Chapter 4: Academic citizenship in a GenAI-enhanced world

Abstract

In-person and virtual academic work (the latter fully online or carried out in hybrid mode) have been further transformed by the arrival of generative artificial intelligence (GenAI). GenAI has brought both disruption and enhancements to academia and has impacted the way in which universities connect with society beyond their campus gates. This chapter revisits examples of academic citizenship discussed previously in the book, considering how these have been and could be further changed by GenAI. GenAI is viewed in a positive, inclusive way rather than as a threat, and discussion goes beyond digital streamlining of tasks previously described as '*academic housekeeping*' and likely to be delegated to lower-paid and lower-prestige roles. The chapter then considers capacity building and policy development to support the enactment of GenAI-enhanced citizenship.

The chapter argues that academic citizenship will continue to be central to the functioning of universities in and for society, and that for GenAI-enhanced academic citizenship to impact positively, GenAI integration into academic life needs to be underpinned by an ethics of collective care and continued attention to community. The voices and expertise of all participants in the artificial intelligence ecosystem need to be equitably taken into account as GenAI increases its presence in academia and society, with useful lessons to be learnt from projects of participatory design of artificial intelligence systems in humanitarian contexts.

4.1 Exploring the contribution of GenAI to academic citizenship

Universities, the context from within which academic citizenship is enacted, have been unsettled by the arrival of generative artificial intelligence (GenAI), as have other sectors in society. While the adoption of generative artificial intelligence is taking place at a rapid pace, its direction of travel and the intensity of its impact are unclear. An MIT Sloan Management Review article recommends '*press[ing] pause to develop a thoughtful course of action rather than leaping headfirst into generative AI*' (Vinsel, 2023) and linking the use of GenAI firmly to an organisation's goals. A McKinsey (2024a) report echoes the need for thoughtfulness, in a context where adoption in most organisations is still at the experimentation stage, adoption within organisations is uneven across different areas and functions, and connections between use in personal and work contexts are gradually beginning to be made: '*the leading companies are the ones that are focusing on*

reimagining entire workflows with gen AI and analytical AI rather than simply seeking to embed these tools into their current ways of working' (p. 10).

Eventually, the fate of GenAI (from an academic citizenship perspective) may mirror that of other technological developments which did not meet the expectations they initially raised to completely transform (all) areas of academic work and life. There is, however, beneficial potential in GenAI and the present chapter supports reflection specifically on how GenAI can enhance citizenship-linked aspects of academic work and on where it could go next, as well as on risks and barriers that need addressing. GenAI is defined as technology that has the capacity to process vast amounts of language and data and to learn from these in order to interact with humans in ways that approximate, to the fullest extent possible, natural language conversations. Proprietary, commercial and freely available open-source GenAI applications exist, developed both within universities and elsewhere, though access is uneven across the world. Several abbreviations of generative artificial intelligence are in use; we have chosen GenAI, partly because of the similarity to how generation segments are labelled (e.g., Gen X, Z, and Y); debates about digital confidence and readiness to embrace digital innovation frequently mention generational divides, while cautioning that age is not a determinant of willingness to engage with digital developments. We emphasize that any 'Generation AI' discussions should be fully inclusive of all age ranges and all digital abilities, to ensure that the potential of GenAI to transform higher education and society for the better is achieved.

The chapter is indebted to a number of sources we signpost throughout. In the early stages of writing we came across a book commended by the Chief Scientific Officer of Microsoft as '*An invaluable resource, offering a comprehensive guide to current trends and future expectations in AI*'.[1] The book – *Co-intelligence* (Mollick, 2024) – resonated with us in that it put forward a view of artificial intelligence we could draw on to foreground the value of academic citizenship enacted by academic colleagues over perceptions, referenced to Heijstra et al. (2017a; 2017b), among others, that it entails less prestigious or less preferred work. GenAI has a number of limitations. It is not (yet) able to use human-like senses, to move, to predict the consequences of its actions, develop the '*more foundational understanding of the lived world that [humans] accumulate by sampling and interacting with it*' (Pezzulo et al., 2024, p. 101) or act with independent purpose. It is not ethically aligned or capable of self-awareness or reflection on its processes (and neither are other, non-generative forms of artificial intelligence). It generates textual or visual representations from pre-existing descriptions of the world, without direct access to the

[1] Back cover endorsement.

experiences that generated the descriptions. It potentially drives misinformation due to bias in the data on which it is trained and in the code which underpins it. It is still limited with regard to what it can achieve; and it is currently impacted by a lack of international regulatory consensus on its status as well as matters of copyright and content ownership. Nevertheless, when thoughtfully included as a co-participant in academic work and carefully guided by the '*human in the loop*' (Mollick, 2024, p. 52), as we show in this chapter, it potentially supports academic citizenship that is more impactful both qualitatively and on a larger scale.

Co-participation as a principle is reflected in some of the research which explores the potential and limits of GenAI. Brailas (2024), for example, has engaged with GenAI as a conversation partner in a duoethnography, defined as a learning-generative '*relational and process-oriented research method that engages two (or more) participants in a deep dialogical inquiry*' (Brailas, 2024, p. 489). In his duoethnography, Brailas references Sirisathitkul's (2024) slow writing approach that shows respect (*Sawasdee*) to the GenAI participant in the conversation.[2] While this might be perceived as going against Mollick's (2024) advice to invite AI to the conversation table, we chose not to include GenAI as a contributor to the writing process for this chapter or the book overall. We have, however, taken great care to produce an appreciative account of GenAI's potential and to signpost readers to respectful, critically reflective and constructive ways of engaging in dialogue with it.

Empirical research to date into how artificial intelligence has transformed work within academia is limited. The majority of existing literature focuses on GenAI disruption to university student assessment or on reviewing and co-authoring writing for scholarly publication. The literature on GenAI in academia is following in the wake of actual adoption and there is little insight to date on how it has impacted academic citizenship. An exception to this is an online survey to which Watermeyer et al. (2024) received responses from 284 academics across the UK in Summer 2023, a few months after the launch of ChatGPT. Responses revealed that GenAI was perceived as '*a potential means of reclaiming academic autonomy through the reorganising and reclaiming of academic labour*' (p. 450). Survey participants reported that they were using GenAI to carry out tasks they described as '*menial*' (in contrast to '*cognitively complex and / or challenging tasks*', p. 455), '*drudge work that is not fulfilling, creative or dignified*' (p. 455), '*bureaucratic burdens*' (p. 460) or '*mundane service functions*' (p. 461). These would presumably cut across all areas of academic work, though the reference to 'service' would

[2] Brailas (2024) argues that such duoethnographies need to be labelled postdigital in recognition of the differences between a GenAI algorithm and a human participant.

seem to indicate that this is where the majority of time saving benefits would be achieved. While Watermeyer et al.'s study echoes Macfarlane's (2007a; 2007b) notion of a hierarchy of service in academia, we reiterate that in our discussion of GenAI we are not suggesting that there should be a hierarchy or that GenAI should be assigned less prestigious or less preferred citizenship activities. Doing so would reduce the value and impact of academic citizenship and would go against the collaborative, co-participatory principles which are fundamental to it.

Bearing in mind the technological capabilities of GenAI currently known (at the time of writing the book), and drawing on the limited but growing research knowledge base, we balance discussion of benefits that GenAI can bring to academic citizenship with awareness that GenAI still requires much human intervention given the complexity of academic roles. In the following section we gather various forms of academic citizenship that have been and have potential to be further impacted by GenAI. We consider these together and highlight tools available and questions to ask so that GenAI can be appropriately integrated into the fabric of a university and support its day-to-day functioning. In Section 4.3 we focus on capacity building and policy development. We bring the chapter to a close by emphasizing the continued relevance of academic citizenship, both internally-oriented in an institution and carried out with broader societal benefit in a GenAI-enhanced world.

4.2 Critical reflections on the benefits of GenAI for academic citizenship

We have included a number of different examples of academic citizenship here to spark questions, and offer provisional answers, about the gradual transformation of academic citizenship in particular as well as of academic work more generally, as GenAI develops further and the higher education sector builds capacity to integrate it meaningfully into its systems. The examples include academic citizenship oriented towards students, colleagues and institutions. We are focusing primarily on current and near-term GenAI developments, rather than on longer-term technological options, such as digital twins (McKinsey, 2024b) or infrastructure currently beyond the reach of an underfunded higher education sector. We critically evaluate the benefits of GenAI that have been highlighted in the literature and echo Bolden's comment that engaging with GenAI is '*not simply a case of brushing up on technical skills but of tapping into our capacity for adaptation and working with complexity*' (Bolden, 2023). Importantly, we emphasize collaboration and co-

participation in how GenAI is drawn on for academic citizenship, while being mindful of – and pre-empting – potential risk.

We begin with examples of student-focused academic citizenship. Responding to requests for student reference letters would in principle be a task that might be easily delegated to GenAI given its current text generation and text editing capabilities. To write references, GenAI would require relevant detail about students. This could be partly gathered from grades and feedback on assignments, or information about engagement already captured in learner analytics databases. Such information would not necessarily be sufficient to write a fully personalised reference, however. Bias might intervene in how the references highlight student strengths, and some of the information might be too sensitive to share. Another form of student-focused academic citizenship with the potential to be enhanced by GenAI is being available for student queries outside the classroom during office hours. A GenAI application could replace the need for students to contact academics directly, by answering some of the questions students might have about the courses they are enrolled on. Chatbots or conversational agents are being developed to interact with students on a variety of aspects of academic life. Taneja et al. (2024) highlight the capabilities of an updated version of Jill Watson, a GenAI-powered virtual teaching assistant, which offers support with course logistics and has been designed to recognise limitations in the information it can retrieve to avoid misleading or inaccurate answers. Students might appreciate having 24/7 access to an artificially intelligent source that can offer responses to routine questions or that can step in to help them navigate a course, similar to features which digitally enhance textbook use (Kukulska-Hulme et al., 2024). Such features might include tracking students' use of online content and the amount of time spent on various parts of a course, and personalising learning journeys by foregrounding relevant sections to focus on or asking questions to generate reflection. However, as Kukulska-Hulme et al. note with reference to intelligent textbooks, there are still limitations posed by costs incurred to develop these features or by the current capacity of GenAI to work meaningfully with content in some subject areas but not in others.

Going one technological step further, to offer pastoral academic support, holographic technology augmented by GenAI could help academics project themselves into an actual space to meet students (Renkema and Tursunbayeva, 2024), instead of being present in person. However, GenAI integrated into a computer application or a holographic projection would not necessarily be a good substitute for quality unmediated interaction between students and academics who have established a positive professional relationship conducive to learning and wellbeing. Technology still has limitations which

currently pre-empt delegating to an automated function those academic citizenship tasks like personal tutoring, which reflect an ethics of care in academia, require careful negotiation of expectations and boundaries, and are supported to varying degrees within an institution (Huyton, 2014). Careful integration of GenAI applications into informal or formally planned learning experiences outside (as well as within) the classroom in an '*ethically grounded and morally sound*' way (Pandya and Wang, 2024, p. 330) is required to ensure students have a positive experience during their time at university, which sets them up well for continuous, lifelong learning.

Examples of academic citizenship oriented towards colleagues rather than students, but still with a focus on learning, include mentoring and coaching. Mentoring and coaching have been highlighted as a mainstay of professional academic development both prior to and post-pandemic. Earlier in the book we introduced the scenario of Nazir, a senior academic who is keen to further develop a mentoring scheme he introduced in his university (Section 2.4.5). We pick up that discussion thread again here, through the lens of Thompson and Graham's (2021) '*alternative narratives for human and AI systems as co-workers*' (p. 171), to explore the extent to which GenAI could potentially enact this form of academic citizenship on its own, or collaboratively, alongside a human mentor and / or coach. Approaches that involve close collaboration with GenAI to enable learning are favoured by Pandya and Wang (2024), who write about the place of artificial intelligence in the context of human resource development more widely. Pandya and Wang emphasize '*the uniquely human ability to inspire, motivate and understand the nuanced career aspirations of individuals*' (p. 340), and the importance of maintaining the human element to ensure a high quality learning and development experience.

The literature on mentoring and coaching views the former as requiring expertise in a substantive professional field and the latter as predominantly involving the ability to enable reflection in the learner and confidence to develop their own solutions. This is a broad distinction, with mentoring and coaching overlapping to different degrees. GenAI could potentially carry out the roles of mentor and coach effectively – the former due to its capacity to access and process vast amounts of information, the latter given its emotional detachment and capacity to focus on asking questions rather than providing solutions. The extent to which GenAI would be perceived as a suitable mentor or coach will, however, vary. Trust in the capacity of a GenAI mentor to deliver accurate and nuanced insight may be more challenging to establish given broader concerns about GenAI and scientific misinformation raised, among others, by The Royal Society (2024a). Another aspect to bear in mind with regard to GenAI supporting an individual's learning over a period of time is that capacity to retain and consistently access data, gathered from a

series of conversations, to support development and growth is available only to a limited extent and in a limited number of applications. Purpose-built applications with a larger '*context window*' (Mollick and Mollick, 2024, p. 32) that allows for continuity in mentoring from one conversation to the next would have to be developed, with appropriate privacy protections in place, while bearing in mind that GenAI is evolving fast and any application developed could soon be superseded. Where applicable and relevant, the context window could be extended to encompass information gathered at the point where an academic's application to work in a university is screened and recruitment interviews are carried out (e.g., through applications designed to minimise bias such as Tengai, described by Skantze, 2024), as well as to performance and appraisal data after onboarding.

Generally still limited, scholarly evidence of GenAI use to enable professional learning and development has begun to be made available in the coaching field. Noting the rapid development of GenAI, Passmore and Tee (2024) tasked ChatGPT and the subsequent, more developed version, GPT-4 to engage in coaching-style conversations and used coaching expertise to evaluate the questions and responses. While there was some evidence that GPT-4 was better able than ChatGPT to play a coach role, its competency range was very limited. An area where further – substantially so – development was needed was giving clients the space to explore a challenge and the underlying emotions and values as opposed to GenAI directing the conversation and offering solutions. Another was evaluating ethical and other risk implications. The current capabilities of GenAI may not be comparable to those of human coaches. Nevertheless, Passmore and Tee recommend that professional coaching bodies begin to consider what form of accreditation or recognition may be possible or acceptable once GenAI is sufficiently technically evolved, as well as the ethical parameters of formally accrediting or recognising GenAI as a coach. A complementary study, Terblanche et al. (2024), looked to integrate GenAI into a pre-existing relationship with human coaches, as '*AI chatbot coach assistants*' (p. 3), noting potential while also recognising current limitations. To address the current lack of empirical research in this space, and support both technological development and the drafting of regulations, Terblanche et al. combined the perspectives of both coaches and coachees, who were given the opportunity to interact with Vidi, a chatbot underpinned by Whitmore's (2002) goal-oriented model of coaching. The chatbot's positive impact on progress towards goals was noted by both sets of participants. Clients, who received '*nudges*' (p. 15) on their mobile phones from Vidi in-between coaching sessions, valued the psychological safety created by an impersonal application, noting that the coach contributed to this sense of safety by introducing the

chatbot and its role in the relationship. They also valued being able to access the chatbot at their convenience. Coaches reflected on the need to have an option to configure the chatbot so that it would align with their signature approach, and to have control over the extent to which chatbots would be used, as not all clients may respond well to this.

Similar to human-human relationships, there are complex emotional dimensions in building and maintaining a working – and implicitly learning – relationship with GenAI. Boulus-Rødje et al. (2024) combined three theoretical lenses to highlight the developmental process which human-GenAI relationships undergo and the time and effort needed to build these. They drew attention to reciprocity between humans and GenAI, to how the boundaries of role identities are impacted, and to how expertise is defined. Their discussion is a useful reminder, relevant for mentoring and coaching, that all relationships go through stages which need to be carefully managed to ensure positive outcomes.

Interaction with a software application that has the capacity to engage in natural-sounding conversation has been explored more extensively in the field of consumer and marketing research. While the nature of a conversation with a software application attached to a commercial website will inevitably differ from a learning conversation with a GenAI mentor or coach in an academic environment, there are nevertheless some aspects that might have relevance for both settings. Personalisation is one of these aspects, through adjusting responses on the basis of interlocutor needs and preferences. The extent to which conversational agents benefit from taking on a human-like persona as opposed to remaining a disembodied voice should be carefully considered in each specific context (Mariani et al., 2023). Questions for further research that Mariani et al. (2023) put forward on the basis of their systematic literature review and that have relevance for the contribution of GenAI to mentoring and coaching relationships include how users' reactions to the conversational agent may change over time, what elements of the interaction are customizable, and what user demographics should be taken into account when personalising responses. Bias that might intervene in human-human learning relationships is also potentially a challenge in interaction between a human and GenAI.

GenAI features could also potentially enhance the review process for academic journals, a form of academic citizenship discussed in 2.4.1 in this book. Paradoxically, while the arrival of generative AI has disrupted the publishing landscape and cast shadows on the credibility and originality of research, GenAI also has the potential to reshape peer review in a positive way. Butson and Spronken-Smith (2024) acknowledge that while artificial intelligence is unlikely to completely replace human peer reviewers, its rapidly increasing capacity to learn and serve as a sounding board makes it a potentially

valuable collaborator in the review process. Rachel, a contributor to the dialogue on AI in Butson and Spronken-Smith's article, expresses uncertainty with regard to this:

> *As an established academic I admit that my appetite for peer review is wearing thin due to the constant haranguing from what is now a multitude of journals vying for my input. I find myself being far more selective in what I agree to take on. So, yes, the thought of farming out my reviewing to AI is very tempting, but I think it would do a disservice to the authors. Is AI more astute than I am? Could it recognise when seminal work had been missed? Can it ascertain if the authors have critically engaged with the literature? Can it spot a misalignment in aims, methods, findings and conclusions? Can it detect if the analysis is flawed?* (Butson and Spronken-Smith, 2024, pp. 571-572)

Someone in Rachel's position is ideally placed to help generate balanced and measured editorial guidelines about the potential contribution of GenAI to the review process (e.g., providing alternative perspectives on a topic to avoid bias, or generating suggestions to enhance a written piece) and on ethical challenges that need to be avoided. Lund et al. (2023) offer useful suggestions in this regard, while bearing in mind that any guidelines developed may need to be frequently revisited given the speed at which GenAI is evolving.

Other forms of academic citizenship have also been mentioned in the scholarly literature in connection to GenAI. GenAI has been noted to offer the benefit of time gains for service tasks such as '*updating internal policy reports, preparing accreditation-related documentation or even writing everyday work emails*' (Barros et al., 2023, p. 602). Time-saving text editing and text generation features are already built into commercially available software applications, and potentially help preserve what Barros et al. refer to as '*the quality and meaningfulness of [academic] work*' (p. 603) in their editorial for a recent *Management Learning* journal issue, echoing (though not directly referencing) the more negative perceptions of some academic citizenship tasks reflected in Watermeyer et al.'s (2024) study.

Not all academic citizenship tasks lend themselves readily to GenAI enhancements, however. The predictive capability of GenAI-augmented email applications is developing fast, but the autofill email option may not be sufficiently familiar with an individual's style and does not have sufficient background knowledge to anticipate the preferred response

mode (not all emails are answered with an email). Criteria on the basis of which email filtering systems make decisions about emails to prioritise and emails to answer using automated functions are not sufficiently transparent. As Ylijoki et al. (2014) note in a study of Finnish academics, email communication on large scale international collaboration projects has an important relationship-building function and requires careful negotiation of individual and cultural preferences.

GenAI's interactive features could support academic citizenship tasks linked to governance. GenAI could be used to guide participants through questions asked in internal institutional surveys, for example about post-Covid working on campus and wellbeing. This would make the experience more inclusive, conversational and dynamic than standard surveys about campus life, giving participants a fuller sense that their voice matters and is taken into account in the final decision. A degree of interactivity supported by GenAI would help reduce post-pandemic survey fatigue and generate higher response rates to surveys, allowing institutions to tap into the collective wisdom of the campus community as opposed to drawing on only a small number of viewpoints which may or may not be representative. In principle, GenAI enhancements could be applied to surveys related to any aspect of academic life of relevance for governance-related discussion.

GenAI would, however, be unlikely to participate directly in governance-related decisions. It could assist as a thinking companion, given its capacity to process and analyse large amounts of data, unpack complex concepts and adjust responses based on new information provided. GenAI's critical engagement with the information shared with it would need to be complemented by viewpoints filtered through actual lived experience which add nuance to judgements. A GenAI application is unlikely to know enough about a campus and its inhabitants, unless trained on representative, and most likely sensitive, institutional data. Good governance, as Barros et al. (2023) note, requires that major decisions and internal policy documents are the outcome of consultation and discussion and integrate multiple perspectives. This is the only way to ensure they are context-relevant as well as future-proof to the fullest extent. Over-reliance on GenAI, as Mollick (2024) points out, carries the risk of reducing the depth and quality of human thinking. Eventually, as GenAI evolves, there is additional risk that its intelligence will surpass that of humans and '*we may need to work harder to stay in the loop of AI decision-making*' (Mollick, 2024, p. 52) and ensure good governance is preserved. Conflict of interest considerations would also have to be reviewed given that GenAI would be helping to make decisions but could at the same time be the focus of the decisions being made.

The examples of academic citizenship we included in this section are largely contained within an institution, but most forms of GenAI are not constrained by formal boundaries or borders between institutions, sectors and countries. Guardrails would have to be put in place to support its appropriate integration into higher education systems.

4.3 Capacity-building and policy development for GenAI-enhanced academic citizenship

Capacity to engage with GenAI is gradually being built in universities and across all sectors of society and needs to be continually updated. GenAI technological developments that could assist academics with citizenship tasks are continually evolving and access to GenAI features is increasing. Some of these features are behind a paywall, others can be accessed free of charge, though connectivity and other aspects of digital infrastructure will inevitably limit access. Not all are compatible and integrated with a university's digital systems. As with other digital developments, one cannot assume they will automatically be adopted and used proficiently to good effect.

Drawing on his theoretical work on digital learning and on his practical design experience, Siemens (2024) suggests that capacity building could start in areas that are low risk and not subject to external regulatory oversight. GenAI capacity cuts across all areas of academic work and capacity building in any of them is likely to benefit the others. Another porous boundary that GenAI-enhanced citizenship easily seeps through is that between life within and life outside a university: effective GenAI use within a university is partly facilitated by use outside.

As GenAI evolves and as the nature of academic roles changes, alongside possibly the operating model of universities, relevant questions to be asked so that change has beneficial outcomes for all stakeholders of a university community are as follows:

- Which academic citizenship tasks can be ethically and meaningfully carried out by a GenAI application?
- What GenAI-related risks need to be borne in mind (e.g., environmental footprint of GenAI use, data sensitivity, human error, system failure, bias, organisational dynamics) when formally integrating GenAI into an institution's day-to-day academic citizenship work, or for activities which involve collaboration across institutional boundaries?

- What measures can be put in place to ensure the immediate and long-term benefits of GenAI development and integration work outweigh the costs?

Answers to these questions will be richer if informed by sector-wide wisdom, gathered by organisations such as the Canadian Higher Education Strategy Associates' (2024) AI Observatory or The Royal Society (2024b) in the UK. At supranational level, the European University Association acts as a forum for expert voices on matters of relevance to higher education, among which artificial intelligence (EUA, 2024).

A resource that helps translate answers to the questions we have raised – and others – into operationalizable plans is the Educause (2024) *Higher Education Generative AI Readiness Assessment*, which looks comprehensively at all areas of activity within a university. Given that universities are learning organisations, such plans also need to address how universities can best enable learning and reflection among their academic body about integrating a continuously evolving GenAI across all aspects of their academic (citizenship) work. In the initial stages, the introduction of GenAI will increase workload (on some areas) and thus, perhaps counter intuitively, will require greater levels of academic citizenship to support colleagues. Importantly, drawing up and implementing plans to introduce GenAI should be underpinned by '*deeper considerations about the ways in which organisational culture and values are impacted by AI adoption*' (Yorks and Jester, 2024, p. 420).

To date, insights into GenAI-enhanced academic citizenship are from instances of localised, small-scale instances of adoption. To scale up forms of academic citizenship such as mentoring and coaching that draw on the strengths of GenAI, scope for the contribution and role of GenAI need to be made explicit in university policies. Such policies would need to align to a clearly articulated vision of staff professional learning and development; ensure that the technological infrastructure is available; offer support to all categories of participant in the mentoring and coaching relationship; set out guidelines around collaborations outside institutional boundaries where applicable (e.g., when securing the services of external rather than internal GenAI applications); and evaluate the processes in place to ensure they are fit for purpose as GenAI continues to evolve and shape approaches to learning.

Institutional policies about staff development inevitably intersect with policies about the introduction of GenAI. A study on the latter, looking specifically at the Asian context given that '*Asian countries have invested heavily in AI and are home to leading AI companies and research universities*' (Dai et al., 2024, p. 3), found that attention to

artificial intelligence in policies was primarily on academic integrity and student education, though going beyond assessment and thinking holistically about the '*broad context of institutional planning and strategic development*' (p. 17). Dai et al. analysed policy documents mentioning GenAI or cognate terms from 30 of the top 60 Asian universities in the 2024 QS World University Rankings (these universities were located in Hong Kong, Indonesia, Japan, Macau, Malaysia, Singapore, South Korea, Taiwan, Thailand). They caution that sampling from the QS World Rankings may have excluded '*innovative or unique policies of smaller or less renowned institutions*' (p. 17) or policy documents which mention digital technologies but not specifically refer to GenAI. Nevertheless, Dai et al.'s study offers a useful reminder that such policies should ideally be put in place and should look to connect staff development with digital capacity.

Importantly, policies would benefit from consideration of how humans and GenAI can learn collaboratively and how tacit knowledge within a university can be shared between the human holders of that knowledge and GenAI, so that the positive side of the double-edged GenAI sword, to use Wilkens' (2020) metaphor, prevails over the disruptive one. To enable academics to enact GenAI-enhanced citizenship in support of wider organisational effectiveness, with benefits within and beyond individual universities, institutions need to create opportunities for GenAI capacity-building that takes existing digital confidence levels further. They need to make space for conversations about meaningful GenAI use and they need to design policies which are mindful of ethical implications.

4.4 Reiterating the value of collaboration in a GenAI-enhanced world

Regardless of the forms it takes, academic citizenship is ultimately oriented towards building and sustaining university-linked communities that are respectful and inclusive of all voices. There is distance yet to be travelled in that direction and digital technological developments are both facilitating and hindering the journey. To contain the '*headwinds of digital disruption*' (Watermeyer et al., 2024, p. 461) that the more pessimistic commentators on GenAI have forecasted and that may eventually change universities' operating models, positive visions of the GenAI-enhanced university which '*push against reductionist, deterministic and instrumental conceptions of human-technology endeavours*' (Thompson and Graham, 2021, p. 173) need to be translated into practical plans and steps which include contributions from across the entire artificial intelligence ecosystem. Universities do not have the in-house capacity of some industry players to develop GenAI.

They need input from technology designers and developers, industry who finance and resource the development activity, policy makers who regulate the way GenAI is used, researchers of GenAI and its impact, those who integrate GenAI into their work in a variety of ways, and the general public who make varied use of GenAI for personal, not-for-profit purposes. Notwithstanding its somewhat instrumentalist tone, Vinsel's (2023) reflection that regardless of the context in which GenAI is developed '*no one can foresee the creative ways in which humans will adopt and implement tools over time or the myriad opportunistic ways in which humans will use new tools to exploit or gain power over others*' (p. 8) can serve as a useful reminder of the fundamental role that users play in shaping the future of GenAI. Importantly, as Mollick (2024) repeatedly emphasizes, there is space to include GenAI as a co-participant and collaborator in this endeavour.

The nature of the relationship that universities and academics build with GenAI will impact the outcomes of academic citizenship. '*Brains that fire together wire together*' (Shamay-Tsoory, 2022, p. 543), a reflection on the power of learning through collaboration, was reinterpreted by Brailas (2024) for a GenAI-enhanced context as follows: '*intelligences that fire together, coevolve together and wire together*' (p. 510). A detailed discussion of how humans and artificial intelligence will coevolve is outside the scope of this book, and the stages and steps will inevitably be difficult to ascertain; what is clearer, however, from an academic citizenship perspective, is that instilling in GenAI the value of collaboration, through engaging it in academic work in mutually beneficial ways, is more likely to secure a good coevolution outcome for all.

The value of artificial and human intelligences firing and wiring together is nowhere more apparent than in a humanitarian context. In a briefing paper about participatory design of artificial intelligence systems, Berditchevskaia et al. (2021) spotlight the example of Hurricane Dorian, a 2019 weather event with catastrophic outcomes, in the aftermath of which a GenAI algorithm was deployed to interpret social media images and facilitate appropriate allocation of response resources. Algorithms trained on historical data can increase the speed of response and ensure the safety of the teams supporting the communities impacted, yet human intervention in the data analysis process that took place in the aftermath of Hurricane Dorian was necessary to prevent algorithm errors. The intervention '*resulted in a novel image dataset with expert labels of damage to further train the algorithm and improve its accuracy during future deployments*' (Berditchevskaia et al., 2021, p. 19). Frontline experts responding to Hurricane Dorian made a contribution to the development of the algorithm in real time (Imran et al., 2020; 2022). Such cases make the interdependency between artificial and human intelligence and their embodiments immediately apparent and foreground something which could be easily

forgotten – the collaborative effort required to sustain the power source for the devices feeding images from the impacted area into an algorithm, to preserve the safety of the intervention teams and of the local communities. The reality of impacted areas sits in stark contrast to the privileged, safe university context in which most academic work is carried out; to the contexts in which algorithms are initially developed; and to those in which the role of GenAI in universities' contribution to society is theorised.

Academic citizenship has ongoing relevance in a world where technology and connectivity are fast evolving and where societal challenges become increasingly more complex. GenAI is making it necessary to rethink the way universities function, supporting as well as making the rethinking task ever more challenging. To engage with challenges in a way that generates beneficial outcomes, GenAI-enhanced academic citizenship should continue to be ethically underpinned and should model and facilitate an ethic of collective care through *'continually proposing and enacting the kind of university we believe is of most value to our societies, our world*' (Grant, 2019, p. 10).

In the fifth and final chapter in our book we continue to emphasize the value of academic citizenship and collaboration in academia. We offer, as an anchor point, our definition of academic citizenship to underpin conversations at institutional and individual level. We discuss collaboration across institutions to develop academic career frameworks that foreground academic citizenship. We distil, from the strategy documents of institutions whose collaborative, societally-engaged ethos has been publicly acknowledged, points of focus for academic citizenship conversations and actions through which universities can sustain relevant contributions to society, going forward into the twenty-first century.