

Emerging reputational mechanisms: what are they, who are they, how are they doing and do they fit the bill?

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Setting the scene

- Traditionally, scientific reputation of scholars linked to research and in this regard largely to publication in high-impact journals, and citations
- Conventional indicators, such as these, fall short in reflecting adequately scholar's reputation and impact. The reputation spotlight is on one activity and one particular manifestation of that activity. NARROW
- Web 2.0 changes (techno disruption): a) given rise to new formats for conducting, publishing and disseminating science and research (and teaching); b) ushered in increasing numbers of 'actors' and new types of actors (free-lance scientists, innovators, citizen researchers). All scholars now
- With new forms of working & new actors evaluating and measuring scientific reputation becomes a new challenge. METRICS ABOUND SKEWING THINGS
- To better understand how **policy level actions** can support transformative change need to gather evidence of emerging²

And could not be a more important scholarly topic to deal with...

The main currency for the scholar is not power, as it is for the politician, or wealth, as it is for the businessman, but reputation (Becher, 1989).

Reputation in the scholarly environment so we should be pushing at an open door.

The research context: Trust in the digital environment research (findings)

- *Publishing in high IF, peer review journals main way to obtain reputation, get a job, obtain promotion. **Until no longer the case, nothing will change.***
- *Researchers moved inexorably from a print-based system to digital system, but not significantly changed way decide what to trust or how to build reputation. **Digital transition not led to digital transformation.***
- *Main 'change' been reinforcement of established norms in the face of rapid expansion in scholarly communications and the digital tsunami unleashed. **Instead of looking to the future for lifeboat (called Web 2.0?) , researchers looked to past & gripped established practices more firmly***
- *Lack of any plans for transformed scholarly communication system even among those who strongly attack present one. Librarians and OA advocates preach new systems. for*

The project

Highly structured and locked-in. Lego approach! Three stages, each feeding next:

1. Literature review guided by Boyer's model* to define range of scholarly activities to provide project's conceptual framework; various tasks that scholars/researchers undertake, both online and offline, that do/might contribute towards building reputation**
2. State of the art mapping of online platforms that offer 'reputational mechanisms' for scholars – map against the model of scholarly activities and look for novel, successful approaches
3. Case studies. Demonstrate how do emerging reputation mechanisms work from the scholars', institutions' and platform's point of view

Three challenges; a) running with template that was developed pre-internet, albeit updated***; b) term *reputational mechanisms* – who knows what they are apart

Stage 1

- Literature analysis of scholarly activities and their reputational aspects

Aims

- Deriving a literature-based, comprehensive framework of scholars' work-related activities undertaken both online and offline
- Identifying the potentially reputation building components of these activities
- Determining how each activity can contribute to scholarly reputation

Boyer's model

- The contextual basis for the exploration of scholars' work practices: Boyer's (1990) mapping of the broad territory of scholarly activity
- His four-dimensional model of scholarship remains valid in its basic observations and contentions
- Updating and extending the model to reflect the realities of the digital age, Garnett and Ecclesfield (2011) added a fifth dimension

Boyer's updated model

- **The scholarship of research** (discovery): Individually or collaboratively conducting, disseminating and evaluating research
- **The scholarship of integration**, the arraying of extant knowledge, often within a wider, cross-disciplinary context (i.e. literature reviews, textbooks, inter- or multi-disciplinary projects)
- **The scholarship of application**, the application of disciplinary knowledge and skill to societal/practical problems (i.e. consultancy for industry or government)
- **The scholarship of teaching**, the conveying of the human store of knowledge to new generations
- **The scholarship of co-creation**, participating in scholarly research with the public (Citizen Science projects, for example)

The scholarship of research Activities -1

- Identifying a researchable topic
- Planning a research project
- Building upon previous knowledge
- Requesting/providing help in locating research literature
- Producing research output
- Producing research output collaboratively
- Producing research output collaboratively in large-scale projects
- Producing research output by committed amateur experts
- Releasing data to the scholarly community
- Releasing methodologies, research tools and protocols to the scholarly community
- Releasing laboratory notebooks to the scholarly community
- Keeping up with new developments

The scholarship of research Activities -2

- Getting help for solving topical problems
- Disseminating research results formally via traditional scholarly channels
- Disseminating research results formally via Open Access scholarly channels
- Disseminating research results formally via enhanced Open Access scholarly channels
- Disseminating research results informally via active participation in conferences
- Disseminating research results informally via repositories/websites
- Disseminating research results informally via social media
- Disseminating research results, ideas and opinions informally via scholarly social networking sites
- Disseminating research results, ideas and opinions informally via blogs
- Peer reviewing
- Participating in open peer reviewing
- Monitoring one's impact

The reputational rewards and costs of the scholarship of research

- Research and publications based reputation is the yardstick by which scholarly success is measured
- Reputation is not merely a by-product of the research process but one of its three main outcomes along with publications and impact
- Achieving a good reputation leads to career related rewards, funding, and further research and collaboration opportunities

However:

- Reputation-wise too, the rich get richer and the poor get poorer (the Matthew effect)

And in the age of Science 2.0?

- In today's more open and democratised scholarly environment the Matthew effect dictated vicious circle is more easily broken
- The social media afford possibilities for congregating in a common virtual area in order to share work, ideas and experiences can bring about greater scholarly visibility
- Novel platforms, techniques and metrics can compliment more traditional ways of reputation building for a synergetic effect
- This, either via explicit social review processes yielding comments or ratings, or implicit ones - metadata collected on the activities that take place on the web between viewing a paper and citing it

The scholarship of integration: Activities

- Identifying a topic for a comprehensive literature review/textbook
- Identifying a researchable multiple-faceted topic
- Planning a comprehensive literature review/textbook project
- Planning an integrative research project
- Producing a literature review/textbook via traditional strategies
- Producing a literature review/textbook via open strategies
- Producing an integrative research output
- Producing an integrative, often multi- or inter-disciplinary research output collaboratively
- Producing an integrative, often multi- or inter-disciplinary research output collaboratively in large-scale, distributed projects
- Producing Open Education Resources (OER)

The reputational rewards and costs of the scholarship of integration

- Often necessitates cross-disciplinary collaboration, which improves visibility in the wider scientific community

However:

- As criteria of scholarly excellence are essentially based on disciplinary standards, the traditional academic career incentives do not stimulate integrative research
- Especially as engaging in the more time-consuming mode of integrative research may bring on a reputation hindering 'production penalty'

And in the age of Science 2.0?

- Harnessing today's social-media afforded more 'lightweight' forms of communication may help overcome disciplinary boundaries
- Information sharing networks may often yield 'harder to count', but equally important – albeit different – outputs, such as public policy initiatives or popular media placements. However, from a reputation building angle these are under-appreciated and unrewarded within today's academy

The scholarship of application: Activities

- Identifying a researchable topic focussing on practical problems experienced by public/practitioner audiences
- Identifying a researchable topic focussing on practical problems experienced in organisational/industrial settings
- Planning a research project focussing on practical problems experienced by public or practitioner audiences
- Producing an application oriented research output
- Producing a community-interest driven, application oriented research output
- Producing an application oriented research output through a PPSR (public participation in scientific research) project
- Participating in the commercialisation of one's inventions/discoveries (for example, by filing patents)
- Serving industry or government as an external consultant
- Serving one's professional/disciplinary community
- Popularising scientific knowledge

The reputational rewards and costs of the scholarship of application

- Community interest driven as it is, application oriented research can bring about both scientific-achievements based eligibility for peer recognition the achieving of public visibility and societal impact
- Fulfilling leadership roles in one's professional/disciplinary community contributes to networking, scholarly visibility and the achieving of peer esteem

However:

- Where the application-oriented activity cannot be readily translated into conventional research outputs (i.e. journal articles), the reputational price to be paid may arguably be seen as too high

And in the age of Science 2.0?

- With social media afforded services rendering the boundaries of the scientific community more porous, lay experts are increasingly drawn into the scholarly net
- From a reputational point of view, this serves to open the entire process of research to the scrutiny of public collaborators and audiences, which contributes significantly to the achieving of public visibility and societal impact, and hence - scholarly prestige

The scholarship of teaching: Activities

- Designing a course/learning programme
- Producing and delivering a teacher focussed, face-to-face, institution-based, often access controlled course/ learning programme
- Co-producing and co-teaching a teacher focussed, face-to-face, institution-based, often access controlled course/learning programme
- Producing and delivering a teacher focussed, online, institution-based, either access controlled or freely accessible course/ learning programme
- Co-producing and co-teaching a teacher focussed, online, institution-based, either access controlled or freely accessible course/ learning programme
- Conducting a social networks based, participatory MOOC (massive open online course)
- Pursuing the Open-Notebook Science model in the classroom
- Tutoring/mentoring students on an individual basis
- Advancing learning theory through classroom research

The reputational rewards and costs of the scholarship of teaching

- With the scholarship(s) of research steadfastly held to be the most legitimate and rewarding form of the scientific pursuit, the reputational focus of the profession is inevitably away from teaching
- Still, teaching can bring about expert achievements-based eligibility for peer and student recognition and esteem, and for the potentially ensuing career-related rewards/ opportunities
- Also, when teaching is approached, as Boyer (1990) suggests, as a disciplinary- and pedagogical-knowledge based and peer-authorised undertaking, it can be just as conducive to reputational achievements as research

And in the age of Science 2.0?

- If and when the actual teaching done is not confined to the four walls of the classroom, it can lead to enhanced scholarly and public visibility
- The prime example: social networks based, crowd-sourcing technologies enabled participatory MOOCs (Massive Open Online Courses), which afford vast and unlimited, globe-spanning visibility

The scholarship of co-creation: Activities

- Participating as a consultant in a PPSR (public participation in scientific research) project
- Leading a Contributory PPSR (public participation in scientific research) project
- Leading a Collaborative PPSR (public participation in scientific research) project
- Collaborating in a Co-Created PPSR (public participation in scientific research) project
- Conducting a PPSR (public participation in scientific research) project in the classroom or in a web based course/learning programme

The reputational rewards and costs of the scholarship of co-creation

- The Science 2.0 afforded possibilities for knowledge discovery and knowledge transmission to converge, have reputational potentials
- Arguably the most obvious instances of co-creation can be seen in the instances of public participation in scientific research (PPSR)
- PPSR projects, inviting as they do amateur experts and informed citizens to join the scholarly net, can bring about increased visibility for the scholar
- No less importantly, the scientific papers and societal publications such projects yield can serve to accrue for the scholar both scientific-achievements based eligibility for peer recognition and societal impact

Scholarly reputation building – the conclusions from the literature

- If there is a recurring theme emerging from the literature it is the extent to which the circumstances of the scholarly undertaking are in a flux
- The ongoing relevance of core professional norms and values dictated work conventions is indubitable, whilst a host of Open Science 2.0 afforded, rapidly evolving opportunities converge to invite change
- Today's scholars thus construct, sustain and enhance their reputation against the backdrop of a shifting scholarly landscape, where the pursuit of science can become a more dynamic, open and participatory, but, at the same time, also a more tentative and uncertain activity

Scholarship Activities

5 main categories, 58 specific activities
(most research-based) that result

Not of equal merit or size

- Management?

Stage 2

State of the art mapping of online platforms that offer 'reputational mechanisms' for scholars

Aims

- Scope on-line platforms which accommodate 'new' types of reputational mechanisms for scholars to:
 1. Understand what type of scholarly activities these platforms support
 2. Understand how the reputation is constructed within these platforms
- Mapping provides for the identification of innovative approaches and opportunities (good practice)
- Reveals potential gaps and biases, e.g. are all scholarly activities measurable online; how reliable are scores?

Methods: Desk research and mystery shopper

- Identifying platforms through published literature, searching Web, asking scholarly networks
- Not straightforward because nobody uses the term 'reputational mechanisms' and not an identifiable population. Its an 'aspirational' term. Few 'pure players', many offer it as an adjunct or for different purpose
- Evaluate each using information on site and on the web, past research about it, and joining the site and exploring its features and functions as a 'mystery shopper'
- Map the cases against the conceptual framework (Tables of scholarship activities)

Selection criteria and issues

- 40+ sites identified as having potential, and representative selection of 23 chosen. Criteria for selection:
 - Provided novel online tools and social networking services (SNS) used by scholars to perform their scholarly activities
 - Relevant to, available for, and used in 4 EU countries
 - Specifically built for scholars or considers them an important user group (e.g. LinkedIn); thus excluding general ones e.g. Facebook*
 - EC suggested as worth checking for suitability & variety**
- Out of scope, but the elephant in the room, were services based on traditional metrics (i.e.

12 Types of platforms (for 23 services!)

- Altmetric services: *ImpactStory*
- Code repositories: *GitHub*
- Data repositories: *Dryad*
- Discipline specific academic social networking services; *BiomedExperts*
- Electronic laboratory notebooks: *Labfolder*
- Multidisciplinary academic social networking services: *ResearchGate*
- Open Peer review systems: *PeerEvaluation*
- Professional social networking services: *LinkedIn*
- Q & A Sites: *StackOverflow*
- Reference management tools with social media feature: *Mendeley*
- Review systems for MOOCs: *CourseTalk*
- Social learning platforms: *Edmodo*

Full list of Platforms studied

- Academia
- Academici
- Bibsonomy
- Biomedexperts
- CourseTalk
- Dryad
- Edmodo
- Epernicus
- GitHub
- Kudos
- Impactstory
- LabFolder
- LabRoots
- LinkedIn
- Mendeley
- myExperiment
- MyNetResearch
- MyScienceWork
- PeerEvaluation
- Profology
- ResearchGate
- Scitable
- StackOverflow

Evaluation

- Introduction/history/function
- Screenshot
- Factsheet
- List of scholarly activities covered
- Review of research on service
- Scores, statistics and data provided by the service that might help build/showcase reputation

Example

- Illustrating evaluator framework and problems/issues of definition

Example of screenshot: LinkedIn



Facts: LinkedIn

URL	www.linkedin.com
Launched	2002
Country	USA
Owner	LinkedIn
Created by	Reid Hoffman, Konstantin Guericke, Jean-Luc Vaillant, Allen Blue, Eric Ly
Number of members	300,000,000
Number of countries	200+
Number of publications	NA
Number of full-text publications	NA
Alexa Ranking (Sept 2014)	12
Purpose	Networking of professionals
Type of site	Professional social networking service
Target audience	Professionals
Type of research	All
Research areas	All
Language	English and 22 Other languages
Membership	Free
Mobile App	Yes

Activities covered: LinkedIn

- A8. Serving industry or government as an external consultant
 - *Users can demonstrate in their profiles the expertise and relevant roles they've taken in the past*
- A9. Serving one's professional/disciplinary community
 - *Users can demonstrate in their profiles relevant roles they've taken in the past*

Scores and data provided: LinkedIn

- Profile views (number of people viewed user's profile on LinkedIn) broken down by
 - Geographic location (how many visitors from each country)
 - Date of view (when they visited the profile)
 - Subject domain and type of profession (e.g. librarian, higher education etc.)
 - Device or method of reaching the profile (by mobile, people with similar profile, people viewing homepages etc.)
- User's rank among your community based on the number of profile views

Evaluation of LinkedIn

- A very popular site (10th most visited site globally) with a high number of users (300m)
- It is good for networking and showcasing professional resume and seeking jobs or employees
- Very popular with (top) scholars for networking and seeking to build reputation

But

- Has few helpful features for researchers
- Provides little data other than number of profile views
- Only good for creating online professional CVs in the hope of being seen and finding jobs?

Activities supported

- From **58** activities: **22** are **supported**
36 are **not supported**
- Activities supported include
 - **16** research
 - **3** teaching
 - **2** application
 - **1** integration
 - **0** co-creation

Activities supported – cont.

- In **research**, activities related to *releasing and disseminating research outputs* are well-supported
- In **teaching**, activities related to *monitor and evaluate the quality and effectiveness of the learning experience* are supported
- In **application**, activities related to *serving industry or government, or one's professional/disciplinary community* are supported
- In **integration**, *sharing freely on the web one's educational resources* is supported

Activities not-supported (examples)

- Identifying a research topic
- Producing research output
- Designing a course/learning programme
- Producing and delivering a teacher focused, face-to-face, institution-based, often access controlled course/ learning programme
- Co-producing and co-teaching a teacher focused, face-to-face, institution-based, often access controlled course/learning programme
- Pursuing the Open-Notebook Science model in the classroom
- Tutoring/mentoring students on an individual basis
- Advancing learning theory through classroom research
- Producing an application oriented research output
- Planning an integrative research project
- Producing Open Education Resources (OER)
- Participating as a consultant in a PPSR (public participation in scientific research)project

Overall and reflections

- Wide range of platforms to support scholarly activities, but not many have features to help reputation building. E.g. although there is potential, many sites do not provide suitable data, scores, statistics on scholarly activities
- Bias is toward research and in research on showcasing and dissemination
- Teaching & application is neglected and platforms need to do something. Need more like CourseTalk to review and rate courses and lecturers.
- Also providing academic genealogy (a few sites provide this). See who has been who's student. But they don't quantify it. E.g. Could use a score to measure how influential an academic is by number of students supervised and by how important/influential those students are now and so on.
- There are other things you expect to be covered but you see little data on them, like patents.
- Different parties need to do things for things to improve. Data holders need to be more cooperative in giving data to services for this purpose (like patent registration office, universities, research funders) and for some of those that run current services reputation is secondary consideration.

Stage 3

- Case studies (these are in progress and just interim results reported, ad hoc.)

Ambitious aims

Answer research question of *how do new and emerging reputation mechanisms in the field of science work from the researchers', institutions' and platform's point of view*

- Who are the key actors and stakeholders?
- What are the practices, motivations and experiences of individuals/institutions using these new emerging reputation mechanisms?
- What challenges do they face?
- What do scholars obtain from using them (e.g. work-related vs. social gain)?
- How are issues as trust, privacy and risk managed & regulated by stakeholders?
- What are the skills & attributes needed by individuals to use the platforms?
- What is the relationship between new reputation mechanisms and prospects for future career success?
- What new indicators could be used to measure impact and

Case studies: types

- Focus largely on scholars and low hanging fruit
- This meant mostly academics but then they are the big, well defined market and are in the forefront of things. And more accessible
- Not just 'users' of systems, but potential ones too
- Four country studies (big/small; non-English language) supplemented by EU wide Q survey and ResearchGate Q&A
- One based on an 'emergent' reputational, English Language platform (Kudos)

Case studies: country case studies

Case study	Institutions	Subjects	Notes
Poland	Warsaw	Computer science scholars	Cover also commercial researchers
Switzerland	Geneva	Physical sciences scholars	
Spain	Leon; Salamanca; CSIC	Employers/research administrators/librarians; scholars; government laboratory researchers	Employers etc. and Humanities scholars in Leon and Salamanca. In regard to CSIC are we doing a mix of subjects
France	Lyon	Economics scholars	<i>Incs Gate CNRS</i>

Case studies: methodology

- General approach to avoid 'shoehorning'
- Qualitative: Focus groups and one-to-one interviews
- Quantitative: Questionnaire survey (fed by above; Kudos)
- Innovative: ResearchGate thread
- Sampling: balance of: a) men/women; b) subjects within case study discipline; c) ages/seniority (early career); d) users and non-users of reputational systems; and largely EU
- Challenges: different cultures (e.g. Poland)

Country case studies: Spain scholar 'clips'

- Researchers do not see academic social networks as being important tools for the management of their academic reputation.
- Older teachers do not see (often do not know) social networks as tools that can help build academic reputations. Younger ones know some networks and use them occasionally, but do not spend any time looking for tools to help improve visibility and reputation.
- Best known system is LinkedIn, although seen as professionally oriented
- But said that rep. platforms will have an increasingly important role in visibility, popularity and reputation of academics.
- Social networks and IF done damage as given rise to 'multiplicity of voices' that are looking for recognition of their work. Authority being lost. Upsetting the applecart
- Isolation a feature of humanities and could benefit most, but don't really know about them – language a problem?
- Teaching not in the frame and two types of reputation*

Country case studies: Spain employer 'clips'

- Reputation connected to the institution and about 'good image' Reputation is institutional reputation, although intertwined with personal reputation. But somehow their perspective was not the individual.
- Thus very interested in rankings of universities and worried about institutional reputation being defined by them
- Collecting (and presumably publicizing) data to encourage competition to raise individual reputation
- Scholarly indicators publications, projects, scholarships are the cross-comparison elements
- 'Excellence' is not valued. Reputation by another name?
- Employers as researchers: don't know and don't really use academic social networks; think can be interesting, but don't have enough time
- As researchers think reputation depends on peers' recognition of your work, mainly research and pubs. Managerial work a shelter for academics that are not good researchers or lecturers.
- As to encouraging reputational platforms in humanities, opinion was all dedicated researchers know them and use them (false!)

RG Q: Is altmetrics useful for building academic reputation?

- 80% said Yes it is important, should be counted and it contributes , 20% said No
- Researchers from developing countries most interested in raising rep.
- Agree that young scholars more active in social media and more likely to benefit

Positive comments are:

- Metrics should be diverse
- They show a different type of research impact
- They are already being used by journals (PLOS One) etc.

Concerns are:

- Can be manipulated easily (you can buy likes and tweets)
- Are discipline and institution-dependent
- Doesn't include the scientific community and hence should not be counted as reputation

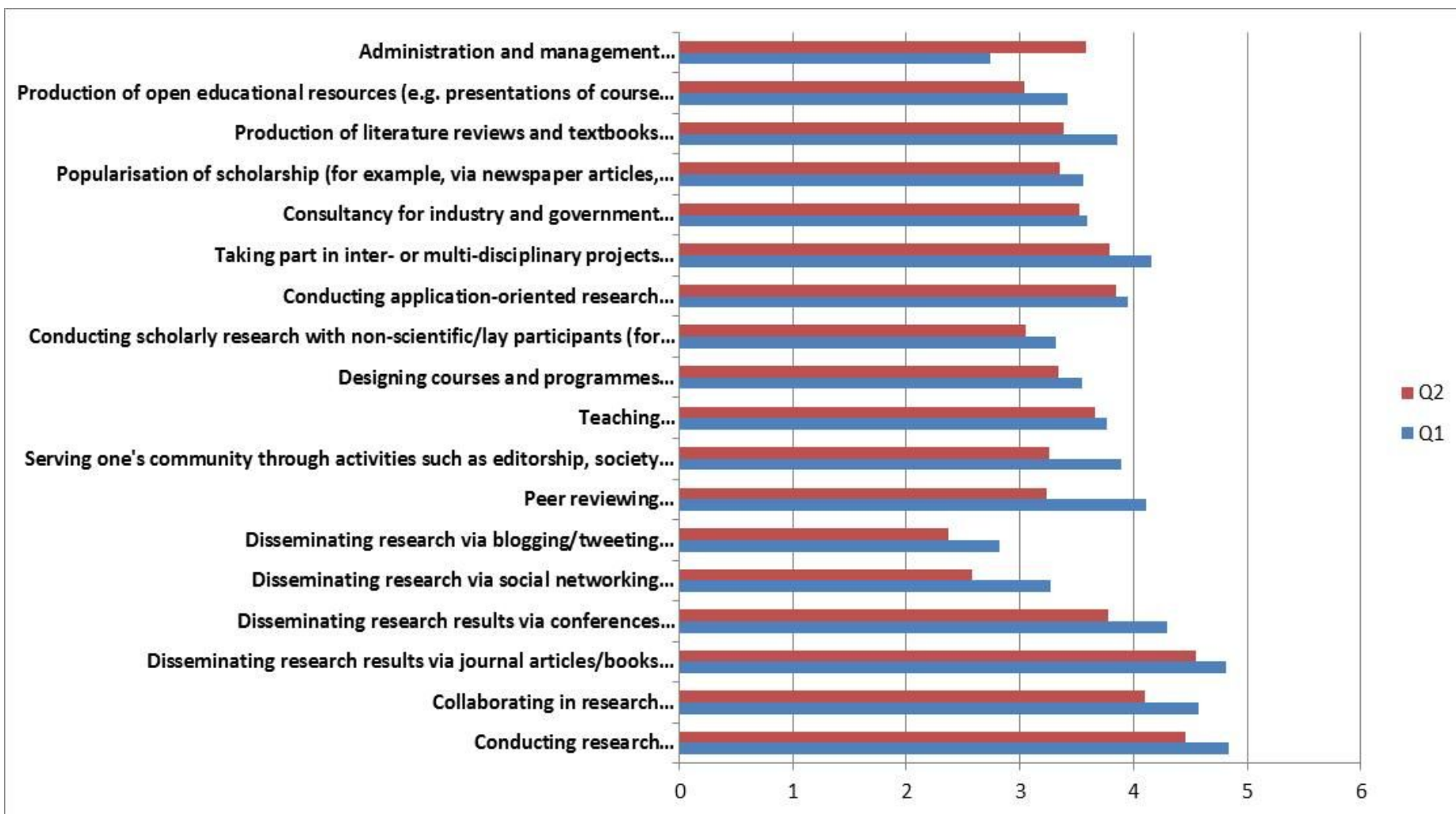
Cont. - quotes

- *There is [digital] visibility [in social media] which could help reputation but it may not help if those who judge you for tenure or promotion distrust social media or do not use it. Most researchers do not equate social media visibility with a recognition of the quality of the work, However, with an increasing emphasis on impact among funders and within institutions, visibility may lead to impact and be recognised.*
- *Yes, I think it can be very useful and should complement existing criteria of scholarly reputation. Social media metrics/Altmetrics provide a broader range of impact than your "naked" publication list or CV. ImpactStory has done a great job in promoting such a more diverse view of scholarly reputation and aggregating data from different sources. Several publications on altmetrics also indicate that certain indicators from social media data are correlated with citations down the road [knock on]*

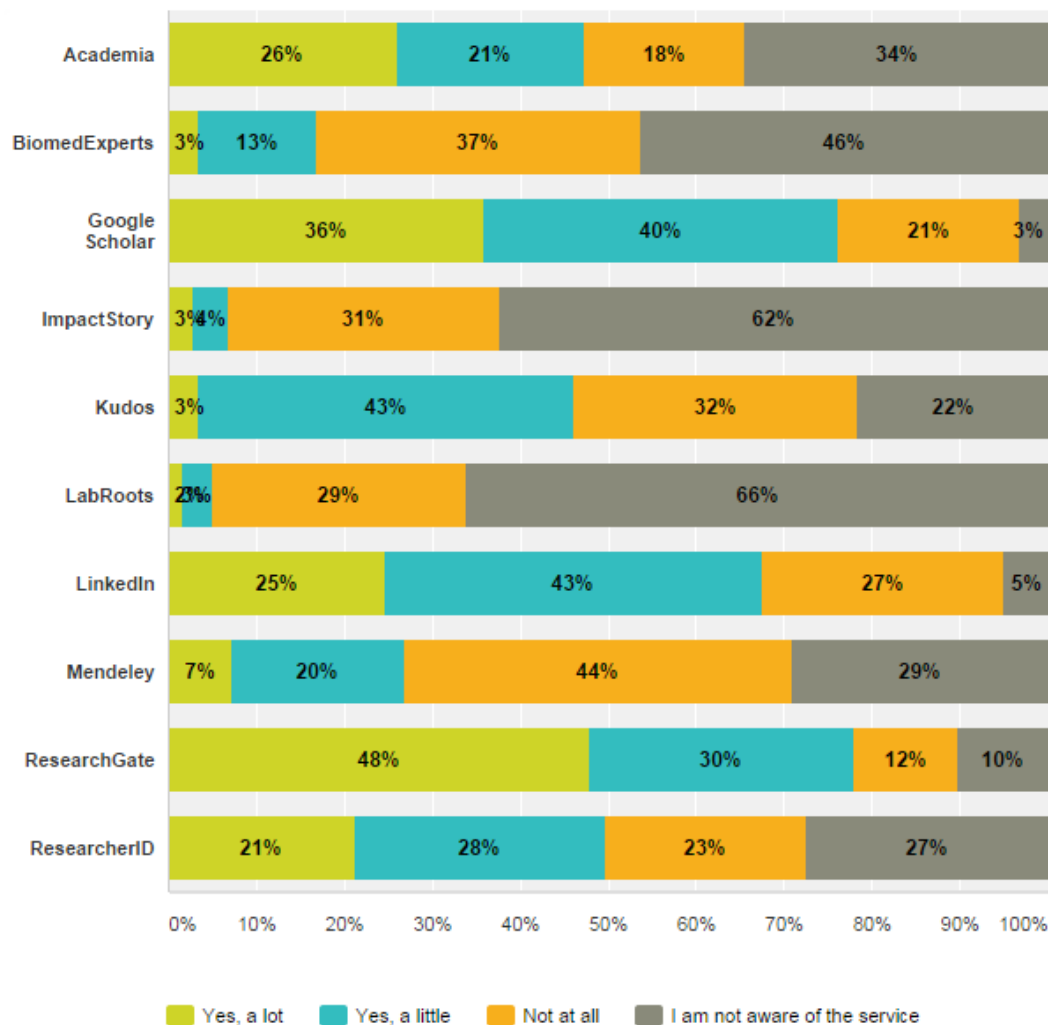
EU-wide questionnaire survey

- 222 EU respondents (270 altogether)
 - 71% male, 29% female (a geek thing?)
 - 42% full-time researcher, 40% full-time faculty member
 - 49% from research-intensive universities
 - 19% UK, 15% Italy, 10% Germany, 10% Spain
 - Average age: 46
 - Only 6 persons under 30

**Q 1- Which activities contribute to your scholarly reputation?
Q2- How important does your employer/institution regard each of these activities when assessing your performance?**

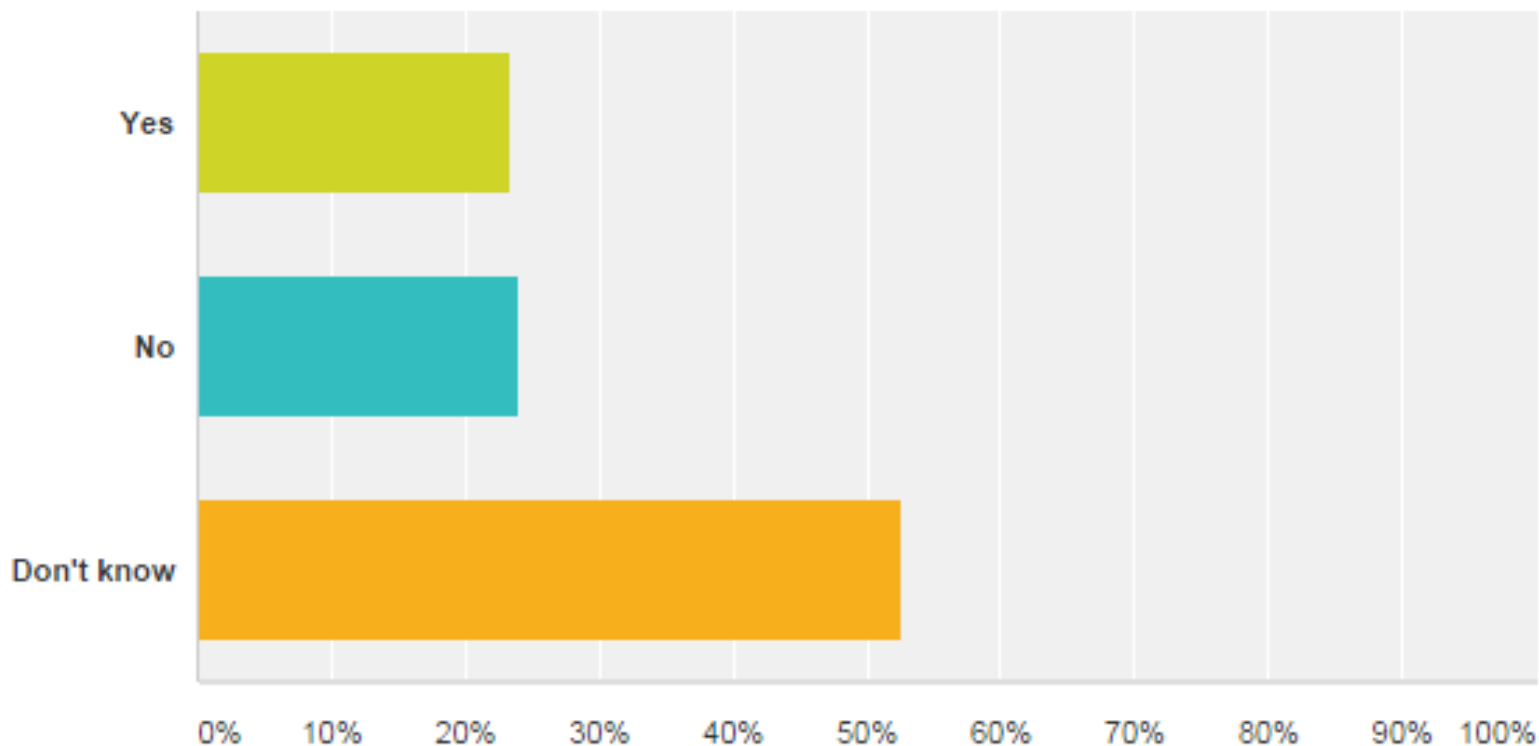


Which web-services do you use to build and maintain a reputation and showcase your scholarly activities?



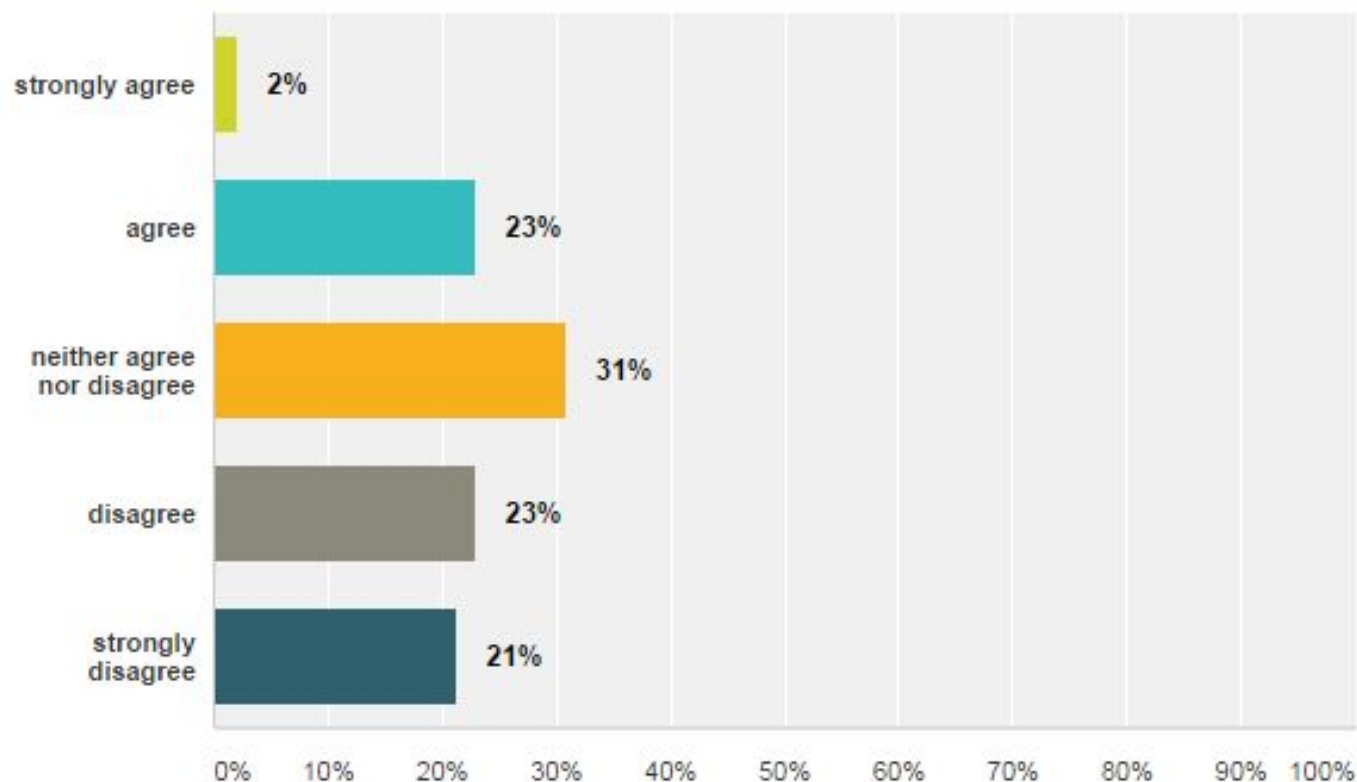
Taken together are there any gaps or weaknesses in the web services that you use for scholarly reputation purposes?

Answered: 188 Skipped: 0

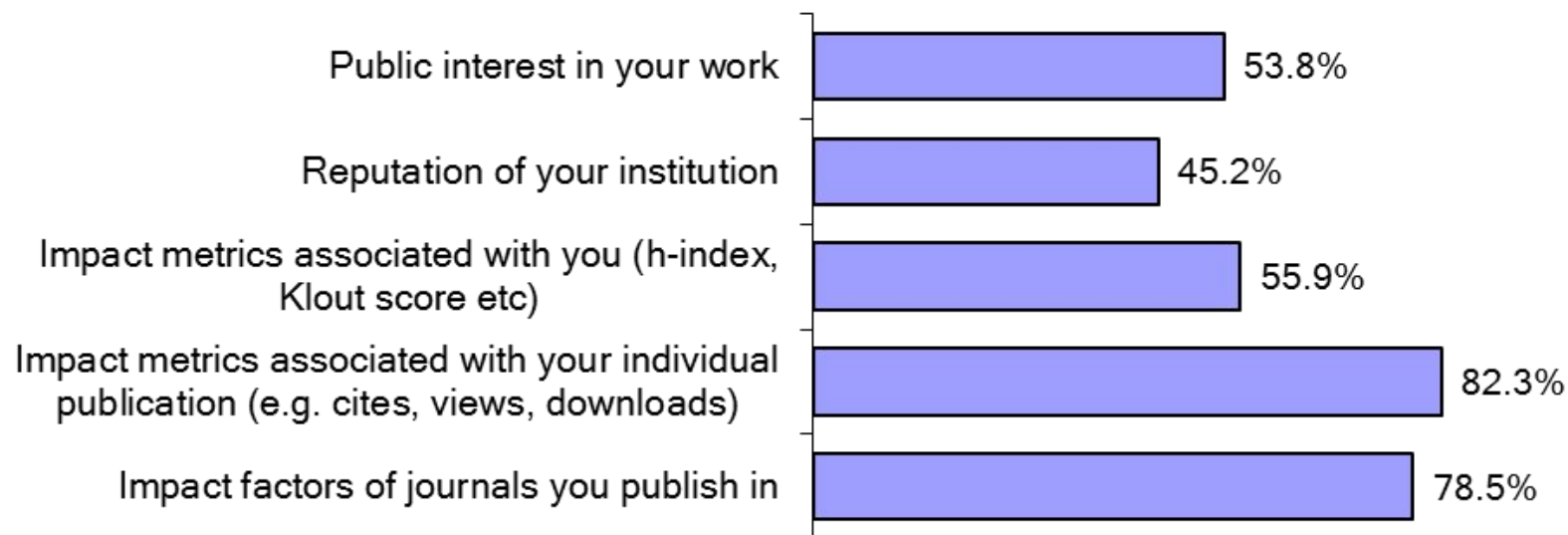


Should social media metrics (likes, tweets and data from Mendeley, Slideshare etc.) be counted towards your scholarly reputation?

Answered: 188 Skipped: 0

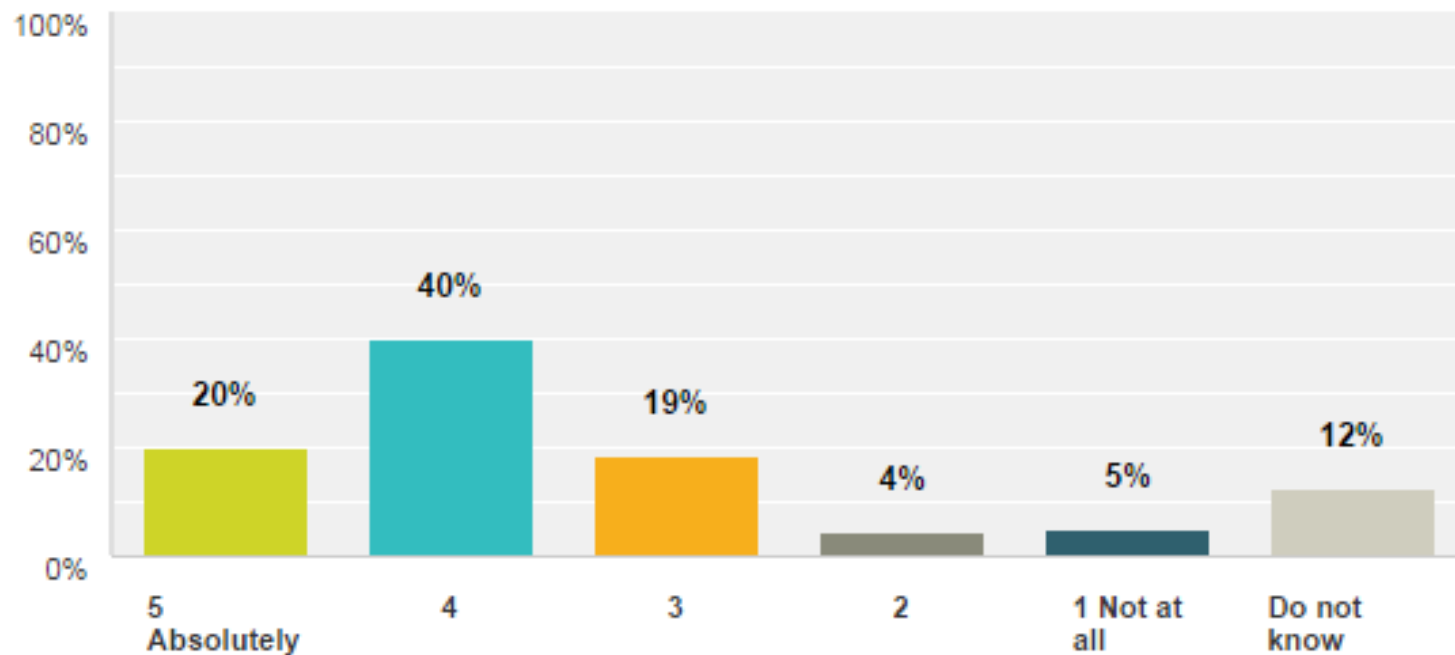


Which of the following do you consider more important than 'social metrics' for your reputation? Check as many as you want



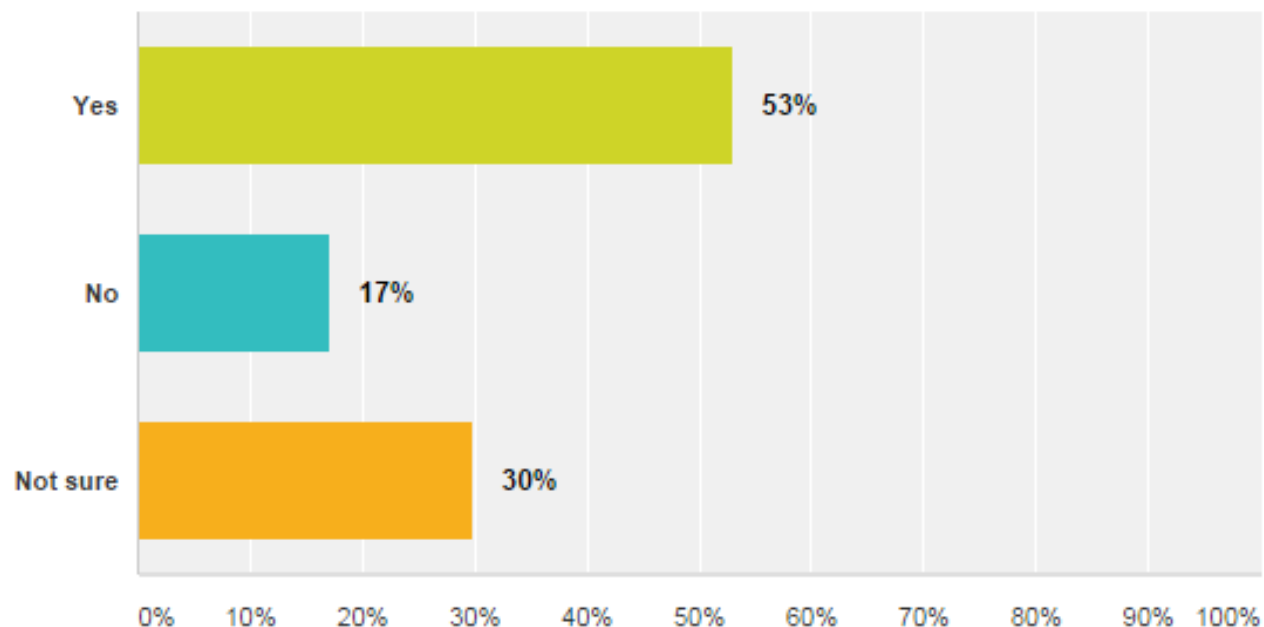
Do you think 'reputational platforms' will become a more important force in the future concerning career development/progression?

Answered: 187 Skipped: 1



Do you think that online services that help build, maintain and showcase scholarly reputation benefit young scholars more than established scholars?

Answered: 187 Skipped: 1



Reputational system: Kudos

- Chosen because its very new and innovative and has ambitions in the reputational field
- Willing to share and co-operate
- Good contacts and nearby location

Reflections and interim conclusions

Emerging reputational mechanisms: what are they, who are they, how are they doing and do they fit the bill?

- Low penetration and awareness.
- Fact that LinkedIn best known says something
- But think they are the future
- ResearchGate most popular among user of systems and probably the most comprehensive & developed
- Jury out on social media and metrics
- Big market already but perhaps the sharing component responsible? ResearchGate 5m; Academia.edu 13m; Mendeley 2m
- Actors* and employers need more investigation