

A SCIENTIST OR AN ENTREPRENEUR – ACADEMIC DILEMMAS IN THE CORPORATE UNIVERSITY MODEL

Anna RAKOWSKA

University of M.Curie-Sklodowska; a.rakowska@umcs.lublin.pl, ORCID: 0000-0002-4990-2297

Purpose: The article is a theoretical one and aims to presents potential threats for academics and science development in the context of corporate university model which is functioning in other countries.

Design/methodology/approach: Critical literature review, especially concentrating on studies which results refer to the experiences of academics from countries where corporate university model has been implemented.

Findings: Dominating organizational culture of competition and continuous audits based on citations (IF) evidently contribute to the number of publications and their citations. Unfortunately, at the same time there is also a growing amount of publications, including JCR journals, which do not add any value the science. “Scientists” who “produce” these papers are entrepreneurs able to use the Questionable Research Practices.

Research limitations/implications: There is a need to develop and publicize this problem because it is a real threat to science. It is necessary to pay greater attention to ethics in the scientist's conduct and to introduce mechanisms to discourage potential "entrepreneurs".

Originality/value: The article highlights a new research and social problem, which is a fraud in science.

Keywords: corporate university, competition, questionable research, entrepreneurship.

Category of the paper: conceptual paper.

1. Introduction

Declining financial expenditures on public universities, competition, internationalization of research, pressure on higher efficiency, and poor results of some academics have brought a reform in education in many English-speaking countries, as well as in some European countries in 1980s . Despite some differences between the countries, the reforms were based on a similar model, a model which is functioning like a business model of transnational corporation. Nonetheless after 30 years of experience, this model of corporate university based

on competition and “science production” has generated a lot of criticism. This problem also starts to be addressed by Polish authors (Jemielniak, and Greenwood, 2015).

While the concept of competition and fight for market share among enterprises are normal phenomena, in the case of universities competition based on “the production of knowledge” which decides about most aspects of the university's functioning (e.g. hiring, promoting, distributing funding, research, institutional evaluations, wages) creates a situation in which academic position is becoming more about establishing a pecking order and less about pursuing knowledge. Universities have become corporations with “publish or perish” policy which are valued for a high “science production”. Therefore, to meet the requirements, outstandingly noticeable group of academics started to experiment with Questionable Research Practices (QRPs) in order to be successful. They have become entrepreneurs fighting for the largest share in the game for “points” and citations (Agnoli et.al., 2017; Sijtsma, 2016). This refers also to management sciences (Butler et al., 2017) and is very dangerous because it threatens the development of science as a scientific career.

Academics are beginning to expand the group of precarious (Lempiäinen, 2015). Simultaneously the pressure on results requires more sacrifice from them (Kriemer et.al., 2018). Therefore the motivation of researchers is changing. It used to be believed that professors and scientists engaged in research because they were interested in understanding the world they lived in. Today the motto is “publish or perish”. The traditional professor's image disappears. Today professors have become professionals in the service of corporate university. And new training market has been developed where anyone can learn how to survive in the times of academic Darwinism (Rakowska, 2019).

Of course, changes require reforms, but modelling solutions requires some reflection. What is the role of the university today? Whom should it serve? Audit culture and the rivalry in academic world bring not only pure benefits but also pose a threat to the autonomous development of science. And to everyone, especially when it refers to sometimes dubious and unreliable research in pharmaceutical and medicine sciences.

The article consists of three parts. The first one presents conclusions regarding the use of Impact Factor for the evaluation of quality of scientific work, the second deals with threats for academics and their career, discussion and summary.

2. Publish or Perish and the destructive role of Impact Factor

Universities and academics are evaluated primarily on the basis on their publications. To get the best out of their evaluation, sometimes they undertake various activities providing them with relatively high results. On the battlefield “for knowledge production” results, they may exceed the allowed limits and apply Questionable Research Practices (QRPs).

While the principle of evaluating scientists' work according to their publications is understandable, the methods used in present corporate model are not. The evaluation criteria should increase the effectiveness of researchers' work, taking into account primarily the quality of their work. Giving a key role in the evaluation process to Impact Factor (IF) has done much harm to the quality of science. The quantity of publication is increasing faster than the quality. That is why some academics rebel against the evaluation of their scientific work on the basis of this index, including its creator, E. Garfield. Garfield, as a librarian, developed the IF index as a working tool for the librarians. He criticizes its current use (Milder, 2013). Its frailty is confirmed by the example of *The Journal of Physiology* with high IF (IF = 4.54, 2018), nevertheless, it is criticized because "so many significant figures are reported for an 'index' lacking significance" (Miller, 2013, p. 13). It also influenced the development in predatory publishing, especially among social sciences. Additionally IF could be a limitation for non-English authors and scientific journals. The adoption of the Impact Factor has favoured the consolidation of English language journals.

Publishing in journals with high IF is most of all criticized for long awaiting for publication, which causes the loss of findings value, the revision process being not always honest, and for the fact that publications must be clearly structured which limits the range of recipients. That is why R. Schekman, a Nobel laureate in cell physiology in 2013 stated "that his lab would no longer send research papers to the luxury journals (*Nature*, *Cell* and *Science*), because of their distortive encouragement of research that pursues trendy and mainstream lines of inquiry instead of more self-directed and innovative directions" (Hoffman, 2018). He states that publishing only in JCR journals limits the creativity and diversity, because of strictly set criteria for what constitutes "good" research. The same criticism is proclaimed by a professor in management, D. Hambrick, who refers to favouritism of theoretical rigor over practical applications. He states that through the review process "the straightforward beauty of the original research idea will probably be largely lost..., in which an inherently interesting phenomenon has been subjugated to an ill-fitting theoretical framework (Hambrick after Hoffman, 2018). P. Krugman, the professor in economics and Nobel laureate in 2008, published some of his articles in type B journals because they were rejected in JCR journals (Hoffman, 2018). It is hard to disagree with the economist Binswanger (2015), who states that artificially staged competitions affect science and result in nonsense, and pressure on publication in JCR journals reduces the quality of scientific publications. That is why over 70% of academics in management in the study of Bedeian stated that "I believe that people routinely lie about research" (Bedeian et al., 2010, p. 618). Recently German sociologists openly started boycotting the university rankings that are based mostly on JCR (Stergiou, and Lessenich, 2013).

Pressure on publications results in growing number of published articles. For example, in 2015 there were just 2 million journals (list A and list B) and the number of refereed academic publications grows at a rate of 3.26 percent per year, and doubles every 20 years (Bauerlein,

et.al., 2010). As a result big numbers of papers are waiting for revision processes, which may cause shortage of time for accurate reviews. Therefore, peers quite often pass the articles to ghostwriters (Frey et al., 2009), and good texts do not pass the selection process, like in the case of the above-mentioned Nobel prize winner. Very original ideas may be perceived as too risky for journal ranking. Critics of revision process refers also to procedural injustice of peer review and scientific misconduct. Editors and reviewers of top magazines and sometimes authors play the social game of “valuable contacts”. Authors who are not-networked may be unfairly treated (Clair, 2015).

Also competition based on JCR results is dangerous. Binswanger is right saying that “race for excellence is a childish race and that it was overlooked that not everybody can be more excellent than everybody else” (Binswanger, 2015, p. 51). A very illustrative example of it can be the career of the German scientist J. Schön. Schön's fraud was the largest ever exposed in physics (Reich, 2009). In 2002 he was perceived as one of the most promising young scientists in the world due to a series of supposedly groundbreaking discoveries in the field of semiconductors. Later they turned out to be great cheats. In 2001, he published on average one JCR article every 8 days in the best magazines (8 articles in Science, 5 in Nature). He did not do any research. The data for publications were fabricated in a computer simulation. His excellency caused suspicion in the environment. An independent commission recognized that all the fantastic discoveries had been falsified. He was an “entrepreneur” who found a new “material” for producing demanded products in the process of science publishing. Who should be blamed? Him? He behaved rationally according to the demands of evaluation criteria of system. So was the system bad? It reminds the scandal in Enron Corporation that was based on a rule “Good deal vs. bad deal? Didn't matter. If it had a positive net present value (NPV) it could get done”. Or maybe we should blame management for pushing scientists towards marketable, discovering and prestigious publications, or editors that care about good publicity and rankings? Or reviewers? All of them create elements of one system of science production based on numbers.

It is worth to point out a scientist and entrepreneur of Polish origin V. Tracz, who is involved in science publishing, a founder of open access platform “Faculty of 1000”. Tracz encourages to abandon publishing in journals, and lists five deadly sins of traditional publishing:

1. delay (long awaiting time in top magazines, loss of value of data);
2. journals and their editors (war for statistics; “take what sells well”), scientists should not need journals, they need journals only to be published, but they read articles; editors make final decision on what to publish, and more often, what not to publish. They are not always experts in the topic and rely on the undisclosed advice of secretly appointed referees, who may do their work poorly, and may have obvious conflicts of interest;

3. faulty Peer Review process (often editors “help” not to publish an article). He criticizes the fact that this process is blind; the public will make reviewers do their job better, and make them give more useful comments, like it has been observed in “Faculty of 1000 platform”;
4. lack of full data (causing irreproducible results; without having practical access to the relevant data it is difficult to evaluate a paper and its recommendations);
5. the Impact Factor as an index (and this was discussed earlier).

Tracz underlines that there is a need to develop alternative habits and tools to make the assessment fair, not overly onerous, and directly involving the assessment of the specific scientific achievements of individual researchers by people with appropriate expertise. He proposes open science publishing platforms, with open reviews and objective selection of reviewers (from the list generated by the system).

Summing up, the principles of corporate universities have led to the emergence of numerous dysfunctions in science, also in management sciences (Butler et.al., 2017). The number of publications is growing faster than their quality. A noticeable group of academics has become entrepreneurs in the area of publishing, skilfully using Questionable Research Practices and the whole spectrum of misconduct, which is not permissible ethically (data fabrication, falsification and plagiarism). Growing number of publications and pressure for results makes the editors and reviewers do their job improperly (involvement in viscous circle of acquaintances, lack of time, ghostwriters, lack of expertise). This situation can be described by Lieberman's law: "Everybody lies; but it doesn't matter since nobody listens". So finally, as shown by Bedeian, most readers do not trust what they read (Bedeian et al., 2010).

3. Bright and dark sides of the academic career in corporate university

The competition among universities and pressure to publish have negative impact not only on the quality of publications but also on wellbeing of academics. Studies undertaken in 19 countries show that market oriented managerial reforms are the main source of academic stress (Shin, Jung, 2014). There is a noticeable tension and tenderness associated with how to maintain balance between private life and academic work at the same time and meet high university demands, especially when instability is growing and increasing (Kwiek, Antonowicz, 2015, p. 48). From the study undertaken in Europe in 12 countries it can be concluded that “there is growing diversity within the academic profession and new professional roles inhabiting a space which is neither located in the core business of teaching and research nor at the top level management and leadership” (Fumasoli et. al., 2015). However despite worsening employment conditions, growing pressure for results, increased teaching loads, relatively decreasing salaries (compared with other professionals), and changing employment relations

towards the less secure ones, the academic profession still remains an attractive option in Europe. However it is not as attractive as three or four decades ago (Kwiek, Antonowicz, 2015).

Moreover, motivation for work is clearly changing. The majority of respondents from Bedeian study undertaken in American Business School claim that they publish not because it gives them satisfaction but to ensure their positions, employment and earnings (Bedeian et al., 2010). What should be the role of academic work and careers today? Greco et al. identified antecedents and outcomes of professional identification among 1,807 academics working in the management field (Greco et al., 2015). Professional identification was related to higher occupational satisfaction and intentions to devote more time to research but was not related to intentions to devote more time to teaching. Career obstacles had direct negative relationships with occupational satisfaction and stress.

Satisfaction and stress of academics vary from country to country, where most of them feel stressed in Anglo-Saxon countries with strong new public management systems like in the UK, Australia, New Zealand (Fredman, & Doughney, Houston et al., as cited in Shing, & Jung, 2014, p. 607). In these countries job satisfaction is declining and job stress is increasing.

American academics complain about the bad health caused by stress, marginalization of didactics and the demise of scholar profession in society (Kraimer, Greco, Seibert, Sargent, 2018, Miller et al., 2011). Many American academics know about the use of QRP (70% in the sample), feel severe pressure on publishing in top journals which causes professional burnout (74%) (Bedeian et al., 2010). And academic work environments is deteriorating.

On the other hand, Japanese academics feel very satisfied with their job and highly stressed. Compared to them, British and Australian academics are relatively less satisfied and highly stressed (Bentley et al., 2013 after Shin, Jung, 2014, p. 604). The lack of job security is the highest in the UK and Australia. Academics' job satisfaction is the highest in Mexico (87% of respondents) and the lowest in the UK (47%). Job stress is the highest in 68% (Korea) and the lowest in Malaysia (20%) (Shin, Jung, 2014, pp. 606-610). Differences are in large part caused by different models of academic career in each country. The lack of job security is noticed in the UK and Australia, while academics' job satisfaction is the highest in Mexico (87%) and the lowest in the UK (47%); job stress is the highest on a level of 68% (Korea) to the lowest on a level of 20% (Malaysia) (Shin, & Jung, 2014, pp. 606-610).

These big differences reflect otherness in academic carrier systems in studied countries. This refers most of all to pressure for publication, salary, empowerment, academic freedom, governance, work conditions, and workloads. On this basis Shing, Jung (2014, p. 614) have distinguished four groups of countries: first one – academics have high satisfaction and high stress, the second – is characterized by low satisfaction and low stress, while academics in the third and fourth groups show high satisfaction and low stress, or the opposite. Most developing systems (South Africa, Mexico, Brazil, Argentina, and Malaysia) are in the low stress categories, but many of recently developed systems (Canada, Australia, Netherlands, Finland,

Korea, Hong Kong) are in the high stress categories. In general, academic jobs have become stressful when their governments have implemented managerial reforms.

4. Discussion and summary

Policymakers and institutional leaders tend to believe that the managerial reforms contribute to the efficiency of university management and the quality of teaching and research. In general, reforms in higher education have resulted in higher efficiency and productivity. This is due to intensification of academic work, increased stress and emphasis on performativity. It also has had destructive effects on the academic profession. The growing competition has made some academics take part in the academic game called “production of knowledge” with the use of QRP. Some editors and reviewers also take part in this game. Unfortunately this threatens the development of science and destroys the credibility of researchers (Donoghue, 2018).

For many of us, the term "production of knowledge" is pejoratively associated. However, it has been functioning for years – as an important and key term – in a corporate university model, which is being introduced now in Poland. The educational reform in Poland was necessary due to very low internationalization of scientific research, dim visibility of Polish science, and low scientific efficiency of some academics. Also publishing patterns of some Polish scientists need to be changed. It seems that change of culture of Polish academia without external pressures would not be possible. However, modelling on solutions from countries where reforms already brought clearly acute damage to science requires reflection. Additionally, the developed western world, with which we try to cooperate and compete, is better financed, and despite the criticism, the academic career offered there is still more attractive (Kwiek, 2019). In Poland the number of young researchers is systematically decreasing, which results from: inadequate motivational mechanisms for scientific development and achievement of subsequent academic degrees, employment of scientific employees mainly in connection with a big burden on didactic activity, low expenditures on research in general (NIK, 2017).

We like it or not, we are entering the global knowledge production market today. For many of us, the term "production of knowledge" may be pejoratively associated. But this is a key term in a corporate university model functioning, which is being introduced now to Poland. We have to remember that under market-oriented managerial reforms academic culture, motivation, working condition, job satisfaction and job stress are changing. And for the author of this paper it is intriguing how many publications relating to this issue have been published in the last 20 years in the world, especially those concerning the development of entrepreneurial and corporate culture within the HE sector. From the researcher's point of view, also in Poland, there are new possibilities for research and ... international publications, if our colleagues become part of the projects.

However, on the other hand, is this good for the development of science and academic career? Assumptions underpinning academic performance management need to be reconsidered to recognize the fundamentally intrinsic motivational nature of academic work. Dominating external motivation based on IF production of science encourages the development of sometimes dubious entrepreneurship.

On the other hand, the existing research gap in this area in Poland is a challenge for researchers to identify pros and cons of the implemented reform in higher education.

References

1. Agnoli, F., Wicherts, J.M., Veldkamp, C.L., Albiero, P., & Cubelli, R. (2017). Questionable research practices among Italian research psychologists. *PloS one*, *12*(3), e0172792. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0172792>, 03.05.2019.
2. Bauerlein, M., Gad-el-Hak, M., Grody, W., McKelvey, B., Trimble, S. (2010). *We Must Stop the Avalanche of Low-Quality Research*. <https://www.chronicle.com/article/We-Must-Stop-the-Avalanche-of/65890/>, June 13.
3. Bedeian, A.G., Taylor, S.G., Miller, A.N. (2010). Management Science on the Credibility Bubble: Cardinal Sins and Various Misdemeanors. *Academy of Management Learning & Education*, *9*(4), 715-725.
4. Bentley, P.J., Coates, H., Dobson, I.R., Goedegebuure, L., & Meek, V.L. (2013). Introduction: Satisfaction around the World? In: P.J. Bentley, H. Coates, I.R. Dobson, L. Goedegebuure, & V.L. Meek (Eds.), *Job satisfaction around the academic world* (pp. 1-11). Dordrecht: Springer.
5. Binswanger, M. (2015). How nonsense became excellence: forcing professors to publish. In: I. Welpe, J. Wollersheim, S. Ringelhan, M. Osterloh (Eds.), *Incentives and Performance. Governance of Research Organizations* (pp. 19-32). Springer: Cham.
6. Butler, N., Delaney, H., & Spoelstra, S. (2017). The gray zone: Questionable research practices in the business school. *Academy of Management Learning & Education*, *16*(1), 94-109.
7. Clair, J.A. (2015). Procedural injustice in the system of peer review and scientific misconduct. *Academy of Management Learning & Education*, *14*(2), 159-172.
8. Donoghue, F. (2018). *The last professors: The corporate university and the fate of the humanities*. Fordham: Univ Press.
9. Fumasoli, T., Goastellec, G., Kehm, B. (Eds.) (2015). *Academic work and careers in Europe: Trends, challenges, perspectives*. Cham: Springer. Rertived from <https://www.springer.com/gp/book/9783319107196>.

10. *German Sociologists Boycott University Rankings*. Retrieved from <http://globaldialogue.isa-sociology.org/german-sociologists-boycott-university-rankings/>, June 21, 2013.
11. Greco, L.M., Kraimer, M., Seibert, S., & Sargent, L.D. (2015). Career shocks, obstacles, and professional identification among academics. *Academy of Management Proceedings*. No. 1, Academy of Management. <https://doi.org/10.5465/ambpp.2015.12178abstract>, Retrieved from <https://journals.aom.org/doi/10.5465/ambpp.2015.12178abstract>.
12. Hoffman, A. *In Praise of 'B' Journals*. Retrieved from <https://www.insidehighered.com/views/2017/03/28/academics-shouldnt-focus-only-prestigious-journals-essay>, March 28, 2017.
13. Jemielniak, D., & Greenwood, D.J. (2015). Wake up or perish: Neo-liberalism, the social sciences, and salvaging the public university. *Cultural Studies. Critical Methodologies*, 15(1), 72-82.
14. John, L.K., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological science*, 23(5), 524-532. doi.org/10.1177/0956797611430953.
15. Kraimer, M., Greco, L., Seibert, S., Sargent, L. (2018). An Investigation of Academic Career Success: The New Tempo of Academic Life. *Academy of Management Learning and Education*. Retrieved from: <https://journals.aom.org/doi/pdf/10.5465/amle.2017.0391>, 7.12.2018.
16. Kwiek, M. (2019a). Modele kariery naukowej i atrakcyjność profesji akademickiej. <https://repozytorium.amu.edu.pl/handle/10593/24457>, 20 May 2018.
17. Kwiek, M., & Antonowicz, D. (2015). The changing paths in academic careers in European universities: Minor steps and major milestones. In: T. Fumasoli, G. Goastellec, B. Kehm, (Eds.), *Academic work and careers in Europe: Trends, challenges, perspectives* (pp. 41-68). Springer, Cham.
18. Lempiäinen, K. (2015). Precariousness in Academia: Prospects for University Employment. In: D. della Porta, S. Hänninen, M. Siisiäinen, T. Silvasti (Eds.), *The New Social Division. Palgrave Studies in European Political Sociology* (pp. 123-138). London: Palgrave Macmillan.
19. Miller, D. (2013). Why does Impact Factor still have impact? *Physiology News*, 93, pp. 12-14.
20. NIK: systematycznie maleje liczba młodych pracowników naukowych, <http://naukawpolsce.pap.pl/aktualnosci/news%2C459896%2Cnik-systematycznie-maleje-liczba-mlodych-pracownikow-naukowych.html>, 02.10.2017.
21. Rakowska, A. (2019). Czy najlepsi są „najlepsi”, czyli ciemna strona zarządzania. Darwinizm w świecie akademickim. In: A. Wojtczuk-Turek (Ed.), *Zarządzanie kapitałem ludzkim – wyzwania i trendy. Część I. Wybrane problemy ZZL i ZKL* (pp. 217-233). Warszawa: Oficyna Wydawnicza SGH.

22. Reich, E. *The scientific fraudster who dazzled the world of physics*. Retrieved from <https://www.telegraph.co.uk/technology/5345963/The-scientific-fraudster-who-dazzled-the-world-of-physics.html> ,18 May 2009.
23. Shin, J.C., & Jung, J. (2014). Academics job satisfaction and job stress across countries in the changing academic environments. *Higher Education*, 67(5), 603-620.
24. Sijtsma, K. (2016). Playing with data – or how to discourage questionable research practices and stimulate researchers to do things right. *Psychometrika*, 81(1), 1-15.
25. Stergiou, K.I., Lessenich, S. (2013). On impact factors and university rankings: from birth to boycott. *Ethics In Science and Environmental Politics*, 13, p. 6.
26. Tracz, V. *The five deadly sins of science publishing* [version 1; peer review: not peer reviewed]. *F1000Research* 2015, 4:112, <https://doi.org/10.12688/f1000research.6488.1>.