



ADD ME: A MENACE TO RESEARCH AND DEVELOPMENT IN NIGERIAN HIGHER EDUCATION INSTITUTIONS

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Abstract

This paper is designed to highlight the concept of 'Add me' and expose the negative consequences of its practice among academic personnel of higher education institutions in Nigeria, with a view to maintaining the purpose and integrity of research and development. The paper is an exploratory survey through extensive review of related literature which at whatever humble a scale, has succeeded in highlighting the importance of research and development, the effects of 'Add me' on research and development and the way forward. Fifty (50) academic staff members of Akanu Ibiam Federal Polytechnic, Unwana were used as population for the study. Questionnaire was used as instrument for data collection. Descriptive and inferential statistical methods were used to analyze data collected from the research subjects through mean values. Major findings show that the practice of 'add me' by many academic personnel of Nigerian higher education institutions have intrepid and negative consequences on the purpose and integrity of research and development. The recommendations drawn from this study is that since 'publish or perish' culture has birthed 'add me' and other negative research and development practices, it should be reviewed; other responsible academic related activities (such as peer review for grants and publications, mentoring, leadership ability, outreach, teaching and knowledge exchange) should be increasingly considered for promotion and career advancement.

Keywords: *Add me, Publish or perish, Research and development, Nigerian higher education institutions.*

Introduction

In today's modern, corporate and competitive world, societies as well as organisations are challenged with containing external and internal challenges. It is no longer enough for organisations to be concerned about other organisations in their industry that have rival products and services within their locality. Societies and organisations must now be concerned about other societies and organisations anywhere in the world that are looking for ways to deliver the products and services as almost giveaways and in the most acceptable forms so as to get customers to go after their own goods and services. Every now and then, our changing world challenges us with various issues that require creative as well as innovative solutions. Climate change/destruction of nature, large scale conflict/wars, inequality in income discrimination, poverty, religious conflicts, government accountability and transparency/corruption, natural disasters and new technological innovations all call for human reactions to sustain continued development. With these issues which cause anxiety and concern, societies and organisations must be alive to their responsibilities in line with research and development in order to sustain socio-economic development.

Consequently, LIVESON.org (2020) avers that sustaining socio-economic development requires following certain guidelines and winning strategies. One of these is to always offer the best products and services; another is to hire skilled and passionate employees who are dedicated to society or organisation's success. Another key element is

to always remember that the citizen or customer is the priority and that your society or organisation must always be citizen/customer leaning if it wants to be profitable. The author further posits that a common denominator that supports all of these success factors is a specific focus by societies or organisations on research and development.

Research and development (R&D) according to DiscoverPhDs (2020) refers to the process of discovering new knowledge and ideas that shape our societies and everyday lives. It can also be referred to as a systematic investigation (through gathering and analyzing information) aimed at developing or contributing to generalizable knowledge and ideas. These knowledge and ideas can be either the development of new concepts or the advancement of existing knowledge and theories, leading to a new understanding that was not previously known. R&D is an integral part of problem solving which seeks to understand the world and to learn how new knowledge and ideas can be applied to better everyday life.

“Add me” (AM) refers to a negative R&D practice in which scholars or academic personnel of higher education institutions (HEIs) (i.e. universities, polytechnics, monotronics and colleges) who are expected to actively engage in R&D for the advancement of society refuse to do so but prefer to attach themselves to the research activities of other scholars not necessarily to advance society but to gain promotion or advancement in their chosen careers. Menace refers to perceived threat or danger to somebody or something. This paper supposes that AM is threat to R&D in Nigerian HEIs.

The role of research and development in socio-economic advancement cannot be overemphasized. According to The Research Society (2021), research provides accurate and timely information on the behaviour, needs, attitudes, opinions and motivations of a population. Armed with this knowledge, organisations are able to develop products and services to meet the desires of their customers and nations/governments can tailor policies and programs to the needs of citizens. Also, important national statistics on socio-economic issues, poverty, literacy levels, unemployment, and so on can be reliably determined. James (2019) and DiscoverPhDs (2020) posit that the power of research and development in advancing and enhancing organisational and societal growth is very wide and complex. This explains why HEIs all over the world, as citadels of teaching/learning, are tagged and regarded as epicenters of research and development. This explains why one of their major responsibilities is to discover and invent the future.

According to the National Academy of Sciences, National Academy of Engineering and Institute of Medicine (2013), HEIs are important sources of research and development. Consequently, Epigeum Ltd (2012), maintain that the main functions of higher education are predominantly two-fold. One is as educational establishments and the second as generators of knowledge and technology. As educational establishments, their role is to provide able, self-directed graduates that are independent and confident, and will go out into society and give to society through leadership or through civic duties. As knowledge generators, they are research institutions who are there to provide new knowledge, to change paradigms, to aid society in its development and in meeting new challenges as they come along. Consequently, many of the new ideas in science and technology that contribute to innovation in society come from universities, polytechnics, monotronics, colleges and other research institutions. Through their academic personnel (lecturers), HEIs are expected to generate new knowledge and ideas through research and expose students (the most important products of HEIs) to those knowledge and ideas. Therefore, they not only generate new knowledge and ideas, they also prepare knowledgeable, inventive, and motivated graduates who can carry those new knowledge and ideas into businesses, nongovernmental organisations, and governments. In addition, academic staff members sometimes play direct role by consulting with existing organisations or even starting their own organisations. This is the reason for the “publish or perish policy” in our higher education institutions - to encourage or if you like compel academic staff members of HEIs to actively engage in research and development so as to generate new knowledge and ideas that will help to make life more meaningful for mankind.

Unfortunately, there are speculations that a reasonable proportion of academic staff members of HEIs who are expected to generate new knowledge and ideas and engage directly in exposing students and the society at large to those knowledge and ideas, have rather resorted to cutting corners and engaging in “add me” research and development thereby negating the *raison d’être* for their institutions. The need to address this ugly development is the reason for this paper entitled “Add me: A menace to research and development in Nigerian higher education institutions.

Purpose of the Study

The purpose of this study is to determine the extent to which AM threatens R&D in Nigerian HEIs. Specifically, the objectives of this paper are to:

- i. Know the extent to which academic staff members get involved in “add me” authorship
- ii. Find out why academic personnel engage in ‘add me’ publishing
- iii. Discover the effects of “add me” on research and development
- iv. Proffer lasting solutions to “add me” syndrome.

Research Questions

The following research questions were formulated to guide this study:

- i. To what extent do academic staff members get involved in “add me” authorship
- ii. Why do academic personnel engage in ‘add me’ publishing?
- iii. What are the effects of “add me” on research and development?
- iv. What are possible solutions to “add me” syndrome?

Literature Review

Research and Development: Conceptual Explanation

According to Western Sydney University (2020), *research is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings. This could include synthesis and analysis of previous research to the extent that it leads to new and creative outcomes.* James (2019) defines research and development as the generation of new knowledge. In a business context according to the author, it is an activity that companies undertake in order to develop new products, processes or services, or improve those that already exist. According to DiscoverPhDs (2020), R&D can simply be defined as the process of discovering new knowledge which can be either the development of new concepts or the advancement of existing knowledge and theories, leading to a new understanding that was not previously known. The author formally defines it as a systematic investigation which is designed to develop or contribute to generalisable knowledge and ideas. It can be carried out by anyone in any field and is usually done to broaden knowledge in the physical, biological, and social worlds. This can range from learning why certain materials behave the way they do, to asking why certain people are more resilient than others when faced with the same challenges. Kainulainen (2014) defines R&D as a broad category describing the entity of basic research, applied research, and development activities. In general research and development means systematic activities in order to increase knowledge and use of this knowledge when developing new products, processes, or services. Nowadays innovation activities are strongly tight into the concept of research and development. In the broadest meaning, research and development consists of every activity from the basic research to the (successful) marketing of a product or (effective) launching of a new process (R&D&I). Kenton (2021) defines R&D in the business parlance and states that it includes all the activities which organisations, firms or companies undertake to innovate and introduce new and better products and services. It is often the first stage in the development process. The goal is typically to take new products and services that will satisfy the yearnings of customers to market and add to the company's bottom line.

Research begins when we want to know something (https://www.soas.ac.uk/cedep-demos/000_P506_RM_3736-Demo/unit1/page_15.htm) ; it could be why citizens are not satisfied with the activities of government, it may be to know why many persons are dying of a certain disease such as Covid-19, it may be why customers are no longer patronizing a particular company or product, it could also be to know how to improve yield of agricultural products or even to find out why use of our libraries is depreciating. It is concerned with increasing our understanding of a given phenomenon, situation or condition, with a view to providing information and knowledge or ideas needed for problem solving and making decisions.

R&D is sometimes divided into pure (or basic) and applied research in order to make a distinction between research that is carried out to further our knowledge and that which seeks to apply pre-existing knowledge to real world problems. The focus of this paper is both pure and applied research; for increasing our knowledge and understanding of given phenomena and for using existing knowledge to fix human and social issues. In this context therefore, the purpose of R&D is both 'knowledge expansion' and 'problem solving'.

Significance of Research and Development

It has been noted at the introduction of this paper that R&D is an integral part of problem solving. Its import lies in its ability to enhance society by advancing knowledge through the development of scientific theories, concepts and ideas. A research purpose is met through forming hypotheses, collecting data, analysing results, forming conclusions, implementing findings into real-life applications and forming new research questions (Discover PhDs, 2020).

From forecasting weather, developing theories, discovering solar power to the development of vaccines such as AstraZeneca, Inactivated Polio Vaccine (IPV), Oral Polio Vaccine (OPV), measles, mumps, rubella, and varicella combination vaccine (MMRV)), R&D is constantly trying to find new ways to understand the world and how things work – with the ultimate goal of improving our lives. R&D therefore aims at finding out what is known, what is not known and what we can develop further. In this way, scientists can develop new theories, ideas and products that shape our society and improve our everyday lives. Therefore, R&D is significant to the extent that it enhances our understanding of our world and to learn how this knowledge can be applied to better everyday life.

According to [Valavanidis](#) and Vlachogianni (2016), R&D has been proved to be a crucial factor moving the world's technological frontiers, while at the same time facilitating new technological and scientific innovations. The authors further state that investing in research by state and private institutions and industrial enterprises, as well as applications of advanced technology in the various sections of the economy, has been proved to play a significant role in the economic growth and prosperity of a country. R&D comprise of creative work undertaken on a systematic basis in order to increase the stock of knowledge and ideas in various fields of science and technology and advance education, learning and expertise in the country's human capital.

Herr (2021) posits that in engineering, R&D helps you to know the facts, and know what needs to be done in a given situation. He states that it is the invaluable tool which engineers use to discover the facts they need in order to produce the final result they are working on. In business, James (2019) argues that R&D is important because it provides powerful knowledge and insights, leads to improvements to existing processes where efficiency can be increased and costs reduced. It also allows businesses to develop new products and services to allow it to survive and thrive in competitive markets. Research is always the same irrespective of the environment; whether its engineering or any other field. Engineering and other fields involve finding new ways to perform, conduct or execute work efficiently; new ways of making things more efficient. For this reason, we need to study existing things and then find out shortcomings and rectify or mitigate them. It also involves finding solutions to issues which are not yet resolved.

Vessuri (2017) insists that we live in a time of renewed enthusiasm for higher education research and development as the surest way to world development. Speaking further, Vessuri maintains that without R&D, HEIs cannot achieve active future contribution to human and social development. This, as has been noted earlier, is the reason for the “publish or perish” policy in our higher education institutions which propels scholars to engage in research and development and generate new knowledge and ideas that will help to make life better for man.

Although R&D can take many forms, Discover PhDs (2020) posits that there are three main purposes of research:

1. **Exploratory:** It is the first research to be conducted around a problem that has not yet been clearly defined. Exploration research therefore aims to gain a better understanding of the exact nature of the problem and not to provide a conclusive answer to the problem itself. This enables us to conduct more in-depth research later on.
2. **Descriptive:** This expands knowledge of a research problem or phenomenon by describing it according to its characteristics and population. It focuses on the ‘how’ and ‘what’, but not on the ‘why’.
3. **Explanatory:** Explanatory research is also known as casual research. It is conducted to determine how variables interact - to identify cause-and-effect relationships. Explanatory research deals with the ‘why’ of research questions and is therefore often based on experiments.

Publish or Perish: An Explanation

Regular publication of research results is one of the basic methods by which scholars contribute to socio-economic development and demonstrate their academic prowess to peers. According to Rawat and Meena (2014), successful publication of research results brings attention to scholars and their institutions. This in turn may bring in more funding for the institution and also ensure scholars’ progress through their career. Scribendi Inc. (2021) posits that HEIs always use the number of publications to a scholars’ credit as a measure of that scholar’s competence. Administrators are increasingly using this as criteria for recruitments and promotions. As a result, scholars who publish infrequently or who focus on activities that do not result in publications may find themselves out of contentions for many academic positions. These are the reasons for the immense pressure to publish.

Rawat and Meena (2014), Moosa (2018) and (*Publish or perish, n.d.*) define ‘Publish or perish’ (POP) as a phrase, aphorism, maxim or culture that describes the pressure put on academics to publish results of their research findings in scholarly journals rapidly and continually as a condition for employment (finding a job), promotion, and even maintaining one’s job. The concept has been around for close to a century, even though scholars are not united on its origins (Wikipedia, 2021; Plume and Weijen, 2014 and Moosa, 2018).

The perceived benefits of POP according to Moosa (2018) include motivating academics early in their careers to focus on research and development and learn to balance research activity with other responsibilities, helping to identify and reward scholars based on merit and not on favoritism and nepotism and enhancing drive towards socio-economic development. However, POP comes with consequences for the role of research and development in society. It has been strongly criticized, the most notable grounds being that the emphasis on publishing decreases the value of resulting scholarship, as scholars must spend more time scrambling to publish whatever they can get into print, rather than spending time developing significant research and development agendas. The pressure to increase the number of publications has led to unethical practices and waste full research; submission of poor work to academic journals, armchair research, rise in number of predatory journals (Rawat and Meena, 2014; Wikipedia, 2021 and Springer Nature Ltd., 2010), increase in risk to academic research integrity, project results slicing in order to generate multiple articles rather than just one large paper (Enago Academy, 2019), obsession with quantity rather than quality (of course, one brilliant article should outweigh one mediocre book), ‘add me syndrome’ (multiplication of authorship or fractional authorship) and consequently, development slow down. POP detracts from the time and effort academic personnel (e.g. librarians) commit to other academic activities (like cataloguing,

classification, reference work, teaching undergraduate courses and mentoring subordinates) since the rewards for efficient performance in other activities rarely match the rewards for efficient research and publication. This paper as we already know, does not discuss all the consequences of POP culture. It rather focuses on ‘add me’ syndrome as a negative consequence of POP.

Add Me (AM): Conceptual Review

HEIs seek to advance their academic personnel, organisations and society in general through R&D, hence the POP culture. In order to survive the POP culture and remain relevant in their institutions, some scholars (for varied reasons) resort to certain unethical R&D strategies such as fake authorship, project result slicing, ‘add me authorship’, and so on. Therefore, ‘add me’ is a child of pressure arising from POP culture. It is an emerging practice among HEI scholars who cannot effectively meet the requirements of POP culture in their academic career. This paper simply defines AM as an R&D practice in which scholars or academic personnel of HEIs (i.e. universities, polytechnics, monotechnics and colleges) who are expected to actively engage in R&D for the advancement of organisations and society do not or refuse to do so but prefer to unethically attach themselves to the research activities of other scholars not necessarily to advance society but to gain promotion or advancement in their chosen careers. In such a case, their idea of ‘problem solving’ has no relationship with research and development but significantly relates with the demands of POP and career advancement.

While the actual or substantive intellectual owners of the research work undertake choice of research topic and problem definition, formulation of objectives, questions and hypotheses, experiment design, collection of data, analyses of data, drawing conclusions and writing the research report, the fractional AM scholars normally chose most times to bankroll the financial implications of the research investigation. The AM syndrome also arises as a result of nepotism in research and development. When spouses or relatives find themselves in the same field, the frequency of converting wives (and in some cases husbands), brothers, sisters and other relatives to fractional authors is always high.

AM authorship no doubt, may be beneficial to the practitioners because it enhances their career development, but it significantly negates the ethics of authorship in research and development. Even though there may not be a universally agreed definition of authorship as Jenn (2006) postulates and notwithstanding that data collection, editing of grammar and language, and other routine works by itself, do not deserve an authorship, it is generally agreed that an author should have made substantial contribution to the intellectual content, including conceptualising and designing the study; acquiring, analysing and interpreting the data. The author should also take responsibility to certify that the manuscript represents valid work and take public responsibility for the work. Finally, an author is usually involved in drafting or revising the manuscript, as well as approving the submitted manuscript. AM authorship also negates the principle of responsible publication which states that authors should publish in order to advance research and scholarship, not to advance just their own career.

Summarily, AM authorship just like other unethical research and development practices may compromise research integrity, could militate against productivity in research and development, may stunt mentoring and ‘actual’ growth of academic personnel in research and development, might breed superficial multiplication of authorship and can as well negate ethical principles of research such as authorship, honesty and responsible publication.

Methodology

The survey research design was adopted and the population of the study comprised 50 academic staff members of Akanulbiam Federal Polytechnic Unwana, Afikpo in Ebonyi State who were randomly selected. Structured questionnaire was used to collect data from the respondents. The researcher prefers questionnaire as the major source of data collection because the research subjects are literate and capable of filling the questionnaire unaided. The likert method of scaling questions and responses was adopted. Data collected was analysed using statistical tables and mean values. Descriptive (reportorial) and inferential (predictive) statistical methods were used to

analyze data collected from the research subjects. In other words, tables and means were used to analyze data using 4, 3, 2 and 1 points for SA, A, D and SD so that $4+3+2+1 = 10$ and significant mean value = $10/4 = 2.5$. Therefore any position or statement that has significant mean value of 2.5 and above will be accepted (A) while the ones that have significant mean value below 2.5 will be rejected (R). Each research question forms a theme for analysis.

Analysis of Results

Table 1: Extent to Which Academic Staff Members Get Involved in ‘Add Me’ Authorship

| S/No | Items | SA | A | D | SD | Mean | Decision |
|------|--|----|----|----|----|------|----------|
| 1. | Many research publications with multiple authors are actually authored by single individuals | 13 | 20 | 12 | 5 | 2.82 | A |
| 2. | It is not all authors in a work that actually contribute to the intellectual content of the work | 21 | 14 | 11 | 4 | 3.04 | A |
| 3. | Every academic staff member practices ‘add me’ authorship | 5 | 8 | 15 | 22 | 1.72 | R |
| 4. | Almost all academic staff members indulge in ‘add me’ authorship | 6 | 12 | 13 | 19 | 1.82 | R |
| 5. | Many academic staff personnel practice ‘add me’ authorship | 11 | 21 | 13 | 5 | 2.76 | A |
| 6. | Only a few academic personnel practice ‘add me’ authorship | 7 | 10 | 23 | 14 | 2.36 | R |
| 7. | No academic staff member indulges in ‘add me’ authorship | - | - | 21 | 29 | 1.42 | R |
| 8. | ‘Add me’ authorship is not acceptable in my institution | - | 3 | 19 | 28 | 1.50 | R |
| 9. | There is no policy against ‘add me’ authorship in my institution | 24 | 22 | 3 | 1 | 3.38 | A |

Data in table 1 indicate the extent to which academic staff members get involved in ‘add me’ authorship. Data presented (especially in rows 1, 2 and 5) clearly show that many academic staff members in AkanuIbiam Federal Polytechnic Unwana are involved in AM authorship.

Table 2: Reasons for Engaging in ‘Add Me’ Authorship.

| S/No | Items | SA | A | D | SD | Mean | Decision |
|------|--|----|----|----|----|------|----------|
| 1. | I practice ‘add me’ authorship because of time constraint | 10 | 22 | 12 | 6 | 2.72 | A |
| 2. | There is no motivation for responsible research and development | 14 | 23 | 10 | 3 | 2.96 | A |
| 3. | My supervisors are only interested in research publications for my career advancement | 13 | 19 | 10 | 8 | 2.74 | A |
| 4. | I am not well versed in the knowledge of research | 5 | 6 | 16 | 23 | 1.86 | R |
| 5. | To beat the pressure of publish or perish (POP) culture and gain promotions/advancement in my career | 26 | 24 | 8 | 2 | 3.88 | A |
| 6. | New academic staff members are not mentored in research and development | 23 | 18 | 7 | 2 | 3.24 | A |
| 7. | It is not seen as unethical practice in my institution | 19 | 14 | 11 | 6 | 2.92 | A |
| 8. | I engage in ‘add me’ authorship because it is a productive approach to research and development | 3 | 10 | 15 | 22 | 1.88 | R |

Data in table 2 above indicate the reasons why academic personnel in AkanuIbiam Federal Polytechnic Unwana indulge in AM authorship. According to the data in table 2, the items in tables 1, 2, 3, 5, 6 and 7 respectively are the various reasons why academic staff members get involved in AM authorship.

Table 3: Effects of “Add Me” on Research and Development

| S/No | Items | SA | A | D | SD | Mean | Decision |
|------|--|----|----|----|----|------|----------|
| 1. | Militates against productive research and development | 21 | 19 | 7 | 3 | 3.16 | A |
| 2. | It does not advance research and scholarship | 16 | 23 | 8 | 3 | 3.04 | A |
| 3. | It negates the ethics of authorship, honesty and responsible publication in research and development | 18 | 15 | 11 | 6 | 2.90 | A |
| 4. | ‘Add me’ authorship compromises research integrity | 20 | 18 | 7 | 5 | 3.06 | A |
| 5. | It also emphasizes quantity rather than quality | 19 | 17 | 10 | 4 | 3.02 | A |
| 6. | ‘Add me’ authorship discourages mentoring and ‘actual’ growth of academic personnel in higher education institutions | 15 | 14 | 14 | 7 | 2.74 | A |
| 7. | It leads to project results slicing in order to generate multiple articles rather than just one large paper | 7 | 9 | 15 | 19 | 2.08 | R |
| 8. | ‘Add me’ authorship results in slow down of socio-economic development | 14 | 14 | 14 | 8 | 2.68 | A |

Table 3 above shows the effects of AM authorship on research and development. Data presented indicate that apart from item number 7, all other items from 1 to 6 and 8 respectively are the various consequences of AM authorship on research and development.

Table 4: Possible Solutions to “Add Me” Syndrome.

| S/No | Items | SA | A | D | SD | Mean | Decision |
|------|--|----|----|----|----|------|----------|
| 1. | Reduction of emphasis on ‘publish or perish’ culture by higher education institutions | 24 | 18 | 7 | 1 | 3.30 | A |
| 2. | Emphasis should be shifted from paper presentation to paper defense | 8 | 11 | 17 | 14 | 2.26 | R |
| 3. | Responsible research and development should be encouraged and motivated | 17 | 23 | 6 | 4 | 3.06 | A |
| 4. | Higher education institutions should encourage research mentoring among academic personnel | 21 | 19 | 9 | 1 | 3.20 | A |
| 5. | Unethical publishing should be made a punishable offence | 6 | 9 | 15 | 20 | 2.02 | R |
| 6. | Higher education institutions should formulate and implement strong policies against unethical publishing | 17 | 13 | 14 | 6 | 2.82 | A |
| 7. | Increased consideration of other responsible academic related activities (such as peer review for grants and publications, mentoring, leadership ability, outreach, teaching and knowledge exchange) for promotion and career advancement. | 14 | 14 | 14 | 8 | 2.68 | A |

Table 4 reveals the positions of the respondents on the possible solutions to AM syndrome. Data presented reveal that the respondents accept reduction of emphasis on ‘publish or perish’ culture (3.30), encouraging and motivating responsible research and development (3.06), encouraging research mentoring among academic personnel (3.20), formulation and implementation of strong policies against unethical publishing (2.82) and increased consideration of other responsible academic related activities (such as peer review for grants and publications, mentoring, leadership ability, outreach, teaching and knowledge exchange) for promotion and career advancement.

Summary of Major Findings

From the results of the analysis, the following findings were made:

1. Many academic staff members of HEIs practice AM authorship in order to beat the pressure of POP culture and gain promotions/advancements in their respective careers.
2. AM authorship decreases productivity in research and development and compromises research integrity while emphasizing quantity rather than quality.
3. AM authorship can be curtailed through reduction of emphasis on POP culture, encouraging and motivating responsible research and development, increased mentoring, deemphasizing AM authorship and adding more value (in terms of career advancement) to other academic/research activities outside publications.

Conclusion

One thing that has evolved or if you like unfolded, and which will continue to evolve or unfold before us is that actions are taking place within the context of a changing society in which people are getting smarter than ever before; you knot it this way, they hack it that way. Even though the abuse of a thing cannot replace its use, POP culture is due for an overhaul. It has given birth to different negative research and development practices including AM authorship which plague R&D. Consequently, for HEIs to maintain the purpose and integrity of R&D, AM authorship has to be nipped at the bud by actionalising the counsels above. Otherwise, the purpose and integrity of R&D will continue to nose-dive.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Researchers' assessment should be based on responsible practices from study conception to delivery, including the development of the research idea, research design, methodology, execution and effective dissemination (Science Daily, 2020)
2. Emphasis on POP culture should be reduced by increasing consideration of other responsible academic related activities (such as peer review for grants and publications, mentoring, leadership ability, outreach, teaching and knowledge exchange) for promotion and career advancement.
3. Administrators of HEIs should encourage and motivate responsible R&D especially by implementing productive R&D counsels.

References

DiscoverPhDs (2020). *Whatis research?: Purpose of research*. Available at:

<https://www.discoverphds.com/blog/what-is-research-purpose-of-research> (Accessed: 3 June 2021).

Enago Academy (2019). *Publish or perish: What are its consequences*. Available at:

<https://www.enago.com/academy/publish-or-perish-consequences/> (Accessed: 6 June 2021).

Epigeum Ltd. (2012). *The role of universities: What are the main functions of higher education*. Available at:

https://www.epigeum.com/downloads/ulm_accessible/uk/01_intro/html/course_files/in_2_10.html (Accessed: 3 June 2021).

https://www.soas.ac.uk/cedep-demos/000_P506_RM_3736-Demo/unit1/page_15.htm (Accessed: 3 June 2021).

Herr, B. (2021). *Why is research important to an engineer*. Available at: <https://www.quora.com/Why-is-research-important-to-an-engineer-on> (Accessed: 5 June 2021).

James, S. (2020). *What is R&D? Its role in business and how it relates to R&D tax credits*. Available at:

<https://forrestbrown.co.uk/news/what-is-r-and-d/> (Accessed: 3 June 2021).

- Jenn, C. N. (2006). Common ethical issues in research and publication. *J* 1(2-3), 74–76. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4453117/>(Accessed: 7 June 2021).
- Kainulainen S. (2014). *Research and Development (R&D)*. In: A. C. Michalos (eds) Encyclopedia of Quality of Life and Well-Being Research. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-0753-5_2482. Available at: https://link.springer.com/referenceworkentry/10.1007%2F978-94-007-0753-5_2482(Accessed: 5 June 2021).
- Kenton, W. (2021). *Research and Development (R&D)*. Available at: <https://www.investopedia.com/terms/r/randd.asp> on (Accessed: 3 June 2021).
- LIVISON.ORG (2020). *The importance of research and development to your company*. Available at: <https://www.liveson.org/the-importance-of-research-and-development-to-your-company/>(Accessed: 1 June 2021).
- Moosa, I. A. (2018). *Publish or perish: Perceived benefits versus unintended consequences*. Available at: <https://www.elgaronline.com/view/9781786434920/chapter01.xhtml> (Accessed: 7 June 2021).
- National Academy of Sciences, National Academy of Engineering and Institute of Medicine of The National Academies (2013). *Trends in the innovation ecosystem: Can past successes help inform future strategies? Summary of two workshops*. Washington DC: The National Academies Press. Available at: <https://www.nap.edu/read/18509/chapter/5#18>(Accessed: 3 June 2021).
- Plume, A. & Weijen, D. V. (2014). *Publish or perish? The rise of the fractional author...* Available at: <https://www.researchtrends.com/issue-38-september-2014/publish-or-perish-the-rise-of-the-fractional-author/>(Accessed: 7 June 2021).
- “Publish or perish” (n.d.). Available at: https://en.wikipedia.org/wiki/Publish_or_perish(Accessed: 3 June 2021).
- The Research Society (2021). *The importance of research*. Available at: https://researchsociety.com.au/mediaresources/importance-of-research/the-importance-of-research_on (Accessed: 1 June 2021).
- Rawat, S. & Meena, S. (2014). *Publish or perish: Where are we heading?* Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3999612/>(Accessed: 6 June 2021).
- Rensik, D. B. (2020). *What is ethics in research & why is it important?* Available at: <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>(Accessed: 7 June 2021).
- Scribendi Inc. (2021). *Publish or perish: How to survive in academia*. Available at: https://www.scribendi.com/academy/articles/publish_or_perish.en.html (Accessed: 6 June 2021).
- Science Daily (2020). *Principles to enhance research integrity and avoid 'publish or perish' in academia*. Available at: <https://www.sciencedaily.com/releases/2020/07/200716220935.htm> (Accessed: 6 June 2021).
- Springer Nature Ltd. (2010). *Publish or perish*. *Nature*. 467 (7313), 252. Available

at:<https://www.nature.com/articles/467252a> (Accessed: 6 June 2021).

Valavanidis, A. and Vlachogianni, T. (2016). Research and Development (R&D) expenditure in developed countries and the role of universities in economic growth, innovation , expertise in manpower. Statistical data of the last decade, including Greece. Available at:https://www.researchgate.net/publication/310708656_Research_and_Development_The_Role_of_Universities_for_the_Knowledge-based_Society_and_Technological_Innovations_Expenditure_in_Scientific_Research_and_Applications_a_s_Crucial_Factors_for_Economic_Growth (Accessed: 3 June 2021).

Vessuri, H. (2017). *The role of research in higher education: Implications and challenges for an active future contribution to human and social development.* Available at:<https://upcommons.upc.edu/bitstream/handle/2099/8119/vessuri.pdf>(Accessed: 3 June 2021).

Western Sydney University (2020). *Definition of research.* Available at:https://www.westernsydney.edu.au/research/researchers/preparing_a_grant_application/dest_definition_of_research (Accessed: 3 June 2021).