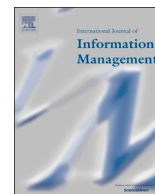




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Opinion Paper

The Transformative Potential of Disruptions: A Viewpoint

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ABSTRACT

I engage with the impact of disruptions on my work life, and consider the transformative potential that these disruptions offer. I focus on four parts of my life: as a researcher, teacher, administrator and editor. In each, I examine the nature of the disruption and the way I deal with it. I also consider how the present disruption may facilitate a transformation of current practices that lead to a better world at the individual and institutional levels. Rather than lamenting the inconvenience of a crisis, I prefer to celebrate the opportunity to do better.

1. Introduction

Every so often the more-or-less smooth tenor of our lives is disrupted. We are forced to deal with a new set of challenges and circumstances. The exact situation varies: it may be a local situation or a global one. Even when it is global, each of us experiences the disruption in different ways and to different degrees. The underlying characteristics of disruptions vary but include political, economic, environmental, medical and/or social. Disruptions don't always come singly. Distinct global and local disruptions may co-exist, further adding to the complexity of a situation.

I suggest that while these disruptions are undoubtedly inconvenient, not to mention potentially life-threatening, they do offer us an opportunity for transformative change. Out of the darkness of disruption we may perceive glimmers of hope: the potential to do things better. In 2008, Barack Obama's soon-to-be-chief of staff, Rahm Emanuel observed "you never want a serious crisis to go to waste".¹ A crisis thus presents an opportunity to further disrupt the status quo and bring about radical changes that might otherwise be inconceivable. In Chinese, the two characters (危機) for crisis imply danger (危) and opportunity (機). As researchers, we have the potential to play a significant role in transforming the opportunity and making the world a better place (Davison, Hardin, Majchrzak, & Ravishankar, 2019). But the operative word is 'potential'! There is never a guarantee that the transformation will actually occur, nor indeed that it will necessarily lead to better things. Furthermore, overly hasty reactions are more likely to introduce fresh crises. Considerable thought and care needs to go into the design of the transformed processes (or artifacts) before their benefits can be fully reaped.

I was asked to write about the impact of covid-19 (C19) on information management research and practice. However, I find that the

topic is too narrow. Instead, I see the opportunity to consider disruptions more generally, hence the title and the current focus. I first offer some contextual details to help you to make sense of my perspective. I live in Hong Kong, where we have never (yet) had a lockdown that legally confines most people to their homes most or all of the time, whether for the current situation or any other in living memory. Public transport operates, shops are mostly open, social distancing is broadly adhered to, and I can choose to work at home or in the office. My work includes a mix of research, teaching, administration and journal editing. I deal with each of these activities below.

2. Disruptions and their Transformative Potential

2.1. Research

Disruptions undoubtedly exert a negative impact on my work as a researcher. As a qualitative researcher, I need to observe and interview people. I can still do this online, but it is less effective. One major project has been delayed indefinitely because I need to be in Shanghai to collect data, and that is impractical at the moment, simply because even if I could travel to Shanghai, I would need to be quarantined for two weeks on arrival and a further two weeks on return to Hong Kong. The inconvenience of the quarantining is too disruptive to bear. If the current situation persists or returns, both the topics that I choose to investigate and the way I do research will need to change. Remote data collection will become normal as we adapt. This will not be limited to remote interviews, but must also include remote site visits. We will need to develop new data collection protocols for instance. But it seems to me that the real problem is that we are trying to replicate our physical world online.

We used to have synchronous, face to face meetings; now we have

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¹ https://www.youtube.com/watch?v=_mzcbXi1Tkk.

synchronous, virtual meetings. We used to collect data in person; now we try to mediate data collection through technology. That's not transformation in my view. It's replication. We need to transform the way we do things. We need to find a better way to meet, to collect data, to do research. Simple things like turning off the video can help because this reduces the number of cues that we need to process. It also prevents us from noticing the existence of video-audio lags that are annoying at the best of times, though it may also impoverish the richness of the medium as some of the paralinguistic cues disappear. Creating a natural yet virtual space where both researcher and researchee feel comfortable to engage in a meaningful and efficient conversation is challenging. Whether you are more persuaded by media richness theory (Daft & Lengel, 1986) or media synchronicity theory (Dennis, Fuller, & Valacich, 2008), each of us has to select a medium that balances these various constraints and thus is oriented more toward replication of face to face interaction or transformation into something different.

As a regular invited speaker, visiting professor and general globe-trotter, I habitually travel extensively. This aspect of my life has also been severely curtailed. From March to June, 2020, I have had to cancel five work trips to eight countries: China, Finland, Indonesia, Morocco, Norway, Sweden, Switzerland, UK (thrice). The objectives to be attained on these trips included a mix of data collection, student recruitment, research seminars and collaboration, and a PhD thesis defence. I have been able to hold some seminars online, but the effect is not the same. It is also hard work: you may have read about 'Zoom fatigue'.² A research visit, for instance, is much more than a seminar. It also involves many one-to-one conversations, brainstorming, insights, and the exchange of ideas, lubricated with laughter, intellectual spice and good cheer. Transforming this kind of work is challenging: there is a grave risk that it will be reduced to the functionality of a seminar but without the rich interactions that take place on the side-lines. I have been invited to a seminar + conversation event in late June, 2020, that will see me 'Zoom' into Umeå University, in northern Sweden. It will be interesting to see if the transformation is effective for the audience and productive for the speakers. I fear that a world without the freedom to travel unhindered may be a much less global world. That's probably less of a concern if you live in a big country with extensive domestic travel opportunities. However, while we will miss the global opportunities, we should examine local opportunities more carefully, and appreciate our local contexts.

2.2. Teaching and Learning

As a teacher, all my classes since mid-January, 2020, have been online using a variety of technologies. While some of my students remain in Hong Kong, many are elsewhere in China as well as further afield. The vast majority are accessing the Internet from home, quite often on slow connections. My guest lecturers are doing the same, and for them it is certainly more convenient than travelling to the university campus. I anticipated that this new environment would be very hard to adapt to, as a teacher, but strangely enough I was wrong. I have a number of principles that help me ensure that students receive as high quality an individual education as is possible in the circumstances. Some of these are transformative, but they build on earlier work.

A key challenge that I encounter in a normal (face to face) class is the low level of student interaction. Perhaps this is cultural, but I find that while a small minority is willing and able to interact, the vast majority is often reluctant to do so. One of the drivers appears to be fear of making mistakes in front of others and thus losing face. A second relates to interacting in a second (or third) language. In an online class, the dynamics change and I find that, with a little effort, I can get 90% of the students to interact without disrupting each other or me. Those of

you familiar with the research into Group Support Systems (GSS) will recall the various benefits associated with this technology, notably the lack of air-time fragmentation and the elimination of dominant individuals (Davison & Briggs, 2000). In a GSS-facilitated meeting, there is more time for discussion, more even participation, and more interaction and feedback. These meetings might also induce distractions and digressions, and suffer from participants flaming or insulting each other. I have certainly seen the positive effects in my classes. With 60+ students, it is essentially impossible for each of them to have significant contribution time in a regular classroom, especially if one or two dominate the air time. With parallel conversations, it becomes a reality and the primary problem is restraining their creativity and drawing a conversation to a close, so that the class can move onwards.

In an online class, judicious use of the 'chat' feature enables students to type to each other or to me as they wish or need to. They can raise questions, make suggestions, provide links to external sources, and so can I. In order to maintain student attention, a lesson that I learned early on was that I need both to slow down my speech and to break it up with frequent interludes where students can ask questions and create ideas. Not all students think equally quickly: some need more time to reflect on the content and thus interjecting regular hiatuses into my content delivery enhances access to that content immensely. Thus, every 15 minutes or so, I will stop and seek to provoke them with an issue that has no easy answer, where a range of perspectives can reasonably be identified, and where students are likely to have an opinion. I give the students 10 minutes to brainstorm in the 'chat' feature of whichever software I am using to run the class. Another approach is to use the online breakout rooms where students first discuss an idea in small groups before presenting it to the class as a whole. Whichever technique is used, both the instructor and other students can provide additional feedback and commentary.

Over a three-hour class with 50-60 students, I find that these 'chat' interludes generate around 9,000 words of generally high quality comment. I regard this sharing of ideas as essential to individual learning because in order to write sensibly you have to think. I make sure that I read all the comments. I type my own reactions to some while others I react to verbally. I save all the typed comments to a doc file and email it to all the students after the class. All the comments are identified (there is no anonymous function) but this seems reasonable as in a real class they would be identified anyway. Moreover, individual students receive credit for their ideas, both from me and from each other.

Is this transformative? Well, it is a small-scale transformation in the way I teach because of the way I deliberately fracture my episodes of speaking into smaller fragments and punctuate them with chat interludes that provide the opportunity for students to voice out their thoughts in parallel. Although they can contribute to the chat at any time, most wait for the invitation from me. I do believe that this new teaching-learning protocol transforms the learning process, because students are more actively engaged in the process of learning. They know (because I tell them) that they will be rewarded for their participation (in my classes, I typically award 20% of marks for participation), and when they see others typing in the 'chat', then this seems to create a gentle peer pressure for them to emulate their peers. While some students type just a few words and then submit, others take considerably more care and write a few tens or even hundreds of words. Their communication style is transformed by the technology that exerts no pressure to complete a communication as long as they submit before the end of the class. These longer comments often attract attention from other students who comment on them in turn, setting up a viral pattern of inter-student learning. I intervene as necessary to minimise digressions, correct misunderstandings, offer an opinion and further challenge their imagination.

Where assessments are concerned, it is clearly more difficult for students to undertake group work if they lack the luxury of a face to face environment, but virtual teams have been around for a long time

² <https://www.bbc.com/worklife/article/20200421-why-zoom-video-chats-are-so-exhausting>.

and there is no reason why students cannot work virtually. It is a new skill to learn (Davison, Panteli, Hardin, & Fuller, 2017; Hardin, Fuller, & Davison, 2007) that will be of value in the workplace. A blended learning approach might see a mix of synchronous and asynchronous virtual team work. The synchronous events may be psychologically more comfortable and productive, yet simultaneously less convenient because of the need for everyone to be virtually present. The asynchronous states that persist in between the synchronous events will still see work done, even if the intensity is lower (Maznevski & Chudoba, 2000). Examinations online are also feasible, though there are fears that students will take each and every opportunity to cheat, whether by employing proxies to answer the questions for them, by outsourcing questions to experts on demand, or by some other ingenious means. My preference is to set an exam question that is too long or difficult for the time available and which requires analysis but not memory, pushing students to the limit of their capabilities. Cheating then becomes that much more difficult to execute. I thus transform the assessment process and provide students with the opportunity to demonstrate what they have learned. It must be said, however, that evaluating these kinds of assessments is challenging in itself. I invest considerable time and mental effort in carefully reading lengthy answers to questions and then justifying the marks awarded. A marking scheme may help, but answers inevitably deviate from the ideal or model answer, and so flexibility is essential.

The proof of the effectiveness of the transformation of teaching, learning and assessment will be in the proverbial pudding: student evaluations of my teaching, teacher evaluations of student learning, as approximated via exam answer papers, and the eventual employment into which students enter on graduation. Initial feedback from students is positive, but a single cohort of students will not provide sufficient evidence; there are lessons to keep learning on both sides. If online learning is here to stay, I am confident that we can transform both ourselves and it to a high level of effectiveness that will in some measure exceed what is possible in face to face environments.

2.3. Administration

I earlier alluded to the problems of Zoom fatigue. I know people who are in back-to-back Zoom meetings for hours and days at a stretch. Here the replication problem is all too evident. We need to evaluate carefully if a synchronous online meeting is really essential. If it is not, and I feel that we should assume that the vast majority are not, then a move to asynchronous interactions is called for. In effect, this means less meetings, which is surely a good thing! The GSS software that I mentioned earlier provides an excellent basis for this kind of interaction. A meeting can be open for a period of hours or days and members should expect to visit on several occasions so as to add remarks, read those of others, offer comments and engage in a prolonged deliberation. This kind of extended meeting requires both a good work ethic and for the meeting organiser to have good facilitation skills, in order that a meeting can be drawn to a productive close in a timely manner without cutting people off. The most challenging aspect of this transformation is accepting that asynchronous interactions can work, and that meetings are really not essential most of the time. Thus, instead of forcing the technology to support existing meeting patterns, we should allow the technology to support a transformed meeting arrangement. For myself, I find that the vast majority of administrative tasks can be completed perfectly adequately through email, i.e. asynchronously. Response times are generally fast for urgent matters and I see no reduction of effectiveness or efficiency. Where group discussion is needed, GSS (or a similar technology) may offer a richer environment than Zoom, yet not require synchronous presence.

2.4. Editing

As an editor, I see a pair of disparate effects. Firstly, many more

papers are being submitted. Alas, these are not always of the highest quality. Many of them relate to the current C19 pandemic and consist of quickly-thrown-together collections of notes with little scientific import or practical value. These are politely rejected. Special issues on the impacts of pandemics have also been proposed, equally hurriedly, and they too are rejected. Secondly, reviewers of papers tell me that they need more time to complete their reviews and authors currently revising their papers also ask for more time. A month, or three, would be nice! The culture of asking for extensions is rife in our world and it is encouraged by those who grant such extensions, sometimes without even being asked! An extension request that is received well in advance, with some careful argument as to why it is needed, is fine and will be granted. An extension request that is received in the hours (or minutes) before the deadline (for an extra 6 months) will not be entertained. If you wish to work right up to the deadline, that's your choice. But careful time management is always a good idea, and since emergencies will happen, we need to allow time for them. Don't assume that deadlines will be extended! Any transformation here has to be at the personal level. We can work around disruptions if we want to. For me, it is primarily a matter of time management and learning to say 'No'. Quality is still going to be the issue. A disruption does not justify sloppy or haphazard work, or knee-jerk research either. Bear in mind that your article is going to be in multiple review-revise cycles for several months, if not longer. We want to publish high quality research that will stand the test of time. That hasn't changed and I don't see it changing. My editing work seems least affected by disruptions, though I admit that it is progressively harder to secure good reviewers willing to complete their assignments on time and to a high quality level.

3. Discussion

Technology has great transformative potential, if we want to transform and to be transformed. But do we? My personal suspicion is that while we teach our students about the value of disruptive technology, we are less keen to be disrupted ourselves, unless it is on terms of our own choosing. Punctuated equilibrium theory (Eldredge & Gould, 1972; Gersick, 1991) suggests that disrupting the underlying structures of a stable situation (equilibrium) may create the potential for the introduction of radical changes that enhance the status quo. A pandemic virus, or rather the human reaction to it, is certainly disruptive and is punctuating many of our stable states. Do we try to go back to the old stable state or do we accept the transformation challenge? Disruptions to the research process are the most difficult to resolve, and I see this as a work in progress. Disruptions to teaching, learning and assessment, and administration, on the other hand, are more amenable to transformative action. We will need to plan to teach in a different way, our students will need to accept to learn in a different way, and we will have to create new ways to assess that learning. We may even be able to escape the iron grip of meetings! It can be done, if we have the will.

It has been suggested that the current C19 pandemic will disrupt academia in a way that will permanently change it. Apparently the top-ranked universities are destined to survive while others may disappear.³ I'm not so sure: in my view, those that thrive will be those that transform to and profit by the new status quo. The ability to transform is no more than survival of the fittest in a new set of circumstances. But this applies as much at the level of the institution as at the level of the unit or the individual. Digitising core activities is a start. Reinventing the institution (of everything we do and where and how we do it) is down the road. Are we ready to transform? My own institution was the first in Hong Kong to put all classes online several months ago. Transformation is often revolutionary, which is why punctuated equilibrium theory is

³ <https://nymag.com/intelligencer/2020/05/scott-galloway-future-of-college.html>.

so pertinent. Revolutions are not tea parties, and so it may be some time before we can enjoy the next stable state.

Finally, we need to be careful not to change too quickly. Contact-tracing has emerged as one of the tools that can be used to trace possibly infected individuals. However, early reports suggest significant concern about the privacy implications of contact-tracing apps like Australia's COVIDSafe, which was designed and implemented very quickly with less attention to usability issues than would normally be the case.^{4,5} Digital surveillance, incorporating the tracking and tracing of individual people, is already rather common in many societies and not a new research topic (Clarke, 2001). Under the cover of a pandemic, where fear of infection is the lowest common denominator, it is not hard for governments to ramp up surveillance activities in a way that would be firmly rejected in normal times, yet now is broadly accepted! Klein⁶ underscores the concerns here by pointing out how politicians are working with technology firms "with an emphasis on permanently integrating technology into every aspect of civic life" where "our every move, our every word, our every relationship is trackable, traceable and data-mineable by unprecedented collaborations between government and tech giants". With such a panoptic vision, it seems that revocation of surveillance is not envisaged and so that this is the new norm. This is as much a research issue as a philosophical one: as researchers, we should be critical of actions that further diminish our already eroded right to be left alone. Since contact tracing and quarantine are enabled and enforced through information systems applications, these topics are firmly in zone for IM researchers.

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⁴ <https://newsroom.unsw.edu.au/news/business-law/we-need-examine-many-narratives-covidsafe-app>.

⁵ <https://ia.acs.org.au/article/2020/the-covidsafe-app-and-professional-responsibility.html>.

⁶ <https://theintercept.com/2020/05/08/andrew-cuomo-eric-schmidt-coronavirus-tech-shock-doctrine/>.