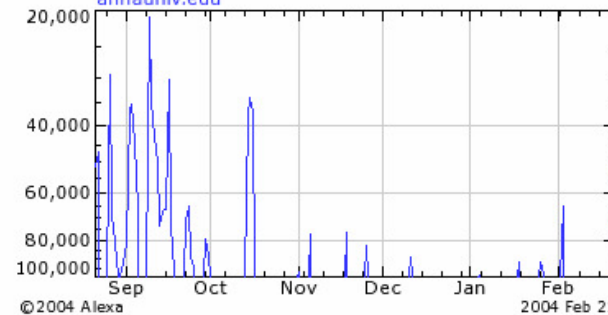
Traffic Rank for annauniv.edu [\(what's this\)](#)

Range: [3m](#) [6m](#) [1y](#) [2y](#)

Size: [Medium](#) | [Large](#)

Daily Traffic Rank Trend

[annauniv.edu](#)



Compare: annauniv.edu vs.

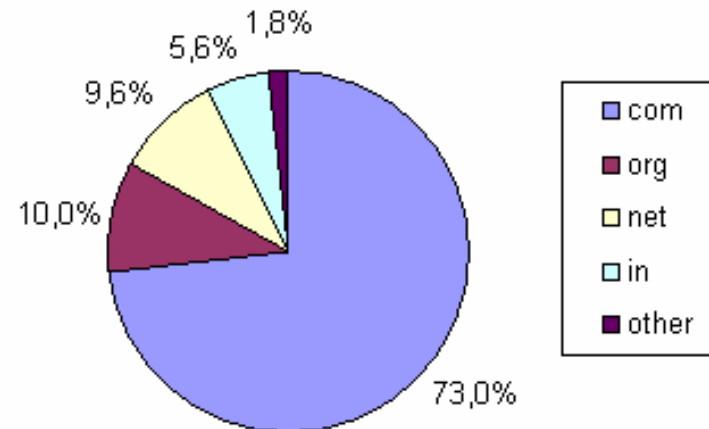
[Compare Sites](#)

[Put a FREE traffic graph on your site](#)

Indian Webpace

RANK	cTLD	ALTAVISTA	ALLTHEWEB	GOOGLE	TEOMA	MSNSEARCH	MAXIMUM
6	jp	42.926.786	49.399.064	26.800.000	4.694.000	12.041.238	49.399.064
8	kr	8.404.233	41.728.659	14.100.000	1.230.000	331.342	41.728.659
15	cn	9.841.657	19.501.174	10.100.000	1.005.000	1.135.113	19.501.174
24	tw	5.936.875	10.456.706	6.620.000	1.064.000	507.803	10.456.706
36	il	1.909.532	3.210.356	1.490.000	1.518.000	1.383.988	3.210.356
44	hk	1.610.949	1.964.608	1.440.000	852.200	29.440	1.964.608
45	tr	1.462.635	1.820.246	1.830.000	349.900	1.141.933	1.830.000
47	th	1.179.441	1.469.176	1.210.000	706.100	855.352	1.469.176
48	in	452.028	1.081.644	470.000	629.100	330.341	1.081.644
50	sg	874.734	839.873	993.000	674.700	20.764	993.000
51	my	681.434	844.896	842.000	458.400	10.496	844.896
53	ph	309.275	540.160	485.000	773.300	257.998	773.300

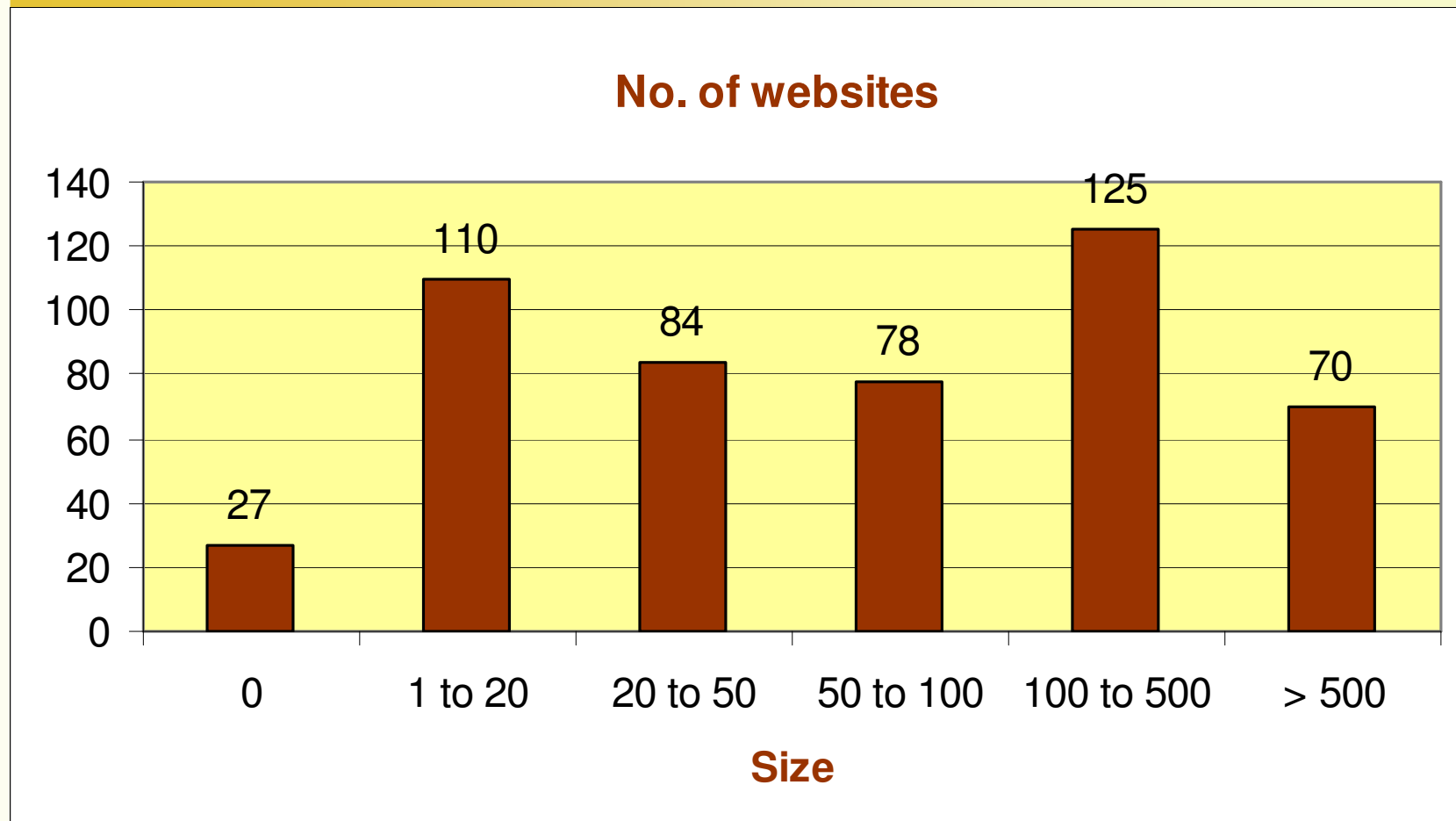
Indian Webpages in gTLD



Sampling Academic Webospace

- **Academic & R&D Indian institutions**
 - 494 institutional websites identified
 - Cybermetric data extracted from search engines
 - Alltheweb
 - Altavista
 - Google
 - MSN Search
 - Teoma
 - Size indicator
 - Mean excluding maximum and minimum values
- **Results**
 - 222,085 web pages
 - 4 websites with more than 10,000 pages each
 - 27 websites not visible (size=0)

Frequencies



Size indicator shows a small number of webpages for most of the institutions

Size (I)

NUMBER OF WEBPAGES (SEARCH ENGINES: MSN, Teoma, Altavista, Alltheweb, Google; Feb'04)			
<i>Institutions</i>		<i>Domain</i>	<i>Mean</i>
INDIAN INSTITUTE OF SCIENCE BANGALORE		<i>iisc.ernet.in</i>	25340
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY		<i>iitb.ac.in</i>	22787
INDIAN INSTITUTE OF TECHNOLOGY KANPUR		<i>iitk.ac.in</i>	17307
TATA INSTITUTE OF FUNDAMENTAL RESEARCH		<i>tifr.res.in</i>	10504
NATIONAL CENTRE FOR BIOLOGICAL SCIENCES		<i>ncbs.res.in</i>	9996
INDIAN INSTITUTE OF TECHNOLOGY DELHI		<i>iitd.ernet.in</i>	8999
INDIAN INSTITUTE OF TECHNOLOGY MADRAS		<i>iitm.ac.in</i>	5557
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT		<i>nitc.ac.in</i>	5415
NATIONAL INFORMATICS CENTRE KARNATAKA		<i>kar.nic.in</i>	5280
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY HYDERABAD		<i>iiit.net</i>	5009
INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA		<i>icai.org</i>	3102
ENERGY AND RESOURCES INSTITUTE		<i>teriin.org</i>	2713
NATIONAL CENTRE FOR SOFTWARE TECHNOLOGY		<i>ncst.ernet.in</i>	2434
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR		<i>iitkgp.ernet.in</i>	2386
ANNA UNIVERSITY CHENNAI		<i>annauniv.edu</i>	2370
INDIAN ACADEMY OF SCIENCES		<i>ias.ac.in</i>	2233
INDIRA GANDHI NATIONAL OPEN UNIVERSITY		<i>ignou.ac.in</i>	2033
INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD		<i>iimahd.ernet.in</i>	1902
INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS		<i>icrisat.org</i>	1878
INTER-UNIVERSITY CENTRE FOR ASTRONOMY AND ASTROPHYSICS		<i>iucaa.ernet.in</i>	1728

Size (II)

NUMBER OF WEBPAGES (SEARCH ENGINES: MSN, Teoma, Altavista, Alltheweb, Google; Feb'04)		
<i>Institutions</i>	<i>Domain</i>	<i>Mean</i>
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING	<i>cdacindia.com</i>	1717
UNIVERSITY OF PUNE	<i>unipune.ernet.in</i>	1522
INSTITUTE OF MICROBIAL TECHNOLOGY	<i>imtech.res.in</i>	1498
INSTITUTE OF CHARTERED FINANCIAL ANALYSTS OF INDIA	<i>icfai.org</i>	1439
INDIAN STATISTICAL INSTITUTE BANGALORE	<i>isibang.ac.in</i>	1429
MEHTA RESEARCH INSTITUTE OF PHYSICS & MATHEMATICAL PHYSICS	<i>mri.ernet.in</i>	1379
TECHNOLOGY INFORMATION FORECASTING AND ASSESSMENT COUNCIL	<i>tifac.org.in</i>	1317
INDIAN STATISTICAL INSTITUTE KOLKATA	<i>isical.ac.in</i>	1314
M S SWAMINATHAN RESEARCH FOUNDATION	<i>mssrf.org</i>	1298
CENTRE FOR MATHEMATICAL MODELLING AND COMPUTER SIMULATION	<i>cmmacs.ernet.in</i>	1277
INSTITUTE OF PHYSICS	<i>iopb.res.in</i>	1229
MADRAS INSTITUTE OF TECHNOLOGY	<i>mitindia.edu</i>	1202
CENTRE FOR ADVANCED TECHNOLOGY	<i>cat.ernet.in</i>	1195
HOMI BHABHA CENTRE FOR SCIENCE EDUCATION	<i>hbcse.tifr.res.in</i>	1193
INDIAN INSTITUTE OF MANAGEMENT KOLKATA	<i>iimcal.ac.in</i>	1188
DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION	<i>drdo.org</i>	1093
SAHA INSTITUTE OF NUCLEAR PHYSICS	<i>saha.ernet.in</i>	1070
UNIVERSITY OF KERALA THIRUVANATHAPURAM	<i>keralauniversity.edu</i>	1064
INDIAN COUNCIL OF AGRICULTURAL RESEARCH	<i>icar.org.in</i>	1052
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	<i>bits-pilani.ac.in</i>	1025

Contents

- **Added value files**
 - Rich files
 - Adobe Acrobat (pdf)
 - Adobe Postscript (ps/eps)
 - Latex (tex/latex)
 - MS Office (xls, doc, rtf, ppt)
- **Interpretation**
 - Administrative purposes
 - PDF/DOC (maximum level)
 - Academic purposes
 - PS/EPS/TEX/LATEX
 - PDF/DOC/RTF
 - PPT
 - Data dissemination
 - XLS

Rich Files

NUMBER OF RICH FILES AS A MEASURE OF ACADEMIC & RESEARCH OUTPUT (Google, Feb'04)

<i>Institution</i>	<i>Domain</i>	<i>pdf</i>	<i>ps/eps</i>	<i>tex/latex</i>	<i>xls</i>	<i>ppt</i>	<i>doc/rtf</i>	<i>total</i>
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT	<i>nitc.ac.in</i>	12.600	0	0	41	41	0	12.682
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	<i>iitb.ac.in</i>	6.920	2.416	225	41	1.320	500	11.422
INDIAN INSTITUTE OF SCIENCE BANGALORE	<i>iisc.ernet.in</i>	8.850	1.291	29	94	276	294	10.834
INDIAN ACADEMY OF SCIENCES	<i>ias.ac.in</i>	7.910	0	0	0	11	6	7.927
NATIONAL CENTRE FOR BIOLOGICAL SCIENCES	<i>ncbs.res.in</i>	53	2.290	1.070	0	12	328	3.753
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>iitk.ac.in</i>	1.950	738	0	0	151	745	3.584
INDIAN INSTITUTE OF TECHNOLOGY DELHI	<i>iitd.ernet.in</i>	1.040	821	314	0	525	96	2.796
TATA INSTITUTE OF FUNDAMENTAL RESEARCH	<i>tifr.res.in</i>	680	832	194	0	94	65	1.865
ANNA UNIVERSITY CHENNAI	<i>annauniv.edu</i>	322	0	0	0	0	1.370	1.692
INDIAN INSTITUTE OF INFORM TECHNOL HYDERABAD	<i>iiit.net</i>	852	63	0	13	457	266	1.651
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE	<i>rurkiu.ernet.in</i>	527	0	0	0	0	943	1.470
NATIONAL INFORMATICS CENTRE KARNATAKA	<i>kar.nic.in</i>	1.180	0	0	31	0	175	1.386
GUJARAT UNIVERSITY AHMEDABAD	<i>gujaratuniversity.org.in</i>	1.340	0	0	0	0	0	1.340
DEPT COMP SCIENCE & AUTOMATION IIS BANGALORE	<i>csa.iisc.ernet.in</i>	582	610	0	0	63	31	1.286
NATIONAL CENTRE FOR SOFTWARE TECHNOLOGY	<i>ncst.ernet.in</i>	762	0	0	15	320	47	1.144
INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA	<i>icai.org</i>	494	0	0	22	0	613	1.129
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>cse.iitk.ac.in</i>	447	424	0	0	72	65	1.008
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR	<i>iitkgp.ernet.in</i>	465	166	0	0	258	53	942
MOHAN LAL SUKHADIA UNIVERSITY UDAIPUR	<i>mlsu.org</i>	909	0	0	0	0	0	909
CENTRE MATH MODELLING & COMPUTER SIMUL	<i>cmmacs.ernet.in</i>	904	0	0	0	0	0	904

Maturity

■ Number of subdomains

- New units
 - Institutional subdomains
 - +
 - Institutional websites
- Methods
 - Netcraft survey
 - Alltheweb depth=0

■ Institutional website

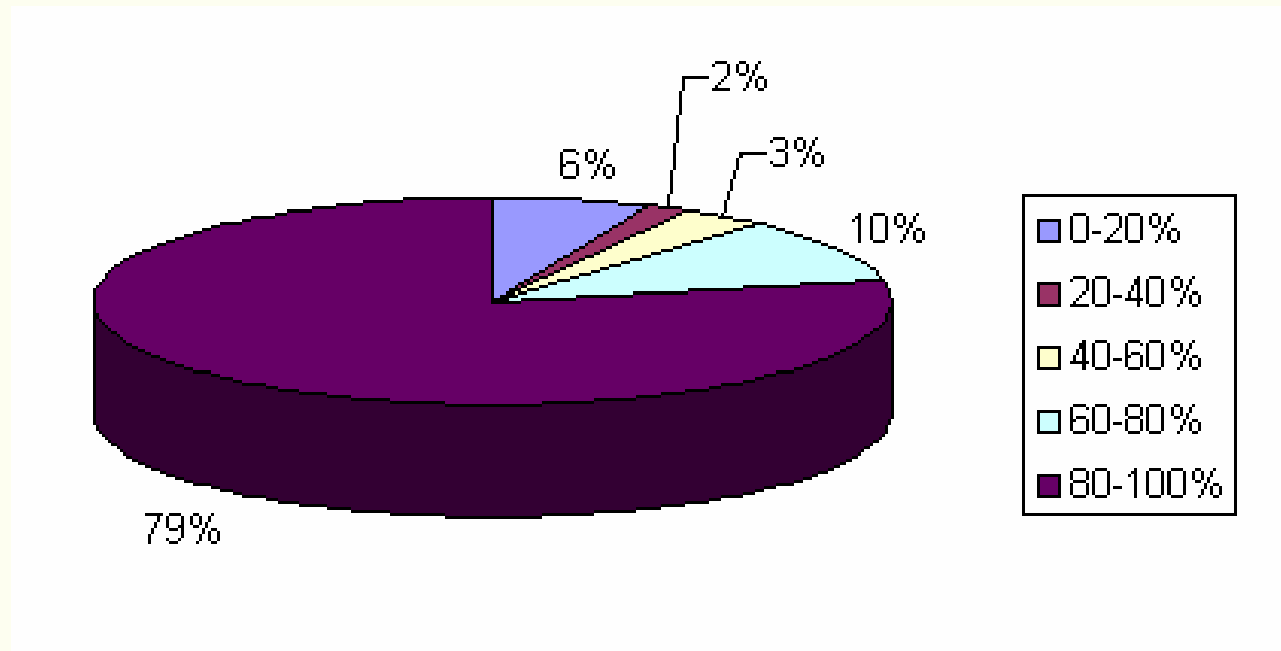
- A collection of objects (web pages, documents, files, etc) owned and managed autonomously by an individual, company or organization organised hierarchically
 - Huge human effort
 - Low persistence
 - Nested sites

Subdomains

MATURITY: INSTITUTIONS WITH LARGEST NUMBER OF SUBDOMAINS (Alltheweb, Feb'04)

<i>Institution</i>	<i>Domain</i>	<i>Subdomains</i>
INDIAN INSTITUTE OF SCIENCE BANGALORE	<i>iisc.ernet.in</i>	82
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	<i>iitb.ac.in</i>	44
NATIONAL INFORMATICS CENTRE KARNATAKA	<i>kar.nic.in</i>	36
INDIAN INSTITUTE OF TECHNOLOGY MADRAS	<i>iitm.ac.in</i>	21
TATA INSTITUTE OF FUNDAMENTAL RESEARCH	<i>tifr.res.in</i>	18
UNIVERSITY OF PUNE	<i>unipune.ernet.in</i>	17
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>iitk.ac.in</i>	17
PUNJAB UNIVERSITY CHANDIGARH	<i>puchd.ac.in</i>	16
SAHA INSTITUTE OF NUCLEAR PHYSICS	<i>saha.ernet.in</i>	13
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR	<i>iitkgp.ernet.in</i>	11
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING	<i>cdacindia.com</i>	9
DEPT COMPUTER SCIENCE AND AUTOMATION IIS BANGALORE	<i>csa.iisc.ernet.in</i>	8
SARDAR PATEL UNIVERSITY VALLABH VIDYANAGAR	<i>spuvvn.edu</i>	6
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY ALLAHABAD	<i>iiita.ac.in</i>	5
TECHNOLOGY INFORMATION FORECASTING & ASSESSMENT COUNCIL	<i>tifac.org.in</i>	5
ANNA UNIVERSITY CHENNAI	<i>annauniv.edu</i>	4
BENGAL ENGINEERING COLLEGE	<i>becs.ac.in</i>	4
BHARATI VIDYAPEETH	<i>bharatividyaapeeth.edu</i>	4
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY	<i>cusat.ac.in</i>	4
UNIVERSITY OF DELHI	<i>du.ac.in</i>	4

“Lingua franca”



Use of English in the Indian Academic and R&D websites

$n=459$ $\sum e / \sum t = 259371 / 280271 = 92,5\%$ (Google, Feb'04)

Visibility

■ Measures of visibility I

- Number of external inlinks
 - Links received excluding internal for navigational purposes
 - Link delimiter in Alltheweb and Altavista (combined)

■ Measures of visibility II

- Backlinks weighted
 - Number of links and “importance” of the originating pages
 - Google’s PageRank
 - Rankings (relative approach)
 - Country
 - cTLD

■ Measures of impact

- WebIF not used
 - Small sample sizes
 - Prone to mathematical artefacts

Google PageRank (I)

VISIBILITY ACCORDING GOOGLE PAGERANK FOR COUNTRY INDIA AND cTLD=IN (Feb'04)				
<i>Institution</i>	<i>Website</i>	<i>INDIA</i>	<i>IN</i>	
INDIAN INSTITUTE OF SCIENCE	http://www.iisc.ernet.in	39	8	
INDIAN INSTITUTE OF TECHNOLOGY DELHI	http://www.iitd.ernet.in	44	10	
JOURNAL OF POSTGRADUATE MEDICINE	http://www.jpgmonline.com	45		
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	http://www.iitb.ernet.in	50	14	
ANNA UNIVERSITY CHENNAI	http://www.annauniv.edu	56		
BHABHA ATOMIC RESEARCH CENTRE	http://www.barc.ernet.in	64	18	
JAWAHARLAL NEHRU UNIVERSITY	http://www.jnu.ac.in	68	19	
NATIONAL INSTITUTE OF OCEANOGRAPHY	http://www.nio.org	72		
INDIAN INSTITUTE OF FOREIGN TRADE	http://www.iift.edu	86		
ASSOCIATION OF INDIAN UNIVERSITIES	http://www.aiuweb.org	96		
INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD	http://www.iimahd.ernet.in	104	28	
TATA INSTITUTE OF FUNDAMENTAL RESEARCH	http://www.tifr.res.in	106	31	
NATIONAL INFORMATICS CENTRE	http://home.nic.in	112	34	
WILDLIFE INSTITUTE OF INDIA	http://www.wii.gov.in	123	37	
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR	http://www.iitkgp.ernet.in	129	40	
UNIVERSITY OF PUNE	http://www.unipune.ernet.in	135	42	
INSTITUTE OF MATHEMATICAL SCIENCES	http://www.imsc.ernet.in	138	45	
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING MUMBAI	http://www.ncst.ernet.in	141	46	
INDIAN INSTITUTE OF MANAGEMENT BANGALORE	http://www.iimb.ernet.in	145	47	
BIOINFORMATICS CENTRE PUNE	http://bioinfo.ernet.in	147	48	

Google PageRank (II)

VISIBILITY ACCORDING GOOGLE PAGERANK FOR COUNTRY INDIA AND cTLD=IN (Feb'04)

<i>Institution</i>	<i>Website</i>	<i>INDIA</i>	<i>IN</i>
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI	http://www.bits-pilani.ac.in	160	53
INDIAN INSTITUTE OF TECHNOLOGY MADRAS	http://www.iitm.ac.in	161	54
UNIVERSITY OF HYDERABAD	http://www.uohyd.ernet.in	162	55
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	http://www.iitk.ac.in	167	56
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH	http://www.csir.res.in	178	60
BANARAS HINDU UNIVERSITY	http://www.bhu.ac.in	183	63
ALL INDIA INSTITUTE OF MEDICAL SCIENCES	http://www.aiims.ac.in	185	65
NATIONAL INSTITUTE OF OCEAN TECHNOLOGY	http://www.niot.ernet.in	188	66
PHYSICAL RESEARCH LABORATORY	http://www.prl.ernet.in	190	67
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE	http://www.rurkiu.ernet.in	199	72
GEOLOGICAL SURVEY OF INDIA	http://www.gsi.gov.in	201	74
INDIAN COUNCIL OF MEDICAL RESEARCH	http://icmr.nic.in/home.htm	202	75
INSTITUTE OF CHARTERED ACCOUNTANT OF INDIA	http://www.icaai.org	205	
UNIVERSITY OF MUMBAI	http://www.mu.ac.in	206	77
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI	http://www.iitg.ernet.in	209	79
INDIRA GHANDI CENTER FOR ATOMIC RESEARCH	http://www.igcar.ernet.in	211	80
INFORMATION AND LIBRARY NETWORK CENTRE	http://www.inflibnet.ac.in	220	84
DEPARTMENT OF BIOTECHNOLOGY	http://dbtindia.nic.in	221	85
JAWAHARLAL NEHRU CENTRE FOR ADVANCED SCIENTIFIC RESEARCH	http://www.jncasr.ac.in	238	91
INDIAN MEDLARS CENTRE (BIBLIOGRAPHIC INFORMATICS DIVISION)	http://indmed.nic.in	242	94

Google PageRank (III)

VISIBILITY ACCORDING GOOGLE PAGERANK FOR COUNTRY INDIA AND cTLD=IN (Feb'04)

<i>Institution</i>	<i>Website</i>	<i>INDIA</i>	<i>IN</i>
RAMAN RESEARCH INSTITUTE	http://www.rri.res.in	245	96
INDIRA GHANDI NATIONAL OPEN UNIVERSITY	http://www.ignou.ac.in	250	97
INDIAN COUNCIL OF AGRICULTURAL RESEARCH	http://www.icar.org.in	255	98
MINISTRY OF SCIENCE & TECHNOLOGY	http://mst.nic.in	258	99
INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC	http://www.icrier.res.in	270	103
PANJAB UNIVERSITY	http://www.puchd.ac.in	278	106
INDIAN INSTITUTE OF MANAGEMENT CALCUTTA	http://www.iimcal.ac.in	284	108
CENTRE FOR CELLULAR AND MOLECULAR BIOLOGY	http://www.ccmb.res.in	288	112
CLIMATE CHANGE IN ASIA. ENERGY AND RESOURCES INSTITUTE	http://www.ccasia.teri.res.in	290	115
OSMANIA UNIVERSITY	http://www.osmania.ac.in	294	117
NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI	http://rangoli.rect.ernet.in	295	121
BIOINFORMATICS INSTITUTE OF INDIA	http://www.bioinformaticscentre.org	299	
INTER-UNIVERSITY CENTRE FOR ASTRONOMY AND ASTROPHYSICS	http://www.iucaa.ernet.in	317	125
TATA INSTITUTE OF SOCIAL SCIENCES	http://www.tiss.edu	319	
INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCH	http://www.igidr.ac.in	321	126
JAMIA MILLIA ISLAMIA	http://jmi.nic.in	324	127
DEPT. INFORMATION TECHNOLOGY & BIOTECHNOLOGY KARNATAKA	http://www.bangaloreit.com	325	
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	http://www.iitb.ac.in	330	129
TELECOMMUNICATION AND COMPUTER NETWORKS GROUP. IIT MADRAS	http://www.tenet.res.in	331	131
INDIAN INSTITUTE OF MANAGEMENT KOZHIKODE	http://www.iimk.ac.in	332	133

Google PageRank (IV)

VISIBILITY ACCORDING GOOGLE PAGERANK FOR COUNTRY INDIA AND cTLD=IN (Feb'04)				
<i>Institution</i>	<i>Website</i>	<i>INDIA</i>	<i>IN</i>	
CENTRE FOR MATHEMATICAL MODELLING AND COMPUTER SIMULATION	http://www.cmmacs.ernet.in	333	134	
ADMINISTRATIVE STAFF COLLEGE OF INDIA	http://www.asci.org.in		135	
COCHIN UNIVERSITY OF SCIENCE & TECHNOLOGY	http://www.cusat.ac.in	337	136	
NATIONAL INFORMATICS CENTRE KARNATAKA	http://www.kar.nic.in	340	137	
BOMBAY HOSPITAL JOURNAL	http://www.bhj.org	370		
JOURNAL OF DIGITAL INFORMATION	http://www.dirf.orgjdim	395		
INDIAN JOURNAL OF RADIOLOGY AND IMAGING	http://www.ijri.org	397		
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING	http://www.ncert.nic.in	404	163	
HARISH-CHANDRA RESEARCH INSTITUTE	http://www.mri.ernet.in	409	164	
JOURNAL OF POSTGRADUATE MEDICINE	http://www.jpgmonline.com	412		
INDIAN STATISTICAL INSTITUTE	http://www.isid.ac.in	425	166	
NATIONAL LAW SCHOOL OF INDIA UNIVERSITY BANGALORE	http://www.nls.ac.in	430	168	
EDUCATION AND RESEARCH NETWORK	http://www.ernet.in	434	171	
INDIAN ACADEMY OF SCIENCES	http://www.ias.ac.in	435	172	
JOURNAL OF ASTROPHYSICS AND ASTRONOMY	http://www.ias.ac.in/jaa	436	173	
MANAGEMENT DEVELOPMENT INSTITUTE	http://www.mdi.ac.in	437	174	
CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE	http://www.cftri.com	452		
DEVI AHILYA UNIVERSITY	http://www.davv.ac.in	460	181	
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY	http://www.jntu.ac.in	462	182	
INSTITUTE OF PHYSICS BHUBANESWAR	http://www.iopb.res.in	469	186	

Link Visibility (I)

VISIBILITY AS MEASURED BY COMBINED NUMBER OF INLINKS (Feb'04)				
<i>Institution</i>	<i>Domain</i>	<i>ALTAVISTA</i>	<i>ALLTHEWEB</i>	<i>TOT</i>
INDIAN INSTITUTE OF SCIENCE BANGALORE	<i>iisc.ernet.in</i>	6344	35317	41661
INTER-UNIVERSITY CENTRE FOR ASTRONOMY & ASTROPHYSICS	<i>iucaa.ernet.in</i>	978	37809	38787
TATA INSTITUTE OF FUNDAMENTAL RESEARCH	<i>tifr.res.in</i>	4608	25271	29879
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>iitk.ac.in</i>	3343	17989	21332
INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA	<i>icai.org</i>	2106	18106	20212
ENERGY AND RESOURCES INSTITUTE	<i>teriin.org</i>	8724	11058	19782
NATIONAL CENTRE FOR SOFTWARE TECHNOLOGY	<i>ncst.ernet.in</i>	2375	15147	17522
INDIAN INSTITUTE OF TECHNOLOGY DELHI	<i>iitd.ernet.in</i>	2447	12888	15335
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	<i>iitb.ac.in</i>	2398	11993	14391
NATIONAL INFORMATICS CENTRE KARNATAKA	<i>kar.nic.in</i>	1755	12148	13903
INDIAN SPACE RESEARCH ORGANIZATION	<i>isro.org</i>	1905	11409	13314
INSTITUTE OF ARMAMENT TECHNOLOGY PUNE	<i>vit.edu</i>	1493	10863	12356
INDIAN INSTITUTE OF TECHNOLOGY MADRAS	<i>iitm.ac.in</i>	1719	10435	12154
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR	<i>iitkgp.ernet.in</i>	1268	9890	11158
NATIONAL INSTITUTE OF OPEN SCHOOLING	<i>nos.org</i>	1508	9267	10775
INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD	<i>iimahd.ernet.in</i>	1087	8138	9225
INSTITUTE OF MATHEMATICAL SCIENCES	<i>imsc.ernet.in</i>	1557	7047	8604
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>cse.iitk.ac.in</i>	1633	6775	8408
INDIAN STATISTICAL INSTITUTE KOLKATA	<i>isical.ac.in</i>	1086	6580	7666
INDIAN INSTITUTE OF MANAGEMENT BANGALORE	<i>iimb.ernet.in</i>	919	6541	7460

Link Visibility (II)

VISIBILITY AS MEASURED BY COMBINED NUMBER OF INLINKS (Feb'04)				
<i>Institution</i>	<i>Domain</i>	<i>ALTAVISTA</i>	<i>ALLTHEWEB</i>	<i>TOT</i>
BHABHA ATOMIC RESEARCH CENTRE	<i>barc.ernet.in</i>	886	5996	6882
ANNA UNIVERSITY CHENNAI	<i>annauniv.edu</i>	844	6035	6879
DEPT COMPUTER SCIENCE & AUTOMATION IIS BANGALORE	<i>csa.iisc.ernet.in</i>	1072	5801	6873
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	<i>bits-pilani.ac.in</i>	920	5646	6566
UNIVERSITY OF PUNE	<i>unipune.ernet.in</i>	914	5568	6482
M S SWAMINATHAN RESEARCH FOUNDATION	<i>mssrf.org</i>	2051	1597	3648
INTERNATIONAL CROPS RESEARCH INSTITUTE	<i>icrisat.org</i>	754	1902	2656
CENTRE FOR MONITORING THE INDIAN ECONOMY	<i>cmie.com</i>	760	1683	2443
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING	<i>cdacindia.com</i>	894	1517	2411
INDIAN ACADEMY OF SCIENCES	<i>ias.ac.in</i>	1177	1059	2236
TECHNOLOGY INFORM FORECASTING & ASSESSMENT COUNCIL	<i>tifac.org.in</i>	874	1361	2235
CENTRE FOR MATHL MODELLING & COMPUTER SIMULATION	<i>cmmacs.ernet.in</i>	676	1291	1967
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY HYDERABAD	<i>iiit.net</i>	639	1247	1886
UNIVERSITY OF HYDERABAD	<i>uohyd.ernet.in</i>	553	1266	1819
INDIAN INSTITUTE OF MANAGEMENT KOLKATA	<i>iimcal.ac.in</i>	796	909	1705
COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH	<i>csir.res.in</i>	541	1107	1648
JAWAHARLAL NEHRU UNIVERSITY	<i>jnu.ac.in</i>	626	957	1583
INDIAN COUNCIL OF MEDICAL RESEARCH	<i>icmr.nic.in</i>	587	906	1493
INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCH	<i>igidr.ac.in</i>	487	1002	1489
UNIVERSITY OF MUMBAI	<i>mu.ac.in</i>	582	871	1453

Popularity

■ Number of visits

- Link popularity = visibility is a far superior indicator
- Absolute number only available from log files
 - Difficult to obtain
 - No universal standard for measures
- Relative number
 - Visits intercepted by Alexa toolbar and “related” option
 - Global Sample, Small sample
 - Ranking with strong variations
 - Only for institutional domains
 - Bias (Korean websites)
- Indicators from Alexa website
 - Global rank
 - Temporal evolution
 - Distribution by subdomains
 - Related websites

Popularity

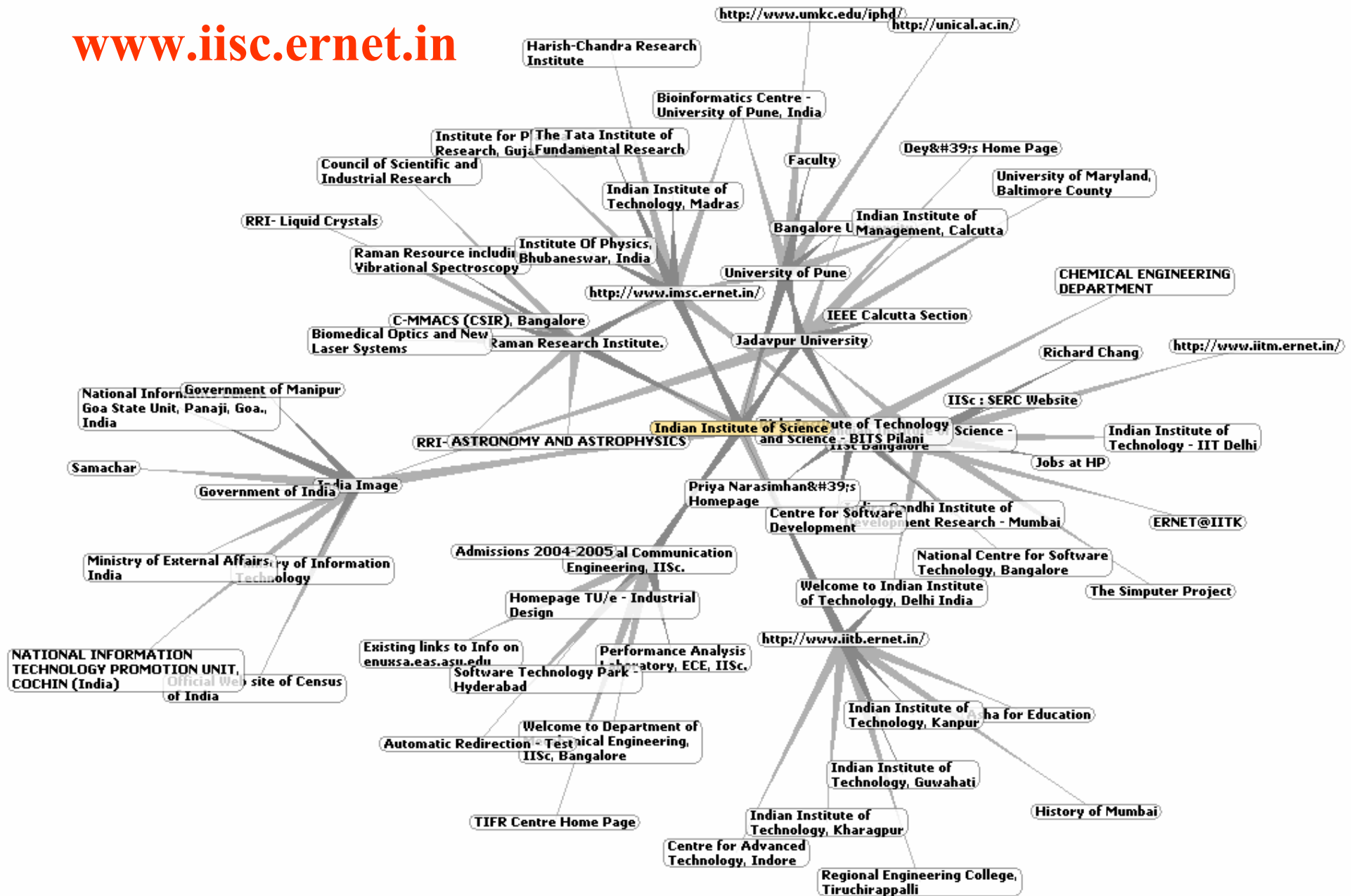
POPULARITY ACCORDING TO RANKING OF VISITS BY ALEXA (Feb'04)

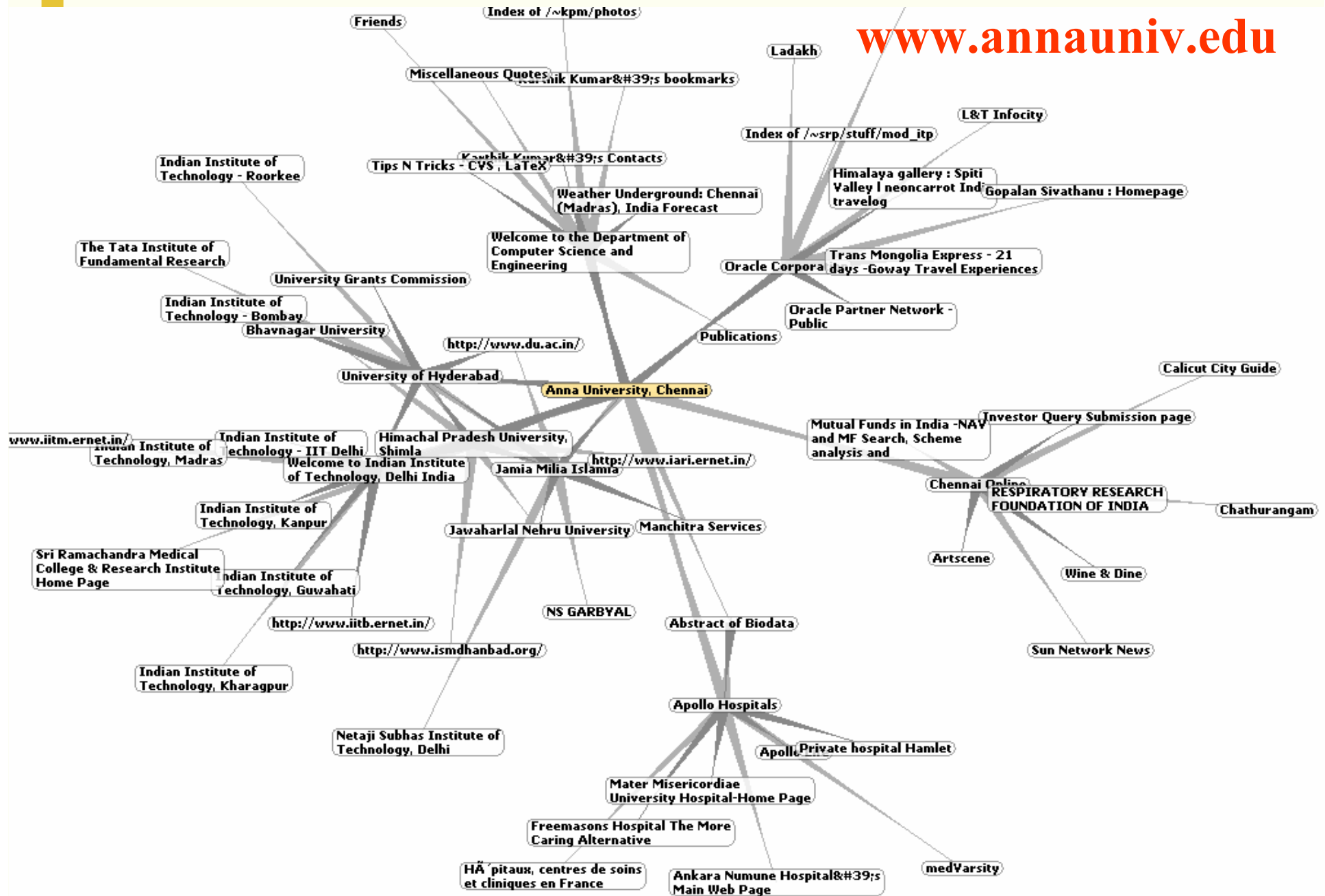
<i>Institutions</i>	<i>Domains</i>	<i>Webpages</i>	<i>Rank</i>
NATIONAL INFORMATICS CENTRE KARNATAKA	<i>kar.nic.in</i>	5280	72328
INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA	<i>icai.org</i>	3102	77375
INDIRA GANDHI NATIONAL OPEN UNIVERSITY	<i>ignou.ac.in</i>	2033	79590
INDIAN INSTITUTE OF SCIENCE BANGALORE	<i>iisc.ernet.in</i>	25340	85263
INSTITUTE OF CHARTERED FINANCIAL ANALYSTS OF INDIA	<i>icfai.org</i>	1439	100626
ANNA UNIVERSITY CHENNAI	<i>annauniv.edu</i>	2370	104204
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY	<i>iitb.ac.in</i>	22787	115959
INDIAN INSTITUTE OF TECHNOLOGY KANPUR	<i>iitk.ac.in</i>	17307	129887
INDIAN INSTITUTE OF TECHNOLOGY MADRAS	<i>iitm.ac.in</i>	5557	149601
NATIONAL CENTRE FOR SOFTWARE TECHNOLOGY	<i>ncst.ernet.in</i>	2434	152302
TATA INSTITUTE OF FUNDAMENTAL RESEARCH	<i>tifr.res.in</i>	10504	171248
INDIAN INSTITUTE OF TECHNOLOGY DELHI	<i>iitd.ernet.in</i>	8999	179577
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	<i>bits-pilani.ac.in</i>	1025	206237
ENERGY AND RESOURCES INSTITUTE	<i>teriin.org</i>	2713	224578
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT	<i>nitc.ac.in</i>	5415	228055
TERI SCHOOL OF ADVANCED STUDIES NEW DELHI	<i>terischool.ac.in</i>	20	235168
DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION	<i>drdo.org</i>	1093	240354
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD	<i>jntu.ac.in</i>	432	240906
UNIVERSITY OF DELHI	<i>du.ac.in</i>	388	257546
INDIAN SPACE RESEARCH ORGANIZATION	<i>isro.org</i>	525	260658

Visualization

- **Vecinity**
 - Outlinks pattern
 - Google related option
- **Touchgraph**
 - Visualization Google results
 - 30 first results
- **Shortcommings**
 - Institutional oriented
 - Home page biased
 - Child relationships not clear

www.iisc.ernet.in





Conclusions

- Web based indicators are useful for **describing and evaluating** academic and R&D activities other, and including, than related to scientific papers production
- Linking patterns can be used for examining **hidden relationships** with other stakeholders in R&D system
- Web indicators are easy to obtain and replicate although the web is very dynamic and **methodological shortcomings** need to be taken into account
- Researchers has not been full aware of the actual potential of the Web for scientific dissemination **yet**

Conclusions (II)

- **Indian Webpace consists mostly of webpages not registered under their own country TLD**
- **Only two thirds of the Indian academic and research-related institutions have an autonomous presence on the Web**
- **The websites have a small or very small size, with only 4 domains with more than 10,000 pages each**
- **The expected scientific output measured by volume of rich files showed that web publishing is not a generalised practices as no institutional or personal document repositories exists**

Conclusions (III)

- **Ten institutional domains have more than 10 sub-domains, so**
 - Web presence is very small
 - Organisations are very centralised
 - Resources are limited
- **English is the language of the Indian academic webspace: 92,5%**
- **Academic institutions are key in the Indian webspace: 10 are among the first hundred most visible ones for India and 40 (!) when considering country domain “in”**
- **Indian advanced research institutes and electronic Journals are very well positioned**

Thank You!

More info:

WISER 

Web Indicators for Science, Technology & Innovation Research

www.webindicators.org

Discussion
