

EARLY CAREER RESEARCHERS: THEIR SCHOLARLY ATTITUDES/BEHAVIOURS AND CHANGE

The 'Harbingers' project

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BACKGROUND

- 'Born digital' are now entering the job market, making their careers. The Google Generation have hit town. Big question is will they be the 'harbingers of change' or even the 'wrecking ball'?
- Will answer this question in regard to early career researchers (ECRs) – tomorrow's great scholars/scientists. ECRs are unestablished researchers typically under 35, who either have received their doctorate and are currently in a research position or have been in research positions, but are currently doing a doctorate.
- They are the biggest group of researchers and the new wave. Will they change a system stuck in time?
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METHODOLOGY

- Asking people whether things will change ('guesswork') is not as effective as 'following' them. Also, change is an extremely complex concept, too complex really for questionnaires. Questions about altmetrics and open science are not easily answered.
- So, instead, decided to conduct a 3-year longitudinal study of ECRs, which sought to ascertain current & changing habits in scholarly communication using deep interview techniques. 60 questions, 60 - 90 minutes conducted remotely and face-to-face. Notes reviewed and added to be interviewees. Qualitatively rich
- Nearly 120 science & social science ECRs from 7 countries (China, France, Malaysia, Poland, Spain, UK and USA). Published 1200 papers

TAKING THE PULSE (YEAR 1)

Paper-driven

- More fixated with publishing papers than seniors because of their precarious position. So, despite increase in number/range of research outlets courtesy of Science 2.0 ECRs dance to same reputational tune.
- Highly focused on publishing in highly ranked journals and outlets are very prescribed, with ECRs having to publish in lists of acceptable journals.
- Where to publish is a group decision but ECRs have an influence. If paper cannot be published in top journals other criteria are employed, including submitting to journals: a) where chances of acceptance are higher; b) where had good experiences in past; c) which provide a rapid turnaround; d) which give lots of helpful feedback.

TAKING THE PULSE (YEAR 1)

Peer review

- Half of ECRs are reviewers, which partly explains why they do not feel alienated by the system. Like double-blind review because of anonymity afforded, but are concerned about open peer review, which is thought “risky”, “dangerous” and liable to make it more difficult to reject papers. Would also attract unwelcome comment. Spanish ECRs want a feedback system on reviewers.

Social media and online communities

- There are patches of social media/online community use among ECRs and these patches are bigger than seen before. Finding information, communicating information, sharing, building a digital profile/presence, obtaining PDFs and engaging in outreach activities are the main uses for these platforms. ResearchGate (the fastest grower), LinkedIn and Twitter are the tools of choice. Social media have a firm foothold in China & Malaysia.

TAKING THE PULSE (YEAR 1)

Open access

- Gold open access thought to be a good thing and OA per se not a big deal, although disquiet with author charges, which are thought to be too high and unfair, making the playing field uneven between those researchers that can pay for it and those that cannot.
- While lot less distrust of OA than encountered before, few ECRs queuing to get published OA. Surprisingly, for ECRs might be interested in taking every opportunity to showcase their achievements, regard archiving in repositories as low priority.

Open science

- Much talk about the “open” agenda. However, ECRs displayed little understanding & interest in, open science technologies as agents of scholarly change. Indeed, French researchers are antagonistic to concept, seeing it as a restraint on scholarly freedoms.
- Open agenda includes blogs as non-traditional scholarly outputs, but no ECRs were really interested in blogs as an alternative to publications.

TAKING THE PULSE (YEAR 1)

Collaboration

- While a large majority of ECRs share ideas and interim data, much of this takes place at research group level, at internal meetings and within local networks.
- While sharing is much mentioned by ECRs as central to the way they want to run their scholarly lives, this is generally not done using social media.
- Collaboration is a weightier issue and the key hypothesis tested was whether ECRs share and collaborate extensively at the risk of losing their competitive edge. In fact, it was only in France that the hypothesis was fully supported. For French ECRs, collaboration is clearly king. French ECRs' strategies for getting a job and publishing more and better papers rely on collaboration.
- ECRs believe they can be hired based on their CVs, but also for the potential of their collaborations.

TAKING THE PULSE (YEAR 1)

Metrics

- Despite importance accorded to metrics, as a (future) element of reputational assessments, ECRs not interested in altmetrics. Only to be expected because altmetrics are not widely used and accepted by researchers or university system for reputation. However, some ECRs believe that it is a potential method to evaluate researchers' output and influence.

Transformations and transitions

- Signs that scholarly practices, behaviours, objectives moving in many directions while the formal frame of evaluation and competition is strengthening. ECRs see opportunities to change, but do not take them because have no time in such an insecure/busy environment. They also have limited opportunity to change as are shackled to a reputational system that promotes, above all else, publications and citation scores.
- Nevertheless, moved on from the situation where no one had any ideas about change and those who disliked the present situation just railed against it. Do now find ideas for change and even some for transformation, mainly moving away from current preoccupation with papers.

CHANGE (YEAR 2)

- ECRs have become much more experienced & informed about scholarly communication and become more selective in behaviour. More exposed.
- Collaboration being appreciated for reputational purposes and OA journals more so.
- ECRs becoming much more interested in obtaining digital visibility and social media and online communities, especially RG, are being used for this purpose
- Smartphone use is rising on the back of social media use. Big advancement of social media in China
- Open science and its facets are beginning to be talked about and, occasionally, practiced.
- Ethical behaviour is also becoming a matter of more concern.

CHANGE (YEAR 2)

- Still no interest in altmetrics.
- Probing more about libraries this year shows that ECRs are aware of their role in discovery.
- The mature scholarly environments of the UK/USA mean that ECRs there work and think a little differently.
- Things get tougher. The main thing that has not changed is that many ECRs feel stressed and pressured, and perhaps, more so than in 2016. Chinese ECRs are said to be 'tortured' with anxiety, while last year they were just 'stressed'.

CHANGE (SPAIN)

17 Spanish ECRs

- **Scholarly Communication behaviour.** More conscious about need for dissemination and usefulness of social media in this regard. More mentions of RG, LinkedIn, Twitter, Facebook, Academia, Google Scholar, Blogs, Sci-Hub. Also, use SM for searching purposes or for discovery through alerts.
- **Publishing practices.** Still paper focused: 40 articles and 18 papers published in proceedings. Most have published in OA journals. More interested in OA because of outreach advantages and increased citations attracted. On the whole, trust OA journals more. In general, still not interested in repositories.
- **Peer review.** Good/appropriate reviewers more important than the system and still going for blind review.

CHANGE (SPAIN)

- **Employment.** Treatment in Spain worse than in other countries. System too demanding and suffer tougher evaluations because of great competition. One criteria for evaluation is getting projects and ECRs not allowed to go for them!
- **Sharing & collaborating.** Mention many ways of sharing ideas/results and social media at the heart of this. Use social media more for collaboration. Less likely to think they would lose the competitive edge.
- **Metrics.** Key role in CV: Journal IF, citations and H Index most common. Altmetrics still not of use to present their CV but felt generally “rewarding”, provides satisfaction and helps assess your impact and dissemination.

CHANGE (SPAIN)

- **Transformation.** More positive regarding ECRs as change agents.
 - Thinking less in terms of publications and more about good science
 - Make politicians aware about the importance of science and that results in science take time
 - Communication to society, students and young people
 - More transparency. More importance accorded to open data, open access
 - Important role of social media for dissemination and for getting collaboration
 - Traditional library will exist as a place to study, not of relevance for researchers. As a virtual library, its role will be to give access to resources.

THE HARBINGER TEAM

- David Nicholas (Lead), Anthony Watkinson (UK/US), Abrizah Abdullah (Malaysia), Chérifa Boukacem – Zeghmouri (France), Blanca Rodríguez Bravo (Spain), Marzena Świgoń (Poland), Jie Xu (China) and Eti Herman (Israel).
- Publications on which this talk is based available at <http://ciber-research.eu/harbingers.html>