

Psychological dependencies; The hidden dependencies of Altmetrics

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While we rely upon the technical dependencies in large regards, and these are extremely important, there is another side of Altmetrics dependencies, those of the humans who actually create the metrics.

The machines, the websites, APIs, and tools that capture Altmetrics, and even the Altmetrics themselves, are ultimately designed to measure human behavior. And understanding these human behaviors will ultimately be what leads to a better understanding of Altmetrics and scientific productivity more generally.

A lack of DOIs in a particular area does lead to certain biases and it is important to identify those; but likely stronger are those biases built into the psychology of the people the Altmetrics measure.

The technical dependencies affect how we, the human, interacts with it. Twitter's 140 character limit is a technical dependency, but it also changes the way the psychology happens on the platform.

Accurate measurements are important, but even more crucial is to understand what we are measuring and to make sure it is what we want to be measuring (Buttlere, 2017).

Not only is the potential to better understand the metrics we have, there is also the potential to identify behaviors or metrics we want to create and develop measures for them (Buttlere, 2015).

More than develop individual tools, the Altmetric community has the opportunity and positioning to develop the tools and platforms it desires, and to encourage use of those platforms (Buttlere, 2014).

Creating and utilizing a plurality of Altmetric indicators will account for the diversity of positive contributions to the field (e.g., a metric for quality, replicability, interestingness, like personality; Buttlere & Buder, 2017).

If the goal is to understand what drives the Altmetrics themselves, we can borrow from the existing psychological and sociological literatures (Festinger, 1954, Buttlere, 2015).

Cognitive conflict has been shown to be a strong driver of individual and group behavior (Festinger, 1954), with people paying attention to the unexpected or unclear thing.

Meaning making more generally, as the fundamental motivation behind the scientific enterprise (Maslow, Kuhn, Popper, Platt, 1964, Kuhn, 1967; Popper, 1935) can help us understand what leads to papers and fields being more interesting to people (Buttlere, Buder, & Costas, 2017).

Not only do Altmetrics allow a better understanding of paper, field, and general scientific outcomes, they allow us to better understand humans and human systems through the lens of scientific behavior.

The hidden dependencies of Altmetrics are those human tendencies which the Altmetrics are built to measure. Understanding how these psychological tendencies interact with the technical dependencies will be an important point moving forward.