Quantified academics: Heideggerian technology critical analysis of the academic ranking competition

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Abstract

Purpose – The competition in the academe has always been tough, but today, the academe seems to be more like an industry than an academic community as academics are evaluated through quantified and economic means.

Design/methodology/approach – This article leans on Heidegger's thoughts on the essence of technology and his ontological view on being to show the dangers that lie in this quantification of researchers and research.

Findings – Despite the benefits that information systems (ISs) offer to people and research, it seems that technology has made it possible to objectify researchers and research. This has a negative impact on the academe and should thus be looked into especially by the IS field, which should note the problems that exist in its core. This phenomenon of quantified academics is clearly visible at academic quantification sites, where academics are evaluated using metrics that count their output. It seems that the essence of technology has disturbed the way research is valued by emphasising its quantifiable aspects. The study claims that it is important to look for other ways to evaluate researchers rather than trying to maximise research production, which has led to the flooding of articles that few have the time or interest to read.

Originality/value – This paper offers new insights into the current phenomenon of quantification of academics and underlines the need for critical changes if in order to achieve the academic culture that is desirable for future academics.

Keywords Community, Competition, Critical theory, Academic career, IS community, IS philosophy

Paper type Conceptual paper

1. Introduction

Data have come to play a central role in analysing the world and creating value (see Loebbecke and Picot, 2015; Sadowski, 2019) and in this data-driven society valuation of researchers is no exception (Pranckutė, 2021). Like other measured issues, researchers are evaluated and credited based on the volume of their published works and gained citations, grants obtained and their presence in specific publication forums, especially in top-rated journals (Clarke *et al.*, 2012; Hicks *et al.*, 2015; Marc and Siddhartha, 2017; Cabrera *et al.*, 2018; Waaijer *et al.*, 2018; Aguinis *et al.*, 2020; Frémeaux *et al.*, 2020) – phenomena we call academic quantification.

In this phenomenon, academics are *quantified academics* (see Hammarfelt *et al.*, 2016), where managerial and technical evaluation creates incentives that lure academics away from learning, reflecting and developing creative thinking, and thus creates a corrupt academic

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culture (see Marc and Siddhartha, 2017; Frémeaux *et al.*, 2020). Becker *et al.* (2015) aptly noted: "*As a discipline, we must understand what tangible accomplishments we can achieve for the betterment of society*". However, over the last 50 years, the academe has been altered by the growth of perverse incentives and by hypercompetition, which is decaying researchers' academic integrity and is thus endangering the future of the scientific endeavour (Marc and Siddhartha, 2017).

If the "market economy" is emphasised in the competition for positions or grants in educational institutions which are needed to be able to conduct research (see Carpenter *et al.*, 2014; Génova and de la Vara, 2019; van Dalen, 2021) we will be lured to focus the outcome on statistics. Gaining better statistical results will enable researchers to obtain opportunities (i.e. grants and positions) and thus keep this self-enforcing system going (see Madsen, 2019; González-Sala *et al.*, 2019). The problem is that if a research topic has not yet gained a stabilised position (e.g. in the top journals of the field), researchers focusing on a trans- or cross-disciplinary approach or on non-mainstream topics to get published will face inordinate challenges to obtain visibility, and this will easily lead to a vicious circle (see Chavarro *et al.*, 2017). For researchers in the early stage (not permanent positions) outcome is that they feel that pressure to publish and gain grants in academia is too high – this can partly be self-enforced (Waaijer *et al.*, 2018). When comparing non-tenured and tenured researchers, the older and tenured give less emphasis for journal impact factor, citation counts in journals and overall prestige compared to non-tenured and younger researchers (Niles *et al.*, 2020).

Hence, should the academic community not ask if the practice is really improving academic research or stabilising the main and "right" research directions? We see that the IS field needs to recognise this instead of implementing the rules of "market economy" as this field seems to be one where competition has been leading to this score-based managerialism (Johnston and Riemer, 2014) where publications shape the decision of hiring, promotion and tenure (Ciriello and Thatcher, 2023), although it is common in many other fields as well (see, e.g. Albert, 2003; Muller, 2022).

We argue that quantification of academics is a major negative factor that steers the academe in the wrong direction by endorsing easily publishable research topics and an almost narcissistic culture. Frémeaux *et al.* (2020) considered how to act wisely (in an Aristotelian way) in this competitive game, but we claim that instead of just trying to cope (albeit wisely) with the intricacies of the game, we should focus on changing the game altogether as an academic community by making it visible and bringing it under critical investigation. To do this, we need to understand the situation more deeply. Here lies the contribution of this article: we highlight herein the underlying problem of this hypercompetition with insights offered by Heidegger in his work on *being* and technology criticisms (e.g. Heidegger, 1927:1977) which underlines the problem of this kind of market-oriented approach for academic goals and practices. There are also other critical theories that could be chosen to our analysis however, Heidegger's technology criticism and ontological notions of being are suitable as they provide strong tools to make visible the roots of competitive pressure in the academe towards academics that seems to upkeep the *status quo*.

By doing this, the paper contributes to the discussion on academic competition and aims to help self-reflection of the academic community by bringing this issue to the common discourse between academics and beyond.

Rest of the paper is constructed as follows**:** In the next chapter, we focus on Heidegger's view on technology as revealing, which can help us understand the reasons for hypercompetition existing in the academe. In chapter three, we show how the academic quantification competition among researchers turns research into an unhealthy game. In chapter four, we ask whether we should act as wise researchers who aim for meaningful research and growth of academic authenticity instead of becoming pragmatic players.

In chapter five, we raise the question of how individual researchers and the academic community should react to the quantification of academics. In chapter six, we discuss where the field should be headed. Finally, we end with our conclusions.

2. Background

As technology has become ever more pervasive in our everyday life (including the academe), with people increasingly using technological devices throughout the day, Information and communication technologies (ICTs) are beginning to have a profound effect on people's psyche and on society (Walters and Kop, 2009). Technology overload in workplaces (Yin *et al.*, 2018), stress through participation in social networks (Lee *et al.*, 2016), the digital divide (van Deursen and van Dijk, 2014), experienced technostress (Maier *et al.*, 2019), psychological problems caused by Internet use (Reinecke *et al.*, 2018; Dresp-Langley, 2020), quantification of working life are just some of the phenomena that modern technology has brought about. However, here we narrow down our focus to *academic quantification* and problems it brings within academic community.

The quantification of academics is made possible by information technology (IT) and especially by academic quantification sites (Hicks *et al.*, 2015). We use the term academic quantification site for those websites or service providers that are used to evaluate a person's academic contribution (e.g. Google Scholar, ResearchGate). Such sites collect information about researchers and their output to evaluate them using certain metrics (i.e. quantification) that are used to rank people without tools to see the actual meaning, aim or value of the research. Despite the positive effects of the evaluation and ranking of research conducted in the information system (IS) field, this kind of quantification also poses a great risk if it considers only the statistical perspective and does not recognise other evaluation aspects (see Hirschheim and Klein, 2012; Chan *et al.*, 2015; Hassan and Loebeck, 2017). As it is ISs that make this kind of evaluation possible, this issue should be looked into in the IS field as it is affecting the entire academe and even beyond.

It is worth noting that in academic quantification, the aforementioned practice seems to be the status quo; that is, all metrics are actually somewhat quantitative, and there does not seem to be any good qualitative, content-based way to analyse one's production. The aforementioned can be seen as an outcome of the academic climate that has been changing towards "market economic" where academics are entrepreneurs that produce research and are valued by statistics offered in online platforms, like ResearchGate (Hammarfelt *et al.*, 2016). Moreover, most academics cannot resist this phenomenon and hence they are forced to secure the production of citations. This, however easily leads to situations where academics (especially early career ones) are forced to secure publications in established journals and hence focus on the demands of reviewers – in some cases by the cost of the original idea itself (see Frey, 2003).

However, citation counting was developed to measure the activities of research fields (see Garfield, 1955). Originally Science Citation Index (CSI) was not meant for evaluating the performance or quality of researchers, research groups, funding programs or even nations – an issue that the founder of SCI, Eugene Garfield was later uncomfortable with (Wouters, 2017). Nevertheless, Garfield still stated that "Impact Factor is not a perfect tool to measure the quality of articles but there is nothing better and it has the advantage of already being in existence and is, therefore, a good technique for scientific evaluation." (Garfield, 1999). As a result, the higher impact factor journals tend to be those that gain the most citations for authors as well – thus being heavily appreciated in a researcher's list of publications. Therefore, authors have strong pressure to publish in those high-level journals, even if there would be more suitable venues for their research. This is an issue which promotes unwanted strategic publication production as journal impact factors of published articles (McKiernan *et al.*, 2019) and citation counts of academics are used to evaluate them, creating the base for

academic positions and grants. These statistics are easy to calculate, but mere counting is problematic as the quantity is only one, narrow aspect of research contribution. One other problematic outcome of pressure to publish is the rise of predatory publications that exploit this pressure (Beall, 2018) and the inclusion of those in indexing databases that are used to create indexes (Cortegiani *et al.*, 2020) and therefore even stated to be contaminating the science (Akça and Akbulut, 2021).

Therefore, it seems plausible to say that technology has radically changed our academic world. Due to this change, our lives are much more hectic, and the market-oriented world has directed us towards how to find the best offer available. As predicted by Flores (1998, p. 355), we are witnessing the transformation of Western political leadership into economic management.

It is time for us to ask what the meaning of the individual is in that picture; we must recover the value of human dignity. Our measuring instruments have changed from academic to economic when we are trying to quantify the impact of research despite the problems of evaluation (see Anderson, 2006; Ravenscroft *et al.*, 2017; Marc and Siddhartha, 2017). Many of the ways of measuring that have been introduced to the academe have already been found lacking even in the world of commerce. For instance, the view that efficiency is more important than effectiveness has already been challenged, although efficiency is of course also important as long as effectiveness is also ensured, for therein lies the reason to be efficient (see Mouzas, 2006).

If the aforementioned methods did not work even in the economic realm, how could they work in the academe, which involves considerably more specialized work measured by other academics rather than using a "given" measure set by the leadership? This is especially crucial in basic research, which in many cases does not come up with new devices or inventions but rather creates the basis for future research. Unfortunately, technology has made the wrong kind of measuring easier and thus more tempting to use. Therefore, there is need for academics to contest the current logic of academic evaluation which should be more diverse than quantified one.

3. Heideggerian analysis

The use of Heidegger's works on the IS field is not a unique approach even though it is still quite rarely used. As an example, Riemer and Johnston (2014) focused on how IT artefacts could be seen in the IS discipline instead of how they are seen from the prominent Cartesian dualistic worldview. They presented an alternative viewpoint based on the tool of metaphor as tools play an important role when people define or create their identity. Here, a tool (i.e. IT) is an object defined not only on the basis of its properties but also on the basis of the practice for which it is used. Practice influences what properties of an artefact become meaningful in a situation in which the practice is carried out. This means that people gain meanings from using tools, and tools are meaningful to people. They constitute the meaning of artefacts by interacting with them, and at the same time, artefacts shape people or how they see themselves (Riemer and Johnston, 2014). Likewise, Cheikh-Ammar (2018) applied Heidegger's view on technology when conceptualising IT artefacts as the nexus of human values, affordances, symbolic expressions and IT features. Our approach, however, is different from that in the previous examples, which focused on IS artefacts. We put our focus on the essence of technology itself, and seek its outcome in academic research and researchers and how specific ISs (here, academic quantification sites) are the implementation of this essence of technology that is steering our lives and that should be looked into by the IS field to see the dangers in the current trend of academic evaluation.

3.1 About being

To create basis of our analysis on quantified academics, we will need to take a look at the being and beings by Heidegger (1927) in his other seminal work *Being and Time*.

The three modes of being are ready-to-hand, present-at-hand and Dasein. Ready-to-hand and present-at-hand are modes of being that can apply to all objects, but Dasein is a mode of being that can apply only to humans. The first mode that we will look at more closely is ready-to-hand (zuhandenheit). Heidegger explained that something is ready-to-hand if it has some purpose to accomplish (e.g. a hammer, which is used to hit nails). In this mode of being, we do not give much consideration to the objects we are using; we simply use them as we have always used them. We see that they are there, ready for us to use to accomplish some goal, but we do not engage in any active reflection on them even while we are using them. Thus, we use such objects in the way they are meant to be used or as is proper for their use.

The second mode of being that we will look at is present-at-hand (Vorhandenheit). It is illustrated by a situation in which as we observe an object, it reveals characteristics and different aspects of this mode of being. If one compares this approach to ready-to-hand, which focuses on the use of an object for some aim rather than on the object itself, one can see the power of present-at-hand. It is concerned with how we concentrate and challenge ourselves and thus begin to see more. This is very similar to how scientists typically do their work: focusing on an object and gaining information about it. Another example of this mode of being is a situation wherein an object comes under investigation because it is broken. The item that was ready for use (ready-to-hand) is no longer useable and is thus looked at thoroughly. Through its brokenness, the object comes into the sight of the observer.

The third mode of being is Dasein, which can also be translated as "the individual human mode of being in the world" although there are many other ways to grasp and present the meaning of the original German term. However, the special character of Dasein compared to the two other modes of being is that it refers only to that which can have an understanding of its own being and hence can investigate it. Thus, Dasein is also about understanding one's own being in the world (and only such) according to one's current knowledge, is possible only for human beings (van der Hoorn and Whitty, 2015) but is not always reached by people if they do not have this "investigative" existence as ontological mode. This understanding of one's existence is the key factor that separates Dasein from present-at-hand and especially from ready-to-hand. Dasein can see the present-at-hand and the ready-to-hand but cannot be truly reached, as present-at-hand or ready-to-hand can. Things can be present or ready, but only Dasein can see other modes and assign meanings to those.

Das Man is a term that Heidegger (1927) used to describe a situation in which people consciously choose to hide or lose themselves and replace themselves with commonly accepted ways of being or acting, whereas Dasein is concerned with living consciously and making sense of one's own authentic life. Das Man can be considered the fourth mode of being, but it can also be seen as the other side of Dasein as these two modes of being are intertwined in our everyday lives. We need routinised ways of action to help us cope with everyday life, but Dasein should be our mode of being – provoking reflection – when we think about the issues that define us.

3.2 Technology as revealing

Heidegger (1977) was critical of technology because of its ability to reveal the world and humans in it as *standing reserve*, mere objects to be used and exploited in various ways. The consequences of this revelation of the essence of technology can be seen in our society, particularly in its favouring of the positivistic worldview. This kind of worldview looks for rationality of efficiency instead of efficacy, a driving force visible in the economics, IT development and organisational contexts, to mention a few areas where it is the main or dominant driver.

In this time of technological determinism, it seems that people tend to believe that science and technology can save both individual humans and the whole human species, and that we

just have to invent new technologies and implement these to solve our environmental and other global problems. However, based on Heidegger's work on technology (1977), we can see that technological determinism was what got us to the edge of catastrophe by regarding everything in the world as merely a standing reserve to be deployed for the development of society (or just for the technology itself, as Heidegger claimed), rather than something that has value in itself.

Nevertheless, Heidegger is commonly misinterpreted as having been opposed to technology (see, for instance, Ciborra and Hanseth, 1998; Dreyfus and Spinoza, 2003; Chamberlain, 2019), although he really did not favour or oppose technology *per se*. Neither did he support the idea that technology should be seen as neutral. He claimed that the instrumental and anthropological definitions of technology that we tend to rely on are the reasons that we cannot understand technology profoundly but only as instruments that serve our needs. Heidegger noted that if we consider technology neutral, we are thinking of it in the worst possible way because how we are thinking of it forces us to become utterly blind to its essence (Heidegger, 1977).

Thus, it is particularly important to make a distinction between technology and the essence of technology to understand what technology is and why it does not always fulfil the hopes we have laid upon it. Making this distinction was the first point that Heidegger (1977) underlined on the first page of The Question Concerning Technology: if we focus on the technology itself, we will see only the attributes of the technology we are looking at, such as the mechanisms and technical solutions being embedded by academic quantification sites that are presented in this paper. Thus, it is important to understand that the essence of technology is not technological, and as such, technology should not be observed or seen only as a technical object that does not have its own hidden changing force built into it. As Heidegger (1977, p. 4) says:

> Likewise, the essence of technology is by no means anything technological. Thus, we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it.

We thus need to start aiming to understand the essence of technology rather than focusing on technology itself, where we cannot find the true nature of technology or see its impact on our being in this world. If we just look at how academic quantification sites are affecting us and how we are using them, we may accept or reject their use. However, looking at only the technology and not at its nature will not enable us to grasp its deeper meaning, which was Heidegger's aim. Thus, we should first look into the essence of modern technology and analyse the academic quantification sites only when we have come to understand the essence of technology.

It is important to note that as early as the year 1950, Heidegger already saw the danger lying in modern technology; in that year, he declared that we were entering a dangerous epoch in the history of being: the technological understanding of being (Dreyfus and Spinosa, 2003). Today, IT is changing society more than we initially presumed it would, and it will most probably continue changing society in the future.

However, is IT changing society because of information or because of the technology? The medium itself is doing the changing, as McLuhan and Fiore (1967) claimed in the beginning of the IT era. IT makes information faster to obtain and see, and enables the use of information in new ways. In many but not all cases, however, information can be obtained without IT. Much information can still be obtained from books, magazines and other non-digital media, but the speed and efficiency of obtaining information are on a totally different level in a digital medium. Thus, technology has enabled us to obtain information in a more efficient way.

What is the price we have to pay, though, for the advantage of being able to obtain information more efficiently? Are we being effective in the way we really want to? Heidegger's work can be used as a mirror that reflects the negative side of using IT. It can remind us that if we do the wrong things efficiently, we are still doing the wrong things. We need to learn what the wrong things to do are and get rid of those.

Heidegger (1977) used the term enframing (Gestell or Ge-stell) to show what the essence of modern technology is. He stated that the essence of modern technology is enframing, which regards everything as a standing reserve. Enframing itself is not technological but is a way of revealing something or bringing it into sight. It is how we see the world through the lenses of modern technology and efficiency. There are differences between modern technology and non-modern technology, and these are not visible with the instrumental definition of technology (Brassington, 2007, p. 193). By instrumental definition we mean the view that technology is a tool that we are mastering and bending to serve our goals. We can presume that we are using modern technology as an instrument as a doctor uses a knife, but modern technology is not that straightforward. Modern technology has a strong ideological ballast laid upon it: since the start of the Age of Enlightenment to the present, people have been experiencing solving their problems with steam engines, electricity, medicine, computers, big data, artificial intelligence and others due to the efficiency of modern technology, and often due also to its effectiveness.

However, there were times when people lost their trust in technology when it demanded more from them than it was giving them. For example, gas light has made it possible for people to work longer days, automation has made work monotonous for many people and mobile technology has blurred the line between work time and leisure hours. Thus, we can claim that we do not get the freedom that modern technology has promised; that is, the doctor has lost control of the "knife".

The main difference between premodern technology as techne and modern technology is that modern technology employs an exact physical science (Heidegger, 1977, p. 304). Modern technology sees the world through the lenses of efficiency and technological determinism, which in turn see the world as standing reserves. As Heidegger (1977) himself said, "*There was a time when the bringing-forth of the true into the beautiful was called techne. The poiesis of the fine arts was also called techne*" (p. 34).

Heidegger differentiates premodern technology from modern technology using the river example: for non-modern technology, both the river and its "riverness", its essence or its being a river, exist. Modern technology, however, sees the river as a source of energy and thus views it as a reserve for use in the technological world. Even in cases where we want to keep the power plant off the river, we are still in control of the river's standing-reserve position rather than appreciating the river for what it is. Often, when we want to protect nature so that there would be nature to live in later, we actually want to secure nature as a standing reserve for use and exploitation tomorrow rather than protect nature for its own sake. Thus, modern technology regards the world as a measurable resource, and it seems to be tied to determinism, dismantling the world into parts for the purpose of progress towards further technologies and towards scientific progress (Gestell).

Hence, we cannot think of technology only as consisting of technical objects; we need to see the larger socio-technical and humanistic (or non-humanistic) picture. Fortunately, the narrow view on ISs has already been challenged by some IS researches (see, e.g. Lyytinen and Hirschheim, 1988; Stahl, 2014).

However, we see that even if the different aspects of ISs are noted, the essence of technology remains hidden from most people because of the aforementioned instrumental viewpoint on technology. We propose that this may be one of the fundamental reasons that we see IT as not having been able to meet the needs of the people but rather as having given us new challenges, such as constantly rising workload, information overload, requirement of

ever-higher efficiency even at the price of effectiveness and poor physical and mental health. We, the authors of this article, experienced these as we were writing this article.

How to manage technology when it has the aforementioned essence is a hard question to answer. Heidegger (1977) clearly stated that we should not treat technology as neutral. A neutral attitude towards technology means that we see technology as neither good nor bad, but its goodness or badness depends on how it is used. However, if we think of technology as neutral (neither good nor bad in itself but good or bad depending on how it is used), we are blind to its essence (Heidegger, 1977, pp. 4–5). Modern technology is not value-neutral (see, e.g. Zheng and Stahl, 2011; Brey, 2018); rather, it has standing reservedness built into it.

Thus, we cannot just raise our hands and say, "It is people who decide how technology is used" because in that way, we are allowing the world to be revealed as a standing reserve, and we will lose the meaning of humanity and values by replacing these with technological and scientific progress instead of finding and setting the needed boundaries for technology in our lives. To summarize, as Walters and Kop (2009) noted, it seems that modern technology has changed our views. We have obtained a technological way of thinking in terms of efficiency, a situation that we should not consider a given.

Flores (1998) has used both IT and the institution of identity to reflect on Heidegger's thinking. One core component of Flores's view is the notion that IT and the Internet are entities that are used to communicate, and are the places where our identities are forged. It is worth noting that Flores's article is over two decades old but is still relevant and timely, maybe even more so today than it was at the time of its publication. Computers and the Internet are used to communicate; at the same time, both are changing the structures of our lives and social institutions and altering our narrow perspective. Instead, we should view things as catalysts for changing our social structure and thus altering our commitments towards others (Flores, 1998).

4. Academic quantification as digitalized online competition of scores by researchers

Academic quantification sites are concrete examples of phenomena that challenge the integrity of the scientific process from the Heideggerian perspective. As Berry (2012) has noted, there is a need for philosophy to obtain an ontological understanding of the meaning of IT for the digitalized world. Instead of focusing on the results' effect, the indicators of academic quantification sites emphasize speed and presence.

Social media is changing how we interact with other people and by what frequency (Hall, 2016; Page, 2018) and this change is evident in the academic world as well (Sugimoto, 2017). However, the true quality of research is lost in academic quantification sites; only presence and fulfilment of metrics count. Citations, coverage in academic quantification sites and the number of publications are the true performance indicators of this time. Rewarding such activity in academic social platforms might lead to the gamification of research activities and goal displacement and bias against interdisciplinary research (Hammarfelt *et al.*, 2016; Rijcke *et al.*, 2016; Sugimoto *et al.*, 2017). This quantification of academics through such platforms strengthens the competitive nature of scholarship, even though this may also have positive, empowering effects on scholars (Hammarfelt *et al.*, 2017).

However, we have seen that in the last years, these technologies, through the essence of technology, have transformed science into a game, where only the score (in or outside the quantification sites) matters. Those who do not play are at risk of eventually being excluded from career progression. While this development is enfolding somewhat differently in different fields and research areas, it is changing science as we know it universally. D'Alessandro *et al.* (2020) noted that these quantification sites offer new ways to promote research, improve a researcher's academic reputation, increase the citation rates of articles

and create networks to meet the current demands of academic self-promotion, offering necessary tools that are also tools for narcissism. This underscores the problem in this digital quantification game played via such quantification sites: you need to play along as you will suffer if you do not. It is something we are all expected to adapt to, which means we should be like all the others (i.e. das Man).

In academic competition, the winners are those who can produce the largest amount of publications within the shortest time frame in a forum that is as highly reputable as possible. This strategy typically requires compromises because researchers do not have the time to work on all their findings. For one, they can focus on publishing in lower-profile forums to create their publications list and to do so fast. Another strategy is to aim for higher-level publications because these are more "valuable" and will most likely give researchers bigger citation counts, which is important for them in the middle to the latter parts of their careers, when the amount of their publications is not enough. Even if the papers themselves are not that good, the fact that they are published in high-impact journals gives such researchers legitimacy, which may not be appropriate. Tiokhin *et al.* (2021) warned us that the current situation encourages scientists to deceive journals about the quality of their submitted research so they could get their articles published in higher-rated journals. This situation endangers the moral foundations of the academe.

Li *et al.* (2019) have pointed out that junior researchers who had top-ranked scientists as co-authors in their early career phase did gain clear benefits from it. Collaboration with a top scientist creates a competitive advantage that is most likely based on the collaboration itself rather than on the skill of the more junior researcher (Li *et al.*, 2019). This is because research conducted with a well-known author attracts more attention and is likely to gain more citations, which is essential for the development of a researcher or academic's career. Not all early-career researchers, though, are given an opportunity to publish with top-ranked researchers.

Another main way of evaluating academics is through citation counts. More citations are better than less and this sets temptations for the questionable ways of gathering citations such as strategic self-citation (Seeber *et al.*, 2019) or aiming only at highly cited journals. Those highly cited journals are in many cases top-rated ones, which leads academics to focus on those top-ranked journals which can be a good thing – but not necessarily in all cases. In many cases, top journals also have limitations, one being that although a paper is great, if its content is not within the scope of a journal, it will not be published in the said journal. As such, researchers may be forced to write papers on "commonly accepted topics" in higher-level journals. They have to accept the fact that their "unorthodox papers" may have to be submitted to lower-level journals, which will probably lead to lesser amount of citations and thus weaker impact factors. An interesting side effect of or distortion from this citation chase is that a "bad" article that gets criticisms also gets citations and is thus evaluated as a good article by score. This can hardly be seen as a wanted outcome; it is a well-known academic joke that getting a really bad article accepted in a really good journal will get you a high citation score as all others who will write about the same topic as yours will use your paper as an example of what *not* to do when writing about the said topic.

This kind of behaviour from researchers *en masse* will hurt academic research as it compels researchers to concentrate on how they look rather than on their input. This behaviour will pose a problem for publication channels, especially for high-profile journals, in the long run. It is doubtful if journals' intended level of content quality and even their review process can be upheld as the amount of submissions rises. Unless the underlying attitudes towards scientific publishing change, this problem calls for changes in publication policies, and more importantly, in the review process, as reviewers will have progressively less time to deal with the growing number of submissions for gaining better stats.

As academic quantification sites encourage the aforementioned unhealthy stat competition, it will affect the fundamentals of knowledge production, and not in a positive way. IT has fundamentally changed how we engage in the research process. Research is increasingly being mediated through digital technology, even though this development is unfolding somewhat differently for different disciplines and research areas. It is notable that evaluation of academics in academic quantification sites seem congruent with the evaluation of academics in the academe overall. For example, in considering whom to fill a position with, where to apply funding and how to evaluate dissertations, it often seems more important where the researchers' articles have been published rather than what their contents are (see, for instance, Brembs *et al.*, 2013; Hammarfelt, 2017; Lindahl, 2018).

The essence of an academic quantification site is that it presents academics as standing reserves for the academic publication world and the academics' own career development, not their true academic contribution. Statistics, contributions, citations, number of top journal publications and others are ways of revealing an academic as a (re-)source of, or for, research, with such services enframing the user as a standing reserve. The aim of academic quantification sites seems to be to show an individual's academic output in such a manner that it will quantify his or her academic progress in a simple and quickly selling manner.

Thus, the nature of academic quantification sites (and of the scientific field overall) is characterized by the aim of promoting the academic development of researchers so that they can embody the true meaning of an *academic*, and increasingly, by the aim of promoting efficiency by increasing the research output rather than effectiveness and wisdom. It seems that the true aims of academia (promoting science, accumulating knowledge and creating wisdom) are altered into a game where players need to fight each other to get their next contract, without thinking about the consequences of this game for the academe. As noted by Crous (2019), there are too many tactics and unethical practices and too little science visible in academic competition.

5. Pragmatic player or wise researcher?

The question that we want researchers to ask themselves is this: "Am I a meaningful researcher or a pragmatic player who needs to win in the academic competition or race earlier portrayed?"

The problem inherent in a digital society is that we are expected to accept digitalisation, and the academe is no exception to this. Behind this quantification of academics is the managerialist view of research, which concentrates on calculable metrics that drive research to become measurable, highly ranked and cost-effective; where researches are regarded as standing reserves for fulfilling the demands of the managerial research approach itself, the essence of technology that reveals us as being das Man in the academe. However, society needs researchers who investigate not only their research object but also themselves.

Another question for researchers is this: Which one of the aforementioned modes of being most enhances us as individuals, particularly our authentic selves? Also: What does authentic self mean? As Käufer (2012, p. 465) points out about authenticity:

> The point is rather that questions about selfhood and personal identity are about the kind of entity that is most genuinely grasped based on the phenomenology of authentic existing, while the analysis of everyday Dasein threatens to mislead the inquiry. It is basically a point about method.

Authenticity is an existential phenomenon lived through the self as Dasein. Heidegger's authenticity is an ineluctable first-person point of view; hence, authentic Dasein is individual by origin (Käufer, 2012). However, diversity can be found when thinking about the interpretation of Heidegger's concepts of authenticity (Henschen, 2012). By authenticity, Heidegger means that through being-towards-death, we may find our authentic being

revealed from unlimited possibilities that may cloud our vision as regards our authentic goals.

Nonetheless, it is important to remember that Heidegger had different meanings for death, and we must thus be careful when we use such term. He is not using the term death (Tod) to refer to an event that ends Dasein's life (i.e. demise [Ableden]). All living things perish (Verenden), but Dasein perishes in a particular way, which differs from demise, which is only the event of passing away. Death should be seen as containing Dasein's temporal finitude and finitude of possibility. Failing to recognise this difference has led to criticism of Heidegger's concept of death but is shown to no longer be plausible by pointing out the different uses of words for death in different contexts (Carel, 2007). Dasein is experiencing finitudeness of its own by taking into account and anticipating its own deathness. Through this being-towards-death mode of death, Dasein can investigate itself and the situation he or she has fallen into. In this way, one can find one's possibilities in life by revealing one's burdens as das Man.

This means that by facing death and regarding it as unavoidable, and by limiting the horizon of our existence, we can find what is meaningful and important for us in the end. What do we want to achieve in our lives as individuals and researchers? What is the aim of our research? Is it to be recognised as a researcher with top stats in academic quantification sites and beyond, or should we aim to contribute real contents that we see as important, and meaningful outcomes that we can provide in our limited lives?

The foregoing are questions that one must ask oneself, and one must conduct a self-investigation to find a meaningful answer to the question of what it means to be a good researcher. We, the authors, want to believe that most academics would prefer something other than the current competitive game we are part of, where we are not able to focus on knowledge and wisdom but only try to keep up with the game. This is an issue that must be addressed by the academic community or we will continue to produce an overwhelming wave of meaningless researches to keep up with the stats of our fellow academics.

6. Discussion

Thus, if the essence of technology is revealing everything as a standing reserve, what can be done to enable us to be more Dasein than das Man in academia? Should we reject academic quantification sites to avoid being mere das Man, or should we just ignore the problem because we cannot change the essence of technology? In any case, whether we accept or deny the essence of technology, we remain unfree and bound to technology. The academic game is going on at the academic quantification sites and beyond. The worst possible option is to treat this quantification (catalysed with these sites) as neutral because it blinds us to the essence of technology (Heidegger, 1977, p. 4), which is altering our society, including academic research, by offering the paradigm of efficiency. We should aim to seek and give attention to things other than mere efficiency, statistics and the objectification of everything. As Riis (2011) stated, if we want to challenge the technological revealing of things as standing reserves, we should not concentrate on revolutionising technology because we cannot change its essence. Instead, we should revise our human existence in the (academic) world.

Even though human activity can never directly counter the danger of the technological revealing of standing reserves, there is still hope for us: art (Heidegger, 1977). *"Once there was a time when the bringing-forth of the true into the beautiful was called techne, and the poiesis of the fine arts was also called techne"* (Heidegger, 1977, p. 34). Heidegger (1977) showed that if we limit our thoughts to technology, "*[W]e no longer guard and preserve the coming to presence of art. Yet the more questioningly we ponder the essence of technology, the more mysterious the essence of art becomes"* (p. 35).

Can we use technology in such a way that it is not only fulfilling its essence (i.e. regarding everything as a standing reserve) but rather strengthens us and comes with the good and the

beautiful, such as art, which Heidegger saw as a saving power when danger grows. Can science be part of techne, as art is: not evaluated only by efficiency but also by meaningfulness and the aims of the research?

One can rightly raise the following question: Why should we look at the academe and science from the perspective of a "mysterious" art? We claim that this is what is needed, or else we will lose the battle against the essence of technology. This means that we should always be concerned not only about the achievements of knowledge from the scientific–technical perspective but also about aesthetics and beauty in their deeper meanings. If neither beauty nor goodness can be found in our inventions, maybe we should not be inventing them in the first place.

Knowledge itself is no more than a mere tool. The meaning of knowledge comes with the goal we seek to attain through such knowledge: its wise use. This is also an ethical question and should be incorporated in the academe. However, we do not want to promote elitism or a feeling of superiority by claiming to know what is good and what is bad; rather, we want to underscore the need to evaluate goodness in our goals, as Aristotle says in Nicomachean Ethics (Aristotle), not only efficiency or the economical necessities [1] behind our actions. As researchers, we should choose to seek the true meaning of our lives and careers, which numbers could never correctly represent. This means that we have to enter the zone outside the generally accepted way of living as efficient researchers who produce expected and quantifiable outcomes.

This is especially important as Niles *et al.* (2020) noted that researchers experience that the quantity of publications, journal prestige and metrics are most valued and weighted issues in review, promotion and tenure processes even though this is not always in line within the values of faculties. This issue should be given extra focus in academic institutions if we want to change evaluation processes of tenure or promotion and values behind those. Tenured personnel (especially professors, deans etc.) should start to work toward a cultural change, as they already are secured their position and have the possibility to change the different evaluation processes that non-tenured academics need to meet for achieving their own tenure position. As tenured and older researchers do not give as much weight for these prestige metrics and quantity (Niles *et al.*, 2020), it indicates that the pressure for these come from evaluation processes and this sets non-tenured academics in a position where they fall under quantification described in this paper. This quantification is boosted with tools such as Google scholar and ResearchGate revealing them as standing reserve for others, and even to themselves.

As we have shown in this article, these quantification sites reinforce academic practices where individuals are presented as statistics, and what is more aggravating, with no interest of seeing individuals in any other way. Is that not tantamount to treating people as mere standing reserves? Indeed, academics are mere fuel for such services. We should thus select a different path and avoid using such sites.

We should not be treated as quantified machines whose meaning is only to produce output evaluated with different statistical indicators. If we continue on this path, we will be drowning in publications most of which will not really be read by anyone, if we are not already there. Rather than publishing meaningful whole articles, researchers will split papers into multiple smaller pieces to get higher scores, and will publish more and more to remain in the game, which is corrupted by the game itself. Indeed, there is an urgent need for Humboldt's ideal for the academe.

One simple idea for this, so we could abandon our corrupted academic worldview, is that researchers should publish less rather than more, but with better contents rather than poor contents nonetheless accepted because of the paper's suitableness. This will give researchers time to concentrate and come up with research papers that are really worth reading. This will also help ensure the methodical rigour of researches and the validity of the findings. Likewise, it will save the academe from drowning in a sea of papers that can and will no longer be read. Indeed, sometimes it seems that less is truly more. Last but not the least, it will give researchers time to seek the meaning, value and effect of their research on society. This needs

to be recognised and supported by individuals, research groups, departments, universities and the academe as a whole.

In practice, many different ways of evaluating the knowledge and capability of researchers are needed. *Actual* factual contribution to science, practice and humanity in general, and yes, also to art (not just flowery words at the end of an article stating this), are needed. Many conference series and journals that are either created only for making money or to gain (unearned) prestige need to be harshly criticised by academics, and publishing in them by any researcher with a backbone must stop. As Frémeaux *et al.* (2020) showed, there is a need for researchers to act against this hypercompetition, and to act wisely (virtuously) in matters that are within their power to do something about. Thus, we need new ways of evaluating researchers' output besides quantified metrics. Cuellar *et al.* (2019) aptly argued that we need new more democratic ways to discourse in the field of IS, instead of relying on assessing researchers' output in top-ranked journals. There is a need to improve the current evaluation systems of researchers' influence as the current way is insufficient albeit already stabilised and familiar (Cuellar *et al.*, 2019). This is an issue that the whole academe must seriously consider as the problem is not limited to singular disciplines.

However, there is hope for us and we use the same poem that Heidegger used: "But where danger is, grows the saving power also." (Heidegger, 1977 p. 18). The current evaluation model is not indispensable and can be changed even if it is not an easy task. The San Francisco Declaration on Research Assessment [2] (published 2013) is a promising example of aims to change the research evaluation practises because of the problems in journal-based indicators. However, the mere signing and committing to this kind of declaration is not enough, it needs support and processes to be implemented in institutions. This kind of process takes time and needs to be incorporated in all levels of institutions, not only at strategic levels (Hatch and Curry, 2020.).

Another example of rising concerns is the Leiden Manifesto. Leiden Manifesto provides ten principles for the evaluation of research to be followed and thus supports high-quality evaluation process that is not dominated by current quantitative information (Hicks *et al.*, 2015). Likewise, The Hong Kong Principles for assessing researchers is aiming for more rigorous assessment processes that support the recognition of researchers who commit to robust, rigorous and transparent practices (Moher *et al.*, 2020). These initiatives are in line within the philosophical considerations that we provided and hence show that this current hypercompetition relying on quantified metrics is not philosophically, socially or rationally desirable situation, not forgetting the risks for mental health in the current academic world that Smith and Ulus (2020) aptly described.

7. Conclusion

Academic quantification has become the prevalent, even the preferred, way of evaluating the performance of academics. Instead of evaluating the quality and meaningfulness of research the evaluation heavily emphasises the quantified metrics such as number of publications, prestige of the journal and citation counts. This change, which has been going on for the last decades, reflects the changes in society at large where efficiency is given priority over deeper values such as effectiveness or efficacy. "Efficiency in enframing" has become the doctrine of academic publishing, especially when tools like impact factors are easily available.

While this viewpoint may seem bitter, it is difficult to see the alternatives if it will not be used to analyse the situation and promote already existing alternative ways of evaluating research(ers) — which focus on more sustainable metrics instead of mere quantified ones. The sheer volume of scientific publications has become staggering primarily due to digitalisation, which has set the pace for publishing: the metrics used for evaluating publications need to be simple. The problem has become so serious that there is no longer

time for a deeper analysis; academic quantification sites simply fill in the need academics have made for themselves because of the essence of technology.

In doing the foregoing, we have shifted away from the ideological foundation upon which the academia was built: enlightenment of people. To be able to find a new way of evaluating academics, we should remind ourselves of what science is while acknowledging that the world has fundamentally changed from the days of gas light and steam engines. Technology is guilty, at least partly, of again estranging us from ourselves, our *Dasein* and of replacing ourselves with our quantified self, *das Man*.

To remedy this, we must return to our *Dasein* to bring authenticity and human existence back to the academe, and to remember that we have an obligation towards the society we are part of. Instead of "playing the game", we should focus more on content, which is what truly matters, and report it in a way that serves our fellow academics and laymen best, if not closing, at least bridging the gap between different audiences. There are new ways of evaluating researchers that need to be adopted in practice by academe, not only in declarations and strategies. The technology will hopefully follow and adapt, which will pave the way for other more "human" services. Maybe these will be called academic qualification sites instead of quantification sites; qualifications, after all, are what academics need. This is the issue that all IS researchers should give attention to instead of just playing the game that dehumanises them and that undermines the true value of research.

Notes

1. "The life of money-making is one undertaken under compulsion, and wealth is evidently not the good we are seeking; for it is merely useful and for the sake of something else" (Aristotle).
2. https://sfdora.org/read/

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