The Association for Academic Administrators Conference
18-19 May 2023

Conference Theme: *Best Practices in the automation & digitization of academic administration driven by the need to reduce face-to-face student services on campuses'*

Title: Automation and artificial intelligence: The call for an agile academic administration service

"Colleges and universities must continuously adapt their operations to attract and retain the best students and faculty, provide innovative resources, offer personalized learning and remain financially viable. Amid these challenges, forward-thinking universities can integrate artificial intelligence (AI) into their operations to set themselves apart from the competition and up for long-term growth." (Hannan &Lui)[1]

1. Protocols

- Mr Vido Kungune, Chairperson of the Association for Academic Administrators
- Mr Ashmind Daniels, Vice-Chairperson of the Association for Academic Administrators
- Executive Committee members of the Association for Academic Administrators
- Ms Emily Maddock-Khan, Association of University Administrators
- My fellow presenters, including Carol Crosley, Registrar of Wits University, Marietjie Ackerman from North-West University, Cara – Jean Petersen CEO of Feenix
- Senior members of university management present here this morning
- Delegates at this conference

[1] Hannan, E. and Liu, S. (2023), "AI: new source of competitiveness in higher education", *Competitiveness Review*, Vol. 33 No. 2, pp. 265-279

2. Introduction

I am so excited to join you at this important conference. Thank you for the invitation.

I am aware that most of you have just come out of autumn graduation ceremonies, and it must have felt good to witness the fruits of your hard work as students walked across the stage with smiles on their faces – what a wonderful occasion. You all have contributed to the journey of those students who were now graduating. This is definitely one of the joys of working in Academic Administration.

When your Chairperson Mr Vido Kungune approached me to address you at this conference on automation of academic administration processes, I thought to myself, what more can I tell you as I believe you have been involved with automation for a very long time.

Now, I grew up in the 1970s and 1980s and my understanding of automation and artificial intelligence was informed by watching certain series on television. Shows such as –

- Knight Rider – Michael Knight (David Hasselhoff) with K.I.T.T (Knight Industries Two Thousand) The car was self-driving and was able to sense danger.
- Buck Rogers (Gill Gerard) in the 25th century – Tweedy the robot (beedy, beedy, beedy oh oh)
- Star Trek – Captain James T Kirk (William Shatner) on the USS enterprise "Captain's Log, Star date 1673.1. “Space, the final frontier. These are the voyages of the Starship Enterprise. Its 5-year mission: to explore strange new worlds, to seek out new life …”

As children, we were then already interested and intrigued in what the future would look like as technology improved. And now as adults, we continue to dream about the future.

Today, there is Space X (Elon Musk) and others.

We have lived through very significant digital changes over the years. I am so sure that there is no single institution that does not have an online application system, or

an online registration system having come from paper systems with students queuing to have their information captured by staff members some years ago. Long gone are the days when applicants used to complete paper forms. These days, they can apply or register using their mobile phones.

The outbreak of Covid-19 in 2020 also accelerated automation as all organizations globally had to switch to working remotely and universities were not spared. Universities all over the world had to switch to offering learning and teaching online and also provide some services online. Who can forget the virtual graduation ceremonies (later changed to hybrid graduation ceremonies when Covid-19 subsided), online assessments, Teams or Zoom meetings with staff and students? It is often said that catastrophic events created an opportunity for acceleration of automation – the now so called new normal.

3. A new approach to respond to the changing digital landscape

However, let me start with a question. Does academic administration require a completely fresh approach or new way of working?

We have seen a dramatic rise in student enrolment during the “massification phase” in the transformation of our higher education system; as well as a result of more funding from the National Student Financial Aid Scheme (NSFAS), following the #FeesMustFall protests. This placed pressure on academic administrators.

You are surely aware of some of the challenges the sector faces with regards to the quality of service delivery – from delays in issuing admission offers, enrolment targets not met, delays in finalising examination marks, students not identified for graduation, lack of responsiveness/poor service delivery to the long hours worked by staff during crunch times, the list goes on and on. This is partly due to inefficiencies in the system.

These challenges have resulted in anxiety among students and their families, who are desperate for their child to be admitted to university, as they see a university education as a way out of their socio-economic hardship. Furthermore, glitches or delays in the application or admissions system, could result in a reputational risk for the university.

This is where automation or digitilisation of processes come into play – To alleviate some of these challenges and pressures. How else does one process more than 100 000 academic applications, identify 12000 students for graduation, among others, without automated systems. There are indeed numerous academic administration processes that can and must be automated. The big challenge is that automation costs money and universities must indeed invest in automation to take the university to the next level, to the so-called new generation university. This also equally applies to the service providers of Enterprise Resource Planning (ERP) solutions and other technologies. I attended the recent ITS User Group Conference where advancements to the ITS systems was discussed. They too have to invest in Research and Development in order to stay abreast of the fast paced changes.

If organisations do not invest in research and development, things could end up badly, for example Kodak. Kodak was the leader in film photography and in 1975 developed a digital camera. They did not further invest or market it as they thought that it would never take off. It did and Kodak failed to capitalise on it.

But what does automation or digitalization as it is also known, mean?

Automation in simple terms refers to using technology to improve the way one performs certain tasks or processes. Automation or digitalization helps with improving efficiency, effectiveness, and value creation. The quality of service including the turnaround time is also enhanced through automation. Automation has in fact impacted all industries, from service industries, to manufacturing industries, there is no escaping automation. There are several written articles about how automation is changing the workplace, from increased productivity and efficiency to the creation of new types of work and the need for new skills in the workplace. Automation enables the streamlining of business processes and helps in reducing costs and time.

Automation can also improve the student experience by providing access to real-time information and personalised support. For example, some universities have implemented automated chatbot systems for student support which results in increased student satisfaction and reduced workload for support staff.

In the context of automation, academic administration is responsible for initiating and overseeing the implementation and integration of modern technologies and processes. This includes identifying areas for improvement through automation and providing training and support on these new systems to students and staff. But we cannot do this alone, we need partnerships within the university, with the ICT Department for example and in collaboration with academic departments. For example, we cannot look at online assessment proctoring systems without academic departments. I am sure you have heard of the word coined "technovative," that is what we should be. Technovation means a novel approach or solution to a technology problem that could be proposed by an employee.

4. Professionalising the academic administration function

We are indeed living in a fast paced, and fast changing world. Technological advances are made at an alarming speed to mimic what humans do. "It is crucial to leverage AI in higher education to improve learning outcomes and enhance the overall learning experience for students. AI can assist in personalised learning, grading and feedback, providing insights into student behaviour and engagement."[2]

Academic Administrators are at the coalface of the university. They deal with matters that directly affect students and the academic project as a whole. The needs of students have changed. They require more individual guidance regarding their academic journey in relation to the requirements of their qualification. Our academic administration staff are in key positions to assist them. In order to do so, they must have the skills and time. Automation of certain processes would allow for that transition from transactional to more advisory functions. This may mean that our staff would need to be skilled more about academic programmes and the ability to interpret rules accurately so that they can perform this function.

In addition, it would allow our staff to perform quality checks of student information e.g., their registration status, correct curriculum to ensure that they qualify in the

[2] Unlocking the potential of AI in higher education in University World News, Maher Ghalayini, 19 April 2023

minimum time. This is related to the financial sustainability of the university as it impacts on input and output subsidies. Using Artificial Intelligence and automation could also provide opportunities for research that would inform effective planning. For example student enrolment trends that could inform growth opportunities in certain programmes and planning for such growth (more academic staff, variable mode of delivery, etc.).

We have an opportunity, using technology, to interact with students more meaningfully and to provide a new type of service that is focused on the individual student. We should create a team of academic administrators who have particular expertise regardless of which system they use. These professionals, as indicated above, should be performing functions that are more quality and advisory focussed. It will result, I believe, in a more stimulating environment for staff.

5. Risks to automation

There are risks that ought to be identified and mitigated. If left without mitigation, these risks may cause significant reputational damage. We have read in the news lately of the dangers of “deep fakes” phishing for our information or spreading misinformation or disinformation. Also, how do we ensure our staff are aware of these deep fakes that often at first glance, look very real?

In the modern era cyber security has become a key focus area to ensure that information is stored with the necessary protection in place. Therefore, effective security measures are required. Insecure technological and digital platforms will pose considerable risk as students and staff use these platforms. With the promulgation of the Protection of Personal Information Act (POPIA), a data breach could be disastrous for the university. How then do we protect information of the university?

The academic information that is stored on these platforms must also include the latest approved rules/programme details etc. In other words, they must be able to access a Single Source of Truth (SPOT) that is reliable and up to date. Of course, we would have to ensure that someone in our team, checks the quality of information and accuracy of the system.

Many countries across the globe are drafting rules to govern how we use technology and artificial intelligence. “Across the world, countries and regions are beginning to draft the rules for AI. The UK needs to act quickly to continue to lead the international conversation on AI governance and demonstrate the value of our pragmatic, proportionate regulatory approach.”[3]

We therefore require proper governance and guardrails to protect us from any algorithm harms. For instance, profile tracking.

6. How do we use technology

The question remains … how can we use technology to enhance the work that we do? How do we use the modern technologies to partner with us in the service that we are offering? For example, technologies such as ChatGPT that is able to provide information within seconds. Will these technologies replace chatbots? Or using avatars of us to interact electronically with students, perhaps by representing our university admissions and recruitment teams. Or prepare presentations by entering the text for your next presentation, customize the tone, the number of slides and an entire presentation will generate instantly (https://www.slidesai.io/).

However, each institution has a particular context in which it is situated, and this context drives which functions ought to be automated. Some of these functions would be institution-specific to allow it to respond to its context. Certain automation can possibly be generic throughout the higher education system. South Africa has vast societal differences, and the use of technology including automation, should take this into account to ensure our people are not left behind.

Introducing modern technologies or ways of working, requires a clear and planned change management process that is sensitive to the staff that it will affect. Opportunities for staff should be made available, where they are able to honestly and without judgment, express their frustrations with the change so that the requisite

[3] https://www.gov.uk/government/publications/ai-regulation-a-pro-innovation-approach

support is targeted to assist them. If this risk is not mitigated, staff may become disheartened or demoralized and perhaps feel that their concerns are not heard.

It will become necessary for universities to allocate funds to automation. Like any other organisation, universities are under pressure to increase efficiency, reduce costs, and provide students with quality education, in the face of declining government subsidies.

This is the reason most organisations including universities, have developed a Digital Transformation Strategy.

The purpose of a Digital Transformation Strategy is to effect organisational change that is catalysed by digital technologies towards operational performance. Hess et al write that "the purpose of the journey toward digital transformation is to reap the benefits of digital technologies, such as productivity improvements, cost reductions an innovation and therefore a clear strategy for deploying and exploiting digital technologies is crucial for future business success"[4]

7. Automation and/or/versus human interface

If we automate, do we then need the human interface? I believe, humans bring intelligence, empathy and understanding to a technical system. In my opinion, new technologies and Artificial Intelligence would not be able to do what a human does. In a recent article, Kurem Gulen explains that the goal of Artificial Intelligence is to create technology that can understand and interact with the world in a way that **resembles** human intelligence.[5] But it does not have human intelligence nor the ability to understand emotion / context. No technology is perfect and therefore it would require human intervention. I agree with this sentiment/evaluation.

[4] Hess, T. Benlian, A. Matt, C. Wiesbock, F. (2016) Options for Formulating a Digital Transformation Strategy. MIS Quarterly, 15(2). P124

[5] Gulen, K. (2023) The ethics and risks of pursuing artificial intelligence. https://dataconomy.com/2023/03/07/what-is-the-goal-of-artificial-intelligence/

There is a perception that automation will result in job losses. Contrary to this, automation does not eliminate human interaction processes. It actually helps boost human interaction. It could help staff to better engage prospective students as well as run and manage their processes more effectively. “As automation and artificial intelligence technologies develop, we need to think less about human-machine interfaces and more about human-machine teamwork” (Don Norman).[6]

8. Conclusion

We will not be able to stop the advances made in technology nor Artificial Intelligence. Some may wish to resist it. My view is to embrace it, use its functionality to improve service to students, develop the skills of staff, analyse information to support strategic decisions. At the same time, being awake / woke to the risks of automation and the effect of the changing environment on staff.

I wonder what Artificial Intelligence would be able to do by 2030. How will we in academic administration, mitigate the increasing risks to these technological advances? What will assessments look like by 2030? Should avatars (beyond the chatbot) represent our university admissions and recruitment teams in our context in South Africa? How can we use Artificial Intelligence communication tools, and integration with WhatsApp as well as other social media platforms to enhance our communication with future generations of students who may not necessarily read emails any longer? What national and/or university specific policy changes/enhancements are needed to give effect to technological advances?

Closer collaboration with other institutions would be beneficial, a sort of Community of Practice i.e. the sharing of ideas, collaboration on using certain technologies, advance professional practice and of course fulfilling both individual and group goals. Communities of Practice allows for collective intelligence to produce innovation. Perhaps we can advance academic administration service, together.

[6] Don Norman (2017) Design, Business Models, and Human-Technology Teamwork, Research-Technology Management, 60:1, 26-30

Technology is changing all the time and universities need to embrace it. They need to become flexible and adaptable as this is the essence of the Fourth Industrial Revolution.

May your engagements on automation and artificial intelligence to enhance the academic administration service, be enriching and thought provoking over the next few days.

I thank you.

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